

**<<MiniStore application>>**

**Software Requirement Specification**

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**Group 1 – Mini Store Application**

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# I. Overview

## 1. Introduction

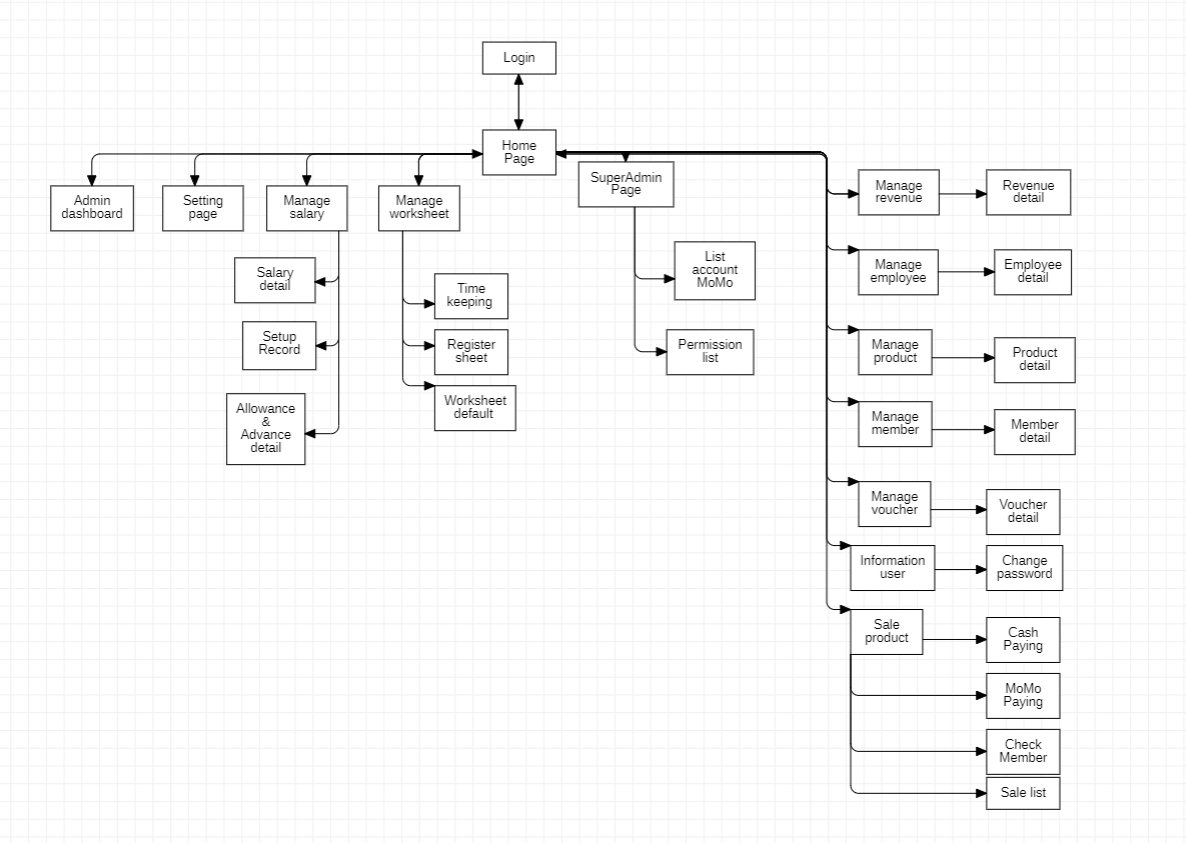
The Mini store Management System is an innovative software solution designed to revolutionize the way businesses manage their employees, sales, and products within a mini store setting. By replacing manual processes and paper-based methods, the system aims to streamline operations, increase productivity, and enhance the overall customer experience.

