Centre Name: ACE-THUDUC-1-FPT

Address : 62 Street 36, Van Phuc Residential Area, Hiep Binh Phuoc Ward, Thu Duc City

Karaoke

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3	Nguyen Hoang Anh	Student1501270
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Mont: 07 Year 2024

This is to certify that

Mr.   **DANG TO NHAN**

Mr.   **PHAN TRAN DANG CHI**

Mr.   **NGUYEN HOANG ANH**

Mr.   **NGUYEN HOANG MINH NGOC**

Mr.   **PHAN VAN DUY**

Have successfully Designed & Developed

Karaoke Database Management

Submitted by:

Mr. PHAM CONG DANH

Date Of Issue:

10/07/2024

Authorized Signature:

NGUYEN HOANG MINH NGOC

CONTENT

REVIEW 1

ACKNOWLEDGE

We extend our deepest gratitude and appreciation to all those who have contributed to the successful completion of our Semester 2 project as part of the Advance Diploma of Software Engineering program. As a collaborative effort, this endeavor involved the dedicated efforts of our team of four students who have strived tirelessly to deliver a robust and innovative project.

First and foremost, we would like to express our heartfelt thanks to our esteemed teacher, Mr. Danh, whose guidance and mentorship have been instrumental throughout the development of our project. His wealth of knowledge, unwavering support, and constructive feedback have been invaluable, shaping not only our technical skills but also fostering a deep understanding of the software engineering principles.

The foundation of our project lies in the integration of various technologies, and we want to acknowledge the pivotal role played by SQLServer, CSS, and JavaFx. These tools have been the building blocks of our project, enabling us to create a dynamic and feature-rich application. The hands-on experience gained in utilizing these technologies has not only enriched our technical prowess but also provided a practical insight into real-world software development.

The collaborative nature of this project has allowed us to cultivate effective teamwork and communication skills. Working as a cohesive unit, we learned the importance of coordination, task delegation, and problem-solving. These invaluable skills extend beyond the realm of software engineering and are applicable to various aspects of our academic and professional lives.

Furthermore, we want to express our gratitude to our fellow team members for their commitment and diligence. Each member has brought a unique set of skills and perspectives, contributing to the overall success of the project.

In conclusion, this project has been a journey of growth, learning, and camaraderie. We are sincerely thankful to everyone who has been part of this endeavor, shaping it into a rewarding experience that will undoubtedly influence our future endeavors in the field of software engineering.

INTRODUCTION

Greetings! We are excited to present our project in the realm of software engineering. As part of our Advanced Diploma studies, our team of five diligent students has undertaken the development of a Program Karaoke Database Management. The primary objective is to provide visitors with a user-friendly platform for Karaoke Database Management In an easy.

We aim to provide a visually appealing and technologically robust karaoke database management system. The emphasis lies in creating a seamless user experience, allowing users to easily navigate and manage a diverse array of karaoke tracks and gain a deeper understanding of the associated details. With intuitive management features, our goal is to simplify the database management process, offering users a convenient and efficient means to organize and maintain their song lists. We invite you to join us on this technological journey as we unveil a karaoke database management system that not only showcases our technical expertise but also enhances the karaoke experience for every user.

PROBLEM DEFINITION

Karaoke bar management software has functions that help managers and employees easily use it at work. The software will provide managers and employees with a separate account, able to log in and change passwords when needed.

Room management is an important issue in karaoke bars. Good room management will help businesses grasp important issues when hotels book rooms. A karaoke bar will fail and encounter errors if it does not know which customers have booked rooms in advance, or which customers have booked which room types at what time... Reservation management includes the following functions:

In addition to renting rooms to sing Karaoke, Karaoke shops also sell food items to serve customers in need. Product management helps employees and managers easily manage information about the shop's products, avoiding loss and errors in inspection that cause loss of revenue... There are 8 Functions in product management are: add product, delete product, update product, find product, add product type, delete product type, update product type, find product type.

Payment is an important function, requiring high accuracy to help calculate the amount of money guests must pay when renting a room, when managing the communication system to handle many issues at the same time such as guest entry and exit times, furniture, etc. Knowing the food used by customers and the type of room used by customers... will be extremely difficult and can lead to errors. The payment function of this karaoke management software will take the customer's room information and the product the customer ordered entered by the staff to calculate the final amount, saving time and effort for the user. After charging, employees can produce invoices for customers who need invoices. Payment management includes two functions: billing and invoicing.

