MILITARY TECHNICAL ACADEMY FACULTY OF INFORMATION TECHNOLOGY

HOTEL MANAGEMENT SOFTWARE DESIGN DOCUMENT

Ha Noi, 12/2018

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1. Introduce

1.1. Purpose of document

This is a detailed description of bookstore management software design, which is the basis for programming functions as well as scripting testing and program testing.

1.2. *Scope*

Documentation is the result of the software design process, which is the communication basis of the developer, which is the basis for testing, commissioning, maintenance, and provision of book management functions.

1.3. Definitions.

Configuration	Definition	Explaining
BSM	Bookstore Management	Name of project
GB	Group book	
DB	Database	Where to store information and allow access.
PK	Primary Key	Main key
UK	Unique Key	Unique key

1.4. References

Number	Name of document	File Name
1	Requirements specification document	Requirements specification document.doc

1.5. Document description

The structure of the document consists of 5 parts:

• **Part 1 - Introduce**: General introduction of the document, help the reader visualize the content, purpose and general layout of the document.

- Part 2 Software Overview: Pose the most basic requirements that software must have.
- Part 3 Architectural Design.: Building architectural models and describing system architecture.
- Part 4 Data Structure Design: Describe data dictionary and build data dictionary.
- Part 5 Design components (module): Design subsystems of the system.
- Part 6 User Interface Design: An overview of the interfaces, interface images, and accompanying operations.

2. Overview of software

Book management software must response the following general requirements:

- Administering users by access.
- Process catalog update, update data, update user information.

3. Architectural design

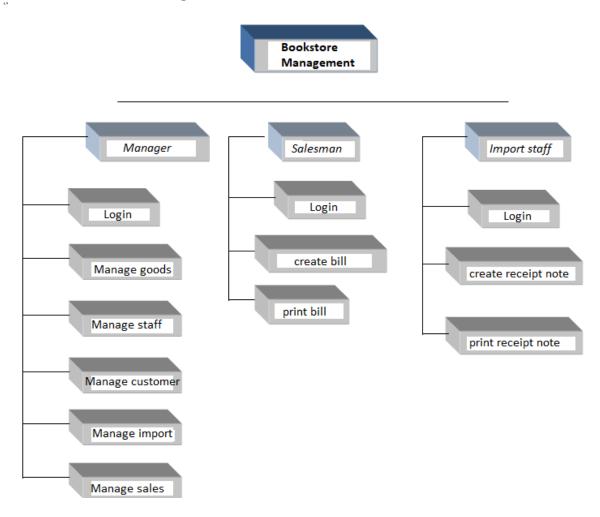
3.1. Architectural models

The system is divided into 3 modules as follows:

- General Management module: Perform functions related to updating goods, staff, customers, import operations, sales.
- Sales Modules: Create and print bill.
- Import module: Create and print receipt note.

Physical architecture: The Client-Server architecture consists of two distinct components: the server plays the role of providing functionality and storing data, and the client as a consumer uses those functions.

3.2. Architectural description



4. Database Design

4.1 Relational Database Design

- Entities

Based on the specific activities of the bookstore management system and based on the above functional decomposition model, we identify the entities:

- + Book
- + Stationary
- + Staff
- + Customer
- + Bill
- + Detail of Bill (Book and Stationary)
- + Receipt note
- + Detail of Receipt note (Book and Stationary)
- + Manufacturer

- Relationship between entities

- + Staff create bill
- + Bill contains information of goods(Book and Stationary) sold
- + Staff create receipt note
- + Receipt note contains information of goods(Book and Stationary) imported.
- + Customer buy book
- + Customer buy Stationary.
- + Import goods from Manufacturer

4.2 Database Design

- Specification tables

+ BOOK

Number	Attribute	Data type	Constraint	Note
1	IDB	nchar(10)	Primary	ID of
			key	book
2	NAMEB	nvarchar(50)		Name
				of book
3	PUBLISHING_HOUSE	nvarchar(50)		
4	QUANTITY	Int		