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## 2. System Functions

#### a. Screen Flow



#### b. Screen Details

|  |  |  |  |
| --- | --- | --- | --- |
| No. | Feature | Screen | Description |
| 1 | Login | Login Page | First screen of system, Login required by account system |
| 2 | Show dashboard | Dashboard | summary information about ministore by many chart |
| 3 | show list permission | Permission list | show list permisstion for each role |
| 4 | update permission | Permission list | update each permission for each role |
| 5 | Setting display | Setting page | setting color and font in system |
| 6 | Manage MoMo account | List account MoMo | add new account MoMo to paying (a period of time can use only 1 account MoMo) |
| 7 | Check in/out | QR page | Showing QR codes on a computer screen allows employees to register their working hours by scanning the code. The QR codes can be displayed on the screen for employees to scan. |
| 8 | Check in/out | Home page | record check-out time after checked and save it in the system for payroll and attendance management. |
| 9 | Show voucher list | Voucher list | Show list voucher of mini store to use in sale product |
| 10 | add new voucher | Voucher detail | add new voucher to use |
| 11 | Update | Voucher detail | update detail voucher |
| 12 | Show employee list | Employee detail | Show all employee, online or offline, basic information, and button for detail screen |
| 13 | add new employee | Employee detail | Show a list of blank space for manager to import new employee's information, button confirm and add |
| 14 | update employee | Employee detail | update information of employee |
| 15 | remove employee | Employee detail | remove employee out of list employee |
| 16 | Manage Sheet | Timekeeping | Show a table of all employees with some basic information about their online/offline sheet, summary of salary and a button of each employee's row to see detail for all of this |
| 17 | Register Shifts | Register Shifts | part-time employees register for shifts for the next weekend |
| 18 | Show sheet details | Time keeping | Show a table of sheets in week of one employee |
| 19 | Register Shifts | Register sheet | admin can register sheet for every employee |
| 20 | Update default worksheet | Worksheet default | update coefficient salary or ceate new sheet for mini store |
| 21 | Show salary list | Salary report page | Show a table of an employee's salary status, include day of work, salary by day/month |
| 22 | Update record salary | Setup record | Update basic salary for each role and each tax |
| 23 | Show advance salary list | Allowance & Advance detail | Show list advance salary of each employee in each month |
| 24 | Add new advance | Allowance & Advance detail | Add new each case advance salary |
| 25 | Add new allowace | Allowance & Advance detail | Add new allowance |
| 26 | Update allowance | Allowance & Advance detail | Update salary, condition or time to apply the allowance or remove this allowance |
| 27 | Show employee' allowace list | Allowance & Advance detail | Show list allowance each employe can reach in each by focus condition |
| 28 | filter by name and time | Allowance & Advance detail | filter advance and allowance in page by each employee or time |
| 29 | show list member | Member detail | Show list member of ministore with information when register and point |
| 30 | show product list | Product detail | Show table product about field (id, name, price, quantity, picture), button back, filter by name product, button update, |
| 31 | add new product | Product detail | Page about label and text box to insert info product, button add, |
| 32 | Update product | Product detail | Allows admin to update the information of a product that already exists in Mini Store. (Price, quantity,), button OK to save, button back |
| 33 | create list cart | Sale list | Show name, price, picture of products and total price, input voucher |
| 34 | check member | Check Member | input number phone into textbox to find member and point or create new member if customer require |
| 35 | paying by cash | Cash Paying | input money of customer and system calculate the extra money in the bill |
| 36 | paying by MoMo | MoMo Paying | Show QA code of MoMo with total price to customer scan |