To be able to manage customers' old invoices when problems arise, they need to be used such as checking for loss, customers need to check invoices again, need to update when there are errors... Ksing karaoke system Has invoice management function. Invoice management includes 3 functions: find invoices, update invoices, delete invoices.

Customer management helps employees and managers control necessary customer information such as phone numbers and names when customers come to make a reservation or make a reservation. Customer management includes 4 functions: Find customers, delete customer information, update customer information, add customers.

In addition to the general functions for management staff, there is a function to help manage information for your employees, which is employee management. Employee management helps managers control employee information such as: full name, gender, address, rights, shift, login name, number of employees... as well as Add accounts for employees who do not have accounts. Employee management includes 4 functions: add employee accounts, delete employee accounts, update employee information, and find employees.

Statistical management is also a very important function in businesses. The software has a statistical management function that helps users to calculate how much revenue they have in a day, thereby knowing whether the company's profits are good or not. Statistics management includes one function: find revenue (display revenue of the selected day).

USER REQUEST SPECIFICATIONS

1. Manage

Input:

1. **Forms and Text Fields:** Employees can input information through forms and text fields. This includes filling out employee details, account information, product specifications, customer data, or room details.

2. **Buttons and Links:** Employees interact with buttons and links to navigate through different sections of the management system, submit forms, or trigger specific actions.

3. **Dropdowns and Selections:** Employees can make selections from dropdown menus or choose options from lists to customize their management tasks.

4. **Checkboxes and Radio Buttons:** Users can provide input by selecting checkboxes or radio buttons to indicate preferences or choices in the management processes.

5. **Uploads:** If applicable, employees may upload files, images, or documents using file input fields for tasks such as adding employee photos or product images.

Output:

1. **Displaying Results:** The webpage outputs information based on employee input, such as displaying employee details, updated account information, product lists, customer profiles, or room availability.

2. **Error Messages:** If there are issues with the input, the webpage may output error messages to guide employees in correcting their input.

3. **Confirmation Messages:** Employees may receive confirmation messages for successful actions, such as submitting a form or completing a management task.

4. **Visual Changes:** The webpage may undergo visual changes to reflect the processed information, such as updating employee lists, product images, customer details, or room statuses dynamically.

2. ADMIN

Input

1. **Login Credentials:** The system requires input in the form of a username and password for authentication during the login process.

2. **Configuration Settings:** Administrators may input or modify configuration settings, such as system preferences, security parameters, or feature toggles.

3. **Data Upload:** Administrators might upload data, such as user information, song details, or other relevant content to the system.

   Process :

1. **Authentication:** The system processes login credentials to authenticate administrators and grant access to the admin panel.
2. **Authorization:** Once authenticated, the system checks for appropriate authorization levels to determine the scope of actions an administrator can perform.
3. **Configuration Processing:** Changes made to configuration settings are processed by the system to implement the updated preferences or rules.
4. **Data Management:** The system processes uploaded data, ensuring proper validation,storage, and integration into the database.

Output:

1. **Admin Dashboard:** After successful login, the system displays an admin dashboard, providing an overview of system status, analytics, or key metrics.
2. **Error Messages:** In case of incorrect login credentials or invalid input during configuration, the system displays error messages to guide administrators.
3. **Activity Logs:** The system generates logs to record administrator activities, helping to track and audit performed actions.
4. **System Status Updates:** If configuration settings are modified, the system updates to reflect changes in system behavior or functionality.
5. **Confirmation Messages:** After successful actions, such as data uploads or configuration updates, the system displays confirmation messages to inform administrators.

