

COMP 3059 – Capstone Project I

Software Requirements Analysis and Design Assignment

This assignment is an overview to gather the software needs with requirements analysis and help to proceed with the design.

The requirements analysis helps to break down functional and non-functional requirements to a basic design view to provide a clear system development process framework. It involves various entities, including business, stakeholders and technology requirements.

The design is the activity following requirements specification and before programming. Software design usually involves problem solving and planning a software solution.

To work on this assignment you could use the references and a sample template given below. The sample template can be customised to suit the nature of your project.

Reference Readings/Example:

http://www.uacg.bg/filebank/acadstaff/userfiles/publ_bg_397_SDP_activities_and_steps.pdf

www.cse.msu.edu/~chengb/RE-491/Papers/SRSExample-webapp.doc

Reference template:

www.tricity.wsu.edu/~mckinnon/cpts322/cpts322-srs-v1.doc

1.0 Introduction

The Introduction section provides an overview of the system using software requirements analysis and design for the scope of the system.

1.1 Purpose

This document describes the high level software requirements for the system. It describes the what, not how, of the capabilities of the system for the intended audiences.

1.2 Scope

This explains what the proposed system will and will not do. Describe relevant benefits, objectives and goals. The description of scope should be consistent with the Project Plan.

2.0 System Overview

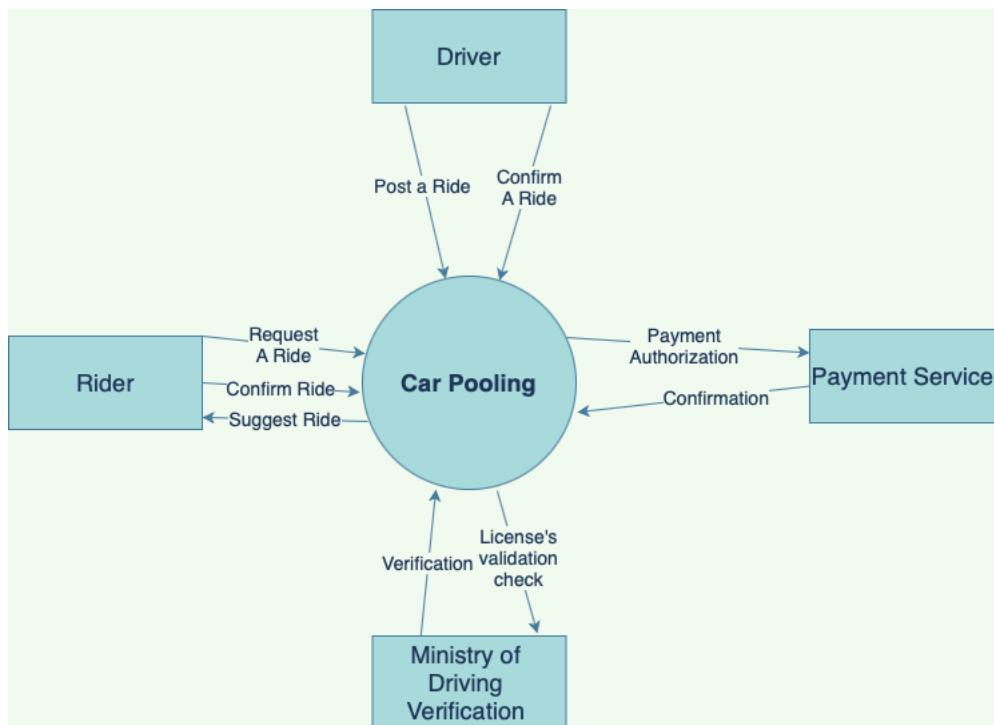
The System Overview section introduces the system context and design.

2.1 Project Perspective

The car-pooling application is a replacement of available application. It will extend some features such as use of user location, which will let them share with family or friends. Moreover, application will provide the option to use female friendly ride etc. Which leads to take the position of current application.

2.2 System Context

The System Context describes the resulting software within the business case, including strategic issues in which the system is involved or which it specifically addresses.



