A Java Swing Construction-Materials Management Program for Thanh Phat Store

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***Abstract*—This undergraduate thesis investigates a Java Swing program for managing construction materials at Thanh Phat store in Lang Son. A materials retailer needs consistent product and transaction records and usable reporting tools. The student analyses store requirements and business processes and implements a Java Swing management program with a simple desktop interface. The thesis reports that the program and required report were completed. Its conclusion also identifies an incomplete feature set, interface shortcomings, and unresolved performance and security questions. The source does not document a live store rollout, verified stock accuracy, a security test, or measured reliability with large datasets. The contribution is a documented student study or prototype whose stated scope can guide further testing.**

***Index Terms*—Java Swing, construction materials, inventory management, desktop application**

I. Introduction

A materials retailer needs consistent product and transaction records and usable reporting tools. This thesis investigates a Java Swing program for managing construction materials at Thanh Phat store in Lang Son. It begins from a practical engineering need and explains the technologies and workflow chosen for the case. The objective is to document a student implementation or comparative investigation, together with the evidence available in the manuscript. Broader operational or economic effects require separate measurements and are not assumed from the existence of a prototype [1]. Earlier ICTU student work on related designs is included here for context [2], [3], [4], [5], [6], [7], [8], [9], [10]. These contextual works were selected for this English summary; they are not asserted to appear in the original thesis bibliography.

II. Methods

The student analyses store requirements and business processes and implements a Java Swing management program with a simple desktop interface. The source is summarized through its stated design, implementation material, examples, and conclusion. Features shown in the manuscript are distinguished from proposals for later development. This review does not add a new experiment, fill missing measurements with estimates, or treat a planned capability as an observed result. The source thesis remains the provenance for the reported work [1].

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III. Results

The thesis reports that the program and required report were completed. Its conclusion also identifies an incomplete feature set, interface shortcomings, and unresolved performance and security questions. The report's screens, configurations, examples, or measurements constitute the evidence for this summary. A capability described only as a design intention is not counted as a validated operational outcome. No additional performance, adoption, financial, or safety figure has been introduced here. The result is interpreted within the scope of the student's documented setup [1].

IV. Discussion

The source does not document a live store rollout, verified stock accuracy, a security test, or measured reliability with large datasets. Further work could complete reporting functions and test stock consistency, data protection, and response time under realistic conditions. These limitations affect how the evidence should be read. The current manuscript can support understanding of the design and reported demonstration, while independent tests would be needed for stronger claims. Any later deployment should document its environment and separate observed outcomes from intended benefits [1].

V. Conclusion

The thesis documents a Java Swing program for managing construction materials at Thanh Phat store in Lang Son. The thesis reports that the program and required report were completed. Its conclusion also identifies an incomplete feature set, interface shortcomings, and unresolved performance and security questions. The source does not document a live store rollout, verified stock accuracy, a security test, or measured reliability with large datasets. Further work could complete reporting functions and test stock consistency, data protection, and response time under realistic conditions. Accordingly, the present contribution is a source-grounded account of the student work and its tested or illustrated scope. Claims about broader effectiveness should be assessed in later work using explicit evaluation conditions [1].

References

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