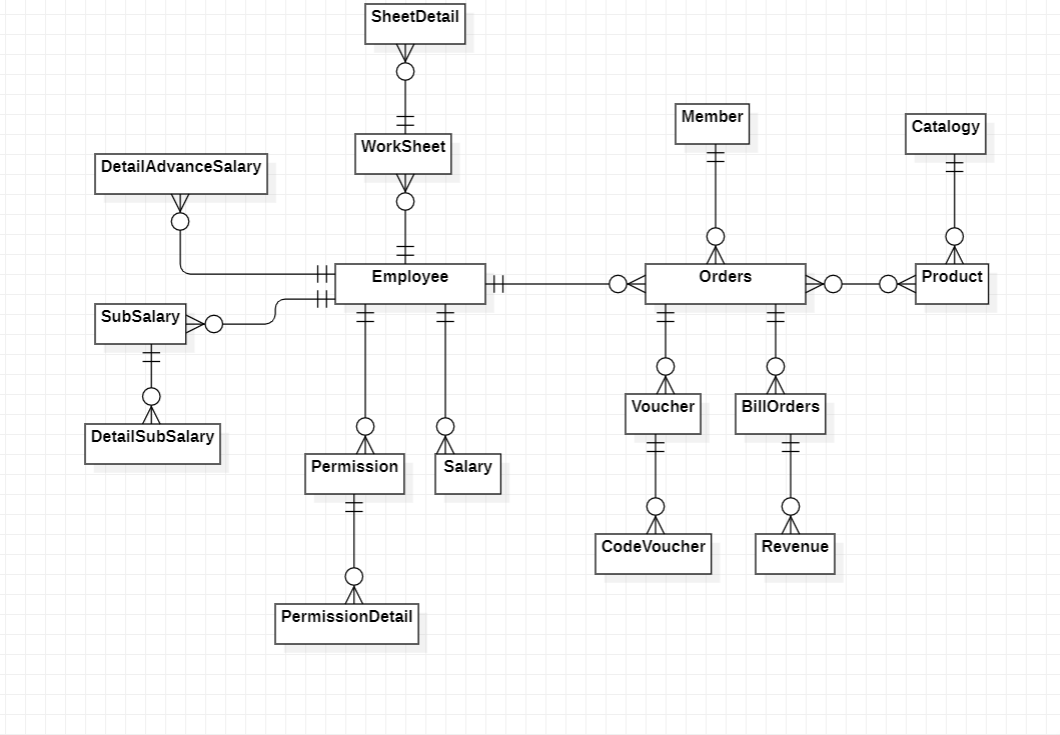
#### c. User Authorization

|  |  |  |  |
| --- | --- | --- | --- |
| Screen | Super Manager | Manager | Employees |
| Login Page | x | X | X |
| Login Web |  |  |  |
| Home Page | x | X | x |
| Admin dashboard | x | X |  |
| Setting page | x | X | x |
| Salary detail | x | X |  |
| Setup Record | x | X |  |
| Allowance & Advance detail | x | X |  |
| Time keeping | x | X |  |
| Register sheet | x | X |  |
| Worksheet default | x | X |  |
| SuperAdmin Page | x |  |  |
| List account Momo | x |  |  |
| Permission list | x |  |  |
| Revenue detail | x | X |  |
| Employee detail | x | X |  |
| Product detail | x | X |  |
| Member detail | x | X |  |
| Voucher detail | x | X |  |
| Information user | x | X | x |
| Change password | x | X | x |
| Sale product | x | X | x |
| Sale list | x | X | x |
| Check Member | x | X | x |
| MoMo Paying | x | X | x |
| Cash Paying | x | X | x |

#### d. Non-Screen Functions

|  |  |  |  |
| --- | --- | --- | --- |
| STT | Feature | Screen | Description |
| 1 | User Friendly | Form Basic / Use Easy | The application will be easy to use, the functions are streamlined so that users can access it easily |
| 2 | Security | Authorize between manager and employee | Determine who has access to specific functionality |
| 3 | Performance | Quick calculation | When employees pay for products to customers, it will be faster and more accurate |

## 3. Entity Relationship Diagram



**Entities Description**

|  |  |  |
| --- | --- | --- |
| # | Entity | Description |
| 1 | Employee | Properties(**IdEmp**, FullNameEmp, Sex, CCCD, DoB, AddressEmp, PhoneEmp, DateJoin, Username, Password, Roles, IsActive,PictureEmp) |
| 2 | SheetDetail | Properties(**Sheet**, DescriptionS, CoefficientsSalary, ShiftStartTime,ShiftEndTime ) |
| 3 | WorkSheet | Properties(**IdWorkSheet**, IdEmp, Date, Sheet, TimeCheckIn, TimeCheckOut, Status) |
| 4 | DetailAdvanceSalary | Properties(**IdAdvanceSalary**, IdEmp, DateAS,DescriptionA, AdvanceSalary ) |
| 5 | SubSalary | Properties(**IdSubSalary**, IdEmp, IdDetailSubSalary, Time ) |
| 6 | DetailSubSalary | Properties(**IdDetailSubSalary**,DescriptionA, SubsidiesSalary, Condition, ActiveSub) |
| 7 | Permission | Properties(**Roles**, Permission, BasicSalary, Tax) |
| 8 | Salary | Properties(**IdSalary**, IdEmp, SalaryHour, BasicSalary, SumSubSalary, SumAdvanceSalary, TotalSalary, Tax, SalaryTax, DateImonth) |
| 9 | PermissionDetail | Properties(**Id**, Id\_per, action\_code, check\_action) |
| 10 | Orders | Properties(**IdOrder**, SKU, PhoneMember,IdEmp, QuantityOrders, NameProduct, PriceProduct,dateOrders, IdVoucher, IdBillOrder, total) |
| 11 | Member | Properties(**PhoneMember**, Point, Name, Gender,Dob,TimeCreate) |
| 12 | Voucher | Properties(**IdVoucher**,Name, Price, Quantity, EXP, conditions) |
| 13 | CodeVoucher | Properties(**id**, IdVoucher,quantity\_value,StatusV) |
| 14 | BillOrders | Properties(**IdBillOrder**, TotalBill,DateOfBill) |
| 15 | Revenue | Properties(**DateRevenue**, TotalRevenueOfDay) |
| 16 | Product | Properties(**SKU**, ProductType, NameProduct,QuantityProduct, PriceProduct, StatusP, MFG, EXP) |
| 17 | Catalogy | Properties(IdCa, **ProductType** ) |

