IJARSCT
International Journal of Advanced Research in Science, Communication and Technology
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
ISSN: 2581-9429
Volume 5, Issue 10, May 2025
Impact Factor: 7.67

Development of a Secure Car Sharing Application Using Flutter and Provider State Management

Prof. Mohan B. Yelpale[1], Ms. Sakshi E. Mundhe[2], Ms. Sakshi S. Sangave[3], Ms. Aachal B. Sangale[4], Mr. Saurabh S. Sargar[5]
Professor, Department of Computer Engineering[1]
Students, Department of Computer Engineering[2-5]
NBN Sinhgad Technical Institute Campus, Pune, India

Abstract: *This paper presents the design, development, and implementation of a car-sharing application built using Flutter, aimed at improving urban mobility while incorporating enhanced security features. The app leverages state-of-the-art technologies, including Firebase for backend services and Provider for efficient state management, offering cross-platform compatibility for both Android and iOS devices. Core features include user registration, real-time ride booking, vehicle tracking, and a security-focused system with SOS functionality and audio tracking during rides. A range of dependencies, such as google-maps-flutter for navigation and firebase-auth for secure user authentication were integrated to ensure a seamless user experience. The application's design and architecture emphasize scalability, ease of use, and responsiveness, and its performance was thoroughly tested to ensure reliability. This paper details the technological choices, security implementations, and the overall impact of these features on the user experience, concluding with key findings, performance analysis, and a discussion of potential future enhancements.*

Keywords: Car-sharing, Flutter, Firebase, Security features, Provider state management, Security, SOS.

ISSN 2581-9429 IJARSCT