

**METHODS, SYSTEMS, AND DEVICES FOR MANAGING SERVICE REQUESTS AND PRICING
POLICIES FOR SERVICES PROVIDED BY SERVICE PROVIDERS TO USERS**

Technical Field

[0001] The present disclosure relates generally to managing of pricing policies, and more specifically, to methods, systems, devices, and logic for managing pricing policies, service requests, objectives, and/or prices for one or more services provided by a plurality of service providers to a plurality of users.

Background

[0002] Presently, there are various different services offered by service providers to users. Example services include, but are not limited to, transportation-related services such as taxi services, private car services, limousine services, ride share services, motorcycle services, boat services, train/rail services, mail/package/parcel delivery services, food delivery services, etc.

Brief Summary

[0003] A variety of different approaches to pricing of services are currently being implemented by service providers today. For example, a fixed or set price may be charged for the service. As another example, a price per unit of distance may be charged for the service. As another example, a price per unit of time may be charged for the service. As another example, an additional fee and/or a multiplier may be applied to a standard charge in certain conditions (e.g., peak times, abnormal conditions, shortage of service providers, shortage of users, a special event or day, imbalance of users vs service providers, etc.). Such conventional approaches to pricing are typically designed to achieve a specific goal. For example, pricing approaches may be designed to maximize profits for the platform provider. It is recognized in the present disclosure, however, that while specific objectives or goals may be achievable under a certain set of conditions, such conventional approaches oftentimes fall short of other objectives or goals. Alternatively or in addition, such conventional approaches may not achieve its objectives or goals when certain conditions, factors, users, and/or service providers are encountered and/or changed. Alternatively or in addition, while such conventional approaches may be designed to achieve specific objectives or goals, it is recognized in the present disclosure that the inability for such conventional approaches to explore other approaches, including counterfactual and/or counter-intuitive pricing and/or objectives, prevents such conventional approaches from the possibility of achieving better objectives and/or goals. Present example embodiments relate generally to and/or include systems, subsystems, processors, devices, logic, methods, and processes for managing pricing

policies for services provided by service providers to users, including, but not limited to, managing of service requests received from users, managing of objectives or goals to be achieved from the implementation of pricing policies, and/or selecting of prices to be implemented or applied to service requests from among one or more prices in a pricing policy.

[0004] In an exemplary embodiment, a method of managing pricing policies, service requests, objectives, and/or prices is described. The method may include receiving, from a first user, a first service request. The method may also include identifying, based on the first service request, a first requested service, a first target region, and a first request time for the first service request. The first target region may include a relevant location for the first requested service. The first request time may include a time of the first service request. The method may also include selecting a historic dataset. The historic dataset may include historic information on the first user, service providers in the first target region, other users in the first target region, and previous requests for service in the first target region. The method may also include selecting a current dataset. The current dataset may include current information on the first user, service providers in the first target region, other users in the first target region, and current requests for service in the first target region. The method may also include generating a plurality of candidate pricing policies. The generating of each candidate pricing policy may include generating a plurality of candidate prices for the first service request. The method may also include selecting a first pricing policy from among the plurality of candidate pricing policies. The first pricing policy may be selected based on at least the first target region and the first request time. The first pricing policy may include a plurality of candidate first prices for the first service request. The method may also include selecting a first target objective to be achieved from among a plurality of candidate target objectives. The method may also assessing a likelihood of achieving the selected first target objective for each of the candidate first prices of the first pricing policy. The assessing may be based on at least the first target region, the first request time, the historic dataset, and the current dataset. The method may also include selecting a final price from among the plurality of candidate first prices of the first pricing policy. The final price may be selected based on at least the assessed likelihoods of achieving the first target objective. The method may also include applying the final price to the first service request.

[0005] In another exemplary embodiment, a method of managing pricing policies, service requests, objectives, and/or prices is described. The method may include receiving, from a first user, a first service request. The method may also include identifying, based on the first service request, a first

requested service, a first target region, and a first request time for the first service request. The first target region may include a relevant location for the first requested service. The first request time may include a time of the first service request. The method may also include selecting a historic dataset. The historic dataset may include historic information for the first target region. The method may also include selecting a current dataset. The current dataset may include current information for the first target region. The method may also include selecting a first pricing policy from among a plurality of candidate pricing policies. The first pricing policy may be selected based on at least the first target region and the first request time. The first pricing policy may include a plurality of candidate first prices for the first service request. The method may also include selecting a first target objective to be optimized from among a plurality of candidate target objectives. The method may also include forecasting, for each of the candidate first prices, an outcome for the selected first target objective based on at least the candidate first price. The method may also include selecting a final price from among the plurality of candidate first prices. The final price may be selected based on at least the forecasted outcomes for the first target objective. The method may also include applying the final price to the first service request.

Brief Description of the Figures

[0006] For a more complete understanding of the present disclosure, example embodiments, and their advantages, reference is now made to the following description taken in conjunction with the accompanying figures, in which like reference numbers indicate like features, and:

[0007] **Figure 1** is an illustration of an example embodiment of a system for managing service requests, pricing policies, objectives, and/or prices;

[0008] **Figure 2** is an illustration of an example embodiment of a processor for managing service requests, pricing policies, objectives, and/or prices;

[0009] **Figure 3** is an illustration of an example embodiment of a pricing policy processor;

[0010] **Figure 4** is an illustration of an example embodiment of generating and/or selecting one or more candidate pricing policies, selecting a selected pricing policy, generating and/or selecting one or more candidate prices for the selected pricing policy, generating and/or selecting one or more candidate target objectives, selecting a selected target objective, assessing a likelihood of achieving the selected target objective for each of the candidate prices of the selected pricing policy, and/or selecting a final price from among the one or more candidate prices of the selected pricing policy;

[0011] **Figure 5** is an illustration of an example embodiment of a method of managing service requests, pricing policies, objectives, and/or prices;

[0012] **Figure 6** is an illustration of an example embodiment of generating and/or selecting a historic dataset; and

[0013] **Figure 7** is an illustration of an example embodiment of generating and/or selecting a current dataset.

[0014] Although similar reference numbers may be used to refer to similar elements in the figures for convenience, it can be appreciated that each of the various example embodiments may be considered to be distinct variations.

[0015] Example embodiments will now be described with reference to the accompanying figures, which form a part of the present disclosure and which illustrate example embodiments which may be practiced. As used in the present disclosure and the appended claims, the terms "embodiment," "example embodiment," "exemplary embodiment," and "present embodiment" do not necessarily refer to a single embodiment, although they may, and various example embodiments may be readily combined and/or interchanged without departing from the scope or spirit of example embodiments. Furthermore, the terminology as used in the present disclosure and the appended claims is for the purpose of describing example embodiments only and is not intended to be limitations. In this respect, as used in the present disclosure and the appended claims, the term "in" may include "in" and "on," and the terms "a," "an," and "the" may include singular and plural references. Furthermore, as used in the present disclosure and the appended claims, the term "by" may also mean "from," depending on the context. Furthermore, as used in the present disclosure and the appended claims, the term "if" may also mean "when" or "upon," depending on the context. Furthermore, as used in the present disclosure and the appended claims, the words "and/or" may refer to and encompass any and all possible combinations of one or more of the associated listed items.

Detailed Description

[0016] Due to continuous advancements, availability, and affordability of technology, we are seeing an ever-increasing variety of new, improved, more efficient, more effective, and/or affordable services being offered by service providers to users. Examples of such services include, but are not limited to, transportation-related services such as taxi services, private car services, limousine services, ride share services, motorcycle services, boat services, train/rail services, mail/package/parcel delivery services, food delivery services, valet shopping services, ticketing

services, cleaning services, repair services, financial services and B2B services. A variety of different approaches to pricing of services are currently being implemented by service providers today. For example, a fixed or set price may be charged for the service. As another example, a price per unit of distance may be charged for the service. As another example, a price per unit of time may be charged for the service. In yet another example, an additional fee and/or a multiplier may be applied to a standard charge in certain conditions (e.g., peak times, abnormal conditions, shortage of service providers, shortage of users, a special event or day, imbalance of users vs service providers, etc.). Such conventional approaches to pricing are typically designed to achieve a specific objective or goal. It is recognized in the present disclosure, however, that while certain objectives or goals may be achievable under a certain set of conditions, such conventional approaches may fall short of other objectives or goals. Alternatively or in addition, such conventional approaches may not achieve its objectives or goals when certain conditions, factors, users, and/or service providers are encountered and/or changed. For example, although pricing per unit of distance may be designed to compensate service providers (e.g., drivers) for services provided based on an amount of distance travelled, such pricing may become less effective when bad traffic conditions are encountered. As another example, although an adjustment factor that is added or multiplied to a standard charge in abnormal situations or conditions may be designed to better compensate the service provider for providing services under such abnormal situations or conditions, applying such adjustment factors may also result in undesirable results for the service provider and/or user. Consider, for example, a ride in which the price is adjusted from a standard price of \$20 to an adjusted price of \$30 due to certain situations or conditions. A requesting user receiving such an adjusted price may be willing to pay up to \$27 and a service provider receiving the adjusted price may be willing to accept a fare as low as \$23. In such situations, the price adjustment to better compensate the service provider would undesirably result in both the user and service provider being prevented from benefiting from the service. It is also recognized in the present disclosure that, while such conventional approaches may be designed to achieve specific objectives or goals, the inability for such conventional approaches to explore other approaches, including those that are counterfactual, counter-intuitive, and/or appear to be inferior and/or less effective, prevents such conventional approaches from any possibility of achieving better objectives and/or goals.

[0017] Present example embodiments relate generally to and/or include systems, subsystems, processors, devices, logic, methods, and processes for addressing conventional problems, including

those described above and in the present disclosure, and more specifically, example embodiments relate to systems, subsystems, processors, devices, logic, methods, and processes for managing prices and/or pricing policies for services provided by service providers to users, including, but not limited to, managing of pricing policies for services, managing of target objectives to be achieved from the implementation of pricing policies, and managing of prices to be applied to services from among one or more prices in a pricing policy. It is to be understood in the present disclosure that one or more elements and/or aspects of example embodiments may include and/or be implement, in part or in whole, solely and/or in cooperation with other elements, using, for example, networking technologies, cloud computing, distributed ledger technology (DLT) (e.g., blockchain), artificial intelligence (AI), machine learning, deep learning, etc.

[0018] As used in the present disclosure, a **"service provider"**, a **"first service provider"**, a **"second service provider"**, a **"candidate service provider"**, or the like, includes, but is not limited to, a person or entity who provides and/or is available to provide one or more services, and may include a driver of a vehicle (e.g., a car, truck, bus, etc.), a delivery person, a vehicle (e.g., a vehicle driven by a person, an autonomous vehicle, a car, a truck, a bus, a motorcycle, a boat, a plane, etc.), a restaurant operator, an online or offline retailer, a valet shopper, a cleaning service provider, a repair service provider. . A service provider may also be a user. Furthermore, as used in the present disclosure, a **"user"**, a **"first user"**, a **"second user"**, a **"candidate user"**, or the like, includes, but is not limited to, a person or entity who receives and/or has previously received services from service providers. A user may also be a service provider. Furthermore, as used in the present disclosure, a **"service"**, a **"first service"**, a **"second service"**, a **"requested service"**, or the like, includes, but is not limited to, an action, product, and/or service provided in exchange for payment of a form of value (e.g., fiat currency such as Singapore Dollars, digital assets such as cryptocurrencies, coupons, gift vouchers, etc.). Furthermore, a **"pricing policy"**, a **"first pricing policy"**, a **"second pricing policy"**, a **"candidate pricing policy"**, **"selected pricing policy"**, or the like, includes, but is not limited to, a pricing policy having fixed parameters (e.g., base fare per unit of distance, minimum fare, maximum fare, etc.); a pricing policy that heuristically adjusts a base price when service requests received meets one or more predetermined criterion (e.g., number of service requests received exceeds a predetermined quantity, etc.); a pricing policy utilizing machine learning models, or the like, to provide and/or estimate an objective or goal (e.g., a target objective) to be achieved for all possible prices; a pricing policy that applies a same price to both users and service providers, a pricing policy that applies different prices

to users and service providers (e.g., the user pays more than what the service provider receives); a pricing policy that applies a fixed commission to services provided by a service provider, with such fixed commission provided to a processor, platform provider, manager, or the like, of the service requests; a pricing policy that applies a dynamically determined commission to services provided by a service provider, with such dynamically determined commission provided to a processor, platform provider, manager, or the like, of the service requests (e.g., dynamically determined based on time of day, day of week, day of month, day of year, characteristics of the service request (e.g., origin, destination, distance, route, traffic conditions, weather conditions, etc.), number of service requests received, number of available service providers, geographic considerations, characteristics of the users who sent the service requests, characteristics of the available service providers, etc.); a pricing policy that deterministically applies similar or a same price for requests with similar or the same characteristics (e.g., same price for same distance, same price for same time of day, same price for same traffic conditions, same price for same ratio of service requests to available service providers, etc.); a pricing policy that non-deterministically applies different prices for service requests with similar or the same characteristics. Furthermore, as used in the present disclosure, an **"objective"**, **"target objective"**, **"first target objective"**, **"second target objective"**, **"candidate target objective"**, **"selected target objective"**, **"goal"**, or the like, includes, but is not limited to, a target number, percentage, and/or probability of completed service requests; a target average income for service providers; a target maximum or average wait time for users; a target revenue and/or profit; a target number, percentage, and/or probability of driver acceptance of service requests; a target number, percentage, and/or probability of user acceptance of service requests; a target number, percentage, and/or probability of both user and service provider accepting a service request; a target number, percentage, and/or probability of a service request not being cancelled by a user and/or service provider; a target probability of maximizing revenues and/or profits for the processor, platform provider, manager, or the like, a target probability of maximizing earnings for service providers, a target probability of maximizing lifetime value of the user to the platform provider; a target probability of maximizing lifetime value of the service provider(s) to the platform provider. Furthermore, as used in the present disclosure, a **"service request time"**, **"request time"**, **"first request time"**, **"second request time"**, **"selected request time"**, or the like, includes, but is not limited to, a time when a service request was sent by a user, a time when a service request was received

(e.g., by a processor), and/or a time stipulated in a service request when a requested service is to be performed, and may include a date, day of week, day of month, and/or day of year.

[0019] Example embodiments will now be described below with reference to the accompanying figures, which form a part of the present disclosure.

[0020] Example embodiments of a system for managing service requests, pricing policies, objectives, and/or prices (e.g., system 100).

[0021] **FIGURE 1** illustrates an example embodiment of a system (e.g., system 100) of managing service requests, pricing policies, objectives, and/or prices. The system 100 includes one or more processors (e.g., processor 200). The system 100 includes and/or communicates with one or more networks, communication channels, or the like (e.g., network 30). The system 100 also includes and/or communicates with one or more databases, distributed ledgers, or the like (e.g., database 50). The system 100 may include and/or communicates with one or more users (e.g., user 10). The system 100 also includes and/or communicates with one or more service providers (e.g., service provider 20). Although the figures may illustrate the system 100 having one processor 200, it is to be understood that the system 100 may include more than one processor 200 without departing from the teachings of the present disclosure. Each processor 200 is configurable or configured to connect to and/or communicate with one or more users 10, one or more service providers 20, one or more networks 30, one or more databases 50, and/or one or more other processors 200.

[0022] As used in the present disclosure, when applicable, a reference to a system (e.g., system 100) or processor (e.g., processor 200) may also refer to, apply to, and/or include one or more computing devices, processors, servers, systems, cloud-based computing, or the like, and/or functionality of one or more processors, computing devices, servers, systems, cloud-based computing, or the like. The system 100 and/or processor 200 (and/or its elements, as described in the present disclosure) may be any processor, server, system, device, computing device, controller, microprocessor, microcontroller, microchip, semiconductor device, or the like, configurable or configured to perform, among other things, a processing and/or managing of information, searching for information, identifying information, data communications, and/or any one or more other actions described above and in the present disclosure. Alternatively or in addition, the system 100 and/or processor 200 (and/or its elements, as described in the present disclosure) may include and/or be a part of a virtual machine, processor, computer, node, instance, host, or machine, including those in a networked computing environment. As used in the present disclosure, a network 30, cloud 30, or the like, may be a

collection of devices connected by communication channels that facilitate communications between devices and allow for devices to share resources. Such resources may encompass any types of resources for running instances including hardware (such as servers, clients, mainframe computers, networks, network storage, data sources, memory, central processing unit time, scientific instruments, and other computing devices), as well as software, software licenses, available network services, and other non-hardware resources, or a combination thereof. A network 30, cloud 30, or the like may include, but is not limited to, computing grid systems, peer to peer systems, mesh-type systems, distributed computing environments, cloud computing environment, etc. Such network 30, cloud 30, or the like, may include hardware and software infrastructures configured to form a virtual organization comprised of multiple resources which may be in geographically disperse locations. Network 30, cloud 30, or the like, may also refer to a communication medium between processes on the same device. Also as referred to herein, a network element, node, or server may be a device deployed to execute a program operating as a socket listener and may include software instances.

[0023] These and other elements of the system 100 will now be further described with reference to the accompanying figures.

[0024] The processor (e.g., processor 200).

[0025] As illustrated in at least Figure 1, the system 100 includes one or more processors (e.g., processor 200). An example embodiment of the processor 200 is configurable or configured to manage, among other things, service requests, pricing policies, objectives or goals, prices, and/or user and service provider selection and matching. For example, the processor 200 is configurable or configured to process service requests received from users, select pricing policies and prices to apply to the service request, and match service requests to service providers 20.