# II. Functional Requirements

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1. **Common feature**
2. **Login feature**

* Function trigger: When user click to start using application, login screen will be appeared.
* Function description: For authorized users to log into the system with a specific role.
* Screen layout:

A screenshot of a login page

Description automatically generated with medium confidence

* Function detail: For authorized users to log in to the system with the provided username and password with a specific role.

1. **Sales products**

* Function trigger: Admin/Employee/Super Admin can click at sales button to sales.
* Function description: To sales products
* Function layout:

A screenshot of a computer

Description automatically generated

* Function detail: Admin/Employee/Super Admin can click at button sales and sales screen will appear.

1. **Search sales product.**

* Function trigger: Type a name and choosing type and click at search button.
* Function description: Search a product base on name and type.
* Function layout:

A screenshot of a computer

Description automatically generated with medium confidence

* Function detail: Type a name and choosing type and click at search button, if it has a equal, it will return.

1. **Add products to cart.**

* Function trigger: Click at add product to cart button.
* Function description: Add a product to cart and wait for payment.
* A picture containing text, screenshot

  Description automatically generatedFunction layout:
* Function detail: Add a product to cart with specific quantity and wait for payment.

1. **Using voucher.**

* Function trigger: Enter voucher code and click on use voucher.
* Function description: Check if voucher is valid or not.
* Function layout:

A screenshot of a computer

Description automatically generated with low confidence

* Function detail: Enter voucher code and the system will check if it valid or not to using point on this voucher.

1. **Momo payment in orders**

* Function trigger: Click in button Momo payment to pay for orders.
* Function description: Get Momo QR to paying.
* Function layout:

A qr code with text

Description automatically generated with low confidence

* Function detail: When click in Momo payment, QR code will appear, and customer can scan it to pay with specific value of orders.

1. **Member checking.**

* Function trigger: Click at member check button.
* Function description: To check member is existed and use point.
* Function layout:

A screenshot of a computer

Description automatically generated with medium confidence

* Function detail: Enter phone member and check it, if it is member, the name will appear and click on it to use point.

1. **Showing bill**

* Function trigger: Click at show bill button.
* Function description: Show bill of this order
* Function layout:

A screenshot of a receipt

Description automatically generated with low confidence

* Function detail: To get bill of this order and give it to customers.

1. **Admin feature**
2. **Grant permission (Super admin only)**

* Function trigger: When admin click on admin button in application, Grant permission screen will appear.
* Function description: So that the admin can assign specific access rights to a role.

Screen layout:

A screenshot of a computer

Description automatically generated with medium confidence

* Function detail: So that admin can assign specific access rights to a role, to know that a role can specifically access a certain function/screen of the system.

1. **Momo payment management (Super admin only)**

* Function trigger: Admin click on button Momo on admin page.
* Function description: To management Momo payment account.
* Screen layout:

A screenshot of a computer

Description automatically generated

* Function Detail: Manage, add, disable Momo accounts used for customers to make payments.

1. **Add new role. (Super admin only)**

Function trigger: Admin click on manage roles in admin page.

Function description: used to create a new specific role.

Function layout:

A screenshot of a computer

Description automatically generated with medium confidence

Function detail: used to create a new specific role and assign roles to that role.

1. **Revenue report**

* Function trigger: Admin click on Revenue button.
* Function description: Admin can see revenue of the store, which have a lot of type of record.
* Function layout:

A screenshot of a computer

Description automatically generated

* Function detail: Admin can see Sum revenue, revenue in this month, total orders, orders of this month and percent of increasing the revenue.

1. **Manager record. (Super admin only)**

* Function trigger: Admin click on Salary button and Manager record after that.
* Function description: preliminary management of ministore
* Function layout:

A screenshot of a computer

Description automatically generated with medium confidence

* Function detail: admin can see the store's employee number, employee's base salary, tax....

