

Requirement Report

Café-book Management Software

Development Report

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1/ INTRODUCTION

1.1 Purpose of this document

The purpose of this document is:

- To state our system design & implementation
- To show the process of our works

1.2 Product Scope

The product is a software application for computers using Windows operating system and used for people who work at a café-book to manage the store.

1.3 Glossary

This subsection contains definitions of all the terms, acronyms, and abbreviations used in the document. Terms and concepts from the application domain are defined.

- Café-book (or book coffee): an establishment which primary serves coffee and books.

1.4 References

1.5 Overview

This document contains the following information:

- Provide the system design & implementation description
- Provide GUI design

2/ System Design

2.1 Architecture Design

Since the application architecture of our system is a transaction processing system, which is a data-centered application, therefore for the architecture model, we use the 3-layers architecture design pattern which include:

- Data access layer
Objective: Interact between the client system & the database
Tools: We use LinQ (LinQ to SQL) which provide easy & fast database access
 - Business logic layer
Objective: Process and transfer data between Data access layer and Presentation layer
The layered structure is divided (based on data characteristics and processing methods) into these sub-layers:
 - Books
 - Dishes and drinks
 - Personal information (including staff and VIP guests)
 - Schedule
 - Stocks
 - Multithreading, customize theme, change language, error handling
 - Presentation layer
Objective: Support handling & receiving user requests
- Furthermore, we also use some design pattern to help manage, develop, improve & reuse the system more easily

2.2 Database Design

For the database design, we use an online database provided by Microsoft Azure to provide data access from anywhere

We also store some various system configuration data in the database to provide flexibility, easier to manage & update

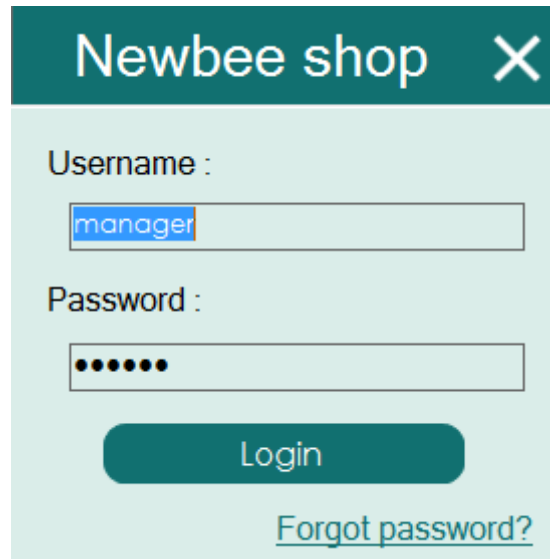
Database is also set with triggers to provide error handling to the user side. We also use trigger to create various data automatically such as order ID, book ID, etc

3/ GUI Design

For the GUI design, we use the Bunifu .Net framework to support our works on GUI design. You could find more information about Bunifu here: <https://bunifu.co.ke/>

3.1 Login GUI

When the program starts, the system will require user to log in. User must log in using the username and password given to get access to the system. The login screen will look like this

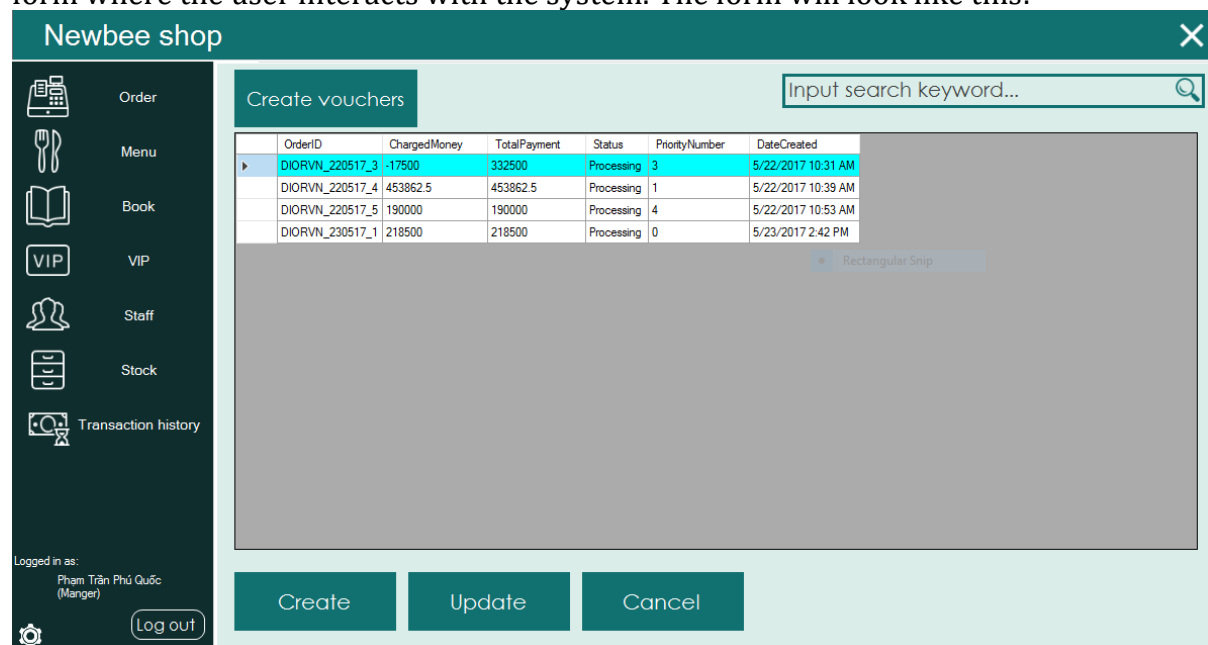


The login screen for 'Newbee shop' features a dark teal header with the title and a close button. Below, the 'Username' field contains 'manager' and the 'Password' field is masked with dots. A teal 'Login' button and a 'Forgot password?' link are at the bottom.

