

Milk Tea Management

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Introduction

1. **The Object of The Project:**

This project will aim at creation of a Milk Tea management system. This system can use for any company that want to manage and sale using to ordering food. This system can see at any usually store like Coffee Shop, Milk Tea Shop and anymore, especially this system can print bill and manage all the bill of the shop that create in period of time.

1. **Functional:**

Following is a list of functionalities of the system. More functionalities that you find appropriate can be added to this list.

* Admin:
* Function 1: Login.
* Function 1.1: Close Login form.
* Function 2: Food management.
* Function 2.1: Add food.
* Function 2.2: Update food.
* Function 2.3: Delete food.
* Function 2.4: Refresh.
* Function 2.5: Close Food management form.
* Function 3: Category management.
* Function 3.1: Add category.
* Function 3.2: Remove category.
* Function 3.3: Refresh.
* Function 3.4: Close category management form.
* Function 4: Receipt.
* Function 4.1: Add new food to list.
* Function 4.2: Remove food from list.
* Function 4.3: Payment.
* Function 4.4: Close Receipt form.
* Function 5: Report Bill.
* Function 5.1: Statistical.
* Function 5.2: Close report bill form

1. **Technology:**

Technology we used in this project:

* Github: Use to manage project and source code.

\_Help to track progress of members participating in this project.

\_Save source code and continue coding whenever the team member is.

* Draw.io: Use to draw all diagram in this project (Class, use case diagrams).
* Visual Studio 2019: WinForm with MVP & 3 Tier layer

Use case and Diagrams

1. **Use case diagram:**

**Diagram, schematic

Description automatically generated**

**USE CASE SPECIFICATION**

1. **Actor:**

* **Administrator:** The person(s) that manage and maintain this apps.

1. **Use case specification:**

|  |  |
| --- | --- |
| **Usecase** | Login |
| **Actor** | Administrator |
| **Short Description** | Log in user to use any function of member. |
| **Pre-Conditions** | Have an account |
| **Post-Conditions** | Log in as user account |
| **Main flow** | \_Inputs the login information:   * Login ID. * Password.   \_Clicks on the Login button.  \_System checking the Login ID and Password.  \_If Login ID and Password are valid, system will move member to Homepage. |
| **Alternative flow(s)** | \_If user back to login form to re-enter, the User ID field and Password field will be blank.  \_If User ID field or Password field is invalid form or blank when user clicks on the “Login” button, system will notify the error. After that the system will show login form again to let user re-insert UserID and password. |

|  |  |
| --- | --- |
| **Use case** | Close Login form |
| **Actor** | Administrator |
| **Short Description** | Close Login form |
| **Pre-Conditions** | Display login form |
| **Post-Conditions** |  |
| **Main flow** | \_Close Login form exit program. |
| **Alternative flow(s)** |  |

|  |  |
| --- | --- |
| **Use case** | Display Milk Tea Management system form |
| **Actor** | Admin |
| **Short Description** | Show main form |
| **Pre-Conditions** | Login successful |
| **Post-Conditions** |  |
| **Main flow** | \_Customer access Milk tea management system form(Main form).  \_ On this form user can choose to do specific function to access that form: Manager Milk Tea, Manager Category, Receipt Management… |
| **Alternative flow(s)** |  |

|  |  |
| --- | --- |
| **Use case** | Display Manager Category form |
| **Actor** | Administrator |
| **Short Description** | Show Category management form. |
| **Pre-Conditions** | User access to Milk tea management system form. |
| **Post-Conditions** |  |
| **Main flow** | \_Customer access Category management form.  \_ On this form user can choose to do specific function to do like: Add new category, Update category, Delete category, Refresh, Close. |
| **Alternative flow(s)** |  |

