A C# Management Application for Welax Coffee in Thai Nguyen

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***Abstract*—This thesis develops a C# management application for Welax Coffee in Thai Nguyen. It analyzes shop workflows and implements a Windows Forms interface backed by SQL Server. The manuscript presents forms for tables, seating areas, employees, customers, stock, menu items, wages, and work shifts. Design diagrams and screen images document the functions. In its conclusion, the author states that the core management features were implemented but acknowledges a limited interface and unfinished aspects. The source suggests that the shop could use the program, yet it does not report an actual deployment, a controlled usability study, or measured time savings. The contribution is a documented retail-management prototype and its data model, with practical effectiveness remaining for the shop to test.**

***Index Terms*—cafe management, C#, Windows Forms, SQL Server, inventory**

I. Introduction

Cafe operations involve tables, orders, staff, stock, menus, and customer information. The thesis uses Welax Coffee as the case for organizing those tasks in one desktop application. It introduces system analysis and C# programming before specifying the principal records and screens. The aim is to build a management tool for the named shop. The source describes a student implementation; it does not provide a measured baseline for the existing workflow [1]. Earlier ICTU student work on related designs is included here for context [4], [5], [6], [7], [8]. Related published studies provide context for the subject and methods [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 user requirements and describes the system structure with diagrams and database design. The application uses C# Windows Forms for the interface and SQL Server for stored data. Implementation screens cover management of tables, seating areas, employees, customers, stock, menu items, wages, and shifts. The report documents navigation and editing behavior for these forms. It does not define an experiment comparing the program with manual shop administration [1].

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III. Results

The manuscript shows multiple forms for shop management and states that the main content-management functions were implemented. The illustrated interface allows the operator to view or maintain several categories of cafe data. The conclusion also records that the interface remains visually limited and that further refinement is needed. No actual shop transaction log, staff evaluation, or quantitative effect on inventory accuracy or service speed is presented [1].

IV. Discussion

A desktop application can bring related operational records into one data model, and the screenshots support that core screens exist. The author nevertheless recognizes shortcomings in presentation and development time. The source does not establish that the software has replaced an existing system at Welax Coffee. Use in daily operations would require testing with real transactions, data recovery procedures, access permissions, and staff feedback before claiming an efficiency gain [1].

V. Conclusion

The thesis documents a C# and SQL Server prototype for Welax Coffee, with forms for tables, staff, customers, stock, menus, wages, and shifts. It provides design and interface evidence for these functions. The author reports completing several core tasks while identifying remaining weaknesses. The source supports a working student application, not a measured production outcome. Further validation at the shop would determine its practical value [1].

References

[1] Dương Thị Kim Yến, ”A C# Management Application for Welax Coffee in Thai Nguyen,” internal undergraduate thesis (original in Vietnamese), Thai Nguyen University of Information and Communication Technology, 2024.
[2] Garyzaldy Calong (5/2018). Learn C# With Windows Forms and SQL Server [online],viewed 18/05/2018 from:<
[3] Nguyễn Ngọc Bình Phương, Thái Thanh Phong(ed) (10/2006). Các Giải Pháp Lập Trình C#, Nxb Giao thông vận tải, Phường Hòa Thạnh, Quận Tân Phú, Hồ Chí Minh
[4] ICTU Student 140, ”Development of a Restaurant Management Software for Khánh Linh Restaurant,” internal undergraduate thesis, Thai Nguyen University of Information and Communication Technology, 2009.
[5] Lã Quyết Tâm, ”BUILDING A RESTAURANT MANAGEMENT SYSTEM USING THE LARAVEL FRAMEWORK,” internal undergraduate thesis, Thai Nguyen University of Information and Communication Technology, 2021.

[6] Phạm Minh Hiếu, ”Development of an Order Management Application for 1987 Hot Pot and Grill Restaurant,” internal undergraduate thesis, Thai Nguyen University of Information and Communication Technology, 2023.
[7] Đỗ Thị Thu, ”Sales Management Program for Tan Viet Dung Construction and Trading Services Co., Ltd.,” internal undergraduate thesis, Thai Nguyen University of Information and Communication Technology, 2014.
[8] Đặng Vũ Hưng, ”Development of Sales Management Software for Minh Anh Warehouse,” internal undergraduate thesis, Thai Nguyen University of Information and Communication Technology, 2023.
[9] Prambayu Candra Kirana et al., ”Management Application Analysis at Cafe Partner Coffee, Lawang,” Conference on Economic and Business Innovation (CEBI), 2023. doi:10.31328/cebi.v3i1.309.
[10] S.A. Makhosheva, ”Automation of accounting for financial transfers using the SQL Server DBMS and the C# programming language□,” News of the Kabardin-Balkar Scientific Center of RAS, 2022. doi:10.35330/1991-6639-2022-4-108-19-31.