# Project Preliminary

## TT2L – Campus Ride-Sharing Platform with Parking System Integration

### Project Vision

To develop a secure, user-friendly ride-sharing platform tailored for the university community that encourages carpooling, reduces parking congestion, and optimizes the use of campus parking facilities. By integrating with the university’s digital ID system and parking management database, the platform will offer a seamless experience for drivers and passengers while contributing to a more sustainable campus environment.

### Project Scope

#### In Scope:

* • User Registration & Authentication – Integration with the university’s digital ID system for secure login.
* • Ride-Sharing Functionality – Ability to post, search, and join rides. Includes ride history and user feedback system.
* • Carpool Scheduling & Notifications – Users can schedule rides in advance, receive ride reminders, and update statuses in real time.
* • Parking System Integration – Real-time availability of parking spaces on campus for both ride initiators and passengers.
* • Live Location and Route Optimization – Optional use of map APIs (e.g., Google Maps) for navigation and meeting points.
* • Security Features – SOS button, ride participant verification, and reporting system.
* • Admin Dashboard – For university staff to monitor usage, manage disputes, and analyze carpool/parking metrics.

#### Out of Scope (Phase 1):

* • Integration with third-party public transport systems.
* • Integration with payment gateways (e.g., for ride compensation).
* • Inter-campus ride-sharing between different university branches.

### Project Goals

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| Goal | Description |
| Promote Carpooling Culture | Encourage students, faculty, and staff to reduce single-occupancy vehicle usage. |
| Reduce Campus Parking Congestion | Optimize parking space utilization through better planning and carpooling coordination. |
| Provide Real-Time Parking Data | Enable users to view available parking spaces before arriving on campus. |
| Ensure Safe, Verified Participation | Use university digital ID integration to ensure only authorized users participate. |
| Deliver a User-Friendly Mobile/Web Platform | Design an intuitive interface that meets accessibility and usability standards. |
| Support Administrative Oversight | Allow campus administrators to view analytics, manage reports, and make informed decisions. |

### Additional Notes

• The system should be designed with future extensibility in mind, allowing later phases to integrate payment systems, green incentives, or AI-driven ride-matching.  
• Accessibility and data privacy compliance (e.g., PDPA/GDPR) must be considered during the design phase.