The user will need to provide the username & password to continue

3.2 Main Screen

After login to the system, a main screen will be appeared. This will be the main form where the user interacts with the system. The form will look like this:



The main screen for 'Newbee shop' has a dark teal sidebar with icons for Order, Menu, Book, VIP, Staff, Stock, and Transaction history. The main area is titled 'Create vouchers' and includes a search bar. A table displays voucher data with columns for OrderID, ChargedMoney, TotalPayment, Status, PriorityNumber, and DateCreated. At the bottom, there are 'Create', 'Update', and 'Cancel' buttons. The sidebar also shows the user is logged in as 'Pham Tran Phu Quoc (Manger)' with a 'Log out' button.

OrderID	ChargedMoney	TotalPayment	Status	PriorityNumber	DateCreated
DIORVN_220517_3	-17500	332500	Processing	3	5/22/2017 10:31 AM
DIORVN_220517_4	453862.5	453862.5	Processing	1	5/22/2017 10:39 AM
DIORVN_220517_5	190000	190000	Processing	4	5/22/2017 10:53 AM
DIORVN_230517_1	218500	218500	Processing	0	5/23/2017 2:42 PM

In the left will be the menu tab, where the user chooses what fields he/she wants to works with. Below is the logged in information of a staff. There is also a settings button where the user.

In the middle is the data grid view which will appear the list of object on the system based on the fields he/she chooses to works with

3.3 Data Working Screen

The user can click the row header to see the detailed information of the object, The display form varies based on the type of object he/she chooses to view, but the form will be similar to this”

Order detail

Bill code : DIORVN_220517_4

Date created : 5/22/2017 10:39:47 AM

Dishes & Drinks : Espresso (Short Black) x2
Double Espresso (Doppio) x5
Short Macchiato x3

Books :

Priority : 1

VIP : 1 ☒

Voucher : Nhập code voucher

Old slip :

Status : Processing

Created by : Phạm Trần Phú Quốc

Grand total : 453862.5

Amount tendered : 0

Change given : 453862.5

Thông tin cơ bản về hóa đơn mượn sách cũ gồm ngày mượn, số ngày quá hạn và số tiền quá hạn. Tiền quá hạn tự thêm vào total payment. Chỉ khi ô checkbox bên cạnh book code đc check thì mới hiện ra khung này

OK

In the view mode, fields will be disabled to indicate that users can't change values of these field.

In the main form, there are some buttons such as: add, update, delete to allow users to add, update or delete an object in the system. When he/she press the button, a form which is similar to view form will appear, but fields are enabled to allow changing or adding objects. Note that some fields that are generated automatically are disabled to prevent user changes. When he/she confirm, a message will appear to confirm the status of the data

Newbee shop

Order

Menu

Book

VIP

Staff

Stock

Transaction history

Logged in as:

Nguyễn Văn An (Keeper)

Log out

View wishlist

Input search keyword...

BookID	BookTitle	BookStatus	PublisherName
3	Th...		NXB Kim Dong
BK_Swo_4	Sw...		NXB Kim Dong
1	A2		VIET NA12312312M
2			3Dan Brown

Book detail

Book code :

Status : Available

Title : Cafe Tony

Author :

Location :

Pulisher :

Pulish Date :

60000

Success Notification

Add/Update a book successfully

OK

Add book

Add

Update

Delete

When adding or updating information, a form will appear allow users to choose items:

Select dishes & drinks

Input search keyword...

Name	Price	Status	Description
Double Espresso ...	40000	Available	Coffee
Short Macchiato	50000	Available	Coffee

Add

Input search keyword...

Name	Price	Status	Description
Espresso (Short ...	50000	Available	Coffee

Remove

Confirm

The data grid view in the left is the available items, and the data grid view in the right is the selected items. Users can use the add button to move an item from “Available” to “Selected” & remove button to do otherwise. Sometimes users will need to change quantity of the selected item. He/she will choose the quantity fields & double click to edit. When done, he/she will click “OK” to continue.

Schedule ✕							
Previous	22/05/2017 - 28/05/2017						Next
	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
07:00 - 14:00	Nguyễn Thị Khánh Vân (Cashier) Trần Ngọc Anh (Staff)	Test1234 (Cashier)	Test1234 (Cashier)	(No data)	(No data)	(No data)	(No data)
14:00 - 21:00	(No data)	(No data)	(No data)	(No data)	Nguyễn Thị Khánh Vân (Cashier)	(No data)	(No data)

This is the schedule form that allow staffs to see the schedule

In the main form, there is a search box in the top right, where you can input data you want to search and press the search icon to search. If the user need to do advance search, he/she will click the search icon without input anything, then an advance search form will appear

Newbee shop ✕

Order

Menu

Book

VIP

Staff

Stock

Transaction history

Logged in as:
Test1234
(Cashier)

Log out

View schedule

Create schedule

Input search keyword... 🔍

	Full Name	Current Position	Current Salary Per Hour	Staff ID	Staff Status	Working Hours	Description	Occupation	Address	Civilian ID	Contact
▶	Test1234	Cashier	12000	1	Not Working	29	dfg	Doctor	Test	583745	0123

Advance search ✕

Filter 1 : in

NOT ☐ Filter 2 : in

NOT ☐ Filter 3 : in

Search

Add

Update

In this form the user can input information & press search to search for data he/she wants.