2.3 General Constraints

General Constraints identify any business or system constraints that will impact the manner.

- **Equipment**

- Equipment constraints are those delays caused by faulty, slow, or out of date equipment or a lack of sufficient space. In software development, this could be faulty keyboards or slow computers. Or, it might be a lack of devices through which to run cross-platform tests – i.e. no Mac, no access to an iPad, etc. It might even be the lack of a quiet office space to code in.

- **Technology**

- It can affect the system in number of ways such as downside of internet connection could result in massive loss to the system as everything is connected via network. Secondary, not able to obtain geographical location. It might even be the possible cause of network issue.

2.4 Assumptions and Dependencies

List any assumptions that have been made during the initiation of the project. In addition, list any dependencies that may impact its success or the desired result.

The application will exceptionally rely upon the geo-confinement and planning arrangement of Google. This will be utilized for showing agendas and guides. Likewise, GPS information will be handled utilizing Google Maps. Outsider validation frameworks are additionally being utilized for logging clients. For this situation, service of driving verification is utilized to confirm the driver.

3.0 Functional Requirements

This section describes specific features of the software project. If desired, some requirements may be specified in the use-case format and listed in the Use Cases Section.

3.1 <Functional Requirement or Feature #1>

- Introduction
- Inputs
- Processing
- Outputs

...

3.2 Use Cases

3.2.1 Use Case #1 ...

3.3 Data Modelling and Analysis

- Normalized Data Model Diagram
- Activity Diagrams
- Sequence Diagrams
- UML Class Diagram

3.4 Process Modelling

- Data Flow Diagram

4.0 Non-Functional Requirements

The non-functional requirements for a system are typically constraints on the functional requirements – that is, not what the system does, but how it does it (e.g. how quickly, how efficiently, how easily from the user's perspective, etc.).

Non-functional requirements may exist for any of the following attributes – Performance, Reliability, Availability, Security, Maintainability, Portability.

Often these requirements must be achieved at a system-wide level rather than at a unit level. State the requirements in the following sections in measurable terms (e.g., 95% of transaction shall be processed in less than a second, system downtime may not exceed 1 minute per day, etc).

5.0 Logical Database Requirements

Will a database be used? If so, what logical requirements exist for data formats, storage capabilities, data retention, data integrity, etc?

In the database, integer, double, varchar, date type of information will be held. Stored information will be used for communication, rides, profile of passenger and driver etc.

All data will be saved in the database: user accounts and profiles, discussion data, messages etc. The database allows concurrent access and will be always kept consistent, requiring a good database design.

Moreover, Personal information of user such as email, password, phone number, address, and sensitive information such as credit card details should be kept in encrypted form which makes this data secure from third party access.

- Data encryption, which locks data by cipher
- Data backup, which stores a copy of data in an alternate location
- Access controls, including assignment of read/write privileges
- Input validation, to prevent incorrect data entry
- Data validation, to certify uncorrupted transmission

7.0 Approval

The signatures below indicate their approval of the contents of this document.

Project Role	Name	Signature	Date

Project Plan

Car Pooling

Industry Partner	George Brown College
Primary Instructor	Anjana Shah
Team Member	Chintan Ghevariya
Team Member	Rutik Patel
Team Member	Aary Trivedi
Team Member	Nishtha Patel
Team Member	Shrey Patel
Team Member	Afshan Momin

Document Revision History

Revision #	Date

Table of Contents

1. Executive Summary

The following describes the project to be executed.

Objective	<ul style="list-style-type: none">- Our Primary Objective for Car-pooling application is to provide reliable and convenient services to our client through the advanced technology which makes to user experience smoother.- Provide high level of data encryptions.- Eliminate redundancy of data entry.- Easy to use.- Provide better user experience.
Corporate Goals Addressed	<ul style="list-style-type: none">- User's feedback is crucial part of design process.- Achieve project business goals within time constraint and decided budget.- Create a secure agreement between the client and the driver.
Planned Start Date	Sept 2021
Planned End Date	April 2022

2. Project Approvers, Reviews and Distribution List

Approvers, reviewers and distribution list

Project Role	Name	E-mail	Date
Project Sponser	Chintan Ghevariya	Chintan.ghevariya@georgebrown.ca	
Project Manager	Shrey Patel	Shrey.patel@georgebrown.ca	
Developer Product Owner	Aary Trivedi	Aarydevendrakumar.trivedi@georgebrown.ca	
Project Participant	Rutik Patel	Rutik.patel@georgebrown.ca	

3. Scope

Define the sum total of all of its products and their requirements or features.