5	PRICE	Int
6	SALEOFF	Float
7	AUTHOR	nvarchar(50)
8	KIND	nvarchar(50)

+ STATIONARY

Number	Attribute	Data type	Constraint	Note
1	IDSTA	nchar(10)	Primary	ID of
			key	stationary
2	NAMESTA	nvarchar(50)		Name of
				stationary
3	SALEOFF	float		
4	PRICE	Int		
5	QUANTITY	Int		
6	UNIT	Nchar(10)		

+ STAFF

Number	Attribute	Data type	Constraint	Note
1	IDS	nchar(10)	Primary	ID of satff
			key	
2	NAME	nvarchar(50)		Name of
				staff
3	DATEOFBIRTH	date		
4	GENDER	Nchar(3)		
5	ADDRESS	Nvarchar(50)		
6	PHONE_NUMBER	int		
7	DATE	date		Date start
				working
8	FUNTION	nvarchar(50)		

+ CUSTOMER

Number	Attribute	Data type	Constraint	Note
1	ID	nchar(10)	Primary	ID of staff
			key	
2	NAME	nvarchar(50)		Name of
				staff
3	DATEOFBIRTH	nvarchar(50)		
4	GENDER	Nvarchar(3)		
5	PHONENUMBER	Int		
6	ADDRESS	nvarchar(50)		

+ BILL

Number	Attribute	Data type	Constraint	Note
1	IDB	nchar(10)	Primary	ID of bill
			key	
2	IDS	nchar(10)		ID of staff
3	IDC	nchar(10)		ID of
				customer
4	DATE	date		

+ **DETAILBSTA**

Number	Attribute	Data type	Constraint	Note
1	IDDBSTA	nchar(10)	Primary key	ID of stationary
				sold
2	IDSTA	nchar(10)		ID of stationary
				sold
3	QUANTITY	nchar(10)		

+ **DETAILBB**

Number	Attribute	Data type	Constraint	Note
1	IDDBB	nchar(10)	Primary key	ID of book sold
2	IDB	nchar(10)		ID of book sold
3	QUANTITY	nchar(10)		

+ MANUFACTURE

Number	Attribute	Data type	Constraint	Note
1	IDMANU	nchar(10)	Primary	ID of
			key	manufacturer
2	NAME	nvarchar(50)		
3	PHONE_NUMBER	int		
4	ADDRESS	Nvarchar(50)		

+ RECEIP_NOTE

Number	Attribute	Data type	Constraint	Note
1	IDRCN	nchar(10)	Primary key	ID of receipt note
2	IDS	nchar(10)		ID of staff
3	IDMANU	nchar(10)		ID of manufacture
4	DATE	date		

+ DETAILRCNSTA

Number	Attribute	Data type	Constraint	Note
1	IDRCN	nchar(10)	Primary key	ID of stationary
				imported
2	IDS	nchar(10)		ID of stationary
				imported
3	QUANTITY	nchar(10)		
4	INPUT_PRICE	int		

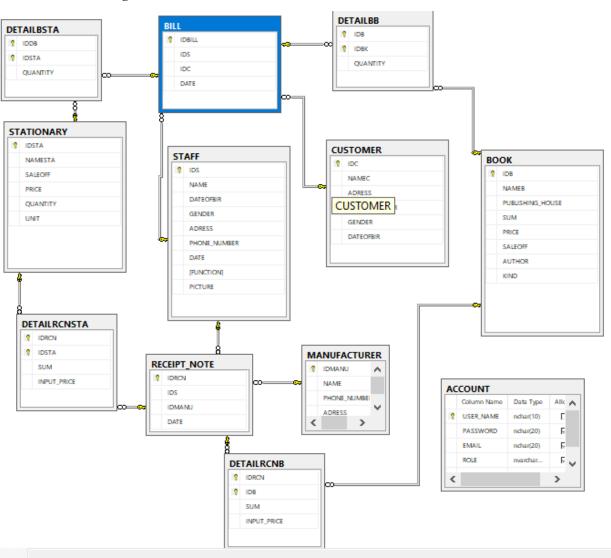
+ DETAILRCNB

Number	Attribute	Data type	Constraint	Note
1	IDDBB	nchar(10)	Primary key	ID of book
				imported
2	IDB	nchar(10)		ID of book
				imported
3	QUANTITY	nchar(10)		
4	INPUT_PRICE	int		

