A C# Windows Forms Inventory Application for Caffe Amor

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***Abstract*—This thesis develops a C# Windows Forms inventory application for Caffe Amor. The report describes the shop stock-management problem, designs a database, and presents screens for overall inventory, incoming goods, outgoing goods, ingredients, and suppliers. The implementation chapter shows how operators enter and inspect these records. The conclusion says the prototype addresses part of the shop need but acknowledges incomplete functions and interface limitations. It proposes improved security, error tolerance, more detailed profit reporting, and other features for later work. The source does not contain a controlled time-saving comparison, verified data-accuracy measurement, or evidence of sustained operational use. The contribution is a documented desktop inventory prototype that requires real shop testing before deployment claims can be made.**

***Index Terms*—inventory management, C#, Windows Forms, cafe, stock control**

I. Introduction

A cafe must know which ingredients are in stock and what has entered or left storage. The thesis uses Caffe Amor as a case for a desktop program that organizes these records. It describes the intended manager workflow and the software technologies used to implement it. The objective is to create core inventory forms and supporting database tables. The manuscript does not provide a measured baseline for manual stock control [1]. Earlier ICTU student work on related designs is included here for context [2], [3], [4], [5], [6], [7]. These contextual works were selected for this English summary; they are not asserted to appear in the original thesis bibliography. Published books on the methods and subject of this project provide context for this English summary [8].

II. Methods

The author models stock, ingredient, and supplier records and implements the interface with C# Windows Forms and a database described in the source. Screens in the implementation chapter show an inventory overview, incoming and outgoing stock forms, ingredient maintenance, and supplier management. The report explains the displayed quantities and transaction fields. Its method is design and demonstration, without a formal user study or controlled verification of stock balances [1].

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III. Results

The manuscript displays the main forms and states that the application partly meets the cafe inventory-management need. The overview shows quantities in stock and records of goods received and issued; further screens cover ingredients and suppliers. The author explicitly notes missing or incomplete functions and a limited interface. The source does not present a production transaction history or measured improvement in stock accuracy and manager time [1].

IV. Discussion

The prototype demonstrates how stock movements can be represented in a desktop interface, but partial functionality limits practical reliance on the totals. The conclusion proposes more security, fault tolerance, staff wage management, promotions, and improved financial reporting. Some ideas overlap with basic screens already shown, so they should be treated as intended refinements rather than evidence of full completion. A later release needs transaction validation and routine shop testing [1].

V. Conclusion

The thesis documents a C# Windows Forms inventory prototype for Caffe Amor, covering stock overview, incoming and outgoing goods, ingredients, and suppliers. Design descriptions and screenshots support these functions. The author recognizes that the system and interface remain incomplete. No measured business effect or sustained deployment is established. Further development and record checks would be needed before it could support official stock accounting [1].

References

[1] Bùi Thái Sơn, ”A C# Windows Forms Inventory Application for Caffe Amor,” internal undergraduate thesis (original in Vietnamese), Thai Nguyen University of Information and Communication Technology, 2024.

[2] ICTU Student 84, ”Inventory Management Program for the Telecommunications Center - Electric Power Company I,” internal undergraduate thesis, Thai Nguyen University of Information and Communication Technology, 2009.

[3] Nguyễn Thị Hằng, ”Warehouse Management Program Based on a Multi-Price Inventory Model for Lien Cong Co., Ltd. in Nghe An,” internal undergraduate thesis, Thai Nguyen University of Information and Communication Technology, 2014.

[4] Vương Thị Thảo, ”Multi-Price Inventory Management at Nhan Trung Co., Ltd. in Bac Giang,” internal undergraduate thesis, Thai Nguyen University of Information and Communication Technology, 2013.

[5] 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.
[6] Phạm Thị Tuyến, ”Materials Accounting Program for Truong Minh Co., Ltd. in Hanoi,” internal undergraduate thesis, Thai Nguyen University of Information and Communication Technology, 2013.
[7] Nguyễn Thị Hoài, ”Construction of Material Accounting Software at GBF Construction and Trade Joint Stock Company - Hanoi,” internal undergraduate thesis, Thai Nguyen University of Information and Communication Technology, 2013.
[8] A. Silberschatz, H. F. Korth, and S. Sudarshan, Database System Concepts, 5th ed. McGraw-Hill, 2005. ISBN 9780072958867.