[0026] In processing service requests, the processor 200 searches, analyzes, processes, identifies, and/or selects historic information. Historic information includes information on and/or pertaining to, among other things, the user 10 who submitted the service request; other users 10 (including other users in a target region, as described in the present disclosure); service providers 20 (including service providers 20 in the target region); target regions (or service regions; as described in the present disclosure); previous service requests received (including previous service requests for the target region); previously generated and/or applied pricing (including, but not limited to, prices selected by the processor to be applied to service requests, prices not selected by the processor to be applied to service requests, prices accepted by the user, prices not accepted by the user, prices accepted by the

service provider, prices not accepted by the service provider, prices for cancelled service requests, etc.); previously generated and/or applied pricing policies (including, but not limited to, pricing policies selected by the processor to be applied to service requests, pricing policies not selected by the processor to be applied to service requests, pricing policies that led to a user accepting a price applied to the service request, pricing policies that led to a user not accepting a price applied to the service request, pricing policies that led to a service provider accepting a price applied to the service request, pricing policies that led to a service provider not accepting a price applied to the service request, pricing policies that led to a service request cancellation, etc.); previously generated and/or applied objectives or goals (including, but not limited to, objectives selected by the processor to be applied to service requests, objectives not selected by the processor to be applied to service requests, objectives that were achieved, objectives that were not achieved, etc.); previous outcomes of applying and/or not applying a price to a service request (including, but not limited to, whether or not a user accepted the price, whether or not a service provider accepted the price, time taken for a user to accept the price, time take for a service provider to accept the price, number of service providers 20 who did not accept the price, whether or not a service provider completed the service request, etc.); previous assessments of likelihoods and/or probabilities generated and/or applied for different prices and/or pricing policies; previous temporal aspects (e.g., a time of day of receiving the service request, a day of week of receiving the service request, a day of month of receiving the service request, a day of year of receiving the service request, a special date (e.g., holiday, etc.), a time window (e.g., as generated by the temporal processor 230, as further described in the present disclosure), etc.); historical data on and/or pertaining to other services provided on the platform; social media connections/links, interactions, communications, and/or posts; credit scores, risks, ratings, and/or history; etc. As used in the present disclosure, a reference to information (or service requests, pricing policies, objectives, prices, time windows, etc.) being "**historic**", "**historical**", "**previous**", "**previously**", or the like, may be interpreted to mean, refer to, and/or pertain to information received, generated, obtained, selected, identified, and/or received on a different date and/or time and within a historic time window. Such historic time window may be a time window that occurs on a date that is different from the current date (and/or date of receiving the service request) and spans a predetermined and/or dynamically determined amount of time before a particular time or particular time reading (e.g., 10 seconds before the particular time, 30 seconds before the particular time, 1 minute before the particular time, 5 minutes before the particular time, 10 minutes before the particular time, 30 minutes before the

particular time, etc.) and/or a predetermined and/or dynamically determined amount of time after the particular time or particular time reading (e.g., 10 seconds before the particular time, 30 seconds before the particular time, 1 minute before the particular time, 5 minutes before the particular time, 10 minutes before the particular time, 30 minutes before the particular time, etc.). Such particular time or particular time reading may be a current time or the request time. For example, if a current date (or date of receiving a service request) is Wednesday 15 January 2020 and a current time (or time of receiving a service request) is 5:15 pm, then historic information may be or include information received between 5:14-5:16 pm (the historic time window) on Wednesday 8 January 2020, information received between 5:10-5:20 pm (the historic time window) on 15 January 2019, information received between 5:00-6 pm (the historic time window) on each 15th day of the month for 2019, information received between 5:00-5:45 pm (the historic time window) on every third Wednesday of January for the past 3 years, etc. As another example, if a current date (or date of receiving a service request) is Wednesday 15 January 2020 and a current time (or time of receiving a service request) is 5:15 pm, then historic information on a user who submitted a service request may be or include information on the location of the user and/or information on service requests submitted by the user between 5:14-5:16 pm on Wednesday 8 January 2020, information on the location of the user and/or information on service requests submitted by the user between 5:10-5:20 pm on 15 January 2019, information on the location of the user and/or information on service requests submitted by the user between 5:00-6 pm on each 15th day of the month for 2019, information on the location of the user and/or information on service requests submitted by the user between 5:00-5:45 pm on every third Wednesday of January for the past 3 years, etc. As another example, if a current date and time (and/or date and time of receiving a service request) is Wednesday 15 January 2020 at 5:15 pm, then historic service requests may be or include service requests received by the processor 200 between 5:14-5:16 pm on Wednesday 8 January 2020, service requests received between 5:10-5:20 pm on 15 January 2019, service requests received between 5:00-6 pm on each 15th day of the month for 2019, service requests received between 5:00-5:45 pm on every third Wednesday of January for the past 3 years, etc. As another example, if a current date (or date of receiving a service request) is Wednesday 15 January 2020 and a current time (or time of receiving a service request) is 5:15 pm, then historic service providers in a target region may be or include service providers who were available in the target region between 5:14-5:16 pm on Wednesday 8 January 2020, service providers who were available in the target region between 5:10-5:20 pm on 15 January 2019, service providers

who were available in the target region between 5:00-6 pm on each 15th day of the month for 2019, service providers who were available in the target region between 5:00-545 pm on every third Wednesday of January for the past 3 years, etc. As another example, if a current date (or date of receiving a service request) is Wednesday 15 January 2020 and a current time (or time of receiving a service request) is 5:15 pm, then historic other users in a target region may be or include users who were in the target region and/or who sent service requests in or for the target region between 5:14-5:16 pm on Wednesday 8 January 2020, users who were in the target region and/or who sent service requests in or for the target region between 5:10-5:20 pm on 15 January 2019, users who were in the target region and/or who sent service requests in or for the target region who were available in the target region between 5:00-6 pm on each 15th day of the month for 2019, users who were in the target region and/or who sent service requests in or for the target region between 5:00-545 pm on every third Wednesday of January for the past 3 years, etc.

[0027] In addition to historic information, the processor 200 searches, analyzes, processes, identifies, and/or selects current information. Such current information includes information on and/or pertaining to, among other things, the user who submitted the service request; other users (including other users in a target region, as described in the present disclosure); service providers 20 (including service providers 20 in the target region); target regions (or service regions; as described in the present disclosure); current service requests received (including current service requests for the target region); current generated and/or applied pricing (including, but not limited to, prices selected by the processor to be applied to service requests, prices not selected by the processor to be applied to service requests, prices accepted by the user, prices not accepted by the user, prices accepted by the service provider, prices not accepted by the service provider, prices for cancelled service requests, etc.); current generated and/or applied pricing policies (including, but not limited to, pricing policies selected by the processor to be applied to service requests, pricing policies not selected by the processor to be applied to service requests, pricing policies that led to a user accepting a price applied to the service request, pricing policies that led to a user not accepting a price applied to the service request, pricing policies that led to a service provider accepting a price applied to the service request, pricing policies that led to a service provider not accepting a price applied to the service request, pricing policies that led to a service request cancellation, etc.); current generated and/or applied objectives or goals (including, but not limited to, objectives selected by the processor to be applied to service requests, objectives not selected by the processor to be applied to service requests, objectives that were

achieved, objectives that were not achieved, etc.); current outcomes of applying and/or not applying a price to a service request (including, but not limited to, whether or not a user accepted the price, whether or not a service provider accepted the price, time taken for a user to accept the price, time taken for a service provider to accept the price, number of service providers who did not accept the price, whether or not a service provider completed the service request, etc.); current assessments of likelihoods and/or probabilities generated and/or applied for different prices and/or pricing policies; current temporal aspects (e.g., a time of day of receiving the service request, a day of week of receiving the service request, a day of month of receiving the service request, a day of year of receiving the service request, a special date (e.g., holiday, etc.), a time window (e.g., as generated by the temporal processor 230, as further described in the present disclosure), etc.); characteristics of the service request (e.g. the distance, estimated time of arrival and information pertaining to the destination region for a transportation request). It is to be understood in the present disclosure that, in situations where information occurring on a current date and time is to be compared against and/or analyzed in view of information that occurred within a certain time window (e.g., 10 seconds, 20 seconds, 30 seconds, 1 minute, 5 minutes, 10 minutes, etc.) on a different date (e.g., same day of the week, same day of the month, same day of the year, etc.) (i.e., historic information), then the current information may include information that has occurred within a certain time window immediately preceding the current time (e.g., 5-10 seconds before the current time, 10-20 seconds before the current time, 15-30 seconds before the current time, 30 seconds - 1 minute before the current time, 2.5-5 minutes before the current time, 5-10 minutes before the current time, etc.), in which case such information may not be considered as historic information for such a comparison and/or analysis. In such a case, current information may also include information that occurs within a certain time window immediately after the current time (e.g., 5-10 seconds after the current time, 10-20 seconds after the current time, 15-30 seconds after the current time, 30 seconds - 1 minute after the current time, 2.5-5 minutes after the current time, 5-10 minutes after the current time, etc.). As used in the present disclosure, a reference to information (or service requests, pricing policies, objectives, prices, time windows, etc.) being "**current**", "**currently**", "**recent**", "**recently**", or the like, may be interpreted to mean, refer to, and/or pertain to information received, generated, obtained, selected, identified, and/or received within a time window, such time window being one that spans a predetermined and/or dynamically determined amount of time before a current time (and/or a request time) (e.g., 10 seconds before the current time and/or request time, 30 seconds before the current time

and/or request time, 1 minute before the current time and/or request time, 5 minutes before the current time and/or request time, etc.) and/or a predetermined and/or dynamically determined amount of time after the current time (and/or the request time) (e.g., 10 seconds after the current time and/or request time, 30 seconds after the current time and/or request time, 1 minute after the current time and/or request time, 5 minutes after the current time and/or request time, etc.). For example, if a current date (or date of receiving a service request) is Wednesday 15 January 2020 and a current time (or time of receiving a service request) is 5:15:00 pm, then current information may be or include information received between 5:14:30 pm and 5:15:30 pm (the current time window) on 15 January 2020, information received between 5:14-5:16 pm (the current time window) on 15 January 2020, information received between 5:10-5:15 pm (the current time window) on 15 January 2020, information received between 5:00-5:15 pm (the current time window) on 15 January 2020, etc. As another example, if a current date (or date of receiving a service request) is Wednesday 15 January 2020 and a current time (or time of receiving a service request) is 5:15:00 pm, then current information on a user who submitted a service request may be or include information accumulated on the first user leading up to and/or as of 5:15 pm on 15 January 2020. As another example, if a current date (or date of receiving a service request) is Wednesday 15 January 2020 and a current time (or time of receiving a service request) is 5:15:00 pm, then current service requests may be or include service requests received by the processor 200 between 5:14:30 pm and 5:15:30 pm on 15 January 2020, service requests received by the processor 200 between 5:14-5:16 pm on 15 January 2020, service requests received between 5:13-5:15 pm on 15 January 2020, service requests received between 5:00-5:15 pm on 15 January 2020, etc. As another example, if a current date (or date of receiving a service request) is Wednesday 15 January 2020 and a current time (or time of receiving a service request) is 5:15:00 pm, then current service providers in a target region may be or include service providers in the target region between 5:14:30 pm and 5:15:30 pm on 15 January 2020, service providers in the target region between 5:14-5:16 pm on 15 January 2020, service providers in the target region between 5:13-5:15 pm on 15 January 2020, service providers in the target region between 5:00-5:15 pm on 15 January 2020, etc. As another example, if a current date (or date of receiving a service request) is Wednesday 15 January 2020 and a current time (or time of receiving a service request) is 5:15:00 pm, then current other users in a target region may be or include users who were in the target region and/or who sent service requests in or for the target region between 5:14:30 pm and 5:15:30 pm on 15 January 2020, users who were in the target region and/or who sent service requests in or for the target region between

5:14-5:16 pm on 15 January 2020, users who were in the target region and/or who sent service requests in or for the target region between 5:13-5:15 pm on 15 January 2020, users who were in the target region and/or who sent service requests in or for the target region between 5:00-5:15 pm on 15 January 2020, etc.

[0028] In addition to searching, analyzing, processing, identifying, and/or selecting historic and current information, example embodiments of the processor 200 perform other functions and/or processes. For example, the processor 200 is configurable or configured to generate one or more candidate pricing policies (and/or obtain one or more predetermined and/or previously generated candidate pricing policies) for each service request. For each of the one or more candidate pricing policies generated for each service request, the processor 200 is configurable or configured to generate one or more candidate prices (and/or select from one or more predetermined and/or previously generated candidate prices). The processor 200 is also be configurable or configured to select, from among the one or more generated and/or predetermined candidate pricing policies, a pricing policy (referred to herein as the "**selected pricing policy**") to apply to each service request. The processor 200 is also configurable or configured to generate one or more candidate target objectives (and/or obtain one or more predetermined and/or previously generated target objectives) to be achieved for each service request. The processor 200 is also configurable or configured to select, from among the one or more generated and/or predetermined candidate target objectives, one or more target objectives (referred to herein as the "**selected target objective**") to be achieved for each service request. The processor 200 is also configurable or configured to assess and/or generate, for each of the one or more candidate prices of the selected pricing policy (referred to herein as the "**candidate first prices**"), a likelihood, probability, forecast, or the like (hereinafter "**likelihood**") of achieving the one or more selected target objectives if such candidate price is selected and applied to the service request. The processor 200 is also configurable or configured to select a final price from among the one or more candidate prices of the selected pricing policy. The processor 200 selects the final price based on at least the likelihoods of achieving the one or more selected target objectives. The processor 200 is also configurable or configured to apply the selected final price to the service request. Either before or after selecting the final price, the processor 200 is configurable or configured to select, from among a plurality of available (or soon to be available) service providers 20, one or more service providers 20 to receive the service request and selected final price and to be potentially matched to the user (e.g., if the user and selected service provider both accept the final price). The processor 200 is also

configurable or configured to provide or offer the final price to the user 10 who submitted the service request and the one or more selected service providers 20 (i.e., attempt to match the user 10 to a service provider 20). The processor 200 is also configurable or configured to identify, observe, analyze, and/or process one or more outcomes and/or results of the selected final price (e.g., whether or not the user 10 accepted the price, whether or not the service provider 20 accepted the price, time taken for the user 10 to accept the price, time take for the service provider 20 to accept the price, number of service providers 20 who did not accept the price, whether or not the matched service provider 20 completed the service request, etc.), including whether the selected target objective was achieved. The processor 200 is also configurable or configured to provide feedback of one or more aspects or information of the service request to assist and/or refine the processing of one or more other current and/or future service requests. Such information provided as feedback include, but is not limited to, information on the user, the candidate pricing policies, the candidate prices of the candidate pricing policies, the selected pricing policy, the candidate first prices of the selected pricing policy, the candidate target objectives, the selected target objective, the final price, the candidate service providers, the selected service provider, the observed outcomes and/or results, etc., as described in the present disclosure.

[0029] To perform the processes and/or methods described above and in the present disclosure, example embodiments of the processor 200 include one or more elements, as illustrated in Figure 2. For example, the processor 200 may include one or more service request interfaces (e.g., service request interface 201). The processor 200 may also include one or more service request processors (e.g., service request processor 210). The processor 200 may also include one or more service region processors (e.g., service region processor 220). The processor 200 may also include one or more temporal processors (e.g., temporal processor 230). The processor 200 may also include one or more current processors (e.g. current processor 240). The processor 200 may also include one or more historic processors (e.g., historic processor 250). The processor 200 may also include one or more user processors (e.g., user processor 260). The processor 200 may also include one or more service provider processors (e.g., service provider processor 270). The processor 200 may also include one or more pricing policy processors (e.g., pricing policy processor 280). The processor 200 may also include one or more service request execution processors (e.g., service request execution processor 290). Although the figures illustrate one service request interface 201, one service request processor 210, one service region processor 220, one temporal processor 230, one current processor 240, one

historic processor 250, one user processor 260, one service provider processor 270, one pricing policy processor 280, and one service request execution processor 290, it is to be understood that the processor 200 may include more or less than one service request interface 201, more or less than one service request processor 210, more or less than one service region processor 220, more or less than one temporal processor 230, more or less than one current processor 240, more or less than one historic processor 250, more or less than one user processor 260, more or less than one service provider processor 270, more or less than one pricing policy processor 280, and/or more or less than one service request execution processor 290 without departing from the teachings of the present disclosure. It is also to be understood in the present disclosure that, although the functions and/or processes performed by the processor 200 are described in the present disclosure as being performed by particular elements of the processor 200, the functions and/or processes performed by a particular element of the processor 200 may also be performed by one or more other elements and/or cooperatively performed by more than one element of the processor 200 without departing from the teachings of the present disclosure. It is also to be understood in the present disclosure that, although the functions and/or processes performed by the processor 200 are described in the present disclosure as being performed by particular elements of the processor 200, the functions and/or processes performed by two or more particular elements of the processor 200 may be combined and performed by one element of the processor 200 without departing from the teachings of the present disclosure.

[0030] These elements of the processor 200 will now be further described with reference to the accompanying figures.

[0031] The service request interface (e.g., service request interface 201).

[0032] As illustrated in **FIGURE 2**, an example embodiment of the processor 200 includes one or more service request interfaces (e.g., service request interface 201). The service request interface 201 is configurable or configured to communicate with one or more users 10. For example, the service request interface 201 is configurable or configured to receive service requests from users 10. In this regard, the service request interface 201 (and/or another interface, not shown) may receive, request, obtain, push, and/or pull information on and/or pertaining to users 10 (e.g., a current location of the user 10, current information of the user 10, historic information of the user 10, etc.). The service request interface 201 is also configurable or configured to communicate with one or more service providers 20. In this regard, the service request interface 201 (and/or another interface, not shown) may receive, request, obtain, push, and/or pull information pertaining to service providers 20 (e.g., a

current location of available service providers 20 in a target region, current information of service providers 20 in a target region, historic information of service providers 20 in a target region, etc.). In some example embodiments, the service request interface 201 may be configurable or configured to receive service requests from service providers 20 (e.g., in example embodiments wherein processors 200 are configurable or configured to process service requests sent from available service providers 20, such requests being requests to be matched to users). The service request interface 201 is also configurable or configured to communicate with one or more other processors 200, such as in situations where more than one processor 200 is performing the managing of service requests. The service request interface 201 is also configurable or configured to communicate with one or more databases 50, such as in situations where the processor 200 performs searches, storage, and/or updating of information. The service request interface 201 is also configurable or configured to communicate with one or more of the above via one or more networks 30. In some embodiments, the service request interface 201 may include and/or perform one or more of the same functions or operations as the service request execution processor 290, and vice versa.