+ ACCOUNT

Number	Attribute	Data type	Constraint	Note
1	USERNAME	nchar(10)	Primary key	ID of book
				imported
2	PASSWORD	nchar(20)		ID of book
				imported
3	EMAIL	nchar(20)		
4	ROLE	nvarchar(50)		

4.3 Database diagrams



5. Component design

- 5.1 Manager
- 5.1.1 Manage book
- Function information: Allow manager update (insert, edit, delete) book information
- Input: Book information
- Output: Book information was updated
- Describe the steps:
 - + Step 1: Show form display book information
 - + Step 2: Manager enter information
 - + Step 3: Confirm information and display result
- 5.1.2 Manage stationary
- Function information: Allow manager update (insert, edit, delete) stationary information
- Input: Stationary information
- Output: Stationary information was updated
- Describe the steps:
 - + Step 1: Show form display stationary information
 - + Step 2: Manager enter information
 - + Step 3: Confirm information and display result
- 5.1.3 Manage staff
- Function information: Allow manager update (insert, edit, delete) staff information
- Input: Staff information
- Output: Staff information was updated
- Describe the steps:

- + Step 1: Show form display staff information
- + Step 2: Manager enter information
- + Step 3: Confirm information and display result

5.1.4 Manage customer

- Function information: Allow manager update (insert, edit, delete) customer information
- Input: Customer information
- Output: Customer information was updated
- Describe the steps:
 - + Step 1: Show form display customer information
 - + Step 2: Manager enter information
 - + Step 3: Confirm information and display result

5.1.5 Manage sales

- Function information: Allow manager update (insert, edit, delete) sales information
- Input: Sales information
- Output: Sales information was updated
- Describe the steps:
 - + Step 1: Show form display sales information
 - + Step 2: Manager enter information
 - + Step 3: Confirm information and display result

5.1.6 Manage importing

- Function information: Allow manager update (insert, edit, delete) importing information
- Input: Importing information
- Output: Importing information was updated

- Describe the steps:
 - + Step 1: Show form display importing information
 - + Step 2: Manager enter information
 - + Step 3: Confirm information and display result
- 5.1.7 Manage account
- Function information: Allow manager list of account information
- Input: Account list information
- Output: Account list information was updated
- Describe the steps:
 - + Step 1: Show form display list of account
 - + Step 2: Manager choose account will be remove
 - + Step 3: Account deleted
- 5.2 Salesman
- 5.2.1 Create bill
- Function information: Allow salesman create bill when have customer buy goods
- Input: Information of goods and customer
- Output: Bill was created
- Describe the steps:
 - + Step 1: Show form create bill
 - + Step 2: Salesman enter information
 - + Step 3: Confirm information and display result
- 5.2.2 Print bill
- Function information: Allow salesman print bill chose
- Input: Information of bill
- Output: Bill was printed

- Describe the steps:
 - + Step 1: Show form bill information
 - + Step 2: Salesman chose bill will be printed
 - + Step 3: Confirm information and display result
- 5.3 Import staff
- 5.3.1 Create receipt note
- Function information: Allow import staff create receipt note when import goods
- Input: Information of goods and manufacturer
- Output: Receipt note was created
- Describe the steps:
 - + Step 1: Show form create receipt note
 - + Step 2: Import staff enter information
 - + Step 3: Confirm information and display result
- 5.3.2 Print receipt note
- Function information: Allow import staff print receipt note
- Input: Information of receipt note
- Output: Receipt note was printed
- Describe the steps:
 - + Step 1: Show form receipt note information
 - + Step 2: Import staff chose receipt note will be printed
 - + Step 3: Confirm information and display result

