



**Inclusive System Design of Laboratory Information Management
Systems for the Efficiency and Operational Productivity in
Agronomy Laboratory of the Research Department at
PT.MDZ Indonesia**

UNDERGRADUATE THESIS

**Submitted as one of the requirements to obtain
Sarjana Komputer (S.Kom.)**

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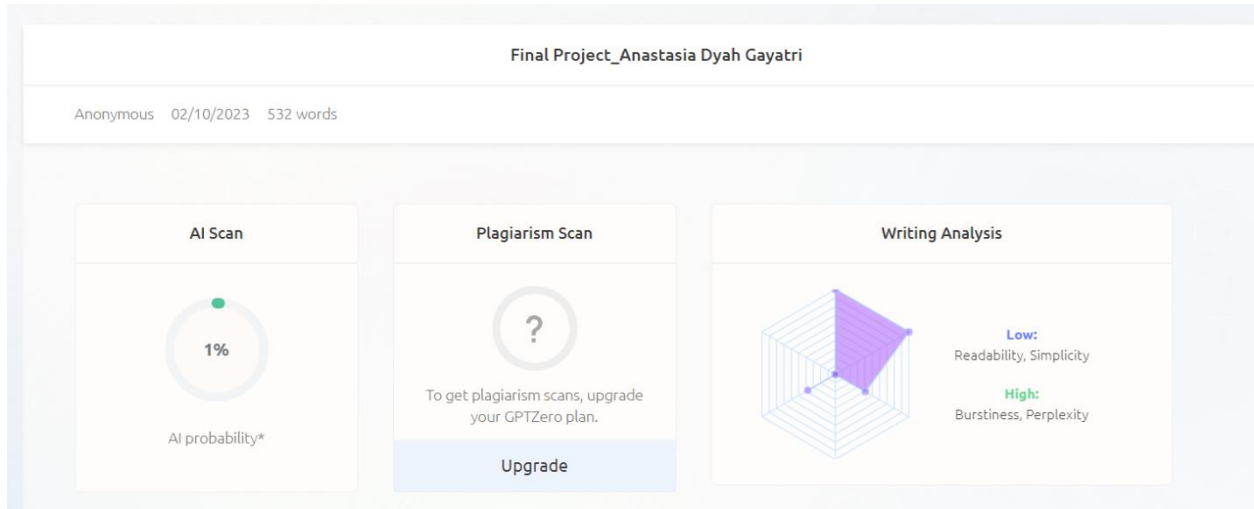
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ABSTRACT

Agronomy laboratories at cocoa research centers provide essential services for scientific, quantitative, and qualitative analysis and experimentation of cocoa samples. Analysts provide valuable data for researchers and stakeholders, which can inform decision-making to support agricultural practices and science. The laboratory's operational workflow is specific and detailed, therefore manual data and management processes are not appropriate, as they can hinder work effectiveness and consume time. Furthermore, there are risks of high human error, difficulty in tracking samples, and workflow delays due to manual and non-systemized end-to-end processes.

This project aims to design an inclusive information system implemented in a web-based and integrated management system platform. The designed system will cover informatics needs and process management, including sample management from end-to-end, quality control, reporting, functional details, relational data, and interface design of the required inclusive concepts. The method used in the development of this project is the SDLC framework or System Development Life Cycle, which is an approach for managing any based of information systems. It encompasses several stages: systems planning, systems analysis, system design, system implementation, and system maintenance.

Keywords: Agronomy laboratory, LIMS, Web-based, Integrated Management System, Information System, Sample Management, Sample Analysis

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