[0033] When the service request interface 201 receives communications from one or more users 10 (e.g., service requests, current information, responses, outcomes, etc.) and/or one or more service providers 20 (e.g., current information, responses, outcomes, etc.), the service request interface 201 is configurable or configured to selectively communicate information received with one or more other elements of the processor 200. For example, the service request interface 201 may be configurable or configured to communicate with the service request processor 210. The service request interface 201 may also be configurable or configured to communicate, directly and/or indirectly, with the service region processor 220, the temporal processor 230, the current processor 240, the historic processor 250, the user processor 260, the service provider processor 270, the pricing policy processor 280, and/or the service request execution processor 290.

[0034] The service request processor (e.g., service request processor 210).

[0035] As illustrated in Figure 2, an example embodiment of the processor 200 includes one or more service request processors (e.g., service request processors 210). The service request processor 210 is configurable or configured to receive service requests from users 10 directly and/or via the service request interface 201.

[0036] The service request processor 210 is configurable or configured to process, analyze, identify, and/or determine, information pertaining to the service request. For example, the service request

processor 210 may identify the service that is being requested. The requested service may include any service selected by the user 10 in which the processor 200 is able to process and match with service providers 20. For example, the requested service may include, but is not limited to, a ride, a shared ride, a future ride, a taxi, a 6-seater ride, a 7-seater van, a motorcycle ride, a delivery service, a food order, etc.

[0037] The service request processor 210 is also configurable or configured to determine, for each received service request, a target region (or service region). As will be further described below and in the present disclosure, the service request processor 210 may cooperate with the service region processor 220 and/or temporal processor 230 to dynamically determine and/or identify a pre-determined target region for each received service request.

[0038] The service request processor 210 is also configurable or configured to determine, for each received service request, a request time (or service time). As will be further described below and in the present disclosure, the service request processor 210 may cooperate with the temporal processor 230 and/or service region processor 220 to dynamically determine and/or identify a pre-determined request time. The service request processor 210 is also configurable or configured to process, analyze, identify, and/or determine, for each received service request, other information pertaining to the service request including, but not limited to, identity of the user 10, promotions and/or discounts applied by the user 10, etc.

[0039] The service region processor (e.g., service region processor 220).

[0040] In an example embodiment, the processor 200 includes one or more service region processors (e.g., service region processor 220). The service region processor 220 is configurable or configured to process, analyze, identify, and/or determine, for and/or in cooperation with the service request processor 210 and/or temporal processor 230, a target region (also referred to herein as a "service region") for each service request. The target region may be dynamically determined, that is, determined for each service request based on, among other things, the user 10, other users 10, available service providers 20, service providers 20 who are expected to become available soon, temporal considerations (e.g., a time of day, day of week, day of month, day of year, etc., which may be assessed by or in cooperation with the temporal processor 230 and/or the service request processor 210), geographical or regional considerations, etc. For example, in situations where there is a high density of service requests and/or available service providers, the target region may be dynamically determined to be formed using a smaller radius or circle when compared to situations having a lesser

density of service requests and/or available service providers. Alternatively, the target region may be a predetermined target region, an already existing or already implemented target region, etc. The target region, which may be a dynamically determined region or a pre-determined region, may be and/or include an origin location (e.g., a location where the requested service will start or commence, such as a pickup location for a ride service), one or more destination locations (e.g., a location where the requested service will end or complete, such as a drop off location for a ride service), a current location of the user 10, one or more possible routes for the service, a preferred route for the service, a region around and/or having the origin location, a region around and/or having the destination location, a region around and/or having both the origin and destination location, etc. As used in the present disclosure, a "**region**" or "**area**" may include an area formed by: a radius; circle; square; rectangle; one or more other geometrical shapes; one or more city blocks; one or more streets, landmarks, and/or geographical indications (e.g., GPS coordinates); etc.

[0041] The service region processor 220 is also configurable or configured to provide one or more target regions for service requests to one or more other elements of the processor 200. For example, the service region processor 220 may provide a target region to the temporal processor 230 to assist with determining, among other things, the request time and time windows (as further described below). The service region processor 220 may also provide the target region to the current processor 240 to enable the current processor 240 to limit its determination of current information on users 10, service providers 20, service requests, etc. to include only those within the target region. As another example, the service region processor 220 may also provide the target region to the historic processor 250 to enable the historic processor 250 to limit its determination of historic information on users 10, service providers 20, and service requests to include only those within the target region.

[0042] In an example embodiment, the service region processor 220 may determine two or more target regions for each service request. For example, the service region processor 220 may determine a first target region for the current processor 240 and a second target region (different from the first target region) for the historic processor 240. As a more specific example, there may be situations that may warrant a current target region (or historic target region) to be larger, smaller, or different in shape and/or size than a historic target region (or current target region), such as in situations where there are road closures today (but no road closures on a relevant historic date, which may be determined by the temporal processor 230) or vice versa.

[0043] The temporal processor (e.g., temporal processor 230).

[0044] In an example embodiment, the processor 200 includes one or more temporal processors (e.g., temporal processor 230). The temporal processor 230 is configurable or configured to process, analyze, identify, and/or determine a request time (or service time) for and/or in cooperation with the service request processor 210 and/or service region processor. The request time may include, but is not limited to, a time when the service request was sent by the user 10, a time when the service request was received by the processor 200, a time stipulated in the service request when the requested service is to be performed, a time when a final price for the service request is expected to be sent to the user 10 and one or more service providers 20, a time when the service request is expected to be matched, and may include a date, day of week, day of month, and/or day of year.

[0045] The temporal processor 230 is also configurable or configured to process, analyze, identify, and/or determine one or more time windows for other elements of the processor 200. For example, the temporal processor 230 may be configurable or configured to determine a current time window to be used by the current processor 240 to perform searches, analysis, processing, and/or identifying of current information and/or current datasets (which include current information). Such time windows for the current processor 240 may be dynamically determined based on one or factors including, but not limited to, frequency or number of service requests received for the target region, number of users in the target region, number of available service providers in the target region, and/or a historic time window determined for the target region. For example, in situations where there is a high frequency or number of service requests, the current time window may be dynamically determined to be shorter in time when compared to situations where there is a lower frequency or number of service requests. Alternatively, such time windows for the current processor 240 may also be pre-determined and/or selected from a plurality of pre-determined current time windows. The current processor 240 will be further described in the present disclosure. As another example, the temporal processor 230 may be configurable or configured to determine a historic time window to be used by the historic processor 250 to perform searches, analysis, processing, and/or identifying of historic information and/or historic datasets (which include historic information). Such time windows for the historic processor 250 may be dynamically determined based on one or factors including, but not limited to, frequency or number of service requests historically received for the target region, historic number of users in the target region, historic number of available service providers in the target region, and/or a current time window determined for the target region. For example, in situations where there have been a high frequency or number of service requests historically, the historic time window may be

dynamically determined to be shorter in time when compared to situations where there were historically lower frequency or number of service requests. Alternatively, such time windows for the historic processor 250 may also be pre-determined and/or selected from a plurality of pre-determined historic time windows. The historic processor 250 will be further described in the present disclosure.

[0046] In an example embodiment, the temporal processor 230 may determine two or more time windows for each service request. For example, the temporal processor 230 may determine a first time window for the current processor 240 and a second time window (different from the first time window) for the historic processor 240. As a more specific example, there may be situations that may warrant a current time window (or historic time window) to be longer, shorter, or centered around a different particular time as compared to a historic time window (or current time window).

[0047] The current processor (e.g., current processor 240).

[0048] In an example embodiment, the processor 200 includes one or more current processors (e.g., current processor 240). The current processor 240 is configurable or configured to process, analyze, select, and/or identify a current dataset for each service request. Each current dataset includes current information on the user 10 who submitted the service request. Current information on the user 10 may include, but is not limited to, an identity of the user 10; a current location of the user 10; user's expected or predicted actions and/or behaviors, including, but not limited to, services that the user may request, destinations that the user may select, etc.; time since the last service request (and/or other previous service requests); time since the last completed service (and/or other previous completed services); time since the last cancelled service request (and/or other previous cancelled service requests); time since the last uncompleted service requests (which may or may not include cancelled service requests); number of completed service requests since the last uncompleted service request; number of uncompleted service requests since the last completed service request; etc. Each current dataset may also include current information on service providers 20 in the target region (as determined by the service region processor 220). Service providers 20 in the region may include, but is not limited to, available service providers 20 in the target region, service providers 20 who are expected to become available in the target region within a time window (which may be determined by the temporal processor 230), service providers 20 who are currently providing services in the target region, service providers 20 who are not providing services and are not available in the target region, etc. Current information on service providers 20 in the target region may include, but is not limited to, an identity of the service provider 20; information pertaining to the vehicle, tools, features (e.g.,

baby seat available, number of seats, etc.), current rating, ranking, or reviews of the service provider 20; service request acceptance rate; service request cancellation rate, etc.; a current location of the service provider 20; a projected path or route of the service provider 20; preferred locations or regions; time since last service request completed; time since last service request accepted; time since last service rejected; predicted or expected direction and/or route of the service provider 20; time since last service request completed; time since last cancelled service request; time since last uncompleted service request (which may or may not include cancelled and/or rejected service requests); number of completed service requests since the last uncompleted service request; number of uncompleted service requests since the last completed service request; etc. Each current dataset may also include current information on some or all service requests received in and/or for the target region. Current information for each such service request may include, but is not limited to, an origin location, a destination location, one or more possible routes, a preferred route, a target region, a type of service requested, traffic conditions, etc.

[0049] The historic processor (e.g., historic processor 250).

[0050] In addition to current information, an example embodiment of the processor 200 performs processing, analyzing, selecting, and/or identifying of historic information. In this regard, the processor 200 includes one or more historic processors (e.g., historic processor 250). The historic processor 250 is configurable or configured to process, analyze, select, and/or identify a historic dataset for each service request. Each historic dataset may include historic information on the user 10 who submitted the service request. Historic information on the user 10 may include, but is not limited to, an identity of the user 10; historic service requests by the user 10; historic service requests in the target region by the user 10; historic acceptances of service requests by the user 10; historic acceptances of service requests for the target region by the user 10; historic rejections of service requests by the user 10; historic rejections of service requests for the target region by the user 10; historic cancellations of service requests by the user 10; historic cancellations of service requests for the target region by the user 10; historic prices that were acceptable and not acceptable by the user 10; historic expected or predicted actions and/or behaviors of the user 10, including, but not limited to, services that the user 10 may request, destinations that the user may select, etc.; historic time between service requests (and/or other previous service requests); historic time between completed services (and/or other previous completed services); historic time between cancelled service requests (and/or other previous cancelled service requests); historic time between uncompleted service

requests (which may or may not include cancelled service requests); historic number of completed service requests after an uncompleted service request; historic number of uncompleted service requests after a completed service request; etc. Each historic dataset may also include historic information on service providers 20 in the target region (as determined by the service region processor 220). Service providers 20 in the region may include, but is not limited to, historically available service providers 20 in the target region, service providers 20 who were historically expected to become available in the target region within a time window (as determined by the temporal processor 230), service providers 20 who were not providing services and were not available in the target region, service providers 20 who previously or historically provided services in the target region, service providers 20 who were previously or historically matched to service requests for the target region, etc. Historic information on service providers 20 in the target region may include, but is not limited to, an identity of the service provider 20; information pertaining to the vehicle, tools, features (e.g., baby seat available, number of seats, etc.), etc. available and/or provided by the service provider 20 for previous or historic service requests; historic locations of the service provider 20; history of service requests in the target region that were matched to the service provider 20; history of service requests in the target region that were not matched to the service provider 20; historic acceptances of service requests; historic acceptances of service requests for the target region; historic rejections of service requests; historic rejections of service requests for the target region; historic cancellations of service requests; historic cancellations of service requests for the target region; historic prices that were acceptable and not acceptable by the service provider 20; historic time between completed service requests; historic time between accepted service requests; historic time between rejected services; historic predicted or expected direction and/or route of the service provider 20; historic time between cancelled service requests; historic time between uncompleted service requests (which may or may not include cancelled and/or rejected service requests); historic number of completed service requests after an uncompleted service request; historic number of uncompleted service requests after a completed service request; etc. Each historic dataset may also include historic information on some or all historic service requests received in and/or for the target region. Historic information for each such service request may include, but is not limited to, an origin location, a destination location, one or more possible routes, a preferred route, a target region, a type of service requested, etc.

[0051] The user processor (e.g., user processor 260).

[0052] In an example embodiment, the processor 200 includes one or more user processors (e.g., user processor 260). The user processor 260 is configurable or configured to process, analyze, determine, search for, and/or identify information on and/or pertaining to a user 10 who submitted the service request. The user processor 260 may also be configurable or configured to process, analyze, determine, search for, and/or identify information on and/or pertaining to other users 10 currently in the target region, historically in the target region, currently or recently submitting service requests for services in the target region, historically submitted service requests for services in the target region, etc. The user processor 260 may perform such processing, analyzing, determining, searching, and/or identifying for and/or in cooperation with, among other elements, the current processor 240, the service region processor 220, and the temporal processor 230 when the current processor 240 processes and/or identifies current information on the user 10 and/or other users 10. The user processor 260 may perform such processing, analyzing, determining, searching, and/or identifying for and/or in cooperation with, among other elements, the historic processor 250, the service region processor 220, and the temporal processor 230 when the historic processor 250 processes historic information on the user 10 and/or other users 10. It is to be understood in the present disclosure that the user processor 260, the current processor 240, and/or the historic processor 250 may be configurable or configured to perform searches of one or more databases 50, such as a user database 50.

[0053] The service provider processor (e.g., service provider processor 270).

[0054] In an example embodiment, the processor 200 includes one or more service provider processors (e.g., service provider processor 270). The service provider processor 270 is configurable or configured to process, analyze, determine, search for, and/or identify information on and/or pertaining to service providers 20. Service providers 20 may include, but is not limited to, available service providers 20 in the target region, service providers 20 who are expected to become available in the target region within a time window (as determined by the temporal processor 230), service providers 20 who are currently providing services in the target region, service providers 20 who are not providing services and are not available in the target region, etc. Service providers 20 may also include, but is not limited to, historically available service providers 20 in the target region, service providers 20 who were historically expected to become available in the target region within a time window (as determined by the temporal processor 230), service providers 20 who were not providing services and were not available in the target region, service providers 20 who previously or historically

provided services in the target region, service providers 20 who were previously or historically matched to service requests for the target region, etc. The service provider processor 270 may perform such processing, analyzing, determining, searching, and/or identifying for and/or in cooperation with, among other elements, the current processor 240, the service region processor 220, and the temporal processor 230 when the current processor 240 processes and/or identifies current information on service providers 20. The service provider processor 270 may perform such processing, analyzing, determining, searching, and/or identifying for and/or in cooperation with, among other elements, the historic processor 250, the service region processor 220, and the temporal processor 230 when the historic processor 250 processes historic information on service providers 20. It is to be understood in the present disclosure that the service provider processor 270, the current processor 240, and/or the historic processor 250 may be configurable or configured to perform searches of one or more databases 50, such as a service provider database 50.

[0055] The pricing policy processor (e.g., pricing policy processor 280).

[0056] As illustrated in Figure 2, an example embodiment of the processor 200 includes one or more pricing policy processors (e.g., pricing policy processor 280). As will be further described below and in the present disclosure, the pricing policy processor 280 includes one or more elements for performing, among other things, generating and/or selecting of pricing policies, generating and/or selecting of target objectives, generating and/or selecting of prices, generating and/or assessing of likelihoods of achieving target objectives, and/or selecting of service providers 20.

[0057] As illustrated in **FIGURE 3**, the pricing policy processor 280 includes one or more elements. For example, the pricing policy processor 280 may include one or more interfaces (e.g., interface 281) for communicating with and receiving information from the service request processor 210, the service region processor 220, the temporal processor 230, the current processor 240, the historic processor 250, the user processor 260, and/or the service provider processor 270. The pricing policy processor 280 may also include one or more candidate pricing policy generators (e.g., candidate pricing policy generator 283). The candidate pricing policy generator 283 may perform, among other things, the generating of one or more candidate pricing policies (and/or obtaining of one or more predetermined and/or previously generated candidate pricing policies) for each service request. The pricing policy processor 280 may also include one or more candidate price generators (e.g., candidate price generators 282). The candidate price generator 282 may perform, among other things, the generating of one or more candidate prices for each of the candidate pricing policies generated by the candidate

pricing policy generator 283. The pricing policy processor 280 may also include one or more pricing policy selectors (e.g., pricing policy selector 284). The pricing policy selector 284 may perform, among other things, a selecting, from among the one or more candidate pricing policies generated by the candidate pricing policy generator 283, of a pricing policy (or selected pricing policy) to apply to each service request. The pricing policy processor 280 may also include one or more candidate target objective generators (e.g., candidate target objective generator 285). The candidate target objective generator 285 may perform, among other things, the generating of one or more candidate target objectives (and/or obtain one or more predetermined and/or previously generated target objectives) for each service request. The pricing policy processor 280 may also include one or more target objective selectors (e.g., target objective selector 286). The target objective selector 286 may perform, among other things, a selecting, from among the one or more candidate target objectives generated by the candidate target objective generator 285, of one or more target objectives (or selected target objective(s)) to be achieved for each service request. The pricing policy processor 280 may also include one or more main assessors (e.g., main assessor 287). The main assessor 287 may perform, among other things, an assessing, for each of the one or more candidate prices of the selected pricing policy, of a likelihood of achieving the selected target objective(s) if such candidate price is applied to the service request. The pricing policy processor 280 may also include one or more price selectors (e.g., price selector 288). The price selector 288 may perform, among other things, a selecting of a final price for the service request from among the one or more candidate prices (or candidate first price) of the selected pricing policy. The pricing policy processor 280 may also include one or more service provider selectors (e.g., service provider selector 289). The service provider selector 289 may perform, among other things, a selecting, from among a plurality of available (or soon to be available) service providers, of one or more service providers who will receive the service request and the final price selected by the price selector 288. The pricing policy processor 280 may also be configurable or configured to provide or offer the final price to the user 10 who submitted the service request and the one or more selected service providers 20 (i.e., attempt to match the user 10 to a service provider 20). The pricing policy processor 280 may also be configurable or configured to identify, observe, analyze, and/or process an outcome or result of the selected final price (e.g., whether or not the selected target objective was achieved, whether or not the user 10 accepted the price, whether or not the service provider 20 accepted the price, time taken for the user 10 to accept the price, time take for

the service provider 20 to accept the price, number of service providers 20 who did not accept the price, whether or not the matched service provider 20 completed the service request, etc.).