|  |  |
| --- | --- |
| **Use case** | Add new category |
| **Actor** | Administrator |
| **Short Description** | Add new category. |
| **Pre-Conditions** | Access to Category management form. |
| **Post-Conditions** |  |
| **Main flow** | \_Customer access Category management form.  \_ Fill all text field: ID, Name.  \_The system will check if user input ID and Name in correct form.  \_If the ID and Name is not valid, show Message and reload Category management form so that the user can re-input information. |
| **Alternative flow(s)** |  |

|  |  |
| --- | --- |
| **Use case** | Update category |
| **Actor** | Administrator |
| **Short Description** | Update category on the list |
| **Pre-Conditions** | Access to Category management form. |
| **Post-Conditions** | There must have one category on the list |
| **Main flow** | \_Customer access Category management form.  \_User choose any category on the list.  \_Information of that category user choose will show on text field.  \_User can change information of that category by changing ID or Name on that text field.  \_The Information user change must in correct form or else the system will show message and let user re-input again. |
| **Alternative flow(s)** | \_If user click on update without enter category’s name or choose available category on table, the system will show notification. |

|  |  |
| --- | --- |
| **Use case** | Delete category |
| **Actor** | Administrator |
| **Short Description** | Delete category on the list |
| **Pre-Conditions** | Access to Category management form. |
| **Post-Conditions** | There must have one category on the list |
| **Main flow** | \_Customer access Category management form.  \_User Input Category’s ID or choose any available category on the list.  \_Click Delete button, the system will delete that category base on the Category’s ID user input or choose on the table. |
| **Alternative flow(s)** | \_If user click on Delete without input Category’s ID or choose on table.  The system will show message and return to Category management form to let user input ID or choose on the category table. |

|  |  |
| --- | --- |
| **Use case** | Refresh |
| **Actor** | Administrator |
| **Short Description** | Refresh ID and Name text field |
| **Pre-Conditions** |  |
| **Post-Conditions** |  |
| **Main flow** | \_Click Refresh button.  \_The system will refresh all text field to blank. |
| **Alternative flow(s)** |  |

|  |  |
| --- | --- |
| **Use case** | Close Category management form |
| **Actor** | Administrator |
| **Short Description** | Close Category management form |
| **Pre-Conditions** | Display Category management form |
| **Post-Conditions** |  |
| **Main flow** | \_Click close button.  \_The system will close the Category management form. |
| **Alternative flow(s)** |  |

|  |  |
| --- | --- |
| **Use case** | Display Milk Tea Management form |
| **Actor** | Administrator |
| **Short Description** | Show Milk tea management form. |
| **Pre-Conditions** | User access to Milk tea management system form. |
| **Post-Conditions** |  |
| **Main flow** | \_Customer access Milk tea management form.  \_ On this form user can choose to do specific function to do like: Add new food, Update food, Delete food, Refresh, Close. |
| **Alternative flow(s)** |  |

|  |  |
| --- | --- |
| **Use case** | Add new food |
| **Actor** | Administrator |
| **Short Description** | Add new food to list |
| **Pre-Conditions** | Access to the Milk tea management form |
| **Post-Conditions** |  |
| **Main flow** | \_User need to fill information to text fields: ID, Name, Price, Quantity and choose Category and add Image.  \_The system will check if input information is in correct form and text field is not blank.  Else the system will show notification and let user re-input that text field. |
| **Alternative flow(s)** | If user click add button without input any text field. The system will show message and let user re-input text field. |

|  |  |
| --- | --- |
| **Use case** | Update food |
| **Actor** | Administrator |
| **Short Description** | Update food on the list |
| **Pre-Conditions** | Access to the Milk tea management form |
| **Post-Conditions** | There must have one food on the list |
| **Main flow** | \_Customer access Milk tea management form.  \_User chose any food on the list.  \_Information of that food user choose will show on text field.  \_User can change information of that food by changing Name, Price, Quantity, Category, Add other image.  \_The Information user change must in correct form or else the system will show message and let user re-input again. |
| **Alternative flow(s)** | \_If user click on update without choose any available food on table, the system will show notification and let user re-input again. |

