

**Trimester March/April, 2025**

**CSE6224 SOFTWARE REQUIREMENTS ENGINEERING**

**Project Part 1**

**Topic: Campus Ride-Sharing Platform with**

**Parking System Integration**

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# 1 Introduction

## Problem Statement

The Multimedia University (MMU) Cyberjaya campus often faces issues with limited parking availability and the lack of coordinated transportation options for students or staff. Parking spots are hard to find due to absence of a real-time monitoring system or poor carpool coordination. Additionally there is no centralized platform that enables trusted ride-sharing among campus members while ensuring the security and legitimacy of users through digital ID verification. As a result, campus members waste time on searching for parking, contribute to environmental pollution and experience inefficient travel around campus.

## Vision

To create a secure, user-friendly, and efficient campus ride-sharing platform integrated with a real-time parking management system. It aims to provide a secure, user-friendly, efficient and useful system that enables students or staff to coordinate carpools, promotes sustainable transportation and helps in reducing parking demands. By integrating with the university's digital ID verification system and real-time parking status checking, we aim to build a trusted, eco-friendly, and smarter mobility experience across campus.

## 

## 

## 1.3 Scope

The system will:

* Allow university members to verify their identity using their digital student or staff ID during registration.
* Enable users to offer and request rides based on time, destination, and availability.
* Automatically match riders and drivers using customizable filters.
* Display real-time parking availability across campus.
* Indicate which parking spaces are currently occupied by verified users.
* Obtain users' locations (with permission) for more accurate matching and parking coordination.
* Allow users to claim and unclaim parking spaces to maintain parking legitimacy.

The system will not:

* Provide rides to individuals outside the university community.
* Handle financial transactions or facilitate payments for rides. ( have to decide?  possible?) *(I mean its possible, but like student carpooling around campus should be fixed, its not a big place after all)*

## 1.4 Purpose

This document defines the software requirements for the Campus Ride-Sharing and Parking Management System at Multimedia University Cyberjaya. It’s purpose is to provide a clear and detailed description of the system's functionalities, constraints, and goals of the system. It serves as a reference for the development team, project stakeholders, and university administration to ensure the system is designed to meet user needs and institutional goals. This document also provides the foundation for future system design, development, and validation. It aims to ensure all parties share a common understanding of the system's expected behavior, features, limitations and evaluation.

## 1.5 Goals

* Reduce campus parking congestion through coordinated ride-sharing.
* Provide secure and exclusive access to university members by using digital ID authentication.
* Offer real-time parking availability data to optimize parking usage.
* Encourage environmentally friendly commuting habits.

## 1.6 References

# 2 Product Overview

## 2.1 Product Perspective

## 2.2 Product Functions

### 2.2.3 Check Legitimate Occupied Parking Spaces

### 2.2.4 Request a Ride

### 2.2.5 Accept Ride Requests

### 2.2.6 Claim or Unclaim a Parking Space

### 2.2.7 Report an illegitimate parking

## 2.3 Product Characteristics

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## 

## 2.4 Limitations

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The following table outlines the limitations that may impact the design, development, and deployment of

# 3 Requirements

## 3.1 Functions

## 3.2 Performance Requirements

## 3.3 Usability Requirements

## 3.4 Interface Requirements

## 3.5 Logical Database Requirements

## 3.6 Design Constraints

## 3.7 Software System Attributes

## 3.8 Supporting Information

# 4 Verification

## 4.1 Verification Approach

## 4.2 Verification Criteria

# 5 Appendix

## 5.1 Assumptions and dependencies

## 5.2 Acronyms and abbreviations

## 5.3 Glossary