In Scope	Out of Scope
A Complete functional Application which helps commuter to find a shared ride.	Sharing live location of driver prior to book a ride.
Easy and Secured access of E-wallet.	Price will not be determined by the application.
Provide iOS as well as android	

version of application.	
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4. Deliverables

This project will deliver the following.

Deliverable	Description
Car-pooling application	An interface which helps the client throughout from searching ride to book and travel.
SoS support	In case of emergency, this feature will help the rider to seek help from authorities.
E-wallet	A secure payment gateway (ex. Stripe). Accept payments and move money globally with Stripe's powerful APIs and software solutions designed to help you capture more revenue

5. Assumptions

This project makes the following assumptions.

- The Team will ensure the existence of a technological infrastructure google map that can support the carpooling.
- Failure to identify changes to draft deliverables within the time specified in the project timeline will result in project delays.
- The Project Plan may change as new information and issues are revealed.
- The Project Plan might change as new data and issues are uncovered.
- Project colleagues will cling to the Communications Plan.

6. Dependencies

The following are the internal and external dependencies that will have to be acknowledged and addressed.

- Finish to start: Research must be completed before starts developing conceptual model.
- Finish to start: Design document must be ready before starts project UI development.
- Start to start: Requirement gathering must starts before planning project.

7. Risk Management

Potential Risk	Severity (H/M/L)	Likelihood (H/M/L)	Management Strategy
Estimated project schedule	H : Over 7 months	Certainty	Create comprehensive project timeline with frequent baseline reviews.
Narrow knowledge level of users.	M : Knowledgeable of user area only.	Likely	Relegated Project Manager(s) to evaluate worldwide ramifications.
Cost Estimates Unrealistic	L: Throughout predicted by the experts using proven practices to 15% margin of error.	Unlikely	Include in project plan as new details regarding project scopes are revealed.
Team's lack of knowledge of package	M : Conceptual understanding	Somewhat likely	Expansive dealer appraisal and decision connection united into Project Plan will help the gathering in better understanding the pack offering(s)
Project team availability	Distributed team makes availability questionable	Somewhat likely	Consistent survey of task energy by all levels. Advisor to recognize any effects brought about by inaccessibility. On the off chance that vital, increment commitment by members to full time status.

8. Communication

Reporting

The following reports will be produced;

Report	Audience	Frequency
Monthly Status Report	Project Sponsor	<ul style="list-style-type: none"> - The project manager should provide the monthly written reports to the project sponsor.
Weekly project team status	Project Manage	<ul style="list-style-type: none"> - These status meetings are held every other month. Every member of the Project Team will be invited to participate in the meeting.

Meetings

The following meetings/communication will be established;

Meeting	Purpose	Attendees	Frequency
Weekly Meeting	Working on Assigned task from project instructor	Aary Trivedi Chintan Ghevariya Nishtha Patel Rutik Patel Shrey Patel Afshan Momin	Regular
Meeting prior to Lab.	Purpose of this meeting is to discuss the doubt from assigned	Aary Trivedi Chintan Ghevariya Nishtha Patel Rutik Patel Shrey Patel Afshan Momin	Regular

9. Task Listing (WBS- Work Breakdown Structure)

The following resource proposal template summarizes the resource hours committed to this project, upon final approval of this document.