|  |  |
| --- | --- |
| **Use case** | Delete food |
| **Actor** | Administrator |
| **Short Description** | Delete food on the list |
| **Pre-Conditions** | Access to the Milk tea management form |
| **Post-Conditions** | There must have one food on the list |
| **Main flow** | \_Customer access Milk tea management form.  \_User Input Food’s ID or choose any available category on the list.  \_Click Delete button, the system will delete that category base on the Food’s ID user input or choose on the table. |
| **Alternative flow(s)** | \_If user click on Delete without input Food’s ID or choose on table.  The system will show message and return to Milk tea management form to let user input ID or choose on the food table. |

|  |  |
| --- | --- |
| **Use case** | Refresh |
| **Actor** | Administrator |
| **Short Description** | Refresh all text field |
| **Pre-Conditions** |  |
| **Post-Conditions** |  |
| **Main flow** | \_Click Refresh button.  \_The system will refresh all text field to blank. |
| **Alternative flow(s)** |  |

|  |  |
| --- | --- |
| **Use case** | Close Milk tea management form |
| **Actor** | Administrator |
| **Short Description** | Close Milk tea management form |
| **Pre-Conditions** | Display Milk tea management form |
| **Post-Conditions** |  |
| **Main flow** | \_Click close button.  \_The system will close the Milk tea management form. |
| **Alternative flow(s)** |  |

|  |  |
| --- | --- |
| **Use case** | Display Create Bill form |
| **Actor** | Administrator |
| **Short Description** | Show Create Bill management form. |
| **Pre-Conditions** | User access to Milk tea management system form. |
| **Post-Conditions** |  |
| **Main flow** | \_Customer access Create Bill management form.  \_ On this form user can choose to do specific function to do like: Add food to bill, Remove food form bill, Close. |
| **Alternative flow(s)** |  |

|  |  |
| --- | --- |
| **Use case** | Add new food |
| **Actor** | Administrator |
| **Short Description** | Add new food to Bill |
| **Pre-Conditions** | Access to the Create Bill form |
| **Post-Conditions** |  |
| **Main flow** | \_User need to fill information to text fields: ID, Price, Quantity and choose Product on the Product combobox, select discount in nbDiscount,  \_The system will check if input information is in correct form and text field is not blank.  Else the system will show notification and let user re-input that text field. |
| **Alternative flow(s)** | If user click add button without input any text field. The system will show message and let user re-input text field. |

|  |  |
| --- | --- |
| **Use case** | Remove food |
| **Actor** | Administrator |
| **Short Description** | Remove food on bill |
| **Pre-Conditions** | Access to the Create Bill form |
| **Post-Conditions** | There must have one food on the list |
| **Main flow** | \_Customer access Create Bill form.  \_After add food to bill user can select remove on some specific food on bill to remove it. |
| **Alternative flow(s)** |  |

|  |  |
| --- | --- |
| **Use case** | Display Bill Report form |
| **Actor** | Administrator |
| **Short Description** | Show Bill Report form. |
| **Pre-Conditions** | User access to Milk tea management system form. |
| **Post-Conditions** |  |
| **Main flow** | \_Customer access Create Bill management form.  \_ On this form user can choose to do specific function to do like: Select date “Form” and “To” to view list of bill in that period of time. |
| **Alternative flow(s)** |  |

|  |  |
| --- | --- |
| **Use case** | Statistical |
| **Actor** | Administrator |
| **Short Description** | View List of bill in period of time and view total revenue |
| **Pre-Conditions** | Display Bill Report form |
| **Post-Conditions** |  |
| **Main flow** | \_Customer access Create Bill management form.  \_ Select Form and To on date time picker  \_Click Statistical button to display list of bill that the system had created in that period of time |
| **Alternative flow(s)** |  |

|  |  |
| --- | --- |
| **Use case** | Close Bill Report form |
| **Actor** | Administrator |
| **Short Description** | Close Bill Report form |
| **Pre-Conditions** | Display Bill Report form |
| **Post-Conditions** |  |
| **Main flow** | \_Click close button.  \_The system will close the Bill Report form. |
| **Alternative flow(s)** |  |