Additional Aspects:

1. **Role Management:** The system allows administrators to manage user roles and permissions, defining who can access certain features or perform specific actions.
2. **Security Measures:** Input validation, secure authentication protocols, and encryption are crucial components to ensure the security of admin interactions.
3. **Notification System:** The system may include a notification system to alert administrators about critical events, updates, or potential issues.
4. **Backup and Recovery:** Administrators may have the capability to initiate backup processes and recovery procedures in case of data loss or system failures.
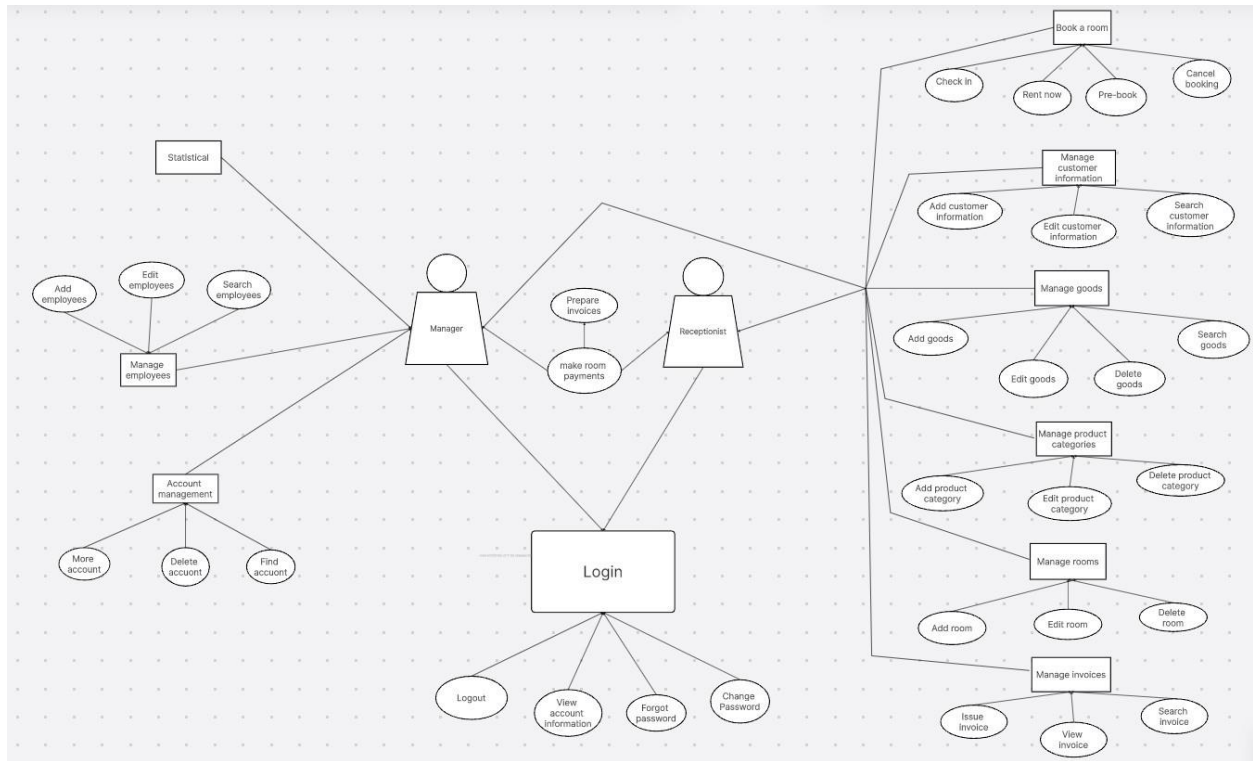
Hardware / Software requirement

Hardware:

- **Computer with network connection**
- **Operating system: Windows 7, 10**
- **Processor: 2.4 GHz Dual Core Processor or 3 GHz**
- **RAM: 2GB**
- **Graphics card: NVIDIA GeForce 8800/AMD Radeon HD 5670 or equivalent graphics (512 MB)**
- **Free hard disk space: 1GB**

Task Sheet Review 1

Project: Karaoke management			Date of preparation of activity plan:		
#	Task	Prepared by	Start date	Actual Days	Team member name	status
1	Acknowledgement	DANG TO NHAN	27/05/2024	31/05/2024	DANG TO NHAN	completed
2	Introduction	NGUYEN HOANG ANH	27/05/2024	31/05/2024	NGUYEN HOANG ANH	completed
3	Problem definition	PHAN TRAN DANG CHI	27/05/2024	31/05/2024	PHAN TRAN DANG CHI	completed
4	User request parameters	NGUYEN HOANG MINH NGOC	27/05/2024	31/05/2024	NGUYEN HOANG MINH NGOC	completed
5	Scope of work		27/05/2024	31/05/2024	PHAN VAN DUY	completed
6	Hardware/software requirement	PHAN VAN DUY	27/05/2024	31/05/2024		completed
7	Task Sheet		27/05/2024	31/05/2024		Completed
Review			Signature of instructor			
			Mr.Pham Cong Danh			

