

Requirement analysis – team 3 Carpool Reservation Service

This system is used for carpool between Barrie and Orillia (but should be easily changed to any two places). Some security issues need to consider.

- People can register to this system using web or app. Some user photo ID is required for the registration.
- Carpool provider needs to provide certain credit and insurance information.
- Carpool provider can post the schedule time and limitation of number of people for the carpool. The system will update the number of people limitation after some users make reservations.
- There are some fixed carpool lots can be used. Or the users can set up the carpool parking places.
- There are some price range for carpool, and the carpool provider and user can negotiate for the price within that range.
- The system provide tickets to the carpool users, which should be verified when the user uses the carpool.
- The cancellation of a carpool for certain time limitation (for example, one day or 12 hours before departure) will be free. Otherwise, there will be some fee for the cancellation.
- Money payment will using credit cards or debit cards through the system. So the carpool user will pay to the system and the system will pay to the carpool provider. There might be a fee for the system.

A registration form (HTML form) is needed for both the web and mobile application. According to the project requirements, there must be an input element which accepts uploaded images (mandatory) for the purpose of user identification and validation. Before you are able to register your account, you must choose whether you want to be a driver or passenger; you are able to change your designation as a driver or passenger after you have successfully registered your account. Registration set up is different depending on whether you are registering as a driver or passenger.

The specific information a driver must provide are all of the following: their insurance policy number, driver's license number, and effective and expiration date for their insurance policy and driver's license. Information a passenger and driver must provide are all of the following: name on credit card, credit card number, CVC, and effective and expiration date. They must also provide their contact information including phone number and email address.

On the application page, there will be a list of carpools in Barrie with their addresses queried from Google Maps, or retrieved from a database. Each driver would handle their own schedule time and the number of people for their vehicle (HTML form). Once a driver has completed the form for their own carpool, they must submit the form for validation. After validation, users will be able to reserve a spot in the carpool in the form of a ticket. A success or error message will be displayed depending on the status of their registration.

By default, the price range for carpools' tickets are calculated by distance with respect to time because everybody wants to arrive at the destination. Drivers initially sets the carpool time, number of passengers, and the carpool departure and destination points. Ticket prices for the carpool auto-generates based on the distance between the two prior points and gives the driver a price range to

choose from. When users are reserving a spot, the price would show as whatever the driver chose. Optionally, users can tip the driver after the carpool is finished.

When the user successfully reserves a spot in a carpool, the ticket for that carpool will be sent to their email, phone, or both, depending on what the user chooses. The ticket will be validated at the carpool's departure to ensure it is valid.

For each ticket a user has purchased, a 24-hour cancellation fee is applied and the user is informed of this. If the user cancels a carpool ticket anywhere from 24 to 12 hours before the carpool is scheduled to departure, a 20% late fee will be applied to the user. Anywhere from 0 to 12 hours before the carpool is scheduled to departure will require the user to pay the original ticket price.

A driver is required to wait for 15 minutes after the scheduled departure time if any passenger is not present (they may be late). After 15 minutes has passed, it is at the driver's discretion about whether to wait for the late passenger to show up.

User payments will go through the backend of our application. After payment is submitted through our application, the payment will be submitted and processed by Stripe.

JavaScript is our group's programming language of choice for building this project.