

ABSTRACT

Telkom University Surabaya currently employs a traditional system for checking student data when leaving the campus, where staff check the students' vehicle registration certificates (STNK). However, many students consider the process of checking STNK by staff to be inefficient, as it often causes congestion when exiting the parking area of Telkom University Surabaya. Moreover, the lack of recording of vehicles entering or exiting the parking lot results in an unknown exact parking capacity. Based on these issues, this study aims to design and build a QR Scan-based parking system website at Telkom University Surabaya. This parking system will utilize Quick Response (QR) technology as a verification method when students leave the parking area. The research method is conducted iteratively, adopting relevant concepts and practices from Agile - Kanban Methodology. Kanban Methodology has five core Principles that will guide this research: Visualize the workflow, limit Work-In-Progress (WIP), Manage Flow, Make Management Policies Explicit, and Improve Collaboratively. The development involves both front-end and back-end aspects. The front-end uses JavaScript programming language with the React library and Vite.Js project compiler. The back-end or database uses PostgresQL via Hasura. Integration of the front-end and back-end will use GraphQL. The CSS framework used is Tailwind CSS to provide a dynamic user interface that meets user needs. For website testing, Black Box testing is used for functional testing. QR Scan integration is not limited to when exiting the parking lot but also applied when entering, aiming to minimize the possibility of motor vehicle theft and ensure the authenticity of student vehicle ownership at Telkom University Surabaya. Based on the results of the QR Scan parking system website Testing, issues were found during respondent test cases, which have been resolved according to user feedback.

Keywords— Website, ReactJS, Kanban Methodology, QR Scan, Parking System