REVIEW 2

I .USECASE

1 . Use Case Admin

1.1 Login

Use case name: Login		
Actors: Manage		
Description: Start the software to display the login interface		
Pre-condition: Have a new or manager account		
Post-condition: N/A		
Basic flow	Actor's actions:	System's responses:
	1. Enter the correct account and password and click log in 3. Click forgot password	2. Enter the system, display the main interface 4. Switch to the forgot password interface
Alternativeflow	Actor's actions:	System's responses:
	N/A	N/A
Exceptions	Actor's actions:	System's responses:
	1. Do not enter or enter incorrect account and password and click log in	2. Show notification "Do not empty or enter incorrect account name or password"

1.2 Forgot password

Use case name: Forgot password		
Actors: Manage		
Description: Click forgot password in the login interface to display. Used to change account password for people who have forgotten their password.		
Pre-condition: Must have an account first		
Post-condition: N/A		
Basic flow	Actor's actions:	System's responses:
	1. Enter the correct account name and press search	2. Displays the account's security question and requires the answer to be entered
Alternativeflow	Actor's actions:	System's responses:
	1. Enter an incorrect answer or do not enter an answer 3. Enter the new password in incorrect format or not entered at all	2. Displays a message that the answer is incorrect, cannot be empty 4. Displays a message that the password is not in the correct format and cannot be empty
Exceptions	Actor's actions:	System's responses:
	1. Do not enter the account name or enter it incorrectly, press search	2. Display message cannot be empty, account does not exist

1.3 More staff

Use case name: More staff		
Actors: Manage		
Description: Use to add new user		
Pre-condition: Must be a manager account. Log in successfully and click on employee management		
Post-condition: N/A		
Basic flow	**Actor's actions:**	**System's responses:**
	1. Enter the correct account name and press search 3. Enter complete employee information and enter it in the correct format	2. Displays the account's security question and requires the answer to be entered 4. Displays a notification that the addition was successful and employee information is displayed in the employee list
Alternativeflow	**Actor's actions:**	**System's responses:**
	1. Enter missing employee information or incorrect format (First name capitalized, no numbers or special characters, phone number cannot be duplicate and must be a number)	2. Display an incorrect input message and do not leave that information empty
Exceptions	**Actor's actions:**	**System's responses:**
	N/A	N/A

1.4 Edit staff

Use case name: Edit staff		
Actors: Manage		
Description: Used to edit information for an employee		
Pre-condition: Must be a manager account. Log in successfully and click on employee management		
Post-condition: N/A		
Basic flow	**Actor's actions:**	**System's responses:**
	1. Select a line in the employee list and enter the information to be edited in the correct format and click update	2. Display a successful update message and update the list again a
Alternativeflow	**Actor's actions:**	**System's responses:**
	1. Select a line in the employee list and enter the information that needs to be corrected in the wrong format	2. Displays a message stating that the input format is incorrect, requiring re-entry
Exceptions	**Actor's actions:**	**System's responses:**
	1. Don't select any line in the list and click update	2. Display a message asking to select a line in the employee list

1.5 More account

Use case name: More account		
Actors: Manage		
Description: Used to add information for an employee		
Pre-condition: Must be a manager account. Log in successfully and click on employee management		
Post-condition: N/A		
Basic flow	**Actor's actions:**	**System's responses:**
	1. Enter missing employee account information or incorrect format (Login name must have no spaces, no special characters; Password must have at least 1 lowercase letter, 1 uppercase letter, 1 special character, No spaces and minimum 8 characters; Reply cannot be blank)	2. Display an incorrect input message and do not leave that information empty
Alternativeflow	**Actor's actions:**	**System's responses:**
	1. Select a line in the employee list and enter the information that needs to be corrected in the wrong format	2. Displays a message stating that the input format is incorrect, requiring re-entry
Exceptions	**Actor's actions:**	**System's responses:**