1. **Salary report**

* Function trigger: Admin click in Salaty button and Salary button after that.
* Function description: Show all salary of all employees of the store.
* A screenshot of a computer

  Description automatically generated with medium confidenceFunction layout:
* Function detail: Show all salary of all employees of the store, filter by name, month, and export to excel file.

1. **Allowance & Advance Salary**

* Function Trigger: Admin click in Salary button and Allowance & Advance Salary button after that.
* Function description: Admin can see all information about Allowance & Advance Salary
* Function layout:

A screenshot of a computer

Description automatically generated

* Function detail: Admin can see all information and manage all such as add new/edit allowance salary, add new employee with advance salary.

1. **Add new allowance.**

* Function trigger: On information salary allowance place, admin click on add new.
* Function description: Admin can add new allowance salary.
* Function layout:

A screenshot of a computer screen

Description automatically generated with medium confidence

* Function detail: Admin can enter Descried, Salary and condition to add new allowance salary.

1. **Edit allowance.**

* Function trigger: On information salary place, admin click on edit.
* Function description: Admin can edit exist allowance salary.
* Function layout:

A screenshot of a computer screen

Description automatically generated with medium confidence

* Function detail: When admin enter all required information, add can update existed allowance or remove it.

1. **Add new employee with advance salary.**

* Function trigger: Admin can click add button in information of employee with advance salary to add new.
* Function description: Admin can add new existed employees with advance salary
* Function layout:

A screenshot of a computer

Description automatically generated

* Function detail: Admin can enter name of employee to get new advance salary with Date, Descried and total.

1. **Employee Management**

* Function trigger: Admin can click on Employee button in admin page.
* Function description: Show all employee existed in the store system, with buttons to modify.
* Function layout:

A screenshot of a computer

Description automatically generated with medium confidence

* Function detail: Admin can click on the specific employee in the list and the information of this employee with appear in the textbox above.

1. **Create new employee.**

* Function trigger: Admin click on create button in employee page.
* Function description: Add new an employee.
* Function layout:

A screenshot of a computer screen

Description automatically generated with medium confidence

* Function detail: Admin enter all required information of employee in the correct ways to create new employee.

1. **Update an employee.**

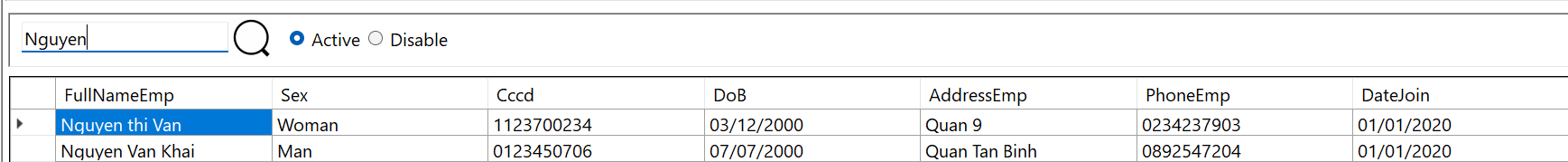
* Function trigger: Admin click on specific employee in the list and enter new information of this employee.
* Function description: To update an existing employee.
* Function layout:

A screenshot of a computer

Description automatically generated with medium confidence

* Function detail: After entering all new information of an existing employee, admin click on the update button, if all information is valid, information of this employee will be updated.

1. **Search an employee.**

* Function trigger: Admin click on search button.
* Function description: Search an employee or the list of employees.
*  Function layout:
* Function detail: Admin will enter a name of phone number to search for an employee, if it equals to any employee, the list of this will be return to display.

1. **Product management**

* Function trigger: Admin click on Product button in admin page.
* Function description: Admin can see all the product of the store and buttons to modify.
* Function layout:

A screenshot of a computer

Description automatically generated

* Function detail: Display all information of product, list of buttons to sort and filter, and table of type product.

1. **Create Product**

* Function trigger: Admin enter all information of product and click in button create.
* Function description: Admin can create a new product.
* Function layout:

A screenshot of a computer

Description automatically generated

* Function detail: After admin enter all required information of product and click in button create, new product will be created and display.

1. **Update Product:**

* Function trigger: Admin click in specific product in the list, change information and click update.
* Function description: Admin can update a specific product.
* A screenshot of a computer

  Description automatically generated Function layout:
* Function detail: Admin click in specific product in the list and change the information of this product, if all information valid and admin click update, the product’s information will be updated and display.

