Project Proposal

Details of the Student(s):

Registration Number	Name
202213	G.R. Lakpriya
202216	L.G.R.H. Lihinigama

Supervisor's Name:	Prof. VGTN Vidanagama

Title of the Project:	CommuteGuard: School Bus Management System
Objective of the Project	• Develop a mobile application to address issues related to vehicle tracking, passenger management, payments, and communication within transportation services. • Create a system that allows online payments, real-time vehicle tracking, passenger management, and efficient communication between stakeholders (service providers, drivers, passengers/parents). • Enhance operational efficiency, reduce fuel consumption, minimize manual processes, and improve security within transportation services. • Provide a solution that enables parents/passengers to track vehicle locations, make online payments, and communicate attendance preferences conveniently.
Scope of the Project	• Introduction of mobile systems with features such as location tracking, passenger management, and vehicle monitoring functions. • Implementation of secure login procedures, account management, payment handling, and notifications for service providers. • Enabling service providers to manage employee details, vehicle location and payments. • Providing mobile applications to parents/passengers for online payments, tracking vehicle locations, and informing attendance preferences.

Functional Requirements	1. Service provider
	   • Login to the account.
	   • Manage accounts.
	   • Manage Payments and transaction.
	   • Get the driver's location.
	   • Manage employees.
	   • Send notifications.
	
	 2. Driver/Assistant
	   • Mark attendance.
	   • Route Check

	3. Passenger/Parents • Make and view payments. • Check the current location of the vehicle. • Inform the attendance.
Non-functional requirements	• Security and Privacy: The system prioritizes protecting user data and privacy by using strong security measures that meet industry standards and rules. • Performance: The system runs efficiently, ensuring swift response times for essential functions like GPS tracking. • Scalability: The application is built to grow and handle increased users by adjusting its infrastructure to accommodate potential growth. • Reliability: The system is dependable, with minimal downtime and the ability to recover smoothly from failures or unexpected problems. • Usability: The user interface is easy to understand and navigate, catering to users with different levels of technical knowledge. • Compatibility: The application works seamlessly on popular devices, ensuring a smooth experience for users. • Maintainability: The codebase and structure are well-documented and organized, making it easy for development, maintain and update in the future. • Backup and Recovery: Regular backups of user data are done, and the system has processes in place to recover data in case of loss or system failures. • Regulatory Compliance: The system follows relevant rules and standards concerning data protection, privacy, and location sharing.

Supervisor's Signature	APPROVED