UNIVERSITI TEKNOLOGI MARA

CORIDE : THE ULTIMATE PLATFORM FOR SHARED COMMUTES

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ABSTRACT

The project "CoRide : The Ultimate Platform for Shared Commutes" proposes a carpooling application that addresses key transportation challenges including safety concerns, limited personalized options and inefficient booking systems. This ride-sharing alternative to solo driving is specifically designed for urban commuters based in Kelantan to provide a seamless and secured commuting experience. Prioritising user convenience, safety and preferences, the platform featured advanced technologies including Global Positioning System (GPS) based route tracking, gender-based matching and well-managed booking. By adopting Waterfall methodology, a sequential and linear progression through distinct phases. The decision behind adopting this traditional development process is due to its detailed documentation, and step-by-step progression that best suits the nature of the CoRide platform. The gathering and analysis process are conducted through a comprehensive comparative analysis of existing and similar systems to address areas for improvement. Android Studio and Real-time Firebase are respectively used as the Integrated Development Environment (IDE) software for application creation and database management. The application testing process included unit testing, User Acceptance Testing (UAT), and usability evaluation using the System Usability Scale (SUS). All participants rated each SUS item with either 'agree' or 'strongly agree,' with 50% selecting 'strongly agree' and the remaining 50% choosing 'agree.' No ratings fell below 4, resulting in a SUS score exceeding 80, indicating high usability and strong user acceptance. Furthermore, updates are systematically documented to reduce knowledge loss, ensuring structured and accessible coding practices. Ultimately, CoRide is designed not only to facilitate ride-sharing but to foster a safer, and efficient commuting culture.

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CHAPTER 1

INTRODUCTION

This chapter provides the groundwork for the proposal development of a carpooling application by exploring the background of the study, highlighting current transportation challenges and the growing environmental and economic impacts of solo-driving. The chapter underscores the problem statement and investigates existing deficiencies in conventional travel systems. This introductory overview sets a clear direction and purpose for the subsequent chapters.

1.1   Background

The rising costs of fuel, vehicle maintenance, and parking fees, significantly strain one's finances, especially for those commuting individually. Many urban commuters often experience key issues including traffic congestion and transportation costs.

To address these issues, carpooling has proven to be an effective strategy Jiau and Huang (2019) describe it as a model of the sharing economy that, compared to private vehicles or ride-hailing services, helps conserve road resources. Carpooling is the concept of car-sharing to accommodate more than one person at a time, eliminating the need for riders to drive themselves in separate vehicles (O'Brien, n.d.). However, existing carpooling applications face several critical challenges that limit their effectiveness and user adoption.

With the area of interest being Transportation and Mobility Technology, the study focuses on leveraging technological advancements to address pressing challenges in modern transportation systems including environmental impact and user-friendly mobility options. This area emphasizes developing and integrating innovative solutions towards sustainable transportation and focuses