1. **Search a product.**

* Function trigger: Admin search for a specific product.
* Function description: Search and return a specific product with all information of this.
* Function layout:

A screenshot of a computer

Description automatically generated with low confidence

* Function detail: Admin enter a specific name of product and choosing the type of product, click on search button and the list of equals product will be return.

1. **History of worksheet**

* Function trigger: Admin click on button Worksheet in admin page.
* Function description: Show all worksheet history and specific a worksheet.
* Function layout:

A screenshot of a computer

Description automatically generated

* Function detail: Admin can see a specific worksheet by clicking it on the list.

1. **Filter the worksheet.**

* Function trigger: Admin choose day start and end in the day picker box.
* Function description: To filter worksheet by the day start and end that admin was choose.
* A screenshot of a computer

  Description automatically generated with medium confidenceFunction layout:
* Function detail: Admin can be filtering what day of worksheet will be appear by the day start and end the chooses, after clicking on load button, the worksheet of this day will be appeared.

1. **Default Worksheet.**

* Function trigger: Admin click in Worksheet default tab in the top of screen.
* Function description: Show all default worksheet of the store.
* A screenshot of a computer

  Description automatically generatedFunction layout:
* Function detail: Admin can see all the default worksheet of the store and click on it to see specific one.

1. **Update Default Worksheet.**

* Function trigger: Admin clicking at update button.
* Function description: Update an existed worksheet default.
* Function layout:

A screenshot of a computer

Description automatically generated with medium confidence

* Function detail: Admin click to get specific information of worksheet and change it, after that clicking on update button, if all information is valid, this worksheet will be updated.

1. **Create worksheet.**

* Function trigger: Admin clicking at create button.
* Function description: Create new worksheet.
* Function layout:

A screenshot of a computer

Description automatically generated with medium confidence

* Function detail: Enter all new information of new worksheet, if all is valid, the new worksheet will be created.

1. **Manage worksheet.**

* Function trigger: Admin click on Manage Worksheet tab in the top of the screen.
* Function description: Manage and Modify worksheet.
* Function layout:

A screenshot of a calendar

Description automatically generated

* Function detail: Admin can click in specific day in the list and worksheet of this day will be appear so admin can create new or updated and delete it.

1. **Create new worksheet.**

* Function trigger: Admin choose a specific day of the month and create worksheet for this day.
* Function descriptions: Create new worksheet in specific day.
* A screenshot of a computer

  Description automatically generatedFunction layout:
* Function detail: After enter Name of employee and sheet the will in, if all valid, the new worksheet for this employee will be create.

1. **Remove a worksheet.**

* Function trigger: Admin click in specific worksheet and click button remove.
* Function description: Remove an existing worksheet.
* A screenshot of a computer

  Description automatically generatedFunction layout:
* Function detail: Admin click in specific worksheet and click button remove, if all valid, the worksheet will be removed.

1. **Update worksheet.**

* Function trigger: Admin click at update button.
* Function description: Update a specific worksheet.
* Function layout:

A screenshot of a computer

Description automatically generated

* Function detail: Admin click at specific worksheet, enter new information of this sheet, and click in button update.

1. **Voucher management**

* Function trigger: Admin click in voucher button in admin page.
* Function description: Manage and modify voucher of the store.
* A screenshot of a computer

  Description automatically generated with medium confidenceFunction layout:
* Function detail: Click on specific voucher and see all the information of this voucher.

1. **Update voucher**

* Function trigger: Admin click in update button.
* Function description: Update an existed voucher.
* Function layout:

A screenshot of a computer

Description automatically generated with medium confidence

* Function detail: After admin click to get all information of voucher, admin can retype information of this voucher and update it by clicking at update button.

1. **Create new voucher.**

* Function trigger: Admin click in create new voucher.
* Function description: Admin create new voucher by clicking at add new voucher.
* A screenshot of a computer screen

  Description automatically generated with medium confidenceFunction layout:
* Function detail: After admin fill all information of new voucher and click at create new voucher, if all is valid, new voucher will be created.

1. **Search voucher**

* Function trigger: Admin type in search bar and click at search button.
* Function description: Search and return a specific voucher based on name.
* Function layout:

A screenshot of a computer

Description automatically generated with low confidence

* Function detail: Admin type the name of a letter of this voucher, if it have an equal, the system will return it.

