A Java Swing Management Application for a Milk Tea Shop

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***Abstract*—This undergraduate thesis studies Java Swing and applies it to a desktop management application for a milk tea shop. The author analyzes manager and employee workflows, creates use-case and process descriptions, and implements an interface backed by MySQL. The documented screens cover login, tables, products, invoices, staff accounts, and basic statistics. The report presents the application as a working prototype that supports the agreed project scope. It also states that some desired functions remain incomplete, the interface needs visual improvement, and performance has not been optimized. The source provides design diagrams and interface screenshots but no measured comparison with a manual process, no usability study, and no operational data from a shop deployment. The thesis therefore demonstrates a desktop software workflow and a practical use of Swing components and relational storage, while leaving broader business coverage and production evaluation for later work.**

***Index Terms*—Java Swing, MySQL, retail management, milk tea shop, desktop application**

I. Introduction

A milk tea shop needs to track products, tables, invoices, employees, and sales-related information. The thesis proposes a Java Swing desktop application to organize those operations for managers and staff. It reviews the technology and documents the main tasks before showing the resulting interface. The work is an undergraduate implementation project, so the stated usefulness of the prototype is not treated as a measured business improvement [1]. Earlier ICTU student work on related designs is included here for context [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 author analyzes actor roles and describes use cases for account access, staff management, table management, products, and invoices. The application is built with Java Swing for forms and MySQL for stored records. The report includes design diagrams and implementation screens for the main workflows. Manager views include employee-account functions in addition to the operational views available to staff. The methods establish the implemented software structure but do not define an empirical performance or usability experiment [1].

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III. Results

The source shows screens for login, table and product management, invoice creation, staff administration, and a statistics view. It states that the product met the limited objectives agreed for the capstone. The illustrated workflows demonstrate that the author built the core interface and data-management functions. The report does not supply measured transaction speed, failure rate, or field-use results, and it explicitly notes that not every desired function was finished [1].

IV. Discussion

The Swing and MySQL implementation offers a basic local management workflow, but the source identifies incomplete business coverage, an unpolished interface, and functions that need performance improvement. Security work is also listed as a future direction. The report does not show how the application behaves under concurrent users or in daily shop operations. Those questions would require real use testing and a clearer acceptance checklist before any broader deployment claim [1].

V. Conclusion

The thesis documents a Java Swing prototype for a milk tea shop with table, product, invoice, staff, and statistics screens. Design descriptions and screenshots support the existence of these workflows. The author states that the project met its limited objectives while acknowledging missing and unoptimized functions. Further interface, security, and operational evaluation would be necessary to turn the prototype into a complete management system [1].

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