	1. Do not select the account to delete but press the delete button	2. Display a notification to select a row in the table

1.6 More account

Use case name: More account		
Actors: Manage		
Description: Used to add information for an employee		
Pre-condition: Must be a manager account. Log in successfully and click on employee management		
Post-condition: N/A		
Basic flow	Actor's actions:	System's responses:
	1. Enter missing employee account information or incorrect format (Login name must have no spaces, no special characters; Password must have at least 1 lowercase letter, 1 uppercase letter, 1 special character, No spaces and minimum 8 characters; Reply cannot be blank)	2. Display an incorrect input message and do not leave that information empty
Alternativeflow	Actor's actions:	System's responses:
	1. Select a line in the employee list and enter the information that needs to be corrected in the wrong format	2. Displays a message stating that the input format is incorrect, requiring re-entry

Exceptions	Actor's actions:	System's responses:
	1. Do not select the account to delete but press the delete button	2. Display a notification to select a row in the table

1.7 Change Password

Use case name: Change Password

Actors: Employees

Description: Used to change the account password for an employee

Pre-condition: Must be the account of a manager or receptionist. Click on the forgot password function at the login screen

Post-condition: N/A

Basic flow	Actor's actions:	System's responses:
	1. Enter your username and press the search button	2. Display security questions

Alternativeflow	Actor's actions:	System's responses:
	1. nput missing password change information (Password must have at least 1 lowercase letter, 1 uppercase letter, 1 special character, no spaces and at least 8 characters; Answer cannot be empty)	2. Display an incorrect input message and do not leave that information empty

Exceptions	Actor's actions:	System's responses:

	1. Don't enter your username, just press the search button	2. Displays a message that the login name cannot be empty

1.8 Add products

Use case name: Add products		
Actors: Employees		
Description: Used to add information to a product		
Pre-condition: Must be a manager or receptionist account. Log in successfully and click on product management		
Post-condition: N/A		
Basic flow	Actor's actions:	System's responses:
	N/A	N/A
Alternativeflow	Actor's actions:	System's responses:
	1. Enter missing product information or incorrect format (Product name does not have special characters; Unit price can only be entered in numbers)	2. Display an incorrect input message and do not leave that information empty
Exceptions	Actor's actions:	System's responses:
	N/A	N/A

1.9 Product updates

Use case name: Product updates		
Actors: Employees		
Description: Used to update information for a product		
Pre-condition: Must be a manager or receptionist account.Login successfully and click on product management		
Post-condition: N/A		
Basic flow	Actor's actions:	System's responses:
	1. Select a line in the product list and enter the information to be edited in the correct format and click update	2. Display a successful update message and update the list again
Alternativeflow	Actor's actions:	System's responses:
	1. Select a line in the product list and enter the information that needs to be corrected in the wrong format	2. Displays a message stating that the input format is incorrect, requiring re-entry
Exceptions	Actor's actions:	System's responses:
	1. Don't select any line in the list and click update	2. Display a message asking to select a line in the product list

1.10 Delete product

Use case name: Delete product		
Actors: Employees		
Description: Used to delete account information for a product		
Pre-condition: Must be a manager or receptionist account. Log in successfully and click on employee management		
Post-condition: N/A		
Basic flow	**Actor's actions:**	**System's responses:**
	1. Select a line in the product list and click delete	2. Display a notification of successful deletion and update of the list
Alternativeflow	**Actor's actions:**	**System's responses:**
	1. Select a line in the product list and enter the information that needs to be corrected in the wrong format	2. Displays a message stating that the input format is incorrect, requiring re-entry
Exceptions	**Actor's actions:**	**System's responses:**
	N/A	N/A

1.11 Add product type

Use case name: Add product type		
Actors: Employees		
Description: Used to add information to a product type		
Pre-condition: Must be a manager or receptionist account. Log in successfully and click on product management		
Post-condition: N/A		
Basic flow	Actor's actions:	System's responses:
	N/A	N/A
Alternativeflow	Actor's actions:	System's responses:
	1. Enter missing product type information or incorrect format (Product type name does not have special characters)	2. Display an incorrect input message and do not leave that information empty
Exceptions	Actor's actions:	System's responses:
	N/A	N/A

