

ABSTRACT

The reservation and inventory processes are critical components in supporting library operations. The Room 19 Library has encountered challenges in managing room and event reservations, which previously relied on Google Forms, Google Sheets, and Instagram Direct Messages. This manual approach led to delays in confirmation, scheduling uncertainties, and the absence of real-time quota monitoring. Additionally, inventory management was also conducted manually using Google Sheets for two main components: operational items and book copies. Operational items were recorded individually without structured stock control or a clear transaction history, while the documentation of book copies lacked condition tracking and loan status information. To address these issues, this research developed a web-based system focused on reservation and inventory modules using the Iterative Incremental development method. The technologies used include Next.js, PostgreSQL, and Supabase.

The results demonstrate that the developed system successfully resolves the operational challenges faced by The Room 19 Library by replacing the use of Google Forms, Google Sheets, and Instagram Direct Messages. Black Box testing confirmed that all features functioned as intended. Furthermore, the System Usability Scale (SUS) evaluation yielded a score of 79.5 in the first phase and improved to 81.5 in the second phase, indicating a high level of user acceptance and ease of use. These findings confirm the system's feasibility to support reservation and inventory management at The Room 19 Library.

Keywords— Inventory, Iterative Incremental Method, Library, Reservation, Website.