Claims

1. A system for allocation of a driver to a passenger, the system comprising:

one or more processors (processor(s));

a memory accessible to the processor(s);

a database comprising a plurality of passenger and driver records accessible to the processor(s);

the memory comprising program code executable by the processor(s) to:

receive a request for a ride from a passenger's computing device;

identify a set of candidate drivers for the ride based on location information in the request;

determine, using a safety evaluation model, a ride safety score for each driver in the set of candidate drivers based on the driver's records and the passenger's records;

determine a ride operational efficiency metric for each driver in the set of candidate drivers;

allocate, using an allocation model, a designated driver to the passenger based on the ride safety score and the ride operational efficiency metric.

2. The system of claim 1, wherein the safety evaluation model comprises a plurality of safety evaluation rules to process the driver's records and passenger's records, and the ride safety score is determined based on a combination of the outputs of the plurality of safety evaluation rules.

3. The system of claim 1 or claim 2, wherein the allocation model comprises weights associated with the ride safety score and the ride operational efficiency metric to evaluate suitability of each driver in the set of candidate drivers by calculating a

suitability score using the weights, ride safety score and the operational efficiency metric.

4. The system of any one of claims 1 to 3, wherein the safety evaluation model also processes one or more ride request conditions received with the ride request to determine the ride safety score.

5. The system of claim 4, wherein the ride request conditions include one or more of: ride time of day, ride origin, or ride destination, or ride duration.

6. The system of any one of claims 1 to 5, wherein the safety evaluation model determines the ride safety score based on a plurality of risk indicators generated based on the passenger's records, optionally wherein the risk indicators comprise one or more of:

    passenger biographical record,

    passenger interaction review indicator, and

    passenger incident indicator.

7. The system of any one of claims 1 to 6, wherein safety evaluation model determines the ride safety score based on a plurality of risk indicators generated based on the driver's records, optionally wherein the risk indicators comprise one or more of:

    driver biographical record,

    driver interaction review indicator, and

    driver incident indicator.

8. The system of claim 6 or claim 7, wherein each indicator is assigned a relative weight and the risk safety score is determined based on the indicators and the relative weights.

9. The system of any one of claims 1 to 8, wherein each driver in the set of candidate drivers is classified into one of a plurality of allocation priority categories based on

the ride safety score, optionally wherein the allocation priority categories include: a prioritized category and a deprioritized category.

10. The system of claim 9, wherein the allocation model allocates a designated driver from among the drivers in the prioritized category.

11. A computer-implemented method for allocation of a driver to a passenger, the method comprising:

receiving a request for a ride from a passenger's computing device;

identifying a set of candidate drivers for the ride based location information in the request;

determining, using a safety evaluation model, a ride safety score for each driver in the set of candidate drivers based on the driver's records and the passenger's records;

determining a ride operational efficiency metric for each driver in the set of candidate drivers;

allocating, using an allocation model, a designated driver to the passenger based on the ride safety score and the ride operational efficiency metric.

12. The method of claim 11, wherein the safety evaluation model comprises a plurality of safety evaluation rules to process the driver's and passenger's records, and the ride safety score is determined based on a combination of the outputs of the plurality of safety evaluation rules.

13. The method of claim 11 or claim 12, wherein the allocation model comprises weights associated with the ride safety score and the ride operational efficiency metric to evaluate suitability of each driver in the set of candidate drivers by calculating a suitability score using the weights, ride safety score and the operational efficiency metric.

14. The method of any one of claims 11 to 13, wherein the safety evaluation model also process one or more ride request conditions received with the ride request to determine the ride safety score.

15. The method of claim 14, wherein the ride request conditions include one or more of: ride time of day, ride origin, or ride destination, or ride duration.

16. The method of any one of claims 11 to 15, wherein the safety evaluation model determines the ride safety score based on a plurality of risk indicators generated based on the passenger's records, optionally wherein the risk indicators comprise one or more of:

    passenger biographical record,

    passenger interaction review indicator, and

    passenger incident indicator.

17. The method of any one of claims 11 to 16, wherein safety evaluation model determined the ride safety score based on a plurality of risk indicators generated based on the driver's records, optionally wherein the risk indicators comprise one or more of:

    driver biographical record,

    driver interaction review indicator, and

    driver incident indicator.

18. The method of claim 16 or claim 17, wherein each indicator is assigned a relative weight and the risk safety score is determined based on the indicators and the relative weights.

19. The method of any one of claims 11 to 18, wherein each driver in the set of candidate drivers is classified into one of a plurality of allocation priority categories based on the ride safety score, optionally wherein the allocation priority categories include: a prioritized category and a deprioritized category.

20. The method of claim 19, wherein the allocation model allocates a designated driver among the drivers in the prioritized category.