1. **Member management.**

* Function trigger: Admin click in Member button below Voucher button.
* Function description: Show all member of the store.
* A screenshot of a computer

  Description automatically generated with medium confidenceFunction layout:
* Function detail: Admin click in specific member to see detail of them.

1. **Create new member.**

* Function trigger: Admin click at create member button.
* Function description: Add new member.
* Function layout:

A screenshot of a computer

Description automatically generated with medium confidence

* Function detail: After fill all required information in the correct way and click in button add, new member will create in the system.

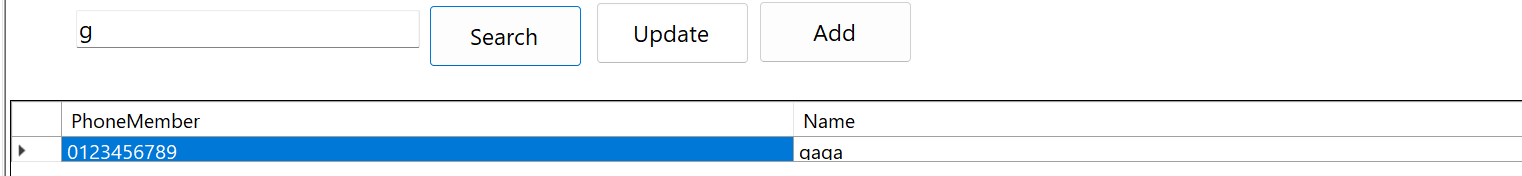
1. **Update member.**

* Function trigger: Admin retype new information of member and click update.
* Function description: Update a member.
* Function layout:
* A screenshot of a computer

  Description automatically generated with medium confidenceFunction detail: Admin click to get all information, after that admin change it and click at update button, if all new information is valid, member information will be updated.

1. **Search member.**

* Function trigger: Admin type search value and click at Search button.
* Function description: Search name of phone of member.
* Function layout:



* Function detail: Admin type a name or phone of member, the system will check it, if it has any equals information, it will return.

1. **Personal information.**

* Function trigger: Click at the name in the top of screen and button personal information.
* Function description: Get personal information.
* Function layout:

A screenshot of a computer

Description automatically generated with medium confidence

* Function detail: See all personal information base on account login.

1. **Change password.**

* Function trigger: Click at Change password button in personal information page.
* Function description: Change current password of account.
* Function layout:

A screenshot of a computer screen

Description automatically generated with low confidence

* Function detail: Check all information inputted is correct of not, if it all correct, the password will be changed.

1. **Personal Worksheet and Salary**

Function trigger: Click at last month salary button.

Function description: Show information about last month's salary and worksheet history detail

Function layout:

A screenshot of a computer

Description automatically generated with medium confidence

Function detail: Employee can see their last month salary report and worksheet history report

**C. Guard Management**

**1.   Login function**

* Function trigger: The login function is triggered when the "Đăng nhập" button is pressed and the reCaptcha is completed.
* Function description:  By providing their username, password, and successfully completing a reCAPTCHA verification, users may log in and authenticate themselves. It aims to ensure that only people with the appropriate authorization may access particular features or data.

Screen layout:

* A screenshot of a computer screen

  Description automatically generated with low confidence
* Function Detail: Upon accessing the web page through a specific URL, users are presented with the login screen. They need to enter their username and password in the respective input fields. To avoid automated login attempts, they must also finish the reCAPTCHA verification.
* Data Validation: The login function communicates with an API connected to the database to verify the username and password entered. The API receives the supplied credentials and checks them against the database's information that is already stored. The API generates a JSON Web Token (JWT) including crucial data such as the user's role, ID, name, and other vital information if the login and password are accurate.
* Business Logic: The login method requests a JWT (JSON Web Token) from the API after getting the verified username and password from the API. The API generates a JWT that securely encapsulates relevant user data, such as roles, ID, name, and other necessary details. The JWT is then returned to the login function.
* Functionality:
* Normal Cases: If the provided username and password are correct, and the reCAPTCHA verification is successful, the login function gets a JWT from API. Then decrypt and send the data to other pages.
* Abnormal Cases: The login function blocks access and shows the relevant error message if the username, password, or reCAPTCHA verification is wrong. To continue, the user must input their valid credentials once more and successfully pass the reCAPTCHA verification.

