Claims

1. A computer implemented method performed in a communication server apparatus for a platform provider, the method comprising, under control of a processor of the communication server apparatus:

receiving real-time data relating to proposed bookings and available vehicles over a geographic territory;

clustering the proposed bookings and available vehicles into batches according to an estimated time of arrival between each vehicle and adjacent proposed bookings;

clustering a respective batch into further batches if the respective batch has a number of bookings over a predetermined threshold, wherein clustering the respective batch into further batches comprises disconnecting the respective batch into the further batches based on a level of connection between each vehicle and a pick up point for each proposed booking in the respective batch, such that no vehicle is connected to proposed bookings in two different further batches; and

allocating the proposed bookings and the available vehicles within each batch separately.

2. The method of claim 1 wherein the clustering of the proposed bookings and available vehicles into batches is done over an entire geographic territory.

3. The method of claim 1 or 2 wherein the clustering of the proposed bookings and available vehicles into batches is done using a Depth-first search (DFS) algorithm.

4. The method of claim 1 wherein the level of connection between each vehicle and pick up point is determined based on a total number of connected vehicles each pick up point contains.

5. The method of claim 1 or 4 wherein the level of connection between each vehicle and pick up point is determined based on a total number of connected pick up points each vehicle contains.

6. The method of any preceding claim wherein the clustering of the proposed bookings and available vehicles into batches is done without dividing the territory based on historical transactions and/or geographically pre-zoning the territory.

7. A computer program or computer program product comprising computer implementable instructions which, when run on a programmable computer device, cause the programmable computer to perform the method of any one of claims 1 to 6.

8. A computer program carrier carrying a computer program according to claim 7, wherein the computer program carrier is one of an electronic signal, optical signal, radio signal or non-transitory tangible computer-readable storage medium.

9. A non-transitory tangible computer-readable storage medium storing a computer program according to claim 7.

10. A system comprising

a communication server;

at least one user communication device having an associated user and configured to initiate a booking which includes a booking pickup location;

at least one driver communication device having an associated driver vehicle and configured to provide driver vehicle location data; and

communication network equipment configured to establish communication with the communication server, the at least one user communication device, and the at least one driver communication device;

wherein the communication server comprises at least one processor, and at least one memory, the communication server being configured, under control of one or more of the at least one processor, to execute instructions stored in one or more of the at least one memory to:

cluster proposed booking locations and driver vehicle locations into batches according to an estimated time of arrival between each driver vehicle and adjacent proposed bookings,

cluster a respective batch into further batches if the respective batch has a number of bookings over a predetermined threshold, wherein clustering the respective batch into further batches comprises disconnecting the respective batch into the further batches based on a level of connection between each driver vehicle and the booking pickup location of each proposed booking in the respective batch, such that no driver vehicle is connected to proposed bookings in two different further batches, and

allocate the proposed bookings and the driver vehicles within each batch separately.

11. A communication server apparatus for a delivery platform provider, the communication server apparatus comprising at least one processor, the communication server apparatus being configured, under control of one or more of the at least one processor, to execute instructions, to:

receive real-time data relating to proposed bookings and available vehicles over a geographic territory;

cluster the proposed bookings and available vehicles into batches according to an estimated time of arrival between each vehicle and adjacent proposed bookings;

cluster a respective batch into further batches if the respective batch has a number of bookings over a predetermined threshold, wherein clustering the respective batch into further batches comprises

disconnecting the respective batch into the further batches based on a level of connection between each vehicle and a pick up point for each proposed booking in the respective batch, such that no vehicle is connected to proposed bookings in two different further batches; and

allocate the proposed bookings and the available vehicles within each batch separately.

12. A user communication device, a driver communication device, or a merchant communication device for a platform provider, the user communication device, the driver communication device, or the merchant communication device comprising a processor and a memory, the user communication device, the driver communication device, or the merchant communication device being configured, under control of the processor, to execute instructions stored in the memory, to perform the method according to any of claims 1 to 6.