C# Milk Sales Management Software for Phu Xuyen Store

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***Abstract*—This undergraduate thesis develops C# sales management software for Phu Xuyen milk store in Thai Nguyen. The source reviews C#, Visual Studio, and SQL Server and specifies sales, stock, employee, supplier, product, order, invoice, and reporting functions. It models the application with use cases, sequence, activity, class, and state diagrams and presents database tables for invoices, staff, stock, and suppliers. The implementation chapter illustrates forms for password recovery, products, employees, suppliers, stock, orders, invoice details, and statistics. The author reports completing a basic management system but notes that barcode scanning is unavailable, product codes must be entered manually, and some functions remain incomplete. The report does not provide independent transaction logs, a formal test table, or measured business benefits. This summary describes the documented prototype and its stated limitations without claiming a deployed point-of-sale system.**

***Index Terms*—milk retail, sales management, C#, SQL Server, inventory**

I. Introduction

A retail milk store needs consistent records of goods, suppliers, sales, invoices, and stock. This thesis proposes a C# application for Phu Xuyen store in Thai Nguyen to support those tasks. The source links transaction handling to inventory and managerial reports. Its intended value is easier day-to-day shop management, but the report does not quantify time savings, accuracy, or revenue changes. This English summary describes the design and forms shown in the manuscript and separates the author's stated aims from independently verified outcomes [1]. Earlier ICTU student work on related designs is included here for context [2], [3], [4], [5], [6], [7], [8]. Published technical books provide background for the methods discussed in this summary [9], [10], [11]. These contextual works were selected for this English summary; they are not asserted to appear in the original thesis bibliography.

II. Methods

The student reviews C#, Visual Studio, and SQL Server and analyzes the store workflow. The design specifies actors, detailed use cases, and sequence, activity, class, and state diagrams for sales and related administration. Its database model includes invoice, employee, stock, and supplier tables. The construction chapter documents individual forms for password recovery, product maintenance, staff, suppliers, stock, order entry, invoice details, and statistics. This summary examines the cover, design sections, database tables, screenshots, bibliography, and conclusion. It does not infer real store deployment or formal acceptance testing from the illustrated screens [1].

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III. Results

The thesis presents a set of C# application forms for managing products, employees, suppliers, inventory, orders, invoices, and statistical reports. The author states that the project established the system functions, design diagrams, database model, and usable sales interface. The conclusion identifies two concrete limitations: barcode scanning is absent, so staff enter product codes manually, and several functions still need refinement. There is no documented count of completed shop transactions, no independent comparison with the store's previous workflow, and no quantitative test of error rates or report accuracy [1].

IV. Discussion

The design covers several connected retail operations rather than an isolated product list. Its database and invoice forms offer a basis for more reliable records, but their operational correctness is not demonstrated by screenshots alone. Manual product-code entry may create errors and slows the checkout path; the author explicitly proposes barcode scanning as a later feature. Further work should test stock changes against sales and returns, invoice totals, supplier updates, permissions, backup and recovery, and the consistency of statistical reports. Real-store trials would be required to assess usefulness and reliability [1].

V. Conclusion

Bùi Tuấn Linh's thesis documents a C# milk-store sales management prototype with product, staff, supplier, stock, order, invoice, and reporting functions. The source supports a designed database and illustrated application forms and acknowledges incomplete functionality. Barcode scanning and more polished functions remain future work. The manuscript does not establish production deployment, measured operational improvement, or independently audited transaction accuracy. A later version should complete the missing functions and verify end-to-end store workflows with recorded tests [1].

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