**CLASS DIAGRAM**

Diagram

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Interface

1. **Login Form:**

Graphical user interface, application, website

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|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Name** | **Type** | **Text** | **Event** | **Description** | **Status** |
| pictureBox1 | Picture Box |  |  | Show picture |  |
| gbxThongTinDangNhap | Group Box | Login Information |  | Group of txt and label |  |
| lblDangNhap | Label | LOGIN |  | “Login Label” |  |
| label1 | Label | UserID |  | “UserID” |  |
| label2 | Label | Password |  | “Password” |  |
| txtUserID | Text Box |  |  | User input user id here |  |
| txtPassword | Text Box |  |  | User input password here |  |
| btnLogin | Button | Login | btnLogin\_Click | Login |  |
| btnClose | Button | Close | btnClose\_Click | Close form |  |

1. **Milk Tea Management System (Main form):**

**Graphical user interface, application

Description automatically generated**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Name** | **Type** | **Event** | **Text** | **Description** | **Status** |
| pictureBox1 | Picture Box |  |  | Show picture |  |
| mnuManager | MenuStrip |  | Manager | This MenuStrip will show menuItem: MilkTea and Category |  |
| mnuMilkTea | MenuItem |  | MilkTea | This MenuItem will open Milk Tea management form when user click |  |
| mnuCategory | MenuItem |  | Category | This MenuItem will open Category management form when user click |  |
| mnutoolReceipt | MenuStrip |  | Receipt | This MenuStrip will show menuItem: Create Bill |  |
| mnuReceipt | MenuItem |  | Create Bill | This MenuItem will open Create Bill form management form when user click |  |
| mnuInformation | MenuStrip |  | Information | This MenuStrip will open Information form when user click |  |
| ReportTollStrip | MenuStrip |  | Report | This MenuStrip will show menuItem: Bill |  |
| BillReport | MenuItem |  | Bill | This MenuItem will open Bill management form management form when user click |  |

**3.Milk tea management form:**

**Table

Description automatically generated with medium confidence**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Name** | **Type** | **Event** | **Text** | **Description** | **Status** |
| txtMilkTeaID | TextBox |  |  | Input ID |  |
| txtMilkTeaName | TextBox |  |  | Input Name |  |
| txtMilkTeaPrice | TextBox |  |  | Input Price |  |
| txtSearch | TextBox |  |  | Input ID to search food on list |  |
| txtMilkTeaQuantity | TextBox |  |  | Input food quantity |  |
| cboCategory | ComboBox |  |  | Choose category |  |
| txtImage | TextBox |  |  | Input Image link |  |
| dgvMilkTea | DataGridView |  |  | Display list of food |  |
| Label1 | Label |  | Manager MilkTea | “Manager MilkTea” |  |
| Label2 | Label |  | ID | “ID” |  |
| Label3 | Label |  | Name | “Name” |  |
| Label4 | Label |  | Price | “Price” |  |
| Label5 | Label |  | Quantity | “Quantity” |  |
| Label6 | Label |  | Image | “Image” |  |
| Label7 | Label |  | Search | “Search” |  |
| Label8 | Label |  | Category | “Category” |  |
| picbMilkTea | PictureBox |  |  | Show image |  |
| btnAddImage | Button | btnAddImage\_Click | Add image | Browse image |  |
| btnRefresh | Button | btnRefresh\_Click | Refresh | Refresh all text field in milk tea management form |  |
| btnAdd | Button | btnAdd\_Click | Add | Add new Food |  |
| btnUpdate | Button | btnDelete\_Click | Delete | Delete Food |  |
| btnDelete | Button | btnUpdate\_Click | Update | Update Food |  |
| btnClose | Button | btnClose\_Click | Close | Close main form |  |

