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| **The Proposed Business Case** | **PRJ566ZAA - Team 1** |
| **Student Carpooling Website** | **01.22.2023** |

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# Overview & Background

## Overview

By offering a platform that connects students with similar academic schedules and comparable interests, the Student Carpooling App seeks to transform the way students carpool. This individualized approach makes carpooling more exciting and engaging, which improves the whole experience. Identity verification and a reporting system for safety issues are only two of the features the app must ensure user safety. Additionally, the app aims to lessen the number of vehicles on the road and lower carbon emissions. The Student Carpooling App's main objective is to improve the effectiveness, security, and fun of student carpooling.

## Background

Carpooling is a popular option for students to save money and reduce their carbon footprint. But adolescents don't always find the common rideshare strategy appealing. Carpooling is often seen as a way to save money or reduce your carbon footprint. Riding in a car with strangers or acquaintances can be boring and awkward if you are not very interested.

This software concept aims to improve the carpooling experience so that students can address these issues. The app uses matching methods to connect students with common interests to common activities, making commuting more engaging and enjoyable. The program also encourages carpooling interactions and activities that help students feel part of the community. Increasing the chances of children making friends makes carpooling more fun and helps students make friends among their peers.

To ensure the safety of all users, the software includes a rating and review system that allows riders to rate and review each other's experiences. The software also includes security features such as user authentication, ensuring that only verified users can participate in carpool. Additionally, the software provides users with the ability to report security issues so that they can be resolved quickly ensuring the safety of all participants.

The ultimate goal of this software is to help the students make friends among peers while reducing their carbon footprint by reducing the number of cars on the road. This program helps reduce the number of cars needed to transport students to and from school. This helps reduce our carbon footprint on the environment by connecting students who live in the same area and have comparable timetables.

# The Need & Objectives

## Needs

The current process of carpooling experience for Seneca students is a bit clumsy in terms of sharing rides with students of similar interests and is prone to errors. The Life on Campus Department of Seneca School of ITAS/SDDS needs a website that will enable students to look for carpooling partners based on their likes and hobbies. By doing this, it would be simple for students to discover carpool friends with similar interests and pastimes, making the experience more engaging and enjoyable.

## Objective

Our objective is to build a web application with the set of features (described below) required to provide carpooling experience for students. We will be creating a website that will act as a reliable source for finding cars with students of similar interests & hobbies. The system will allow Seneca accounts to sign in using SSO and book a car ride after selecting their companions through search functionality and rate and review their carpooling partners to ensure everyone's safety. The aim is to implement a system that offers an appealing user interface, straightforward data entry, user privacy, a complete feedback loop for all parties involved, and an all-around efficient product.

## Basic Features

* A login page using Seneca SSO ID for students and the Student Services committee to access the application to keep track of user activity.
* The advanced search and match feature includes filters, which enable students to narrow their search depending on their hobbies, course schedules, and majors.
* An option for students to either post a trip or request a trip.
* A separate module associated with database linked with their student profile called “Rides” will allow them to view all the details for a particular ride such as history, route travelled, total cost of ride, all the users involved and their activity throughout the experience.
* Manage account feature in the profile will enable students to review the transaction details of their rides, manage their memberships and request to cancel the ride or ask for refund if they were not satisfied with the members or had terrible experience & related issues pertaining to a ride. Reimbursement/Refunds will then be provided upon reviewing the ride details and tracking of ambiguities.
* Group conversation and activity planning tabs enable students traveling in the same carpooling group to communicate and organize events or activities.
* The rating and review system enables students to give their carpooling companions ratings and reviews so that others can make educated choices.
* Notification tab and an emailing tool for letting students know the car's ETA along with the driver's details.
* Safety protocols through a separate web page contain a feature to confirm users' identities and an option to report any significant or minor issues.
* An admin account will be created to process the verification component of the system, govern all the activities to ensure everything is working according to norms. This account will have the privilege to make changes or introduce new policies, managing discounts & offers, revoking users from the ability to post or ask for rides, etc... if they have negative ratings by other users.

# Why is this a substantial project that warrants to be a 2-semester project?

Our main objective is to make this app accessible and user-friendly so that anyone can use and learn its key features of this app.

* This project could be challenging as it involves integrating multiple features and functionality such as SSO login, advanced search and match, database management, group communication, rating and review system, notifications, and safety protocols.
* We must ensure user privacy and security, like hashing user passwords and protecting other data, which requires compliance with various regulations, standards, and validation.
* Our work will go through several stages, such as the architecture stage, where the system along with most of the features will be designed, the prototyping stage, where we will come up with UI/UX designs and some of the eventual functionality, and finally, the implementation stage, where we will develop the web-application using modern tools and frameworks.
* Creating a secure and reliable web application and tailoring its look and feel to the client’s needs deems to be a time-consuming task.
* Additionally, we will need to research how to integrate the system with Seneca’s SSO and make use of the modern full-stack web-development techniques for example MVC design structure, email feature using MongoDB cluster and creating an open accessible static URL via cyclic.
* Therefore, this project can prove challenging, but with proper planning and collaboration, this project warrants to be a 2-semester project.