**2:   JWT Generation in API**

* Function Trigger: The JWT generation function is called upon successful authentication in the login function.
* Function Description: The JWT generation function takes the validated username and retrieves the necessary user information from the database. It then encrypts this information to create a JWT that can be used for subsequent authenticated requests.
* Function Details: The API proceeds the JWT generating method after confirming the username and password in the login function. With the help of this function, the user's pertinent database data is retrieved. A cryptographic technique is then used to encode this data into a JWT. The JWT is returned to the client-side application and stored securely  for subsequent requests to authenticate the user.

**3: Check-in/Check-out Function**

* Function trigger: The guard must push the check-in or check-out button to activate the check-in/out function.
* Function description: This function allows to record their check-in/out time. It verifies if the current date corresponds to the scheduled work shift. If it does, the function captures the check-in time along with the Gurad 's personal information, encrypts it into a JWT, and generates a QR code with a link of API with the JWT.

Screen layout: A picture containing text, screenshot, multimedia software, software

Description automatically generated

* Function Detail: When a Guard contacts the check-in or check-out button, the function first determines if the current date corresponds to the scheduled work shift. If it doesn't, an error notice appears.
* Data Validation: To ensure accuracy, the function checks the guard's check-in and check-out times to the scheduled work shift.
* Business Logic: If the check-in or check-out is valid, the function captures the current time, along with the Guard's personal information. It then encrypts this information into a JWT. The function generates a QR code that contains the API endpoint URL with the appended JWT. This QR code is presented to the security personnel.
* Functionality:
* Normal Cases: If the check-in or check-out is valid, the Guard shows the QR code to the Guard. After scanning the QR code, the employee gets access to the API, which decodes the JWT to extract the Gurad's information. A success notify is shown if the database update is a success.
* Abnormal Cases: If the check-in or check-out is invalid, display an error message. The Guard is presented with two options on the notification screen: "Tiếp tục" or "Đăng nhập lại". If the Guard chooses to "Đăng nhập lại", it is redirected to the login page. If the Guard was previously logged in on the same device and with a previous login, a message is displayed, informing them that they are already logged in, and they are redirected back to the check-in/out page. If the Guard selects "tiếp tục" without a previous login, a message is displayed, prompting them to log in and redirected to the login page.

**4: API Processing**

* Function trigger: The API endpoint is accessed with the JWT appended to the URL.
* Function description:  The API endpoint processes the incoming request by decoding the JWT and updating the corresponding database records. It returns a success or failure page based on the database update.
* Function Detail: After accessing the API endpoint with the appended JWT, the API decodes the JWT to retrieve the Gurad's information. The API then updates the relevant database records with the new check-in or check-out time. If the update is successful, the API returns a success page to indicate a successful check-in or check-out. If the update fails, the API returns a failure page to indicate that the operation was unsuccessful.

**5: Guard Worksheet Display**

* Function trigger: This function is triggered automatically after successful login or can be manually activated by selecting the "Guard Worksheet" option.
* Function description:  The Guard Worksheet Display function retrieves and displays guard worksheets based on a specified time range. The default time range is set to the current month's start and end. Users can change the time range values in the "From" and "To" fields.
* Screen layout: A screenshot of a computer

  Description automatically generated with medium confidence
* Function Detail: When activated, the Guard Worksheet Display function reads the "From" and "To" fields to get the desired time period. It confirms that the "From" value is earlier than the "To" value by validating the time range. The function transmits the time range data to the API to receive a JWT (JSON Web Token) if the validation is successful. The JWT is then decoded to retrieve the guard worksheet data. Finally, the function returns to the initial page and displays the retrieved worksheet, providing an overview of the guard activities and shifts during the selected period.
* Data Validation: The Guard Worksheet Display function verifies that the time period you've selected has a smaller "From" value than "To" value. An error notice is sent to the user and instructs them to change the time range if the validation is failed.
* Business Logic: The Guard Worksheet Display function interacts with the API to obtain a JWT for authentication and retrieve the guard worksheet data. The JWT contains the necessary information to securely access and decode the worksheet data.
* Functionality:
* Normal Cases: When the Guard Worksheet Display function is triggered, it retrieves the default or custom time range. After validating the time range, it sends the data to the API to obtain a JWT. The guard worksheet data is then presented on the first page, giving a general picture of the guard operations and shifts over the chosen period, after the JWT has been decoded.
* Abnormal Cases: A notice stating the problem with the chosen range is presented if the time range is invalid (for example, the "From" value is later than the "To" value). The user is asked to modify the time range if necessary.