[0058] Although Figure 3 illustrates one interface 281, one candidate price generator 282, one candidate pricing policy generator 283, one pricing policy selector 284, one candidate target objective generator 285, one target objective selector 286, one main assessor 287, one price selector 288, and one service provider selector 289, it is to be understood that the pricing policy processor 280 may include more or less than one candidate price generator 282, more or less than one candidate pricing policy generator 283, more or less than one pricing policy selector 284, more or less than one candidate target objective generator 285, more or less than one target objective selector 286, more or less than one main assessor 287, more or less than one price selector 288, and/or more or less than one service provider selector 289 without departing from the teachings of the present disclosure. It is also to be understood in the present disclosure that, although the functions and/or processes performed by the pricing policy processor 280 are described in the present disclosure as being performed by particular elements of the pricing policy processor 280, the functions and/or processes performed by a particular element of the pricing policy processor 280 may also be performed by one or more other elements and/or cooperatively performed by more than one element of the pricing policy processor 280 without departing from the teachings of the present disclosure. It is also to be understood in the present disclosure that, although the functions and/or processes performed by the pricing policy processor 280 are described in the present disclosure as being performed by particular elements of the pricing policy processor 280, the functions and/or processes performed by two or more particular elements of the pricing policy processor 280 may be combined and performed by one element of the pricing policy processor 280 without departing from the teachings of the present disclosure.

[0059] These elements of the pricing policy processor 280 will now be further described with reference to the accompanying figures.

[0060] The interface (e.g., interface 281).

[0061] An example embodiment of the pricing policy processor 280 includes one or more interfaces (e.g., interface 281). The interface 281 is configurable or configured to facilitate communications between one or more elements of the processor 200 and one or more other elements of the pricing policy processor 280. For example, the interface 281 may be configurable or configured to receive information pertaining to the service request from the service request processor 210 and/or the service request interface 201. The interface 281 may be configurable or configured to receive information

pertaining to one or more target regions from the service region processor 220. The interface 281 may be configurable or configured to receive information pertaining to the request time and/or one or more time windows (e.g., current time windows, historic time windows, etc.) from the temporal processor 230. The interface 281 may be configurable or configured to receive, from the current processor 240, information pertaining to current datasets, including current information on the user who sent the service request, service providers in the target region, other users in the target region, and current service requests in the target region. The interface 281 may be configurable or configured to receive, from the historic processor 250, information pertaining to historic datasets, including historic information on the user who sent the service request, service providers in the target region, other users in the target region, and current service requests in the target region. The interface 281 may be configurable or configured to communicate information received, including the information described above and in the present disclosure, to the candidate price generator 282, candidate pricing policy generator 283, pricing policy selector 284, candidate target objective generator 285, target objective selector 286, main assessor 287, price selector 288, and/or service provider selector 289.

[0062] The candidate price generator (e.g., candidate price generator 282) and candidate pricing policy generator (e.g., candidate pricing policy generator 283).

[0063] As illustrated in Figure 3, the pricing policy processor 280 includes one or more candidate price generators (e.g., candidate price generator 282). The pricing policy processor 280 also includes one or more candidate pricing policy generators (e.g., candidate pricing policy generator 283).

[0064] The candidate pricing policy generator 283 is configurable or configured to generate (and/or select), for each service request, one or more candidate pricing policies. For example, as represented by the elements 402a-c within element 402 of **FIGURE 4**, the candidate pricing policy generator 283 generates a plurality of candidate pricing policies, including a first candidate pricing policy 402a, a second candidate pricing policy 402b, and an mth candidate pricing policy 402c. Examples of candidate pricing policies generated and/or selected by the candidate pricing policy generator 283 include, but are not limited to, a pricing policy having fixed parameters (e.g., fixed fare, base fare with increments per unit of distance, base fare with increments per unit of time, base fare with increments per unit of time and per unit of distance, minimum fare, maximum fare, etc.); a pricing policy that heuristically or dynamically adjusts a base price when service requests meet one or more predetermined criterion (e.g., number of service requests received within a current time window exceeds a predetermined quantity, etc.); a pricing policy utilizing machine learning models, or the

like, to provide and/or estimate, among other things, an objective or goal (e.g., a target objective) to be achieved and/or likelihood of achieving an objective or goal for all possible prices; a pricing policy that applies a same price to both users and service providers; a pricing policy that applies different prices to users and service providers (e.g., the user pays more than what the service provider receives); a pricing policy that applies a fixed commission to services provided by a service provider, with such fixed commission provided to a processor, platform provider, manager, or the like, of the service requests; a pricing policy that applies a dynamically determined commission to services provided by a service provider, with such dynamically determined commission provided to a processor, platform provider, manager, or the like, of the service requests (e.g., dynamically determined based on time of day, day of week, day of month, day of year, characteristics of the service request (e.g., origin, destination, distance, route, traffic conditions, weather conditions, etc.), number of service requests received, number of available service providers, geographic considerations, characteristics of the users who sent the service requests, characteristics of the available service providers, etc.); a pricing policy that deterministically applies similar or a same price for requests with similar or the same characteristics (e.g., same price for same distance, same price for same time of day, same price for same traffic conditions, same price for same ratio of service requests to available service providers, etc.); a pricing policy that non-deterministically applies different prices for service requests with similar or the same characteristics; etc. It is to be understood in the present disclosure that the candidate pricing policy generator 283 may obtain or select one or more predetermined and/or previously generated candidate pricing policies for each service request instead of generating one or more candidate pricing policies for each service request.

[0065] The one or more candidate pricing policies may be generated and/or selected based on one or more dynamically determined and/or predetermined considerations. For example, the candidate pricing policy generator 283 may generate and/or select each candidate pricing policy based on dynamically determined and/or predetermined target region(s) selected by the service region processor 220 (e.g., the current target region and/or the historic target region). Alternatively or in addition, the candidate pricing policy generator 283 may generate and/or select each candidate pricing policy based on a dynamically determined and/or predetermined request time selected by the temporal processor 230 (e.g., a time when the service request was sent by the user 10, a time when the service request was received by the processor 200, a time stipulated in the service request when the requested service is to be performed, a time when a final price for the service request is expected to be sent to

the user 10 and one or more service providers 20, a time when the service request is expected to be matched, and may include a date, day of week, day of month, and/or day of year). Alternatively or in addition, the candidate pricing policy generator 283 may generate and/or select each candidate pricing policy based on dynamically determined and/or predetermined time window(s) selected by the temporal processor 230. Alternatively or in addition, the candidate pricing policy generator 283 may generate and/or select each candidate pricing policy based on a dynamically determined and/or predetermined current dataset selected by the current processor 240 (e.g., current information on the user 10 who submitted the service request, service providers in the target region(s), other users in the target region(s), and current requests for service in the target region(s)). Alternatively or in addition, the candidate pricing policy generator 283 may generate and/or select each candidate pricing policy based on a dynamically determined and/or predetermined historic dataset selected by the historic processor 250 (e.g., historic information on the user 10 who submitted the service request, service providers in the target region(s), other users in the target region(s), and previous requests for service in the target region(s)). For example, for a particular service request, the candidate pricing policy generator 283 may generate and/or select each candidate pricing policy based on the target region(s), the request time, the time window(s), the current dataset, and the historic dataset. In some embodiments, the candidate pricing policy generator 283 may generate and/or select each candidate pricing policy based on one or more candidate target objectives selected by the candidate target objective generator 285, one or more dynamically determined and/or predetermined target objectives selected by the target objective selector 286, and/or one or more dynamically determined and/or predetermined service providers selected by the service provider selector 289. In other embodiments, the candidate pricing policy generator 283 may generate and/or select each candidate pricing policy in a non-deterministic manner, such as in a partially or fully random manner, as part of an A/B testing arrangement, etc. In an example embodiment, each candidate pricing policy may include and/or may be assigned a probability or likelihood of being selected. Other approaches to or methods of generating and/or selecting, for each service request, one or more candidate pricing policies are also contemplated without departing from the teachings of the present disclosure.

[0066] In generating the one or more candidate pricing policies, the candidate pricing policy generator 283 may instruct and/or cooperate with the candidate price generator 282 to generate, for each candidate pricing policy, one or more candidate prices. For example, as illustrated in Figure 4, the candidate price generator 282 may generate a plurality of different candidate prices, including a first

candidate price 402a1, a second candidate price 402a2, and a pth candidate price 402a3, for the first candidate pricing policy 402a. The candidate price generator 282 may also generate a plurality of different candidate prices, including a first candidate price 402b1, a second candidate price 402b2, and a qth candidate price 402b3, for the second candidate pricing policy 402b. The candidate price generator 282 may also generate a plurality of different candidate prices, including a first candidate price 402c1, a second candidate price 402c2, and a rth candidate price 402c3, for the mth candidate pricing policy 402c. It is to be understood in the present disclosure that the number of candidate prices generated, by the candidate price generator 282, for each of the candidate pricing policies may be the same for all candidate pricing policies. Alternatively, one or more candidate pricing policies may have a different number of candidate prices as compared to one or more other candidate pricing policies. It is also to be understood in the present disclosure that each candidate pricing policy may have one or more candidate prices. It is also to be understood in the present disclosure that the candidate pricing policy generator 283 may generate one or more candidate pricing policies for each service request. It is also to be understood in the present disclosure that the candidate price generator 282 may obtain or select one or more predetermined and/or previously generated candidate prices for each candidate pricing policy.

[0067] The pricing policy selector (e.g., pricing policy selector 284).

[0068] As illustrated in Figure 3, the pricing policy generator 280 includes one or more pricing policy selectors (e.g., pricing policy selector 284). The pricing policy selector 284 is configurable or configured to communicate with the candidate pricing policy generator 283. Such communications may include receiving the one or more candidate pricing policies generated by the candidate pricing policy generator 283. Each of the candidate pricing policies may include the one or more candidate prices generated by the candidate price generator 282. Alternatively or in addition, the pricing policy selector 284 may communicate with the candidate price generator 282 to receive the one or more candidate prices generated for each candidate pricing policy.

[0069] An example embodiment of the pricing policy selector 284 is configurable or configured to select, for each service request, a pricing policy (e.g., a first pricing policy or selected pricing policy) to apply to the service request. For example, as illustrated in element 406 in Figure 4, the pricing policy selector 284 may select candidate pricing policy 402c having candidate prices 402c1, 402c2, and 402c3 (or candidate first prices). The selected pricing policy may be selected, from among the one or more candidate pricing policies selected for the service request, based on one or more

dynamically determined and/or predetermined considerations. For example, the pricing policy selector 284 may select the selected pricing policy based on dynamically determined and/or predetermined target region(s) selected by the service region processor 220 (e.g., the current target region and/or the historic target region). Alternatively or in addition, the pricing policy selector 284 may select the selected pricing policy based on a dynamically determined and/or predetermined request time selected by the temporal processor 230 (e.g., a time when the service request was sent by the user 10, a time when the service request was received by the processor 200, a time stipulated in the service request when the requested service is to be performed, a time when a final price for the service request is expected to be sent to the user 10 and one or more service providers 20, a time when the service request is expected to be matched, and may include a date, day of week, day of month, and/or day of year). Alternatively or in addition, the pricing policy selector 284 may select the selected pricing policy based on dynamically determined and/or predetermined time window(s) selected by the temporal processor 230. Alternatively or in addition, the pricing policy selector 284 may select the selected pricing policy based on a dynamically determined and/or predetermined current dataset selected by the current processor 240 (e.g., current information on the user 10 who submitted the service request, service providers in the target region(s), other users in the target region(s), and current requests for service in the target region(s)). Alternatively or in addition, the pricing policy selector 284 may select the selected pricing policy based on a dynamically determined and/or predetermined historic dataset selected by the historic processor 250 (e.g., historic information on the user 10 who submitted the service request, service providers in the target region(s), other users in the target region(s), and previous requests for service in the target region(s)). For example, for a particular service request, the pricing policy selector 284 may select the selected pricing policy based on the target region(s), the request time, the time window(s), the current dataset, and the historic dataset. In some embodiments, the pricing policy selector 284 may select the selected pricing policy based on one or more dynamically determined and/or predetermined candidate target objectives selected by the candidate target objective generator 285, one or more dynamically determined and/or predetermined target objectives selected by the target objective selector 286, and/or one or more service providers selected by the service provider selector 289. In other embodiments, the pricing policy selector 284 may select the selected pricing policy in a non-deterministic manner, such as in a partially or fully random manner, as part of an A/B testing arrangement, etc. In other embodiments, each candidate pricing policy may include and/or may be assigned a probability or likelihood of being

selected. In such an embodiment, the pricing policy selector 284 may select the selected pricing policy based on the corresponding assigned probability or likelihood of being selected. Other approaches to or methods of selecting, for each service request, a selected pricing policy from among one or more candidate pricing policies are also contemplated without departing from the teachings of the present disclosure.

[0070] The candidate target objective generator (e.g., candidate target objective generator 285).

[0071] As illustrated in Figure 3, the pricing policy generator 280 includes one or more candidate target objective generators (e.g., candidate target objective generator 285).

[0072] The candidate target objective generator 285 is configurable or configured to generate (and/or select), for each service request, one or more candidate target objectives. For example, as represented by the elements 404a-c within element 404 of Figure 4, the candidate target objective generator 285 may generate a plurality of candidate target objectives, including a first candidate target objective 404a, a second candidate target objective 404b, and a xth candidate target objective 404c. Examples of candidate target objectives generated and/or selected by the candidate target objective generator 285 include, but are not limited to, a target number, percentage, and/or probability of completed service requests; a target average income for service providers; a target maximum or average wait time for users; a target revenue and/or profit; a target number, percentage, and/or probability of driver acceptance of service requests; a target number, percentage, and/or probability of user acceptance of service requests; a target number, percentage, and/or probability of both user and service provider accepting a service request; a target number, percentage, and/or probability of a service request not being cancelled by a user and/or service provider; a target probability of maximizing revenues and/or profits for the processor, platform provider, manager, or the like, a target probability of maximizing earnings for service providers, maximizing expected customer lifetime value, etc. It is to be understood in the present disclosure that the candidate target objective generator 285 may obtain or select one or more predetermined and/or previously generated candidate target objectives for each service request instead of generating one or more candidate target objective for each service request.

[0073] The one or more candidate target objectives may be generated and/or selected based on one or more dynamically determined and/or predetermined considerations. For example, the candidate target objective generator 285 may generate and/or select each candidate target objectives based on dynamically determined and/or predetermined target region(s) selected by the service region processor 220 (e.g., the current target region and/or the historic target region). Alternatively or in

addition, the candidate target objective generator 285 may generate and/or select each candidate target objectives based on a dynamically determined and/or predetermined request time selected by the temporal processor 230 (e.g., a time when the service request was sent by the user 10, a time when the service request was received by the processor 200, a time stipulated in the service request when the requested service is to be performed, a time when a final price for the service request is expected to be sent to the user 10 and one or more service providers 20, a time when the service request is expected to be matched, and may include a date, day of week, day of month, and/or day of year). Alternatively or in addition, the candidate target objectives generator 285 may generate and/or select each candidate target objective based on dynamically determined and/or predetermined time window(s) selected by the temporal processor 230. Alternatively or in addition, the candidate target objective generator 285 may generate and/or select each candidate target objective based on a dynamically determined and/or predetermined current dataset selected by the current processor 240 (e.g., current information on the user 10 who submitted the service request, service providers in the target region(s), other users in the target region(s), and current requests for service in the target region(s)). Alternatively or in addition, the candidate target objective generator 285 may generate and/or select each candidate target objective based on a dynamically determined and/or predetermined historic dataset selected by the historic processor 250 (e.g., historic information on the user 10 who submitted the service request, service providers in the target region(s), other users in the target region(s), and previous requests for service in the target region(s)). For example, for a particular service request, the candidate target objective generator 285 may generate and/or select each candidate target objective based on the target region(s), the request time, the time window(s), the current dataset, and the historic dataset. In some embodiments, the candidate target objective generator 285 may generate and/or select each candidate target objective based on one or more dynamically determined and/or predetermined candidate pricing policies selected by the candidate pricing policy generator 283, one or more dynamically determined and/or predetermined pricing policies selected by the pricing policy selector 284, and/or one or more service providers selected by the service provider selector 289. In other embodiments, the candidate target objective generator 285 may generate and/or select each candidate target objective in a non-deterministic manner, such as in a partially or fully random manner, as part of an A/B testing arrangement, etc. In an example embodiment, each candidate target objective may include and/or may be assigned a probability or likelihood of being selected. Other approaches to or methods of generating and/or selecting, for each

service request, one or more candidate target objectives are also contemplated without departing from the teachings of the present disclosure.