Reference	Tasks	Duration	Dependency
A			
B			
C			
D			
E			

10. Gantt Chart

Create a detailed Gantt Chart from your Task Listing (Use any software tool and paste the image or upload as a separate file that can be opened as pdf/doc/xls)

Below is an example:

Task	Period										Completed
	Dates	Dates	Dates	Dates	Dates	Dates	Dates	Dates	Dates	Dates	

11. Milestones

Major Activity or Milestone	Estimated	Owner/Reviewer

	Milestone Target date	Team Members

12. RAM – Responsibility Assignment Matrix

Create a RAM from your Task Listing. A sample is shown below:

Project Team Responsibilities					
Project Name:	New Package Installation				
Project Manager:	Al Q. Hall				
Task	John	Frank	Linda	Jean	Larry
Assess Requirements	P	S	S		
Design Business System			S	P	
Modify Purchased Package	S	P			
Modify In-House Procedures			P	S	
Testing	S				P
Implement New Package		P		S	
Train Staff		S		S	P

P = Primary S = Secondary

13. Approval

The signatures below indicate their approval of the contents of this document.

Project Role	Name	Signature	Date

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9:40



Car Pool



GET STARTED

Already have an account? [Log In](#)

Create an Account

Full Name

Email

Phone Number

Password



Confirm Password



Role

← Back



Documents

Required

Proof of Work Eligibility

Required

Legal Agreements

Processing

Vehicle Inspection



Approved

Driver's License



Approved

Profile Photo



Submit



Login

Email

Password

Login

[Forgot Password?](#)

9:40



Welcome
John Doe



\$30.00

Next Ride

In 06:45 hours

📍 Toronto ➔📍 Vancouver \$20.00

🕒 10:00 AM

💺 5

⭐ 5

🚩 6

[Details](#)

Manage Rides >

Rides around you

📍 Toronto ➔📍 Vancouver \$20.00

🕒 10:00 AM

💺 5

⭐ 5

🚩 6

[Details](#)

📍 Toronto ➔📍 Vancouver \$20.00

🕒 10:00 AM

💺 5

⭐ 5

🚩 6

[Details](#)

📍 Toronto ➔📍 Vancouver \$20.00

🕒 10:00 AM

💺 5

⭐ 5

🚩 6

[Details](#)

📍 Toronto ➔📍 Vancouver \$20.00

🕒 10:00 AM

💺 5

⭐ 5

🚩 6

[Details](#)

📍 Toronto ➔📍 Vancouver \$20.00

🕒 10:00 AM

💺 5

⭐ 5

🚩 6

[Details](#)

Show more +



9:40



All Rides



📍 Toronto →📍 Vancouver \$20.00

🕒 10:00 AM 🚑 5 ★ 5 ⚙ 6 [Details](#)

📍 Toronto →📍 Vancouver \$20.00

🕒 10:00 AM 🚑 5 ★ 5 ⚙ 6 [Details](#)

📍 Toronto →📍 Vancouver \$20.00

🕒 10:00 AM 🚑 5 ★ 5 ⚙ 6 [Details](#)

📍 Toronto →📍 Vancouver \$20.00

🕒 10:00 AM 🚑 5 ★ 5 ⚙ 6 [Details](#)

📍 Toronto →📍 Vancouver \$20.00

🕒 10:00 AM 🚑 5 ★ 5 ⚙ 6 [Details](#)

📍 Toronto →📍 Vancouver \$20.00

🕒 10:00 AM 🚑 5 ★ 5 ⚙ 6 [Details](#)



[← Back](#)

Filter Rides

[Apply Filters](#)

