

ABSTRACT

The growing demand for electric vehicle (EV) infrastructure has prompted the School of Applied Science at Telkom University to establish a Public Electric Vehicle Charging Station (EVCS). However, the current management system, operated by the Center of Excellence for Smart Electric Vehicles (CoE Smart EV), is constrained by a vendor-provided dashboard hosted on external servers, resulting in limited data autonomy a condition known as vendor lock-in. This project proposes the development of a web-based EVCS management dashboard integrated with an internal server to eliminate such dependency. Using the Agile Software Development Life Cycle (SDLC), the system was implemented with a headless architecture leveraging Nuxt.js and communicating with the back-end via an API. Functional testing via the black box method confirmed full feature operability. Usability evaluation through the System Usability Scale (SUS) yielded an average score of 79.5, categorized as “Acceptable” and rated “Good.” The developed solution enhances organizational control, promotes independence from third-party platforms, and supports scalable service integration.

Keywords: EVCS Management, Vendor Lock-in, Dashboard, System Usability Scale (SUS), Agile