1.12 Update product type

Use case name: Update product type		
Actors: Employees		
Description: Used to update information for a product type		
Pre-condition: Must be a manager or receptionist account. Log in successfully and click on product management		
Post-condition: N/A		
Basic flow	**Actor's actions:**	**System's responses:**
	1. Select a line in the product type list and enter the information to be edited in the correct format and click update	2. Display a successful update message and update the list again
Alternativeflow	**Actor's actions:**	**System's responses:**
	1. Select a line in the product type list and enter the information that needs to be corrected in the wrong format	2. Displays a message stating that the input format is incorrect, requiring re-entry
Exceptions	**Actor's actions:**	**System's responses:**
	1. Don't select any line in the list and click update	2. Display a message asking to select a line in the product type list

1.13 Delete product type

Use case name: Delete product type		
Actors: Employees		
Description: Used to delete account information for a product type		
Pre-condition: Must be a manager or receptionist account. Log in successfully and click on employee management		
Post-condition: N/A		
Basic flow	**Actor's actions:**	**System's responses:**
	1. Select a line in the product type list and click delete	2. Display a notification of successful deletion and update of the list
Alternativeflow	**Actor's actions:**	**System's responses:**
	N/A	N/A
Exceptions	**Actor's actions:**	**System's responses:**
	1. Do not select the type of product to delete but press the delete button	2. Display a notification to select a row in the table

1.14 Add customers

Use case name: Add customers		
Actors: Employees		
Description: Used to add information for a customer		
Pre-condition: Must be a manager or receptionist account. Log in successfully and click on customer management		
Post-condition: N/A		
Basic flow	**Actor's actions:**	**System's responses:**
	N/A	N/A
Alternativeflow	**Actor's actions:**	**System's responses:**
	1. Enter missing customer information or incorrect format (Customer name cannot enter numbers and special characters; Phone number must be 9-10 digits, no characters) 3. Enter complete information but the phone number is the same	2. Display an incorrect input message and do not leave that information empty 4. Display notification that the phone number already exists
Exceptions	**Actor's actions:**	**System's responses:**
	N/A	N/A

1.15 Update customers

Use case name: Update customers		
Actors: Employees		
Description: Used to update information for a customer		
Pre-condition: Must be a manager or receptionist account. Log in successfully and click on customer management		
Post-condition: N/A		
Basic flow	Actor's actions:	System's responses:
	1. Select a line in the customer list and enter the information to be edited in the correct format and click update	2. Display a successful update message and update the list again
Alternativeflow	Actor's actions:	System's responses:
	1. Select a line in the customer list and enter the information that needs to be corrected in the wrong format	2. Displays a message stating that the input format is incorrect, requiring re-entry
Exceptions	Actor's actions:	System's responses:
	1. Don't select any line in the list and click update	2. Display a message asking to select a line in the customer list

1.16 More room

Use case name: More room		
Actors: Employees		
Description: Used to add information to a room		
Pre-condition: Must be a manager or receptionist account. Log in successfully and click on room management		
Post-condition: N/A		
Basic flow	**Actor's actions:**	**System's responses:**
	1. Enter complete room information	2. Display a notification of successful addition and update the list again
Alternativeflow	**Actor's actions:**	**System's responses:**
	1. Input missing room information	2. Display notice that room information cannot be left empty
Exceptions	**Actor's actions:**	**System's responses:**
	N/A	N/A

1.17 Room update

Use case name: Room update		
Actors: Employees		
Description: Used to update information for a room		
Pre-condition: Must be a manager or receptionist account. Log in successfully and click on room management		
Post-condition: N/A		
Basic flow	**Actor's actions:**	**System's responses:**
	1. Select a line in the room list and enter the information to be edited in the correct format and click update	2. Display a successful update message and update the list again
Alternativeflow	**Actor's actions:**	**System's responses:**
	N/A	N/A
Exceptions	**Actor's actions:**	**System's responses:**
	1. Don't select any line in the list and click update	2. Display a message asking to select a line in the room list