[0074] The target objective selector (e.g., target objective selector 286).

[0075] As illustrated in Figure 3, the pricing policy generator 280 includes one or more target objective selectors (e.g., target objective selector 286). The target objective selector 286 is configurable or configured to communicate with the candidate target objective generator 285. Such communications may include receiving the one or more candidate target objectives generated by the candidate target objective generator 285.

[0076] An example embodiment of the target objective selector 286 is configurable or configured to select, for each service request, a target objective (e.g., a first target objective or selected target objective) to apply to the service request. For example, as illustrated in element 406 in Figure 4, the target objective selector 286 may select candidate target objective 404c (or the selected target objective). The selected target objective may be selected, from among the one or more candidate target objectives selected for the service request, based on one or more dynamically determined and/or predetermined considerations. For example, the target objective selector 286 may select the selected target objective based on dynamically determined and/or predetermined target region(s) selected by the service region processor 220 (e.g., the current target region and/or the historic target region). Alternatively or in addition, the target objective selector 286 may select the selected target objective based on a dynamically determined and/or predetermined request time selected by the temporal processor 230 (e.g., a time when the service request was sent by the user 10, a time when the service request was received by the processor 200, a time stipulated in the service request when the requested service is to be performed, a time when a final price for the service request is expected to be sent to the user 10 and one or more service providers 20, a time when the service request is expected to be matched, and may include a date, day of week, day of month, and/or day of year). Alternatively or in addition, the target objective selector 286 may select the selected target objective based on dynamically determined and/or predetermined time window(s) selected by the temporal processor 230. Alternatively or in addition, the target objective selector 286 may select the selected target objective based on a dynamically determined and/or predetermined current dataset selected by the current processor 240 (e.g., current information on the user 10 who submitted the service request, service providers in the target region(s), other users in the target region(s), and current requests for service in the target region(s)). Alternatively or in addition, the target objective selector 286 may

select the selected target objective based on a dynamically determined and/or predetermined historic dataset selected by the historic processor 250 (e.g., historic information on the user 10 who submitted the service request, service providers in the target region(s), other users in the target region(s), and previous requests for service in the target region(s)). Alternatively or in addition, the target objective selector 286 may select the selected target objective based on dynamically determined and/or predetermined business priorities. For example, for a particular service request, the target objective selector 286 may select the selected target objective based on the target region(s), the request time, the time window(s), the current dataset, and the historic dataset. In some embodiments, the target objective selector 286 may select the selected target objective based on one or more dynamically determined and/or predetermined candidate pricing policies selected by the candidate pricing policy generator 283, one or more dynamically determined and/or predetermined pricing policies selected by the pricing policy selector 284, and/or one or more service providers selected by the service provider selector 289. In other embodiments, the target objective selector 286 may select the selected target objective in a non-deterministic manner, such as in a partially or fully random manner, as part of an A/B testing arrangement, etc. In other embodiments, each candidate target objective may include and/or may be assigned a probability or likelihood of being selected. In such an embodiment, the target objective selector 286 may select the selected target objective based on the corresponding assigned probability or likelihood of being selected. Other approaches to or methods of selecting, for each service request, a selected target objective from among one or more candidate target objectives are also contemplated without departing from the teachings of the present disclosure.

[0077] The main assessor (e.g., main assessor 287).

[0078] As illustrated in Figure 3, the pricing policy generator 280 includes one or more main assessors (e.g., main assessor 287).

[0079] The main assessor 287 is configurable or configured to communicate with the pricing policy selector 284. Such communications may include receiving the pricing policy selected by the pricing policy selector 284. The selected pricing policy received from the pricing policy selector 284 may include the one or more candidate prices (or "**candidate first prices**") that were generated for the selected pricing policy. Alternatively or in addition, the main assessor 287 may communicate with the candidate price generator 282 to receive the one or more candidate first prices that were generated for selected pricing policy. For example, as illustrated in element 406 in Figure 4, if the pricing policy selector 284 selected the mth candidate pricing policy 402c, the main assessor 287 will receive the

selected mth candidate pricing policy 402c and the candidate first prices 402c1, 402c2, and 402c3 that were generated for the selected mth candidate pricing policy 402c.

[0080] The main assessor 287 may also be configurable or configured to communicate with the target objective selector 286. Such communications may include receiving the one or more target objectives selected by the target objective selector 286. For example, as illustrated in element 406 in Figure 4, if the target objective selector 286 selected the xth candidate target objective 404c, the main assessor 287 will receive the selected xth candidate target objective 404c from the target objective selector 286.

[0081] After receiving the selected pricing policy (e.g., the mth candidate pricing policy 402c), the candidate first prices for the selected pricing policy (e.g., candidate first prices 402c1, 402c2, and 402c3), and the selected target objective (e.g., the xth candidate target objective 404c), an example embodiment of the main assessor 287 may be configurable or configured to perform an assessment of one or more of the candidate first prices. For example, the main assessor 287 may perform an assessment of all candidate first prices for the selected pricing policy. The assessment of each candidate first price may include assessing a likelihood that the selected target objective will be achieved if the candidate first price is selected for the service request. For example, as illustrated in element 408 in Figure 4, if the selected pricing policy 402c has candidate first prices 402c1, 402c2, and 402c3, the main assessor 287 may perform an assessment of the likelihood that the selected target objective 404c will be achieved if candidate first price 402c1 is selected for the service request (e.g., element 408a), an assessment of the likelihood that the selected target objective 404c will be achieved if candidate first price 402c2 is selected for the service request (e.g., element 408b), and/or an assessment of the likelihood that the selected target objective 404c will be achieved if candidate first price 402c3 is selected for the service request (e.g., element 408c).

[0082] In an example embodiment, the main assessor 287 may be configurable or configured to perform the assessment of the likelihoods of achieving the selected target objective for the one or more candidate first prices based on one or more dynamically determined and/or predetermined considerations. For example, the main assessor 287 may assess the likelihoods of achieving the selected target objective based on dynamically determined and/or predetermined target region(s) selected by the service region processor 220 (e.g., the current target region and/or the historic target region). Alternatively or in addition, the main assessor 287 may assess the likelihoods of achieving the selected target objective based on a dynamically determined and/or predetermined request time

selected by the temporal processor 230 (e.g., a time when the service request was sent by the user 10, a time when the service request was received by the processor 200, a time stipulated in the service request when the requested service is to be performed, a time when a final price for the service request is expected to be sent to the user 10 and one or more service providers 20, a time when the service request is expected to be matched, and may include a date, day of week, day of month, and/or day of year). Alternatively or in addition, the main assessor 287 may assess the likelihoods of achieving the selected target objective based on dynamically determined and/or predetermined time window(s) selected by the temporal processor 230. Alternatively or in addition, the main assessor 287 may assess the likelihoods of achieving the selected target objective based on a dynamically determined and/or predetermined current dataset selected by the current processor 240 (e.g., current information on the user 10 who submitted the service request, service providers in the target region(s), other users in the target region(s), and current requests for service in the target region(s)). Alternatively or in addition, the main assessor 287 may assess the likelihoods of achieving the selected target objective based on a dynamically determined and/or predetermined historic dataset selected by the historic processor 250 (e.g., historic information on the user 10 who submitted the service request, service providers in the target region(s), other users in the target region(s), and previous requests for service in the target region(s)). For example, for a particular candidate first price, the main assessor 287 may assess the likelihoods of achieving the selected target objective based on the target region(s), the request time, the time window(s), the current dataset, and the historic dataset. Other approaches to or methods of assessing, for each candidate first price, a likelihood of achieving the selected target objective are also contemplated without departing from the teachings of the present disclosure.

[0083] The price selector (e.g., price selector 288).

[0084] As illustrated in Figure 3, the pricing policy generator 280 includes one or more price selectors (e.g., price selector 288).

[0085] The price selector 288 is configurable or configured to communicate with the main assessor 287. Such communications may include receiving, for each service request, the selected pricing policy from the main assessor 287 and/or the pricing policy selector 284. The communication may also include receiving, for each selected pricing policy, the one or more candidate first prices of the selected pricing policy from the main assessor 287, the pricing policy selector 284, and/or the candidate price generator 282. The communication may also include receiving, for each of the

candidate first prices of the selected pricing policy, the likelihood of achieving the selected target objective, as assessed by the main assessor 287 (e.g., elements 408a, 408b, 408c in Figure 4).

[0086] After receiving the selected pricing policy (e.g., the *m*th candidate pricing policy 402c), the candidate first prices for the selected pricing policy (e.g., candidate first prices 402c1, 402c2, and 402c3), and the likelihoods of achieving the selected target objective (e.g., the likelihoods 408a, 408b, and 408c), an example embodiment of the price selector 288 may be configurable or configured to select a final price (e.g., element 410 in Figure 4) from among the one or more candidate first prices. The price selector 288 may select the final price from among the one or more candidate first prices based on the likelihoods of achieving the selected target objective 408a, 408b, 408c. For example, in a situation where the likelihood 408a for candidate first price 402c1 is L1, the likelihood 408b for candidate first price 402c2 is L2, the likelihood 408c for candidate first price 402c3 is L3, and L3 is greater than L1 and L2, the price selector 288 may select candidate first price 402c3 to be the final price that will be applied to the service request. In this regard, after one or more candidate service providers 20 have been selected by the service provider selector 289 (which may occur before or after the price selector 288 selects the final price), the final price selected by the price selector 288 may be provided to the user who submitted the service request and the one or more candidate service providers 20.

[0087] The service provider selector (e.g., service provider selector 289).

[0088] As illustrated in Figure 3, the pricing policy generator 280 includes one or more service provider selectors (e.g., service provider selector 289).

[0089] An example embodiment of the service provider selector 289 is configurable or configured to select, for each service request, one or more candidate service providers 20 for the service request. The service provider selector 289 may communicate with one or more elements of the processor 200 to select the one or more candidate service providers 20. For example, the service provider selector 289 may communicate with the service provider processor 270, the service region processor 220, the temporal processor 230, the current processor 240, and/or the historic processor 250. The one or more candidate service providers 20 may be selected based on one or more considerations. For example, the service provider selector 289 may select the one or more candidate service providers 20 based on the target region selected by the service region processor 220 (e.g., available service providers 20 in the target region, and may also include service providers 20 that are expected to become available in the target region). Alternatively or in addition, the service provider selector 289 may select the one

or more candidate service providers 20 based on the request time selected by the temporal processor 230 (e.g., service providers 20 that are available as of the request time, and may include service providers 20 that are expected to become available shortly after the request time). Alternatively or in addition, the service provider selector 289 may select the one or more candidate service providers 20 based on the current dataset selected by the current processor 240 (e.g., current information pertaining to the candidate service provider 20). Alternatively or in addition, the service provider selector 289 may select the one or more candidate service providers 20 based on the historic dataset selected by the historic processor 250 (e.g., historic information pertaining to the candidate service provider 20, including, but not limited to, a likelihood that the candidate service provider 20 will accept the price, historic price tolerance for the candidate service provider 20, historic acceptance rate of the candidate service provider 20, historic rejection rate of the candidate service provider 20, historic cancellation rate of the candidate service provider, etc.). Alternatively or in addition, the service provider selector 289 may select the one or more candidate service providers 20 based on business priorities and/or other considerations (e.g., lower earning or less busy service providers 20, good performing service providers 20, etc.). For example, for a particular service request, the service provider selector 289 may select the one or more candidate service providers 20 based on the target region, the request time, the current dataset, and the historic dataset. In some embodiments, the service provider selector 289 may select the one or more candidate service providers 20 based on the final price, the selected target objective, and/or the selected pricing policy. In other embodiments, the service provider selector 289 may select the candidate service providers 20 in a non-deterministic manner, such as in a partially or fully random manner. Other approaches to or methods of selecting, for each service request, one or more candidate service providers 20 are also contemplated without departing from the teachings of the present disclosure.

[0090] The service request execution processor (e.g., service request execution processor 290).

[0091] As illustrated in Figure 2, the processor 200 includes one or more service request execution processors (e.g., service request execution processor 290). The service request execution processor 290 is configurable or configured to apply the final price selected by the price selector 288 to the service request. The service request execution processor 290 may do so by sending the final price to the user 10 who submitted the request and the one or more candidate service providers 20 selected by the service provider selector 289.

[0092] In example embodiments, the processor 200 may be configurable or configured to observe one or more outcomes of applying the final price to the service request. Outcomes that may be observed by the processor 200 include, but are not limited to, whether or not the selected target objective was achieved, whether or not the user 10 accepted the final price, whether or not the one or more candidate service providers 20 accepted the final price, time taken for the user 10 to accept the final price, time taken for the matched service provider 20 (the candidate service provider 20 who is matched to the user 10) to accept the final price, number of candidate service providers 20 who did not accept the final price, whether or not the matched service provider 20 completed the service request, cancellations of the service request by the user 10 and/or the matched service provider 20, etc. The processor 200 may be configurable or configured to feedback, among other things, such outcomes of applying the final price to the service request to one or more elements of the processor 200, and/or one or more machine learning models thereof, so as to assist, be used by, and/or teach the processor 200 in better performing one or more functions, processes, and/or methods including, but not limited to, selecting of target regions (e.g., by the service region processor 220), selecting of time windows and/or request times (e.g., by the temporal processor 230), selecting of historic datasets (e.g., by the historic processor 250), selecting of current datasets (e.g., by the current processor 240), selecting of candidate pricing policies (e.g., by the candidate pricing policy generator 283), selecting of candidate prices for each candidate pricing policy (e.g., by the candidate price generator 282), selecting of a pricing policy from among one or more candidate pricing policies (e.g., by the pricing policy selector 284), selecting of candidate target objectives (e.g., by the candidate target objective generator 285), selecting of one or more target objectives from among one or more candidate target objectives (e.g., by the target objective selector 286), assessing of likelihoods of achieving target objectives (e.g., by the main assessor 287), selecting of a final price from among one or more candidate first prices (e.g., by the price selector 288), and/or selecting of one or more candidate service providers 20 (e.g., by the service provider selector 289). The processor 200 may also be configurable or configured to store such outcomes in one or more databases 50.

[0093] Example embodiments of a method of managing pricing policies (e.g., method 500).

[0094] An example embodiment of a method (e.g., method 500) of managing service requests, pricing policies, objectives, and/or prices is illustrated in Figure 4 and **FIGURE 5**. Service requests may be created by users 10 and submitted, directly or indirectly, to a processor (e.g., processor 200, as described in the present disclosure). The method 500 includes receiving a service request (e.g., action

502). The method 500 may include identifying information pertaining to the service request (e.g., action 504). The method 500 includes selecting a historic dataset (e.g., action 506). The method 500 includes selecting a current dataset (e.g., action 508). The method 500 includes generating one or more candidate pricing policies (e.g., action 510). The method 500 includes selecting a pricing policy from among one or more candidate pricing policies (e.g., action 512). The method 500 includes generating one or more candidate target objectives (e.g., action 514). The method 500 includes selecting a target objective from among one or more candidate target objectives (e.g., action 516). The method 500 includes assessing a likelihood of achieving the selected target objective for each of the candidate first prices of the selected pricing policy (e.g., action 518). The method 500 includes selecting a final price from among the one or more candidate first prices of the selected pricing policy (e.g., action 520). The method 500 includes applying the final price to the service request (e.g., action 522).

[0095] These and other processes and/or actions of method 500 will now be further described with reference to the accompanying figures.

[0096] Receiving a service request (e.g., action 502).

[0097] In an example embodiment, the method of managing service requests, pricing policies, objectives, and/or prices 500 includes receiving a service request (also referred to herein as a "first service request") (e.g., action 502). An example embodiment of the service request interface 201 (as described in the present disclosure) is configurable or configured to receive the service request.

[0098] The service request may be sent from a user (e.g., a first user 10) (or processor, mobile device, computing device, and/or wearable computing device thereof) and/or any other entity (or processor, mobile device, computing device, and/or wearable computing device thereof) who wishes to request for a service to be performed by a service provider 20. The service request may include information including, but not limited to, identification information of the user 10 (e.g., username, member identification number, legal name, etc.), a current location of the user 10, a type of service being requested (e.g., a ride, a shared ride, a future ride, a taxi, a 6-seater ride, a 7-seater van, a motorcycle ride, a delivery service, a food order, etc.), an origin or pick up location (if applicable), a destination or drop off location (if applicable), a service location (if applicable), a preferred route (if applicable).

[0099] Identifying information pertaining to the service request (e.g., action 504).

[00100] After receiving the service request (e.g., action 502), an example embodiment of the method of managing service requests, pricing policies, objectives, and/or prices 500 includes

identifying information pertaining to and/or based on the service request (e.g., action 504). An example embodiment of the service request processor 210 (as described in the present disclosure), the service region processor 220 (as described in the present disclosure), and the temporal processor 230 (as described in the present disclosure) may be configurable or configured to identify such information.

[00101] The information identified may include, but is not limited to, a request service (also referred to herein as a "first requested service"), a target region (also referred to herein as a "first target region"), and a request time (also referred to herein as a "first request time").

[00102] Selecting a historic dataset (e.g., action 506).

[00103] In an example embodiment, the method of managing service requests, pricing policies, objectives, and/or prices 500 includes selecting a historic dataset (e.g., action 506). An example embodiment of the historic processor 250 (as described in the present disclosure), the user processor 260 (as described in the present disclosure), and the service provider processor 270 (as described in the present disclosure) may be configurable or configured to select the historic dataset.

[00104] As illustrated in **FIGURE 6**, the selecting of the historic dataset includes selecting of historic information on the user 10 who submitted the service request (e.g., action 506a). Historic information on the user 10 who submitted the service request may include, but is not limited to, an identity of the user 10, historic service requests submitted by the user 10, historic service requests in a target region (e.g., as selected or generated by the service region processor 220, as described in the present disclosure) submitted by the user 10, historic acceptances of service requests by the user 10, historic acceptances of service requests for the target region by the user 10, historic rejections of service requests by the user 10, historic rejections of service requests for the target region by the user 10, historic cancellations of service requests by the user 10, historic cancellations of service requests for the target region by the user 10, historic prices that were acceptable and not acceptable by the user 10, historic willingness to accept alternative prices (which may provide behavioural insights and be used to estimate price tolerances for similar users in similar contexts), price tolerance of the user 10, etc.