6. User interface design

6.1 FormLogin



ID	Name	Туре	Note	Describe
1	txtUserName	Textbox	None	Allow the user to enter username
2	txtPassword	Textbox	PasswordChar = *	Allow the user to enter Password
3	btnLogIn	Botton	None	When the user click the button, the system check the values of texboxs, if information is correct, announces to user log in

				successfully, the system
				will hide this form and
				load FormMain
4	btnExit	button	none	Exit
5	linkForget	linklabel	none	Reset password
6	linkRegister	linklabel	none	Register Account

6.2 FormForgetAccount



ID	Name	Туре	Note	Describe
1	txtUserName	MaskedText box	none	Allow the user enter User Name
2	txtEmail	MaskedText box	none	Allow the user enter Email

3	txtPassword	MaskedText	PasswordChar = *	Allow the user to
		box		enter password
4	txtConfirmPass	MaskedText	PasswordChar = *	Allow the user to
		box		enter password to
				confirm
5	btnRegister	button	none	Register
6	btnExit	button	none	Exit

6.3 FormRegister



ID	Name	Туре	Note	Describe
1	txtUserName	MaskedText	none	Allow the user enter
		box		User Name

2	txtEmail	MaskedText box	none	Allow the user enter Email
3	txtPassword	MaskedText box	PasswordChar = *	Allow the user to enter password
4	txtConfirmPass	MaskedText box	PasswordChar = *	Allow the user to enter password to confirm
5	btnRegister	button	none	Register
6	btnExit	button	none	Exit

6.4 FormMain



ID	Name	Type	Note	Describe
1	btnBook	Button	none	when the users click this button, the system will show FormBook which shows list of book and information of each book
2	btnStationary	Button	none	when the users click this button, the system will show FormStationary which shows list of stationary and information of each stationary
3	btnsSaff	Button	none	when the users click this button, the system will show FormStaff which shows list of staff and information of each staff
4	btnCustomer	Button	none	when the users click this button, the system will show FormCustomer which shows list of customer and information of each customer
5	btnSale	Button	none	when the users click this button, the system will show FormSale which shows list of bill and information of each bill
6	btnImport	Button	none	when the users click this button, the system will show FormImport which shows list of receipt note and information of each note

7	btnAccount	Button	none	when the users click this button, the
				system will show FormAccount
				which shows list of account.
				Manager can delete account
8	panelMain	Panel	none	Load user control when users click fuction buttons

6.5 FormBook

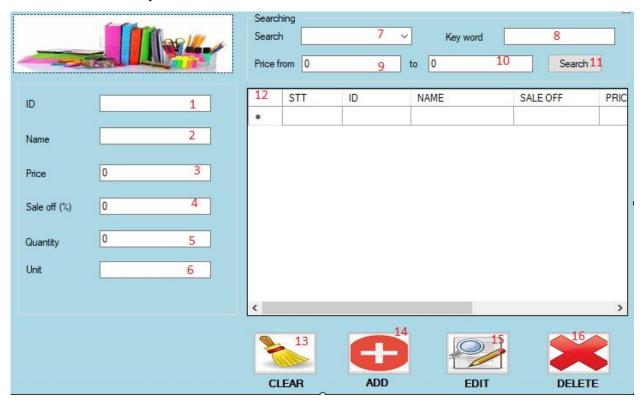


ID	Name	Туре	Note	Describe
1	txtId	textbox	none	Allow the user to enter id of book and display id when user
				click on a row in datagridview

		1		A11
2	txtName	textbox	none	Allow the user to enter Name and display name when user click on a row in datagridview
3	txtKind	Textbox	none	Allow the user to enter group book and display kind of book when user click on a row in datagridview
4	txtAuthor	textbox	none	Allow the user to enter author and display author when user click on a row in datagridview
5	txtPub	textbox	none	Allow the user to enter Publishing house and display publishing house when user click on a row in datagridview
6	txtQuantity	textbox	none	Allow the user to enter quantity and display quantity when user click on a row in datagridview
7	txtPrice	textbox	none	Allow the user to enter price and display price when user click on a row in datagridview
8	txtSaleOff	textbox	none	Allow the user to enter percent of saleoff and display percent of sale off when user click on a row in datagridview
9	cmbSearch	combobox	none	Display area to find
10	txtKey	textbox	none	Display key to find
11	txtPriceFrom	textbox	none	Allow users enter price need to find