**4.Category Form:**

**Graphical user interface, table

Description automatically generated**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Name** | **Type** | **Event** | **Text** | **Description** | **Status** |
| txtCategoryID | TextBox |  |  | Input CategoryID here |  |
| txtCategoryName | TextBox |  |  | Input Category Name here |  |
| Label1 | Label |  | ID | “ID” |  |
| Label2 | Label |  | Name | “Name” |  |
| dgvCategory | DataGridView |  |  | Display list of category |  |
| btnAddCategory | Button | btnAddCatgegory\_Click | Add | Add new category |  |
| btnUpdateCategory | Button | btnDeleteCategory\_Click | Delete | Delete category |  |
| btnDeleteCategory | Button | btnUpdateCategory\_Click | Update | Update category |  |
| btnCloseCategory | Button | btnCloseCategory\_Click | Close | Close category form |  |
| btnRefreshCategory | Button | btnRefreshCategory\_Click | Refresh | Refresh all text field in category form |  |

**5.Create Bill Form:**

**Graphical user interface

Description automatically generated**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Name** | **Type** | **Text** | **Event** | **Description** | **Status** |
| Informationofmilkteastore | Panel |  |  | Group of txt and label |  |
| lbQuan | Label | LTHM MilkTea |  | “LTHM MilkTea” |  |
| label1 | Label | 152 Nguyễn Thị Định, p12,Quận 5, TP HCM. |  | “ 152 Nguyễn Thị Định, p12,Quận 5, TP HCM. ” |  |
| Label2 | Label | List product: |  | List product:” |  |
| Label3 | Label | ID |  | “ID” |  |
| Label4 | Label | Price |  | “Price” |  |
| Label5 | Label | Quantity |  | “Quantity” |  |
| Label6 | Label | Discount: |  | “Discount:” |  |
| Label7 | Label | Total: |  | “Total:” |  |
| Label8 | Label | Payment: |  | “Payment:” |  |
| Label9 | Label | Balance: |  | “Balance:” |  |
| Label10 | Label | Date: |  | “Date:” |  |
| dgvListFood | DataGridView |  |  | Display List of food |  |
| nbDiscount | NumberricUpDown |  |  | Select discount  (Min 0, Max 100) |  |
| cboFood | ComboBox |  |  | Select food to add |  |
| txtID | TextBox |  |  | Input ID |  |
| txtPrice | TextBox |  |  | Input Price |  |
| txtQuantity | TextBox |  |  | Input Quantity |  |
| txtTotal | TextBox |  |  | Show total when user add food to bill |  |
| txtPayment | TextBox |  |  | Input customer payment |  |
| txtBalance | TextBox |  |  | Show balance |  |
| PickerTime | DateTimePicker |  |  | Set default time of creating bill (day-month-year) |  |
| TimePicker2 | DateTimePicker |  |  | Show default time of creating bill (hour-minute-second) |  |
| btnAddFood | Button | Add |  | Add the food user selected to bill |  |
| btnPayment | Button | Payment |  | Completed bill and show balance |  |
| btnClose | Button | Close |  | Close Create Bill form |  |

**6.Report Form:**

**A picture containing text, indoor, screenshot

Description automatically generated**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Name** | **Type** | **Event** | **Text** | **Description** | **Status** |
| Label1 | Label |  | Form | “Form” |  |
| Label2 | Label |  | To | “To” |  |
| pickerFirstTime | DateTimePicker |  |  | Select First date on List user want to show |  |
| pickerSecondTime | DateTimePicker |  |  | Select Second date on List user want to show |  |
| Panel1 | Panel |  |  |  |  |
| dgvListBill | DataGridView |  |  | Display List of Bill form Firstdatepicker and Seconddatepicker |  |
| Label3 | Label |  | Total revenue: | “ Total revenue:” |  |
| txtTotalRevenue | TextBox |  |  | Show total of all bill in that period of time |  |
| btnClose | Button |  |  |  |  |