

PERANCANGAN SISTEM INFORMASI *INVENTORY* PEREAKSI BERBASIS WEB PADA PT XYZ MENGGUNAKAN METODE *RAPID APPLICATION DEVELOPMET*

Rafly Rangghani Putra

ABSTRAK

Pengelolaan stok pereaksi di PT XYZ, sebuah perusahaan farmasi di Indonesia, masih dilakukan secara manual, menyebabkan ketidakakuratan data, keterlambatan *restock*, dan pemborosan akibat pereaksi kadaluarsa. Penelitian ini memiliki tujuan untuk merancang sebuah sistem informasi inventori berbasis *website* guna mencatat penggunaan pereaksi dan memantau stok secara *real-time* untuk meningkatkan efisiensi operasional tim *Quality Control* (QC). Sistem ini dikembangkan melalui pendekatan *Rapid Application Development* (RAD), meliputi proses pengumpulan data melalui wawancara dan kajian literatur, serta perancangan sistem menggunakan diagram UML. serta implementasi menggunakan *framework* Laravel Filament v3.2, PHP 8.2, dan basis data MySQL. Untuk memverifikasi fungsionalitas, sistem diuji menggunakan metode *blackbox testing* dengan melibatkan pengguna internal PT XYZ (Admin, *Leader*, Analis). Hasilnya, sistem dapat mencatat penggunaan pereaksi, memantau stok secara *real-time*, dan mengirimkan peringatan stok minimum melalui email, sehingga mengurangi risiko kekurangan stok dan pemborosan. Sistem ini meningkatkan efisiensi tim QC dan mendukung pengendalian kualitas produk. Untuk pengembangan lebih lanjut, disarankan penambahan notifikasi via SMS dan fitur *forecasting* stok pada *dashboard*.

Kata Kunci: Sistem Informasi, Inventori Pereaksi, Laravel Filament, Rapid Application Development.

DESIGN OF A WEB-BASED REAGENT INVENTORY INFORMATION SYSTEM AT PT XYZ USING THE RAPID APPLICATION DEVELOPMENT METHOD

Rafly Rangghani Putra

ABSTRACT

Reagent stock management at PT XYZ, a pharmaceutical company in Indonesia, is still conducted manually, resulting in data inaccuracies, restocking delays, and waste due to expired reagents. This study aims to design a web-based inventory information system to record reagent usage and monitor stock in real-time, thereby enhancing the operational efficiency of the Quality Control (QC) team. The system was developed using the Rapid Application Development (RAD) approach, encompassing data collection through interviews and literature review, system design with UML diagrams, and implementation using the Laravel Filament v3.2 framework, PHP 8.2, and MySQL database. To verify functionality, the system was tested using the blackbox testing method, involving internal users at PT XYZ (Admin, Leader, Analyst). The results demonstrate that the system can record reagent usage, monitor stock in real-time, and send minimum stock alerts via email, thus reducing the risk of shortages and waste. The system improves QC team efficiency and supports product quality control. For future development, it is recommended to add SMS notifications and a stock forecasting feature on the dashboard.

Keywords: *Information System, Reagent Inventory, Laravel Filament, Rapid Application Development.*