[00105] The selecting of the historic dataset may also include selecting of historic information on service providers 20 in a target region (e.g., action 506b). Historic information on service providers 20 may include, but is not limited to, historically available service providers 20 in the target region, service providers 20 who were historically expected to become available in the target region within a

time window (e.g., as determined by the temporal processor 230), service providers 20 who were not providing services and were not available in the target region, service providers 20 who previously or historically provided services in the target region, service providers 20 who were previously or historically matched to service requests for the target region, information pertaining to the vehicle, tools, features (e.g., baby seat available, number of seats, etc.), etc. of the service provider 20 for previous or historic service requests, historic locations of the service provider 20, history of service requests in the target region that were matched to the service provider 20, history of service requests in the target region that were not matched to the service provider 20, historic acceptances of service requests, historic acceptances of service requests for the target region, historic rejections of service requests, historic rejections of service requests for the target region, historic cancellations of service requests, historic cancellations of service requests for the target region, historic prices that were acceptable and not acceptable by the service provider 20, etc.

[00106] The selecting of the historic dataset may also include selecting of historic information on other users in the target region (e.g., action 506c). Historic information on other users 10 may include, but is not limited to, an identity of the other users 10, historic service requests in the target region submitted by the other users 10, historic acceptances of service requests for the target region by the other users 10, historic rejections of service requests for the target region by the other users 10, historic cancellations of service requests for the target region by the other users 10, historic prices that were acceptable and not acceptable by the user 10, etc.

[00107] The selecting of the historic dataset may also include selecting of previous requests for service in the target region (e.g., action 506d). Historic information for each such service request may include, but is not limited to, an origin location, a destination location, one or more possible routes, a preferred route, a target region, a type of service requested, etc.

[00108] Selecting a current dataset (e.g., action 508).

[00109] In addition to selecting a historic dataset (e.g., action 506), an example embodiment of the method of managing service requests, pricing policies, objectives, and/or prices 500 includes selecting a current dataset (e.g., action 508). An example embodiment of the current processor 240 (as described in the present disclosure), the user processor 260 (as described in the present disclosure), and the service provider processor 270 (as described in the present disclosure) may be configurable or configured to select the current dataset.

[00110] As illustrated in **FIGURE 7**, the selecting of the current dataset includes selecting of current information on the user 10 who submitted the service request (e.g., action 508a). Current information on the user 10 who submitted the service request may include, but is not limited to, an identity of the user 10, a current location of the user 10, etc.

[00111] The selecting of the current dataset may also include selecting of current information on service providers 20 in a target region (e.g., action 508b). Current information on service providers 20 may include, but is not limited to, available service providers 20 in the target region, service providers 20 who are expected to become available in the target region within a time window (which may be determined by the temporal processor 230), service providers 20 who are currently providing services in the target region, service providers 20 who are not providing services and are not available in the target region, information pertaining to the vehicle, tools, features (e.g., baby seat available, number of seats, etc.), current rating, ranking, or reviews of the service provider 20, service request acceptance rate, service request cancellation rate, etc. a current location of the service provider 20, a projected path or route of the service provider 20, preferred locations or regions, etc.

[00112] The selecting of the current dataset may also include selecting of current information on other users in the target region (e.g., action 508c). Current information on other users 10 may include, but is not limited to, an identity of the other users 10, current service requests in the target region submitted by the other users 10, current acceptances of service requests for the target region by the other users 10, current rejections of service requests for the target region by the other users 10, current cancellations of service requests for the target region by the other users 10, current prices that were acceptable and not acceptable by the user 10, etc.

[00113] The selecting of the current dataset may also include selecting of current requests for service in the target region (e.g., action 506d). Current information for each such service request may include, but is not limited to, an origin location, a destination location, one or more possible routes, a preferred route, a target region, a type of service requested, etc.

[00114] Generating one or more candidate pricing policies (e.g., action 510).

[00115] After identifying information in the service request, selecting a historic dataset, and selecting a current dataset, an example embodiment of the method of managing service requests, pricing policies, objectives, and/or prices 500 includes generating (and/or selecting) one or more of candidate pricing policies for each service request (e.g., action 510). As described in the present disclosure, the selecting of one or more candidate pricing policies may also be performed using one

or more information provided as feedback from one or more recently or previously matched service requests. An example embodiment of the pricing policy processor 240 (as described in the present disclosure), the current processor 240 (as described in the present disclosure), the historic processor 250 (as described in the present disclosure), the user processor 260 (as described in the present disclosure), and/or the service provider processor 270 (as described in the present disclosure) may be configurable or configured to generate one or more candidate pricing policies. Regarding the pricing policy processor 240, an example embodiment of the candidate pricing generator 282 (as described in the present disclosure) and the candidate pricing policy generator 283 (as described in the present disclosure) may be configurable or configured to generate one or more candidate pricing policies.

[00116] The selecting of the one or more candidate pricing policies includes generating and/or selecting one or more candidate prices (referred to as “candidate first prices” in the present disclosure) for each of the one or more candidate pricing policies. Put differently, each of the selected candidate pricing policies will have one or more candidate first prices. It is to be understood in the present disclosure that the number of candidate prices generated and/or selected for each of the candidate pricing policies may be the same for some or all candidate pricing policies. Alternatively, one or more candidate pricing policies may have a different number of candidate prices as compared to one or more other candidate pricing policies. It is also to be understood in the present disclosure that one or more candidate first prices of a candidate pricing policy may be the same as or different from a candidate first price of one or more other candidate pricing policies. It is also to be understood in the present disclosure that each candidate pricing policy may have one or more candidate prices. It is also to be understood in the present disclosure that one or more candidate pricing policies may be generated and/or selected for each service request.

[00117] As described in the present disclosure, example candidate pricing policies generated and/or selected include, but are not limited to, a pricing policy having fixed parameters (e.g., fixed fare, base fare with increments per unit of distance, base fare with increments per unit of time, base fare with increments per unit of time and per unit of distance, minimum fare, maximum fare, etc.); a pricing policy that heuristically or dynamically adjusts a base price when service requests meet one or more predetermined criterion (e.g., number of service requests received within a current time window exceeds a predetermined quantity, etc.); a pricing policy utilizing machine learning models, or the like, to provide and/or estimate, among other things, an objective or goal (e.g., a target objective) to be achieved and/or likelihood of achieving an objective or goal for all possible prices; a

pricing policy that applies a same price to both users and service providers; a pricing policy that applies different prices to users and service providers (e.g., the user pays more than what the service provider receives); a pricing policy that applies a fixed commission to services provided by a service provider, with such fixed commission provided to a processor, platform provider, manager, or the like, of the service requests; a pricing policy that applies a dynamically determined commission to services provided by a service provider, with such dynamically determined commission provided to a processor, platform provider, manager, or the like, of the service requests (e.g., dynamically determined based on time of day, day of week, day of month, day of year, characteristics of the service request (e.g., origin, destination, distance, route, traffic conditions, weather conditions, etc.), number of service requests received, number of available service providers, geographic considerations, characteristics of the users who sent the service requests, characteristics of the available service providers, etc.); a pricing policy that deterministically applies similar or a same price for requests with similar or the same characteristics (e.g., same price for same distance, same price for same time of day, same price for same traffic conditions, same price for same ratio of service requests to available service providers, etc.); a pricing policy that non-deterministically applies different prices for service requests with similar or the same characteristics; etc. It is to be understood in the present disclosure that one or more predetermined and/or previously generated candidate pricing policies may be selected for each service request instead of generating one or more candidate pricing policies for each service request.

[00118] Candidate pricing policies may be generated and/or selected based on one or more considerations. For example, each candidate pricing policy may be generated and/or selected based on the target region(s) (e.g., the current target region and/or the historic target region). Alternatively or in addition, each candidate pricing policy may be generated and/or selected based on the request time (e.g., a time when the service request was sent by the user 10, a time when the service request was received, a time stipulated in the service request when the requested service is to be performed, a time when a final price for the service request is expected to be sent to the user 10 and one or more service providers 20, a time when the service request is expected to be matched, and may include a date, day of week, day of month, and/or day of year). Alternatively or in addition, each candidate pricing policy may be generated and/or selected based on time window(s) selected by the temporal processor 230, as described in the present disclosure. Alternatively or in addition, each candidate pricing policy may be generated and/or selected based on the current dataset (e.g., current information

on the user 10 who submitted the service request, service providers in the target region(s), other users in the target region(s), and current requests for service in the target region(s)). Alternatively or in addition, each candidate pricing policy may be generated and/or selected based on the historic dataset (e.g., historic information on the user 10 who submitted the service request, service providers in the target region(s), other users in the target region(s), and previous requests for service in the target region(s)). For example, for a particular service request, each candidate pricing policy may be generated and/or selected based on the target region(s), the request time, the time window(s), the current dataset, and the historic dataset. In some embodiments, each candidate pricing policy may be generated and/or selected based on one or more candidate target objectives (as selected by the candidate target objective generator 285), one or more target objectives (as selected by the target objective selector 286), and/or one or more service providers (as selected by the service provider selector 289). In other embodiments, each candidate pricing policy may be generated and/or selected in a non-deterministic manner, such as in a partially or fully random manner, as part of an A/B testing arrangement, etc. In an example embodiment, each candidate pricing policy may include and/or may be assigned a probability or likelihood of being selected. Other approaches to or methods of generating and/or selecting, for each service request, one or more candidate pricing policies are also contemplated without departing from the teachings of the present disclosure.

[00119] Selecting a pricing policy from among the one or more candidate pricing policies (e.g., action 512).

[00120] After selecting of the one or more candidate pricing policies (e.g., action 510), an example embodiment of the method of managing service requests, pricing policies, objectives, and/or prices 500 includes selecting a pricing policy (or a "**selected pricing policy**") from among the one or more candidate pricing policies (e.g., action 512). The selected pricing policy includes one or more candidate first prices. As described in the present disclosure, the selecting of the selected pricing policies may also be performed using one or more information provided as feedback from one or more recently or previously matched service requests. An example embodiment of the pricing policy processor 240 (as described in the present disclosure), the current processor 240 (as described in the present disclosure), the historic processor 250 (as described in the present disclosure), the user processor 260 (as described in the present disclosure), and/or the service provider processor 270 (as described in the present disclosure) may be configurable or configured to select the pricing policy from among one or more candidate pricing policies. Regarding the pricing policy processor 240, an

example embodiment of the pricing policy selector 284 (as described in the present disclosure) may be configurable or configured to select the selected pricing policy from among one or more candidate pricing policies.

[00121] The selected pricing policy may be selected, from among one or more candidate pricing policies selected for the service request (e.g., from action 510), based on one or more considerations. For example, the selected pricing policy may be selected based on the target region(s) (as described in the present disclosure). Alternatively or in addition, the selected pricing policy may be selected based on the request time (as described in the present disclosure). Alternatively or in addition, the selected pricing policy may be selected based on the time window(s), as described in the present disclosure. Alternatively or in addition, the selected pricing policy may be selected based on the current dataset (as described in the present disclosure). Alternatively or in addition, the selected pricing policy may be selected based on the historic dataset (as described in the present disclosure). For example, for a particular service request, the selected pricing policy may be selected based on the target region(s), the request time, the time window(s), the current dataset, and the historic dataset. In some embodiments, the selected pricing policy may be selected based on one or more candidate target objectives, one or more selected target objectives, and/or one or more selected service providers. In other embodiments, the selected pricing policy may be selected in a non-deterministic manner, such as in a partially or fully random manner, as part of an A/B testing arrangement, etc. In other embodiments, each candidate pricing policy may include and/or may be assigned a probability or likelihood of being selected. In such an embodiment, the selected pricing policy may be selected based on the corresponding assigned probability or likelihood of being selected. Other approaches to or methods of selecting, for each service request, a selected pricing policy from among one or more candidate pricing policies are also contemplated without departing from the teachings of the present disclosure.

[00122] Generating one or more candidate target objectives (e.g., action 514).

[00123] In an example embodiment, the method of managing service requests, pricing policies, objectives, and/or prices 500 includes generating (and/or selecting) one or more candidate target objectives for each service request (e.g., action 514). As described in the present disclosure, the selecting of one or more candidate target objectives may also be performed using one or more information provided as feedback from one or more recently or previously matched service requests. An example embodiment of the pricing policy processor 240 (as described in the present disclosure),

the current processor 240 (as described in the present disclosure), the historic processor 250 (as described in the present disclosure), the user processor 260 (as described in the present disclosure), and/or the service provider processor 270 (as described in the present disclosure) may be configurable or configured to generate the one or more candidate target objectives. Regarding the pricing policy processor 240, an example embodiment of the candidate target objective generator 285 (as described in the present disclosure) may be configurable or configured to generate the one or more of candidate target objectives.

[00124] Target objectives may be one or more business metrics and/or rewards to be optimized by the method 500. As described in the present disclosure, examples of candidate target objectives generated and/or selected include, but are not limited to, a target number, percentage, and/or probability of completed service requests; a target average income for service providers; a target maximum or average wait time for users; a target revenue and/or profit; a target number, percentage, and/or probability of driver acceptance of service requests; a target number, percentage, and/or probability of user acceptance of service requests; a target number, percentage, and/or probability of both user and service provider accepting a service request; a target number, percentage, and/or probability of a service request not being cancelled by a user and/or service provider; a target probability of maximizing revenues and/or profits for the processor, platform provider, manager, or the like, a target probability of maximizing earnings for service providers; etc.

[00125] The one or more candidate target objectives may be generated and/or selected based on one or more considerations. For example, each candidate target objectives may be generated and/or selected based on the target region(s). Alternatively or in addition, each candidate target objectives may be generated and/or selected based on the request time (as described in the present disclosure). Alternatively or in addition, each candidate target objective may be generated and/or selected based on the time window(s) (as described in the present disclosure). Alternatively or in addition, each candidate target objective may be generated and/or selected based on the current dataset (as described in the present disclosure). Alternatively or in addition, each candidate target objective may be generated and/or selected based on the historic dataset (as described in the present disclosure). For example, for a particular service request, each candidate target objective may be generated and/or selected based on the target region(s), the request time, the time window(s), the current dataset, and the historic dataset. In some embodiments, each candidate target objective may be generated and/or selected based on one or more candidate pricing policies, one or more selected pricing policies, and/or

one or more selected service providers. In other embodiments, each candidate target objective may be generated and/or selected in a non-deterministic manner, such as in a partially or fully random manner, as part of an A/B testing arrangement, etc. In an example embodiment, each candidate target objective may include and/or may be assigned a probability or likelihood of being selected. Other approaches to or methods of generating and/or selecting, for each service request, one or more candidate target objectives are also contemplated without departing from the teachings of the present disclosure.

[00126] Selecting a target objective from among the one or more candidate target objectives (e.g., action 516).

[00127] After selecting one or more candidate target objectives (e.g., action 514), an example embodiment of the method of managing service requests, pricing policies, objectives, and/or prices 500 includes selecting a target objective (the "selected target objective") from among one or more candidate target objectives (e.g., action 516). As described in the present disclosure, the selecting of the selected target objective may also be performed using one or more information provided as feedback from one or more recently or previously matched service requests. An example embodiment of the pricing policy processor 240 (as described in the present disclosure), the current processor 240 (as described in the present disclosure), the historic processor 250 (as described in the present disclosure), the user processor 260 (as described in the present disclosure), and/or the service provider processor 270 (as described in the present disclosure) may be configurable or configured to select the selected target objective from among one or more candidate target objectives. Regarding the pricing policy processor 240, an example embodiment of the target objective selector 286 (as described in the present disclosure) may be configurable or configured to select the selected target objective from among one or more candidate target objectives.

[00128] The selected target objectives may be selected, from among one or more candidate target objectives selected for the service request (e.g., from action 514), based on one or more considerations. For example, the selected target objective may be generated and/or selected based on the target region(s). Alternatively or in addition, the selected target objective may be generated and/or selected based on the request time. Alternatively or in addition, the selected target objective may be generated and/or selected based on the time window(s). Alternatively or in addition, the selected target objective may be generated and/or selected based on the current dataset. Alternatively or in addition, the selected target objective may be generated and/or selected based on the historic dataset.

Alternatively or in addition, the selected target objective may be generated and/or selected based on business priorities. For example, for a particular service request, the selected target objective may be generated and/or selected based on the target region(s), the request time, the time window(s), the current dataset, and the historic dataset. In some embodiments, the selected target objective may be generated and/or selected based on one or more candidate pricing policies, one or more selected pricing policies, and/or one or more selected service providers. In other embodiments, the selected target objective may be generated and/or selected in a non-deterministic manner, such as in a partially or fully random manner, as part of an A/B testing arrangement, etc. In other embodiments, each candidate target objective may include and/or may be assigned a probability or likelihood of being selected. In such an embodiment, the selected target objective may be generated and/or selected based on the corresponding assigned probability or likelihood of being selected. Other approaches to or methods of selecting, for each service request, a selected target objective from among one or more candidate target objectives are also contemplated without departing from the teachings of the present disclosure.

[00129] For each candidate first price of the selected pricing policy, assessing a likelihood of achieving the selected target objective (e.g., action 518).