1.18 Delete room

Use case name: Delete room		
Actors: Employees		
Description: Used to delete account information for a room		
Pre-condition: Must be a manager or receptionist account. Log in successfully and click on room management		
Post-condition: N/A		
Basic flow	**Actor's actions:**	**System's responses:**
	1. Select a line in the room list and press delete	2. Display a notification of successful deletion and update of the list
Alternativeflow	**Actor's actions:**	**System's responses:**
	N/A	N/A
Exceptions	**Actor's actions:**	**System's responses:**
	1. Do not select the room to delete but press the delete button	2. Display a notification to select a row in the table

1.19 Finding customers

Use case name: Finding customers		
Actors: Employees		
Description: Used to search for information of customers who need to make a reservation		
Pre-condition: Must be a manager or receptionist account. Log in successfully and click on booking		
Post-condition: N/A		

	Actor's actions:	System's responses:
Basic flow		
	1. Enter the phone number the customer needs to make a reservation and press the search button	2. Display customer booking information
Alternativeflow	Actor's actions:	System's responses:
	1. Enter the customer phone number that has not been added to the customer list and press the search button	2. isplay interface without customers
Exceptions	Actor's actions:	System's responses:
	1. Do not enter the phone number of the customer coming to make the reservation and press the search button	2. Display interface without customers

1.20 Add food

Use case name: Add food		
Actors: Employees		
Description: Used to add food to a customer's bill		
Pre-condition: Must be a manager or receptionist account. Log in successfully and click on payment		
Post-condition: N/A		
Basic flow	**Actor's actions:**	**System's responses:**
	1. Enter complete food information	2. Display the notification of successfully adding food and update the invoice detail list
Alternativeflow	**Actor's actions:**	**System's responses:**
	1. Enter missing food information or incorrect format (Quantity must be a positive integer greater than 0)	2. Display an incorrect input message and do not leave that information empty
Exceptions	**Actor's actions:**	**System's responses:**
	1. Choose the same foods	2. Display duplicate food notification

1.21 Delete food

Use case name: Delete food		
Actors: Employees		
Description: Used to delete food for customer invoices		
Pre-condition: Must be a manager or receptionist account. Log in successfully and click on payment		
Post-condition: N/A		
Basic flow	**Actor's actions:**	**System's responses:**
	1. Select a line in the invoice details list and click delete	2. Display a notification of successful deletion and update of the list
Alternativeflow	**Actor's actions:**	**System's responses:**
	N/A	N/A
Exceptions	**Actor's actions:**	**System's responses:**
	1. Do not select the room to delete but press the delete button	2. Display a notification to select a line in the invoice detail table

1.22 Food updates

Use case name: Food updates		
Actors: Employees		
Description: Used to update food items for customer invoices		
Pre-condition: Must be a manager or receptionist account. Log in successfully and click on payment		
Post-condition: N/A		
Basic flow	**Actor's actions:**	**System's responses:**
	1. Select a line in the room list and enter the information to be edited in the correct format and click update	2. Display a successful update message and update the list again
Alternativeflow	**Actor's actions:**	**System's responses:**
	N/A	N/A
Exceptions	**Actor's actions:**	**System's responses:**
	1. Don't select any line in the list and click update	2. Display a message asking to select a line in the invoice detail list

1.23 Pay

Use case name: Pay		
Actors: Employees		
Description: Used to pay customer orders		
Pre-condition: Must be a manager or receptionist account. Log in successfully and click on payment		
Post-condition: N/A		
Basic flow	Actor's actions:	System's responses:
	1. Select 1 room to pay for in the booking list	2. Display successful payment interface
Alternativeflow	Actor's actions:	System's responses:
	N/A	N/A
Exceptions	Actor's actions:	System's responses:
	1. Do not select a room in the booking list and click pay	2. Displays a message that no room has been selected for payment

1.24 Invoice

Use case name: Invoice		
Actors: Employees		
Description: Used to issue customer invoices		
Pre-condition: Must be a manager or receptionist account. Log in successfully and click on payment		
Post-condition: N/A		
Basic flow	Actor's actions:	System's responses:
	1. Select 1 invoice to export in the invoice list table 3.Select the path, enter the file name and click export invoice	2. Display file selection interface (where invoices are stored) 4. Display exported invoice excel file (including invoice information and invoice details)
Alternativeflow	Actor's actions:	System's responses:
	N/A	N/A
Exceptions	Actor's actions:	System's responses:
	N/A	N/A