From

Toronto

To

Ottawa



Date

24 - 07 - 2022

Time

10:00 AM

Amount

Minimum

\$ 0.00

Maximum

\$ 0.00

Seats Available

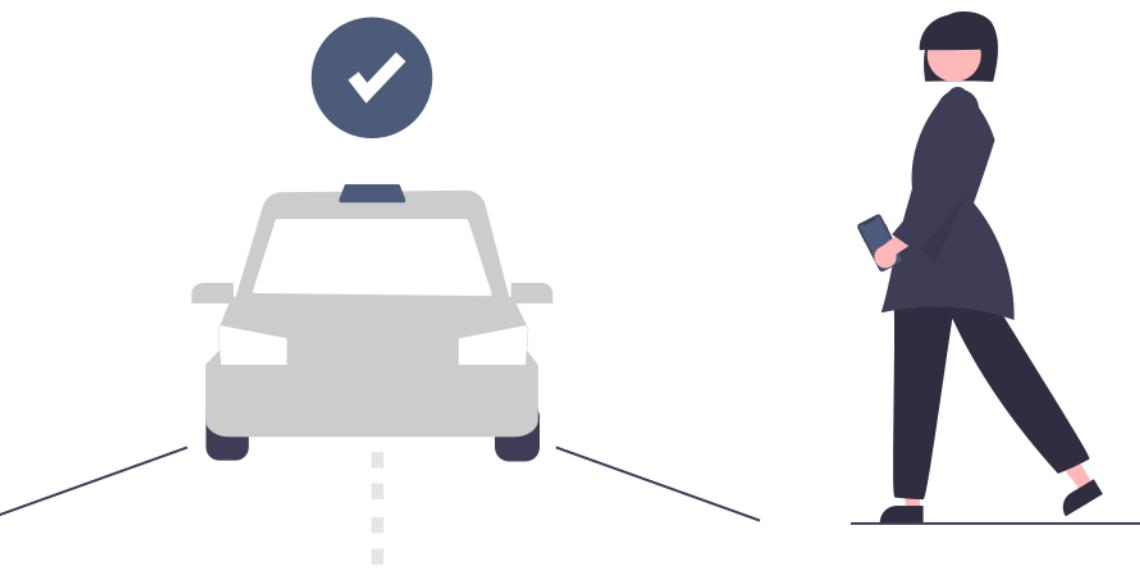
4



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Ride Confirmation

Confirmation Code: A7b6ed



Ride Details

Nov 22, 2023

\$20

 160 Kendal Ave
Toronto, ON M5R 1M3

 1550 Vine St 302
Vancouver, BC V6K 3J2

Your Trip with John



[← Home](#)[+ Post New Ride](#)

Upcoming Rides

[View All](#)

Toronto **Vancouver** **\$20.00**

10:00 AM 5 5 6 [Details](#)

Toronto **Vancouver** **\$20.00**

10:00 AM 5 5 6 [Details](#)

Completed Rides

[View All](#)

Toronto **Vancouver** **\$20.00**

Completed 5 5 6 [Details](#)

Toronto **Vancouver** **\$20.00**

Completed 5 5 6 [Details](#)

Toronto **Vancouver** **\$20.00**

Completed 5 5 6 [Details](#)



9:40



← Back



John Doe

845

Jobs



30

Minutes

Rating
(562)

They are saying...



Jacob



2 days ago

John is very professional and a safe driver would definately recommend him



Daniel



3 days ago

John is very professional and a safe driver would definately recommend him



Lucy



5 days ago

John is very professional and a safe driver would definately recommend him

[View More](#)

Logout



[← Back](#)

Settings



John Doe

Account Settings

[Change email](#) >[Change password](#) >[Become a driver](#) >[Add a payment method](#) +[Push notifications](#)

More

[About us](#) >[Privacy policy](#) >[Terms and conditions](#) >

Search

Recent chats

2 Requests

Chats

Groups



Jess

Have a good one!

3:02 PM



Sandra

Hello! Are you available for toni...

2:58 PM

2



Samantha

Good bye!

2:41 PM



Jack

See you again!

2:27 PM



George

Okay, Thank you!

2:16 PM



Daniel

Okay, Thank you!

3:22 PM



🔔 Notifications



Jess requested to join you on 18th January from toronto to vancouver.

5:32 PM

DeclineAccept

Jack cancelled to join you on 18th January from toronto to vancouver.

3:30 PM



Jess requested to join you on 18th January from toronto to vancouver.

5:32 PM

DeclineAccept

Jess cancelled to join you on 18th January from toronto to vancouver.

5:32 PM



You accepted **Jess's** request to join you on 18th January from toronto to vancouver.

5:32 PM



You declined **Jess's** request to join you on 18th January from toronto to vancouver.

5:32 PM



Your ride with Jess pm 18th January from toronto to vancouver is confirmed.