[00130] As described above and in the present disclosure, a selected pricing policy is selected from among one or more candidate pricing policies (e.g., action 512), and the selected pricing policy includes one or more candidate first prices (e.g., action 512). Furthermore, a selected target objective is selected from among one or more candidate target objectives (e.g., action 516). In an example embodiment, the method of managing service requests, pricing policies, objectives, and/or prices 500 includes, for each candidate first price of the selected pricing policy, assessing a likelihood of achieving the selected target objective (e.g., action 518). As described in the present disclosure, the assessing of the likelihoods may also be performed using one or more information provided as feedback from one or more recently or previously matched service requests. An example embodiment of the pricing policy processor 240 (as described in the present disclosure), the current processor 240 (as described in the present disclosure), the historic processor 250 (as described in the present disclosure), the user processor 260 (as described in the present disclosure), and/or the service provider processor 270 (as described in the present disclosure) may be configurable or configured to perform the assessing of the likelihood of achieving the selected target objective for each candidate first price of the selected pricing policy. Regarding the pricing policy processor 240, an example embodiment

of the main assessor 287 (as described in the present disclosure) may be configurable or configured to assess the likelihood of achieving the selected target objective for each candidate first price of the selected pricing policy.

[00131] After receiving the selected pricing policy (e.g., the mth candidate pricing policy 402c), the candidate first prices for the selected pricing policy (e.g., candidate first prices 402c1, 402c2, and 402c3), and the selected target objective (e.g., the xth candidate target objective 404c), an example embodiment of the method 500 includes performing an assessment of one or more of the candidate first prices of the selected pricing policy. For example, the method 500 may include performing an assessment of all candidate first prices of the selected pricing policy. The assessment of each candidate first price may include assessing a likelihood that the selected target objective will be achieved if the candidate first price is selected for the service request. For example, as illustrated in element 408 in Figure 4, if the selected pricing policy 402c has candidate first prices 402c1, 402c2, and 402c3, the method 500 may include performing an assessment of the likelihood that the selected target objective 404c will be achieved if candidate first price 402c1 is selected for the service request (e.g., element 408a), an assessment of the likelihood that the selected target objective 404c will be achieved if candidate first price 402c2 is selected for the service request (e.g., element 408b), and/or an assessment of the likelihood that the selected target objective 404c will be achieved if candidate first price 402c3 is selected for the service request (e.g., element 408c).

[00132] In an example embodiment, the method 500 performs the assessment of the likelihoods of achieving the selected target objective for the one or more candidate first prices based on one or more considerations. For example, the method 500 may assess the likelihoods of achieving the selected target objective based on the target region(s). Alternatively or in addition, the method 500 may assess the likelihoods of achieving the selected target objective based on the request time (e.g., a time when the service request was sent by the user 10, a time when the service request was received by the processor 200, a time stipulated in the service request when the requested service is to be performed, a time when a final price for the service request is expected to be sent to the user 10 and one or more service providers 20, a time when the service request is expected to be matched, and may include a date, day of week, day of month, and/or day of year). Alternatively or in addition, the method 500 may assess the likelihoods of achieving the selected target objective based on the time window(s). Alternatively or in addition, the method 500 may assess the likelihoods of achieving the selected target objective based on the current dataset (e.g., current information on the user 10 who

submitted the service request, service providers in the target region(s), other users in the target region(s), and current requests for service in the target region(s)). Alternatively or in addition, the method 500 may assess the likelihoods of achieving the selected target objective based on the historic dataset (e.g., historic information on the user 10 who submitted the service request, service providers in the target region(s), other users in the target region(s), and previous requests for service in the target region(s)). For example, for a particular candidate first price, the method may assess the likelihoods of achieving the selected target objective based on the target region(s), the request time, the time window(s), the current dataset, and the historic dataset. Other approaches to or methods of assessing, for each candidate first price, a likelihood of achieving the selected target objective are also contemplated without departing from the teachings of the present disclosure.

[00133] Selecting a final price from among one or more candidate first prices of the selected pricing policy (e.g., action 520).

[00134] After selecting a selected pricing policy from among one or more candidate pricing policies (e.g., action 512), selecting one or more candidate first prices for the selected pricing policy (e.g., action 512), selecting a selected target objective from among one or more candidate target objectives (e.g., action 516), and assessing a likelihood of achieving the selected target objective for each of the one or more candidate first prices of the selected pricing policy (e.g., action 518), an example embodiment of the method of managing service requests, pricing policies, objectives, and/or prices 500 includes selecting a final price from among one or more candidate first prices of the selected pricing policy (e.g., action 520). As described in the present disclosure, the selecting of the final price may also be performed using one or more information provided as feedback from one or more recently or previously matched service requests. An example embodiment of the pricing policy processor 240 (as described in the present disclosure), the current processor 240 (as described in the present disclosure), the historic processor 250 (as described in the present disclosure), the user processor 260 (as described in the present disclosure), and/or the service provider processor 270 (as described in the present disclosure) may be configurable or configured to select the final price. Regarding the pricing policy processor 240, an example embodiment of the price selector 288 (as described in the present disclosure) may be configurable or configured to select the final price.

[00135] After receiving the selected pricing policy (e.g., the mth candidate pricing policy 402c), the candidate first prices for the selected pricing policy (e.g., candidate first prices 402c1, 402c2, and 402c3), and the likelihoods of achieving the selected target objective (e.g., the likelihoods

408a, 408b, and 408c), an example embodiment of the method 500 is configurable or configured to select a final price (e.g., element 410 in Figure 4) from among the one or more candidate first prices. The method 500 may select the final price from among the one or more candidate first prices based on the likelihoods of achieving the selected target objective 408a, 408b, 408c. For example, in a situation where the likelihood 408a for candidate first price 402c1 is L1, the likelihood 408b for candidate first price 402c2 is L2, the likelihood 408c for candidate first price 402c3 is L3, and L3 is greater than L1 and L2, the method 500 may select candidate first price 402c3 to be the final price that will be applied to the service request. In some embodiments, the method 500 may explore prices that may not be considered as an "optimal price", and may select a "sub-optimal" price as the final price.

[00136] After one or more candidate service providers 20 have been selected (which may occur before or after the price selector 288 selects the final price), the final price selected by the method 500 may be provided to the user who submitted the service request and the one or more candidate service providers 20.

[00137] Applying the final price to the service request (e.g., action 522).

[00138] After selecting the final price from among the one or more candidate first prices of the selected pricing policy, an example embodiment of the method of managing service requests, pricing policies, objectives, and/or prices 500 includes applying the final price to the service request (e.g., action 522). An example embodiment of the pricing policy processor 240 (as described in the present disclosure), the current processor 240 (as described in the present disclosure), the historic processor 250 (as described in the present disclosure), the user processor 260 (as described in the present disclosure), and/or the service provider processor 270 (as described in the present disclosure) may be configurable or configured to apply the final price to the service request. Regarding the pricing policy processor 240, an example embodiment of the service request execution processor 290 (as described in the present disclosure) is configurable or configured to apply the final price to the service request.

[00139] In example embodiments, the method 500 may explore prices that may not be considered as "optimal prices" by selecting a "sub-optimal" price as the final price. Exploration probabilities may enable improvements to the method 500, including via learning (e.g., via machine learning), so as to learn unbiased predictions for target objectives under counterfactual actions. For example, in the absence of such exploration, a same price may always be applied in a same context. Such a situation makes it difficult to observe and/or learn whether or not an observed result and/or

reward resulted from the action taken or the context. In example embodiments, when a context recurs (e.g., different service request with similar or same request time, target region, and/or other information), the method 500 may explore different actions such as selecting of different candidate pricing policies, selecting of different selected pricing policy, selecting of different candidate target objectives, selecting of different selected target objective, selecting of different candidate first prices, and selecting of different final prices. After observing of the outcomes and/or rewards for such different service requests in the same or similar context, example embodiments of the method 500 may be able to generate more reliable counterfactual predictions and explorations of the outcome and/or reward under alternative actions. Statistic techniques, including inverse-propensity scoring, doubly robust estimation, and/or importance-weighted regression, may be used to generate such unbiased predictions of the target objective and other generation and/or selection actions described in the present disclosure.

[00140] In example embodiments, the method 500 includes observing one or more outcomes of applying the final price to the service request. Outcomes that may be observed by the method 500 may include, but are not limited to, whether or not the selected target objective was achieved, whether or not the user 10 accepted the final price, whether or not the one or more candidate service providers 20 accepted the final price, time taken for the user 10 to accept the final price, time taken for the matched service provider 20 (the candidate service provider 20 who is matched to the user 10) to accept the final price, number of candidate service providers 20 who did not accept the final price, whether or not the matched service provider 20 completed the service request, cancellations of the service request by the user 10 and/or the matched service provider 20, etc. The method 500 may include providing a feedback to one or more processes or actions of the method 500. For example, the method 500 may provide a feedback of the outcomes of applying the final price to the service request to one or more actions and/or processes of the method 500, which may also include utilizing and/or applying one or more machine learning models to assist, be used by, and/or teach the processor 200 in better performing one or more functions, processes, and/or methods including, but not limited to, selecting of target regions (e.g., by the service region processor 220), selecting of time windows and/or request times (e.g., by the temporal processor 230), selecting of historic datasets (e.g., by the historic processor 250), selecting of current datasets (e.g., by the current processor 240), selecting of candidate pricing policies (e.g., by the candidate pricing policy generator 283), selecting of candidate prices for each candidate pricing policy (e.g., by the candidate price generator 282), selecting of a

pricing policy from among one or more candidate pricing policies (e.g., by the pricing policy selector 284), selecting of candidate target objectives (e.g., by the candidate target objective generator 285), selecting of one or more target objectives from among one or more candidate target objectives (e.g., by the target objective selector 286), assessing of likelihoods of achieving target objectives (e.g., by the main assessor 287), selecting of a final price from among one or more candidate first prices (e.g., by the price selector 288), and/or selecting of one or more candidate service providers 20 (e.g., by the service provider selector 289). The method 500 may also include storing such outcomes and/or information that is fed back (as described above and in the present disclosure) in one or more databases 50.

[00141] In an example embodiment, the method 500 also includes one or more switchback experiments, or the like, for isolating the causal impacts of one or more actions performed, as described in the present disclosure. For example, in the absence of switchback experiments, two service requests may be received from two different users at a similar request time and service region. In such an example, two different pricing policies may be applied to the two service requests. A service provider may reject the first service request and then receive the second service request. In such a situation, the first service request may affect the service provider's decision to accept the second service request. As the outcome of the first pricing policy may have affected the outcome of the second request, such a situation may result in incorrect or inaccurate feedback and/or learning (e.g., via machine learning) since the observed outcome or reward may not have been attributed to a single action. In this regard, an example embodiment of the method 500 may map service requests from different users at a similar request time, time window, and/or service region (or target region or location) to a same switchback key and same pricing policy. In doing so, the observed outcomes with the same switchback key, and learning (e.g., via machine learning) thereof, may be better and/or more accurately attributable to a same pricing policy. Furthermore, the feedback provided by the method 500 to one or more other actions of the method (e.g., for processing other service requests) may be unambiguous, less ambiguous, and/or more accurate.

[00142] While various embodiments in accordance with the disclosed principles have been described above, it should be understood that they have been presented by way of example only, and are not limiting. Thus, the breadth and scope of the example embodiments described in the present disclosure should not be limited by any of the above-described exemplary embodiments, but should be defined only in accordance with the claims and their equivalents issuing from this disclosure.

Furthermore, the above advantages and features are provided in described embodiments, but shall not limit the application of such issued claims to processes and structures accomplishing any or all of the above advantages.

[00143] For example, "communication," "communicate," "connection," "connect," "call," "calling," or other similar terms should generally be construed broadly to mean a wired, wireless, and/or other form of, as applicable, connection between elements, devices, computing devices, telephones, processors, controllers, servers, networks, telephone networks, the cloud, and/or the like, which enable voice and/or data to be sent, transmitted, broadcasted, received, intercepted, acquired, and/or transferred (each as applicable).

[00144] As another example, "user," "candidate user," "selected user," "final user," or similar terms should generally be construed broadly to mean a user, either registered or unregistered, who has been selected by one or more elements of the processor (e.g., processor 150), and such user may be a selected user subject to further processing by one or more elements of the processor or a selected user who will receive an offer (e.g., via a notification) to receive distributed ledger data (e.g., digital tokens, cryptocurrency, etc.).

[00145] Also, as referred to herein, a processor, device, computing device, telephone, phone, server, gateway server, communication gateway server, and/or controller, may be any processor, computing device, and/or communication device, and may include a virtual machine, computer, node, instance, host, or machine in a networked computing environment. Also as referred to herein, a network or cloud may be or include a collection of machines connected by communication channels that facilitate communications between machines and allow for machines to share resources. Network may also refer to a communication medium between processes on the same machine. Also as referred to herein, a network element, node, or server may be a machine deployed to execute a program operating as a socket listener and may include software instances.

[00146] Database (or memory or storage) may comprise any collection and/or arrangement of volatile and/or non-volatile components suitable for storing data. For example, memory may comprise random access memory (RAM) devices, read-only memory (ROM) devices, magnetic storage devices, optical storage devices, solid state devices, and/or any other suitable data storage devices. In particular embodiments, database may represent, in part, computer-readable storage media on which computer instructions and/or logic are encoded. Database may represent any number of memory components within, local to, and/or accessible by a processor and/or computing device.

[00147] Various terms used herein have special meanings within the present technical field. Whether a particular term should be construed as such a "term of art" depends on the context in which that term is used. Such terms are to be construed in light of the context in which they are used in the present disclosure and as one of ordinary skill in the art would understand those terms in the disclosed context. The above definitions are not exclusive of other meanings that might be imparted to those terms based on the disclosed context.

[00148] Words of comparison, measurement, and timing such as "at the time," "equivalent," "during," "complete," and the like should be understood to mean "substantially at the time," "substantially equivalent," "substantially during," "substantially complete," etc., where "substantially" means that such comparisons, measurements, and timings are practicable to accomplish the implicitly or expressly stated desired result.

Additionally, the section headings and topic headings herein are provided for consistency with the suggestions under various patent regulations and practice, or otherwise to provide organizational cues. These headings shall not limit or characterize the embodiments set out in any claims that may issue from this disclosure. Specifically, a description of a technology in the "Background" is not to be construed as an admission that technology is prior art to any embodiments in this disclosure. Furthermore, any reference in this disclosure to "invention" in the singular should not be used to argue that there is only a single point of novelty in this disclosure. Multiple inventions may be set forth according to the limitations of the claims issuing from this disclosure, and such claims accordingly define the invention(s), and their equivalents, that are protected thereby. In all instances, the scope of such claims shall be considered on their own merits in light of this disclosure, but should not be constrained by the headings herein.

Claims

What is claimed is:

1. A method of managing pricing policies for transportation-related services provided by service providers to users, the method comprising:
 - receiving, from a first user, a first service request;
 - identifying, based on the first service request, a first requested service, a first target region, and a first request time for the first service request, wherein the first target region includes a relevant location for the first requested service, and wherein the first request time includes a time of the first service request;
 - selecting a historic dataset, the historic dataset including historic information on the first user, service providers in the first target region, other users in the first target region, and previous requests for service in the first target region;
 - selecting a current dataset, the current dataset including current information on the first user, service providers in the first target region, other users in the first target region, and current requests for service in the first target region;
 - generating a plurality of candidate pricing policies, wherein the generating of each candidate pricing policy includes generating a plurality of candidate prices for the first service request;
 - selecting a first pricing policy from among the plurality of candidate pricing policies, the first pricing policy selected based on at least the first target region and the first request time, wherein the first pricing policy includes a plurality of candidate first prices for the first service request, including at least a first candidate first price and a second candidate first price;
 - selecting a first target objective to be achieved from among a plurality of candidate target objectives;
 - for each of the plurality of candidate first prices of the first pricing policy, assessing a likelihood of achieving the selected first target objective if such candidate first price is applied to the first service request, including assessing a first likelihood of achieving the selected first target objective if the first candidate first price is applied to the first service request and assessing a second likelihood of achieving the selected first target objective if the second candidate first price is applied to the first service request, wherein the assessing of each likelihood of achieving the selected first target objective for each of the plurality of candidate first prices of the first pricing policy is based on at least the first target region, the first request time, the historic dataset, and the current dataset;

selecting the first candidate first price as a final price to apply to the first service request when the first likelihood of achieving the selected first target objective is greater than the assessed likelihoods of achieving the selected first target objective for the other candidate first prices of the first pricing policy; and

applying the final price to the first service request.

2. The method of claim 1, further comprising:

selecting one or more candidate service providers from among a plurality of available service providers;

wherein the applying of the final price to the first service request includes sending the final price to the first user and the one or more candidate service providers.

3. The method of claim 2, further comprising:

responsive to applying the final price to the first service request, identify an outcome of the first service request.

4. The method of claim 3, wherein the outcome of the first service request includes one or more of the following:

the first user has accepted or not accepted the final price; and/or

one of the candidate service providers has accepted or not accepted the final price; and/or

a time when the first user has accepted or not accepted the final price; and/or

a time when one of the candidate service providers has accepted or not accepted the final price; and/or

the first user had accepted the final price, but subsequently cancelled the first service request; and/or

one of the candidate service providers had accepted the final price, but subsequently cancelled the first service request.

5. The method of claim 3, further comprising:

providing, when assessing a likelihood of achieving the first target objective for a future service request for the first target region, the outcome of the first service request.

6. The method of claim 1, further comprising:

assessing a likelihood that the final price was selected from among the plurality of candidate first prices for the first pricing policy; and/or

assessing a likelihood that the final price was selected from among the plurality of candidate prices of the plurality of candidate pricing policies.

7. The method of claim 1, wherein the historic information in the historic dataset is selected based on the first request time.

8. The method of claim 7,
wherein the first request time includes a date, day of the week, day of the month, and time;
and

wherein the historic dataset includes historic information selected based on one or more of the following:

the time in the first request time; and/or

the day of the week in the first request time; and/or

the day of the month in the first request time; and/or

the date of the first request time.

9. The method of claim 8, wherein the historic information in the historic database includes information occurring within a predefined time window of one or more historic dates, each of the one or more historic dates being a date that is different from the date of the first request time, the predefined time window being a time period that includes a same time as the time in the first request time.

