CLAIMS

1. A server configured to determine a fee surge for an on-demand service, the server comprising:

one or more processor(s) configured to receive a plurality of requests for the on-demand service from respective requestor computing devices associated with respective service requestors and further configured to receive service provider data from a plurality of provider computing devices associated with respective service providers, wherein updated service provider data is received at each time instance of a plurality of successive time instances; and

a memory configured to store the received service provider data at each time instance, the memory comprising a map and instructions stored therein, the instructions when executed by the one or more processor(s), cause the one or more processor(s) to perform the following upon receiving a request for the on-demand service at a particular time:

determine, from the request for the on-demand service, a location where the on-demand service is required;

determine, using the map stored in the memory, a supply area around the location where the on-demand service is required;

determine the fee surge based on the supply area, the service provider data received at the most recent time instance nearest to the particular time the request is received and the service provider data received at one or more time instances prior to the most recent time instance;

communicate the fee surge to the respective requestor computing device and to a provider computing device for the associated service requestor and the associated service provider to indicate whether to accept provision of the service at the fee surge; and

allocate the associated service provider to fulfil the request at the fee surge upon receiving indication that both the associated service requestor and the associated service provider accept the provision of the service at the fee surge,

wherein the map stored in the memory comprises a plurality of geohashes and wherein the supply area is determined as the geohash within which the location where the on-demand service is required lies,

wherein for each geohash, a surge value is periodically determined, wherein the surge value is determined at a particular time point based on a number of available provider computing devices associated with service providers available to provide the on-demand service and located within the geohash at the particular time point and at time points prior to the particular time point, and

wherein the fee surge is set as the most recently determined surge value for the supply area.

2. The server of claim 1, wherein the fee surge is determined using a weighted function of the service provider data received at the most recent time instance and the service provider data received at each of the one or more time instances prior to the most recent time instance.

3. The server of claim 2, wherein the weighted function comprises weights associated with respective time instances, each weight related to a difference between the respective time instance and the most recent time instance.

4. The server of claim 2 or 3, wherein the weighted function is an exponentially weighted average function.

5. The server of any one of preceding claims, wherein the number of available provider computing devices located within the geohash at each time point is determined from the service provider data received at the time instance prior to and nearest to the time point.

6. The server of any one of the preceding claims, wherein the on-demand service comprises an on-demand transportation service.

7. A method of determining a fee surge for an on-demand service, the method comprising:

using one or more processor(s) of a server to:

receive a plurality of requests for the on-demand service from respective requestor computing devices associated with respective service requestors:

receive service provider data from a plurality of provider computing devices associated with respective service providers, wherein updated service provider data is received at each time instance of a plurality of successive time instances; and

perform the following upon receiving a request for the on-demand service at a particular time:

determine, from the request for the on-demand service, a location where the on-demand service is required;

determine, using a map stored in the memory, a supply area around the location wherein the on-demand service is required;

determine the fee surge based on the supply area, the service provider data received at the most recent time instance nearest to the particular time the request is received and the service provider data received at one or more time instances prior to the most recent time instance;

communicate the fee surge to the respective requestor computing device and to a provider computing device for the associated service requestor and the associated service provider to indicate whether to accept provision of the service at the fee surge; and

allocate the associated service provider to fulfil the request at the fee surge upon receiving indication that both the associated service requestor and the associated service provider accept the provision of the service at the fee surge,

wherein the map stored in the memory comprises a plurality of geohashes and wherein the supply area is determined as the geohash within which the location where the on-demand service is required lies,

wherein for each geohash, a surge value is periodically determined, wherein the surge value is determined at a particular time point based on a number of available provider computing devices associated with service providers available to provide the on-demand service and located within the geohash at the particular time point and at time points prior to the particular time point, and

wherein the fee surge is set as the most recently determined surge value for the supply area.

8. The method of claim 7, wherein the fee surge is determined using a weighted function of the service provider data received at the most recent time instance and the service provider data received at each of the one or more time instances prior to the most recent time instance.

9. The method of claim 8, wherein the weighted function comprises weights associated with respective time instances, each weight related to a difference between the respective time instance and the most recent time instance.

10. The method of claim 8 or 9, wherein the weighted function is an exponentially weighted average function.

11. The method of any one of claims 7 to 10, wherein the number of available provider computing devices located within the geohash at each time point is determined from the service provider data received at the time instance prior to and nearest to the time point.

12. The method of any one of claims 7 – 11, wherein the on-demand service comprises an on-demand transportation service.

13. A non-transitory computer-readable medium storing computer executable code comprising instructions for determining a fee surge for an on-demand service according to any one of claims 7 – 12.

14. A computer executable code comprising instructions for determining a fee surge for an on-demand service according to any one of claims 7 – 12.