12	txtPriceTo	textbox	none	Allow users enter price need to find
13	btnSearch	button	none	Search book have price entered
14	dgvbook	DataGridView	none	Display list of book. When the user clicks a cell, display information of book who is selected
15	btnClear	button	Visible =False	Clear all text in textbox
16	btnAdd	button	Visible =False	Add a book with information inputted
17	btnEdit	button	Visible =False	Edit information of book selected when have changing or it is not true
18	btnDelete	button	none	Delete book is not sold

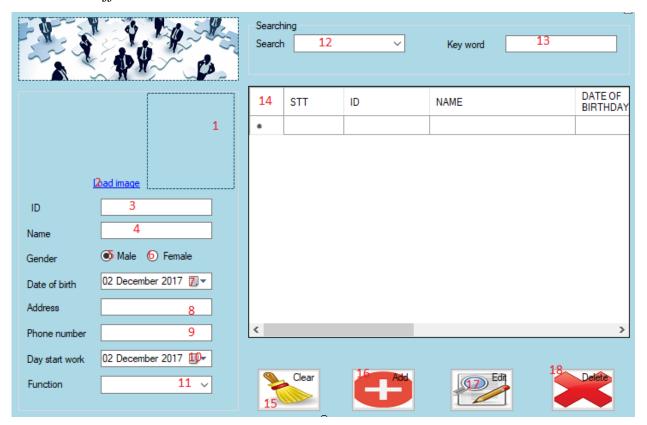
6.6 FormStationary



ID	Name	Туре	Note	Describe
1	txtId	textbox	none	Allow the user to enter id of book and display id when user click on a row in datagridview
2	txtName	textbox	none	Allow the user to enter Name and display name when user click on a row in datagridview
3	txtPrice	textbox	none	Allow the user to enter price and display price when user click on a row in datagridview
4	txtSaleOff	textbox	none	Allow the user to enter percent of saleoff and display percent of sale off when user click on a row in datagridview

5	txtQuantity	textbox	none	Allow the user to enter quantity and display quantity when user click on a row in datagridview
6	txtUnit	textbox	none	Allow the user to enter unit and display unit when user click on a row in datagridview
7	cmbSearch	combobox	none	Display area to find
8	txtKey	textbox	none	Display key to find
9	txtPriceFrom	textbox	none	Allow users enter price need to find
10	txtPriceTo	textbox	none	Allow users enter price need to find
11	btnSearch	button	none	Search stationary have price entered
12	dgvStationary	DataGridView	none	Display list of stationary. When the user clicks a cell, display information of sattionary which is selected
13	btnClear	button	Visibl e =False	Clear all text in textbox
14	btnAdd	button	Visibl e =False	Add a stationary with information inputted
15	btnEdit	button	Visibl e =False	Edit information of stationary selected when have changing or it is not true
16	btnDelete	button	none	Delete stationary is not sold

6.7 FormStaff



ID	Name	Type	Note	Describe
1	pictureStaff	picturebox	none	Show staff's picture
2	LinkImage	linklabel	none	Link to image file
3	txtId	Textbox	none	Allow the user to enter id and show id staff when click on a row in the datagridview
4	txtName	Textbox	none	Allow the user to enter Name
5	radioMale	radiobutton	none	Allow the user choose gender
6	radioFemale	radiobutton	none	Allow the user choose gender
7	DateOfBirth	DateTimePicker	none	Display Birthday of the staff, allow enter day of birth
8	txtAddress	Textbox	none	Display Addresss of the staff,