10. The method of claim 9, wherein one or more of the following apply:

the historic information includes information pertaining to service providers who were available in the first target region within the predefined time window of a date that is different from the date of the first request time; and/or

the historic information includes information pertaining to other users who sent a request for service in the first target region within the predefined time window of a date that is different from the date of the first request time; and/or

the historic information includes information pertaining to previous requests for service in the first target region sent by the first user within the predefined time window of a date that is different from the date of the first request time.

11. The method of claim 1,

wherein the current information in the current dataset includes information occurring within a predefined time window; and

wherein the current information in the current dataset is selected based on the first request time.

12. The method of claim 11, wherein one or more of the following apply:

the predefined time window includes a recent time window, the recent time window including a time period immediately preceding the first request time; and/or

the predefined time window includes an upcoming time window, the upcoming time window including a time period immediately after the first request time.

13. The method of claim 12, wherein one or more of the following apply:

the current information includes information pertaining to service providers who are available as of the first request time; and/or

the current information includes information pertaining to service providers who became available in the first target region within the recent time window; and/or

the current information includes information pertaining to requests for service in the first target region that have not yet been accepted by the other users and/or service providers as of the first request time; and/or

the current information includes information pertaining to requests for service in the first target region sent by other users within the recent time window; and/or

the current information includes information pertaining to service providers who are expected to become available in the first target region within the upcoming time window; and/or

the current information includes information pertaining to other users who are expected to send a request for a service in the first target region within the upcoming time window.

14. The method of claim 1, wherein the selecting of the first target objective includes assessing, for one or more previous requests for service in the first target region, an outcome for each of the previous requests for service, a request time for each of the previous requests for service, a historic dataset for each of the previous requests for service, a current dataset for each of the previous requests for service, a selected target objective for each of the previous requests for service, and/or an assessed likelihood of achieving the selected target objective for each of the previous requests for service.

15. The method of claim 1, wherein each candidate target objective, including the first target objective, includes a business metric to be optimized.

16. The method of claim 1, wherein one or more of the following apply:

the assessing of the likelihood of achieving the first target objective is further based on one or more previous requests for service in the first target region; and/or

the assessing of the likelihood of achieving the first target objective is further based on an outcome of one or more previous requests for service in the first target region.

17. The method of claim 1, wherein one or more of the following apply:

the historic dataset and/or current dataset include information pertaining to service providers who are expected to become available in the first target region within a time period after the first request time; and/or

the historic dataset and/or current dataset include information pertaining to other users who are expected to send a request for a service in the first target region within a time period after the first request time; and/or

the historic dataset and/or current dataset include a price tolerance for the first user for the first target region and first request time, the price tolerance for the first user including a maximum price the first user is expected to pay for the first service request; and/or

the historic dataset and/or current dataset include a price tolerance for one or more candidate service providers for the first target region and first request time, the price tolerance including a minimum price that the one or more candidate service providers are expected to accept for the first service request.

18. The method of claim 1, wherein one or more of the following apply:

the plurality of candidate pricing policies includes one or more separate pricing policies for the first user; and/or

the plurality of candidate pricing policies includes one or more separate pricing policies for one or more candidate service providers; and/or

the plurality of candidate pricing policies includes one or more pricing policies applicable to both the first user and candidate service providers.

19. The method of claim 1,

wherein the final price has a first probability of achieving the first target objective;

wherein one or more other candidate first prices for the first pricing policy has a second probability of achieving the first target objective; and

wherein the first probability is different from the second probability.

20. The method of claim 19, wherein the first probability is lower than the second probability.

21. The method of claim 1,
wherein the final price is expected to result in a first outcome for the first target objective;
wherein one or more other candidate first prices for the first pricing policy is expected to
result in a second outcome for the first target objective; and
wherein the first outcome is different from the second outcome.
22. The method of claim 1, wherein the historic dataset for the first target region includes one or
more of the following:
historic number of service providers in the first target region; and/or
historic availability of service providers in the first target region; and/or
historic number of users in the first target region; and/or
historic requests for service from users in the first target region; and/or
historic acceptance rate of requests for service in the first target region; and/or
historic cancellation rate of requests for service by service providers in the first target region;
and/or
historic cancellation rate of requests for service by users in the first target region; and/or
historic information regarding service providers in the first target region; and/or
historic information regarding users in the first target region.
23. The method of claim 1, wherein the current dataset for the first target region includes one or
more of the following:
current number of service providers in the first target region; and/or
current availability of service providers in the first target region; and/or
current number of users in the first target region; and/or
current requests for service from users in the first target region; and/or
current acceptance rate of requests for service in the first target region; and/or
current cancellation rate of requests for service by service providers in the first target region;
and/or
current cancellation rate of requests for service by users in the first target region; and/or
current information regarding service providers in the first target region; and/or
current information regarding users in the first target region.
24. The method of claim 1, wherein one or more of the following apply:
the first target region is a predetermined region; and/or

the first request time is based on a time when the first service request was received; and/or
the first target objective is a predetermined objective to be optimized; and/or
the relevant location in the first target region includes an origin location and/or a destination location.

25. The method of claim 1, wherein the first target region, first request time, and/or first target objective are dynamically determined based on at least the first service request.

26. The method of claim 25, wherein the first target region, first request time, and/or first target objective are dynamically determined based on one or more of the following:

a specific date; and/or

a specific time; and/or

a specific day of the week; and/or

a specific day of the month; and/or

historic information on service providers and users; and/or

current information on service providers and users.

27. The method of claim 3, further comprising:

receiving, from a second user, a second service request;

identifying, based on the second service request, a second requested service, a second target region, and a second request time for the second service request, wherein the second target region includes a second relevant location for the second requested service, and wherein the second request time includes a time of the second service request;

selecting a second historic dataset for the second target region, the second historic dataset including historic information on the second user, service providers in the second target region, other users in the second target region, and previous requests for service in the second target region;

selecting a second current dataset for the second target region, the second current dataset including current information on the second user, service providers in the second target region, other users in the second target region, and current requests for service in the second target region;

generating a plurality of second candidate pricing policies, wherein the generating of each second candidate pricing policy includes generating a plurality of second candidate prices for the second service request;

selecting a second pricing policy from among the plurality of second candidate pricing policies, the second pricing policy selected based on at least the second target region and the second

request time, the second pricing policy including a plurality of candidate second prices for the second service request;

selecting a second target objective to be achieved from among a plurality of candidate target objectives;

for each of the candidate second prices of the second pricing policy, assessing a likelihood of achieving the selected second target objective, the assessing based on at least the second target region, the second request time, the second historic dataset, the second current dataset, and the identified outcome of the first service request;

selecting a second final price from among the plurality of candidate second prices of the second pricing policy, the second final price being selected based on at least the assessed likelihoods of achieving the second target objective; and

applying the second final price to the second service request.

28. The method of claim 27, wherein one or more of the following apply:

the second user is the same as the first user; and/or

the second service request was received after the first service request; and/or

the second requested service is the same as the first requested service; and/or

the second target region is the same region as the first target region; and/or

the second request time occurs after the first request time; and/or

the second historic dataset includes information pertaining to the first service request; and/or

the second pricing policy is the same as the first pricing policy; and/or

the second target objective is the same as the first target objective; and/or

the second final price is the same as the first final price.

29. The method of claim 27, wherein one or more of the following apply:

the second user is a different user than the first user; and/or

the second service request was received after the first service request; and/or

the second requested service is a different service than the first requested service; and/or

the second target region is a different region as compared to the first target region; and/or

the second request time occurs after the first request time; and/or

the second historic dataset includes information pertaining to the first service request; and/or

the second pricing policy is different from the first pricing policy; and/or

the second target objective is different from the first target objective; and/or

the second final price is different from the first final price.

30. The method of claim 1, wherein the selecting of the first pricing policy from among the plurality of candidate pricing policies is further based on a likelihood that the first pricing policy will be selected from among the plurality of candidate pricing policies.

31. A method of managing pricing policies for transportation-related services provided by service providers to users, the method comprising:

- receiving, from a first user, a first service request;

- identifying, based on the first service request, a first requested service, a first target region, and a first request time for the first service request, wherein the first target region includes a relevant location for the first requested service, and wherein the first request time includes a time of the first service request;

- selecting a historic dataset, the historic dataset including historic information for the first target region;

- selecting a current dataset, the current dataset including current information for the first target region;

- selecting a first pricing policy from among a plurality of candidate pricing policies, the first pricing policy selected based on at least the first target region and the first request time, the first pricing policy including a first candidate first price and a second candidate first price;

- selecting a first target objective to be optimized from among a plurality of candidate target objectives;

- generating a first forecasted outcome for the selected first target objective based on the first candidate first price being applied to the first service request;

- generating a first likelihood of achieving the first forecasted outcome;

- generating a second forecasted outcome for the selected first target objective based on the second candidate first price being applied to the first service request;

- generating a second likelihood of achieving the second forecasted outcome

- selecting the first candidate first price as a final price to apply to the first service request when the first likelihood of achieving the first forecasted outcome is greater than the second likelihood of achieving the second forecasted outcome; and

- applying the final price to the first service request.

32. The method of claim 31, further comprising:

selecting one or more candidate service providers from among a plurality of available service providers;

wherein the applying of the final price to the first service request includes sending the final price to the first user and the one or more candidate service providers.

33. The method of claim 32, further comprising:

responsive to applying the final price to the first service request, identify an outcome of the first service request.

34. The method of claim 33, wherein the outcome of the first service request includes one or more of the following:

the first user has accepted or not accepted the final price; and/or
one of the candidate service providers has accepted or not accepted the final price; and/or
a time when the first user has accepted or not accepted the final price; and/or
a time when one of the candidate service providers has accepted or not accepted the final price; and/or

the first user had accepted the final price, but subsequently cancelled the first service request; and/or

one of the candidate service providers had accepted the final price, but subsequently cancelled the first service request.

35. The method of claim 33, further comprising:

providing, when forecasting an outcome for the first target objective for a future service request for the first target region, the outcome of the first service request.

36. The method of claim 31, further comprising:

assessing a likelihood that the final price was selected from among the plurality of candidate first prices for the first pricing policy; and/or

assessing a likelihood that the final price for the first pricing policy was selected from among the plurality of candidate prices of the plurality of candidate pricing policies.

37. The method of claim 31, wherein:

the historic information in the historic dataset includes historic information on the first user, service providers in the first target region, other users in the first target region, and previous requests for service in the first target region.

the historic information in the historic dataset is selected based on the first request time.

38. The method of claim 37, wherein:

the first request time includes a date, day of the week, day of the month, and time;

the historic dataset includes historic information selected based on one or more of the following:

the time in the first request time;

the day of the week in the first request time;

the day of the month in the first request time; and/or

the date of the first request time.

39. The method of claim 38, wherein the historic information in the historic database includes information occurring within a predefined time window, the predefined time window being a time period that includes a same time as the time in the first request time.

40. The method of claim 39, wherein one or more of the following apply:

the historic information includes information pertaining to service providers who were available in the first target region within the predefined time window of a date that is different from the date of the first request time; and/or

the historic information includes information pertaining to other users who sent a request for service in the first target region within the predefined time window of a date that is different from the date of the first request time; and/or

the historic information includes information pertaining to previous requests for service in the first target region sent by the first user within the predefined time window of a date that is different from the date of the first request time.

41. The method of claim 31, wherein:

the current information in the current dataset includes current information on the first user, service providers in the first target region, other users in the first target region, and current requests for service in the first target region;

the current information in the current dataset includes information occurring within a predefined time window; and

the current information in the current dataset is selected based on the first request time.

42. The method of claim 41, wherein one or more of the following apply:

the predefined time window includes a recent time window, the recent time window including a time period immediately preceding the first request time; and/or

the predefined time window includes an upcoming time window, the upcoming time window including a time period immediately after the first request time.

43. The method of claim 42, wherein one or more of the following apply:

the current information includes information pertaining to service providers who are available as of the first request time; and/or

the current information includes information pertaining to service providers who became available in the first target region within the recent time window; and/or

the current information includes information pertaining to requests for service in the first target region that have not yet been accepted by the other users and/or service providers as of the first request time; and/or

the current information includes information pertaining to requests for service in the first target region sent by other users within the recent time window; and/or

the current information includes information pertaining to service providers who are expected to become available in the first target region within the upcoming time window; and/or

the current information includes information pertaining to other users who are expected to send a request for a service in the first target region within the upcoming time window.

44. The method of claim 31, wherein the selecting of the first target objective includes assessing, for one or more previous requests for service in the first target region, an outcome for each of the previous requests for service, a request time for each of the previous requests for service, a historic dataset for each of the previous requests for service, a current dataset for each of the previous requests for service, a selected target objective for each of the previous requests for service, and/or an assessed likelihood of achieving the selected target objective for each of the previous requests for service.

45. The method of claim 31, wherein each candidate target objective, including the first target objective, includes a business metric to be optimized.

46. The method of claim 31, wherein one or more of the following apply:

the forecasting of the outcome of the first target objective is further based on one or more previous requests for service in the first target region; and/or

the forecasting of the outcome of the first target objective is further based on an outcome of one or more previous requests for service in the first target region.

47. The method of claim 31, wherein one or more of the following apply:

the historic dataset and/or current dataset include information pertaining to service providers who are expected to become available in the first target region within a time period after the first request time; and/or

the historic dataset and/or current dataset include information pertaining to other users who are expected to send a request for a service in the first target region within a time period after the first request time; and/or

the historic dataset and/or current dataset include a price tolerance for the first user for the first target region and first request time, the price tolerance for the first user including a maximum price the first user is expected to pay for the first service request; and/or

the historic dataset and/or current dataset include a price tolerance for one or more candidate service providers for the first target region and first request time, the price tolerance including a minimum price that the one or more candidate service providers are expected to accept for the first service request.

48. The method of claim 31, wherein one or more of the following apply:

the plurality of candidate pricing policies includes one or more separate pricing policies for the first user; and/or

the plurality of candidate pricing policies includes one or more separate pricing policies for one or more candidate service providers; and/or

the plurality of candidate pricing policies includes one or more pricing policies applicable to both the first user and candidate service providers.

49. The method of claim 31,

wherein the final price is expected to result in a first outcome for the first target objective; wherein one or more other candidate first prices for the first pricing policy is expected to result in a second outcome for the first target objective; and

wherein the first outcome is different from the second outcome.

50. The method of claim 31, wherein the historic dataset for the first target region includes one or more of the following:

historic number of service providers in the first target region; and/or

historic availability of service providers in the first target region; and/or

historic number of users in the first target region; and/or

historic requests for service from users in the first target region; and/or

historic acceptance rate of requests for service in the first target region; and/or
historic cancellation rate of requests for service by service providers in the first target region;
and/or
historic cancellation rate of requests for service by users in the first target region; and/or
historic information regarding service providers in the first target region; and/or
historic information regarding users in the first target region.

51. The method of claim 31, wherein the current dataset for the first target region includes one or more of the following:

current number of service providers in the first target region; and/or
current availability of service providers in the first target region; and/or
current number of users in the first target region; and/or
current requests for service from users in the first target region; and/or
current acceptance rate of requests for service in the first target region; and/or
current cancellation rate of requests for service by service providers in the first target region;
and/or

current cancellation rate of requests for service by users in the first target region; and/or
current information regarding service providers in the first target region; and/or
current information regarding users in the first target region.

52. The method of claim 31, wherein one or more of the following apply:

the first target region is a predetermined region; and/or
the first request time is based on a time when the first service request was received; and/or
the first target objective is a predetermined objective to be optimized; and/or
the relevant location in the first target region includes an origin location and/or a destination location.

53. The method of claim 31, wherein the first target region, first request time, and/or first target objective are dynamically determined based on at least the first service request.

54. The method of claim 53, wherein the first target region, first request time, and/or first target objective are dynamically determined based on one or more of the following:

a specific date; and/or
a specific time; and/or
a specific day of the week; and/or

a specific day of the month; and/or

historic information on service providers and users; and/or

current information on service providers and users.

55. The method of claim 33, further comprising:

receiving, from a second user, a second service request;

identifying, based on the second service request, a second requested service, a second target region, and a second request time for the second service request, wherein the second target region includes a second relevant location for the second requested service, and wherein the second request time includes a time of the second service request;

selecting a second historic dataset for the second target region, the second historic dataset including historic information for the second target region;

selecting a second current dataset for the second target region, the second current dataset including current information for the second target region;

selecting a second pricing policy from among a plurality of second candidate pricing policies, the second pricing policy selected based on at least the second target region and the second request time, the second pricing policy including a plurality of candidate second prices for the second service request;

selecting a second target objective to be optimized from among a plurality of candidate target objectives;

for each of the candidate second prices, forecasting an outcome for the selected second target objective based on at least the candidate second prices;

selecting a second final price from among the plurality of candidate second prices of the second pricing policy, the second final price being selected based on at least the forecasted outcomes for the second target objective; and

applying the second final price to the second service request.

56. The method of claim 55, wherein one or more of the following apply:

the second user is the same as the first user; and/or

the second service request was received after the first service request; and/or

the second requested service is the same as the first requested service; and/or

the second target region is the same region as the first target region; and/or

the second request time occurs after the first request time; and/or

the second historic dataset includes information pertaining to the first service request; and/or
the second pricing policy is the same as the first pricing policy; and/or
the second target objective is the same as the first target objective; and/or
the second final price is the same as the first final price.

57. The method of claim 55, wherein one or more of the following apply:
- the second user is a different user than the first user; and/or
the second service request was received after the first service request; and/or
the second requested service is a different service than the first requested service; and/or
the second target region is a different region as compared to the first target region; and/or
the second request time occurs after the first request time; and/or
the second historic dataset includes information pertaining to the first service request; and/or
the second pricing policy is different from the first pricing policy; and/or
the second target objective is different from the first target objective; and/or
the second final price is different from the first final price.