5:32 PM



← Back

📍 Toronto ← →📍 Vancouver

Mark Riders

John Doe

Customer Code

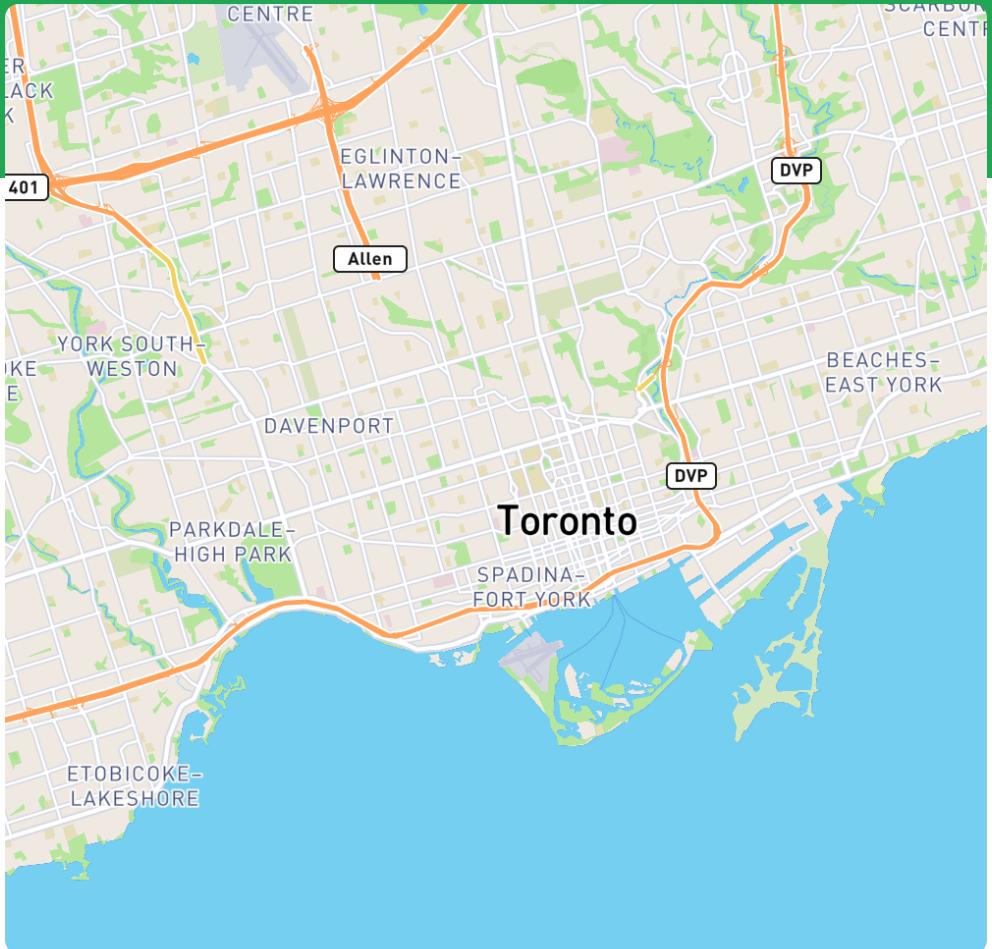
ABC123

Mark

Start



9:40

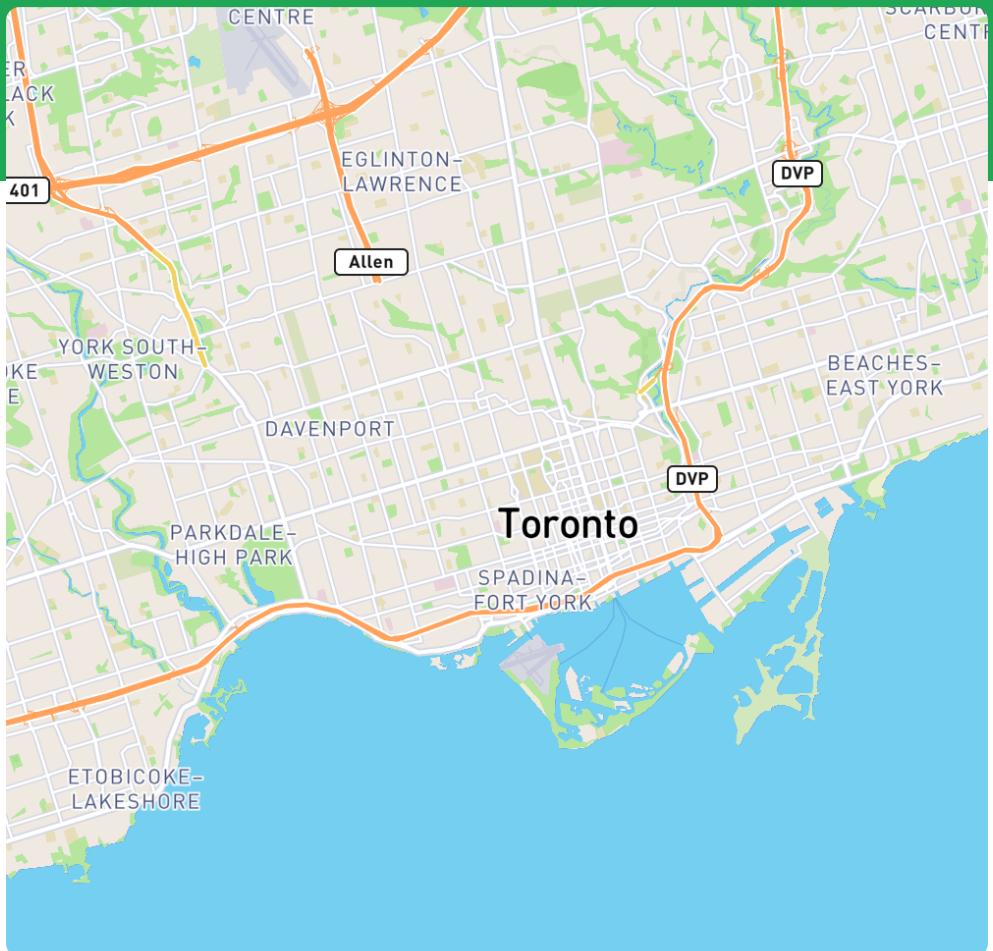
[← Back](#)**Toronto** ← → **Vancouver****Delete****Edit****8th September 2021, 10:00 AM****20.00****Mon, Tue, Wed, Sat****5****Start****John Doe****Decline****Accept**

9:40



← Back

📍 Toronto ← → 📍 Vancouver



8th September 2021, 10:00 AM

\$ 20.00

↔ Mon, Tue, Wed, Sat

💺 5



John Doe

[View Profile](#)