				Allow enter address
9	txtPhone	textbox	none	Display phone number of the staff, allow enter phone number
10	DateStart	DateTimePicker	none	Display date start working of the staff, allow enter date start work
11	cbFunction	combobox	none	Display function of staff and allow choose function
12	cbSearch	combobox	none	Display area users choose to find
13	txtKey	textbox	none	Display key to find
14	DgvStaff	DataGridView	none	Display list of staff.
				When the user clicks a cell, display information of staff which is selected
15	btnClear	Button	none	Clear all text in textbox, combobox, datetimepicker
16	btnAdd	Button	none	Add a staff with information entered
17	btnEdit	Button	none	Edit information of staff selected when have changing or it is not true
18	btnDel	button	none	Delete staff if staff don't work at store

6.8 FormCustomer



ID	Name	Туре	Note	Describe
1	txtId	Textbox	none	Allow the user to enter id and display id when users click on a row in the datagridview
2	txtName	Textbox	none	Allow the user to enter name, display name when users click on a row in the datagridview
3	radioMale	Textbox	none	Allow the user choose gender
4	radioFemale	Textbox	none	Allow the user choose gender

5	DateOfBirth	DateTimePicke r	none	Display Birthday of the customer, allow enter day of birth
6	txtAddress	Textbox	none	Display Address of the customer, allow enter address
7	txtPhoneNumber	textbox	none	Display Phone Number of the customer, allow enter phone number
8	cbSearch	combobox	none	Display area which user choose to find
9	txtKey	textbox	none	Display key to find
10	DgvCustomer	DataGridView	none	Display list of customer. When the user clicks a cell, display information of customer who is selected
11	btnClear	Button	Visible =False	Clear all text in textbox, datetimepicker which are displaying information of customer
12	btnAdd	Button	Visible =False	Add a customer with information entered
13	btnEdit	button	Visible =False	Edit information of customer selected when have changing or it is not true
14	btnDelete	button	none	Delete customer

6.9 FormSale

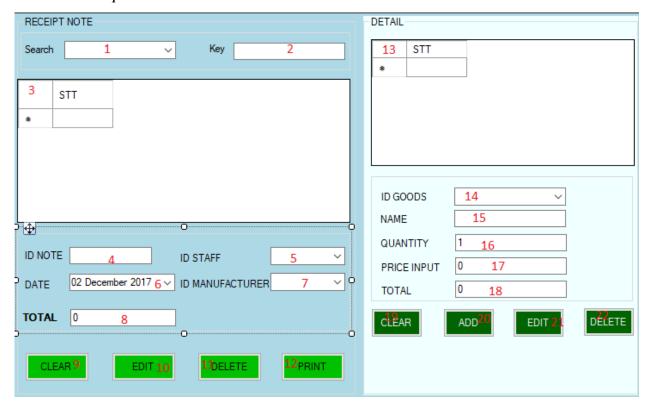


STT	Name	Туре	Note	Describe
1	cbSearch	combobox	None	Allow users choose area to find
2	txtKey	textbox	None	Allow users enter key to find
3	dgvBill	datagridview	None	Display list of bill
4	txtIdBill	textbox	None	Display id of bill when users click on a row in the datagidview and allow users enter id of bill
5	cbIdStaff	combobox	none	Display id of staff create bill when users click on a row in the datagidview and allow users enter id of the staff

6	cbIdCustomer	combobox	None	Display id of customer bought goods when users click on a row in the datagidview and allow users enter id of customer
7	DateBill	datetimepicker	None	Display day create bill when users click on a row in the datagidview and allow users enter day create bill
8	txtTotal	textbox	None	Display total of bill when users click on a row in the datagidview and allow users enter total of bill
9	btnClear	button	None	Clear all text on textbox,combobox,
10	btnEdit	button	N one	Edit information of bill selected when have changing or it is not true
11	btnDelete	Button	None	Delete bill
12	btnPrint	Button	None	Print bill
13	dgvDetail	Datagridview	None	Display list of bill
14	cbIdGoods	Combobox	None	Display id of goods when users click on a row in the datagidview and allow users enter id of goods
15	txtName	Textbox	None	Display name of goods when users click on a row in the datagidview and allow users enter name of goods

16	txtQuantity	Textbox	None	Display quantity of goods when users click on a row in the datagidview and allow users enter quantity of goods
17	txtCost	Textbox	None	Display cost of goods when users click on a row in the datagidview and allow users enter cost of goods
18	txtTotalDetail	Textbox	None	Display total of goods when users click on a row in the datagidview and allow users enter total of goods
19	btnClear	Button	None	Clear all text on textbox,combobox,
20	btnAdd	Button	None	Add a bill with information entered
21	btnEdit	Button	None	Edit information of goods selected when have changing or it is not true
22	btnDelete	Button	None	Delete goods

6.10 FormImport

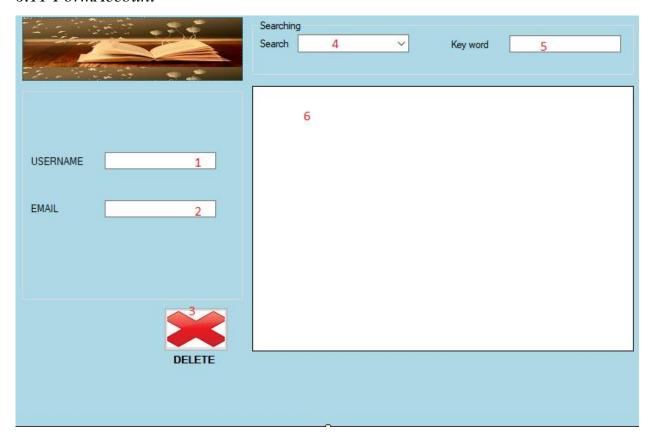


STT	Name	Туре	Note	Describe
1	cbSearch	combobox	None	Allow users choose area to find
2	txtKey	textbox	None	Allow users enter key to find
3	dgvReceiptNote	datagridview	None	Display list of receipt note
4	txtIdNote	textbox	None	Display id of receipt note when users click on a row in the datagidview and allow users enter id of receipt note
5	cbIdStaff	combobox	none	Display id of staff create receipt note when users click on a row in the

				datagidview and allow users enter id of the staff
6	cbIdManufacturer	combobox	None	Display id of manufacturer when users click on a row in the datagidview and allow users enter id of manufacturer
7	DateImport	datetimepicker	None	Display day import goods when users click on a row in the datagidview and allow users enter day create note
8	txtTotal	textbox	None	Display total of receipt note when users click on a row in the datagidview and allow users enter total of receipt note
9	btnClear	button	None	Clear all text on textbox,combobox,
10	btnEdit	button	N one	Edit information of receipt note selected when have changing or it is not true
11	btnDelete	Button	None	Delete receipt note
12	btnPrint	Button	None	Print receipt note
13	dgvDetail	Datagridview	None	Display list of receipt note
14	cbIdGoods	Combobox	None	Display id of goods when users click on a row in the datagidview and allow users enter id of goods

15	txtName	Textbox	None	Display name of goods when users click on a row in the datagidview and allow users enter name of goods
16	txtQuantity	Textbox	None	Display quantity of goods when users click on a row in the datagidview and allow users enter quantity of goods
17	txtCost	Textbox	None	Display cost of goods when users click on a row in the datagidview and allow users enter cost of goods
18	txtTotalDetail	Textbox	None	Display total of goods when users click on a row in the datagidview and allow users enter total of goods
19	btnClear	Button	None	Clear all text on textbox,combobox,
20	btnAdd	Button	None	Add a bill with information entered
21	btnEdit	Button	None	Edit information of goods selected when have changing or it is not true
22	btnDelete	Button	None	Delete goods

6.11 FormAccount



ID	Name	Type	Note	Describe
1	txtUserName	textbox	none	Allow the user to display username and display username when users click on arrow in the datagridview
2	txtEmail	textbox	none	Allow the user to display email and display email when users click on arrow in the datagridview
3	btnDelete	button	none	Delete account
4	cmbSearch	combobox	none	Display area to search
5	txtKey	textbox	none	Display key
6	dgvAccount	datagridview	none	Display list of account