365
Rides

3
Years

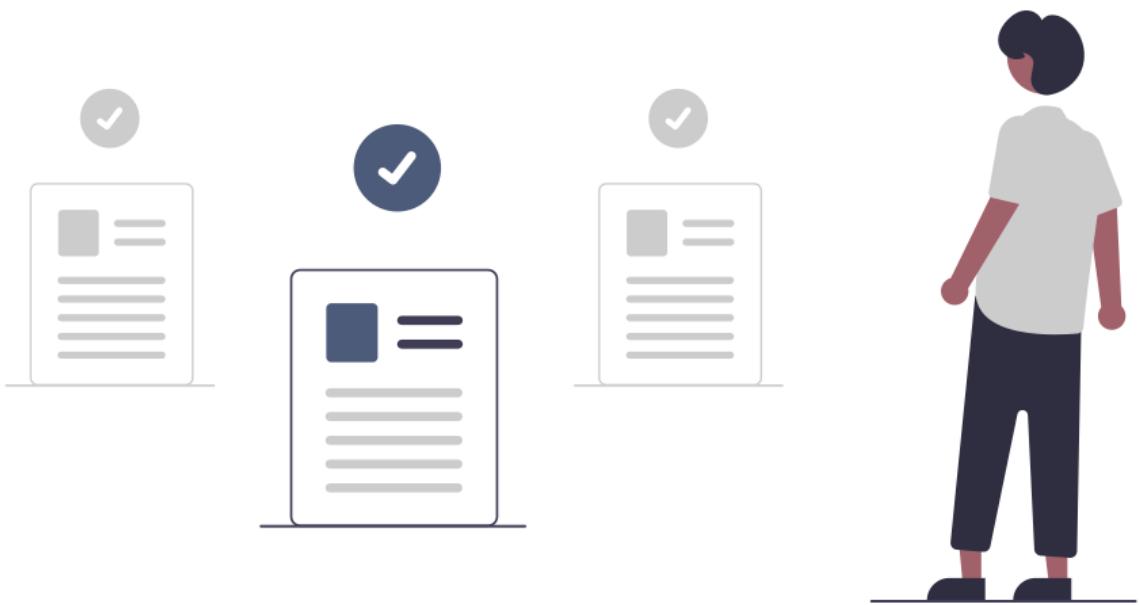
4.8
Rating

[Message](#)

+👤 [Send Join Request](#)



← Back



Documents

Required

Proof of Work Eligibility

Required

Legal Agreements

Processing

Vehicle Inspection



Approved

Driver's License



Approved

Profile Photo



Submit



[← Back](#)

Update Ride

Ride Details

From

Toronto



To

Ottawa

Date

24 - 07 - 2022

Time

10:00 AM

Amount

\$ 35

Seats Available

4

Preferences



Payment Type

Cash

Card

Stops

Stop #1

Winnipeg



Stop #2

Saskatchewan

[+ Add Stop](#)[Update Ride](#)

← Back

Post a ride

Ride Details

From

Toronto



To

Ottawa

Date

24 - 07 - 2022

Time

10:00 AM

Amount

\$ 35

Seats Available

4

Preferences



Payment Type

Cash

Card

Stops

Stop #1

Winnipeg



Stop #2

Saskatchewan



+ Add Stop

Post Ride



← Chat



...

Thank You for contacting Car Pooling, Have a great time.



q w e r t y u i o p

a s d f g h j k l

z x c v b n m



123



space

return



Forget Your Password ?



Enter your email address and we'll send you a link to reset your password.

Email

Send Email



← Back

Create New Password

Your new password must be different from previous used passwords.

Password

Must be at least 8 characters.

Confirm Password

Both passwords must match.

Change Password

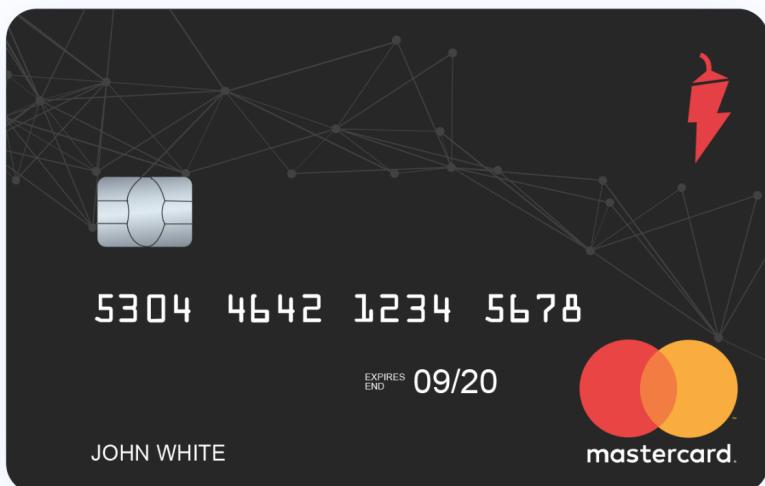


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My Balance



\$ 120.00



Add New Card

Recent Transaction

John Doe \$ 30.00 >

10/11/2021 10:25 AM



Daniel kat \$ 52.00 >

10/11/2021 12:29 AM



Machy Lung \$ 52.00 >

13/11/2021 12:45 AM



ooo



← Back

Add Card

Full Name

Card Number

Exp. Date

CVV

Zip Code

Add New Card