1.25 Statistical

Use case name: Statistical		
Actors: Employees		
Description: Used for revenue statistics		
Pre-condition: Must be a manager account. Log in successfully and click on payment		
Post-condition: N/A		
Basic flow	**Actor's actions:**	**System's responses:**
	1. Select a time period before the current date	2. Display statistical results (including daily sales statistics and statistics of all products sold)
Alternativeflow	**Actor's actions:**	**System's responses:**
	1. Select the current date period	2. Do not display statistical results
Exceptions	**Actor's actions:**	**System's responses:**
	N/A	N/A

2. Use case for Employees

2.1 Change Password

Use case name: Change Password		
Actors: Employees		
Description: Used to change the account password for an employee		
Pre-condition: Must be the account of a manager or receptionist. Click on the forgot password function at the login screen		
Post-condition: N/A		
Basic flow	Actor's actions:	System's responses:
	1. Enter your username and press the search button	2. Display security questions
Alternativeflow	Actor's actions:	System's responses:
	1. nput missing password change information (Password must have at least 1 lowercase letter, 1 uppercase letter, 1 special character, no spaces and at least 8 characters; Answer cannot be empty)	2. Display an incorrect input message and do not leave that information empty
Exceptions	Actor's actions:	System's responses:
	1. Don't enter your username, just press the search button	2. Displays a message that the login name cannot be empty

2.2 Add products

Use case name: Add products		
Actors: Employees		
Description: Used to add information to a product		
Pre-condition: Must be a manager or receptionist account. Log in successfully and click on product management		
Post-condition: N/A		
Basic flow	**Actor's actions:**	**System's responses:**
	N/A	N/A
Alternativeflow	**Actor's actions:**	**System's responses:**
	1. Enter missing product information or incorrect format (Product name does not have special characters; Unit price can only be entered in numbers)	2. Display an incorrect input message and do not leave that information empty
Exceptions	**Actor's actions:**	**System's responses:**
	N/A	N/A

2.3 Product updates

Use case name: Product updates		
Actors: Employees		
Description: Used to update information for a product		
Pre-condition: Must be a manager or receptionist account.Login successfully and click on product management		
Post-condition: N/A		
Basic flow	Actor's actions:	System's responses:
	1. Select a line in the product list and enter the information to be edited in the correct format and click update	2. Display a successful update message and update the list again
Alternativeflow	Actor's actions:	System's responses:
	1. Select a line in the product list and enter the information that needs to be corrected in the wrong format	2. Displays a message stating that the input format is incorrect, requiring re-entry
Exceptions	Actor's actions:	System's responses:
	1. Don't select any line in the list and click update	2. Display a message asking to select a line in the product list

2.4 Delete product

Use case name: Delete product		
Actors: Employees		
Description: Used to delete account information for a product		
Pre-condition: Must be a manager or receptionist account. Log in successfully and click on employee management		
Post-condition: N/A		
Basic flow	Actor's actions:	System's responses:
	1. Select a line in the product list and click delete	2. Display a notification of successful deletion and update of the list
Alternativeflow	Actor's actions:	System's responses:
	1. Select a line in the product list and enter the information that needs to be corrected in the wrong format	2. Displays a message stating that the input format is incorrect, requiring re-entry
Exceptions	Actor's actions:	System's responses:
	N/A	N/A

2.5 Add product type

Use case name: Add product type		
Actors: Employees		
Description: Used to add information to a product type		
Pre-condition: Must be a manager or receptionist account. Log in successfully and click on product management		
Post-condition: N/A		
Basic flow	Actor's actions:	System's responses:
	N/A	N/A
Alternativeflow	Actor's actions:	System's responses:
	1. Enter missing product type information or incorrect format (Product type name does not have special characters)	2. Display an incorrect input message and do not leave that information empty
Exceptions	Actor's actions:	System's responses:

	N/A	N/A

2.6 Update product type

Use case name: Update product type		
Actors: Employees		
Description: Used to update information for a product type		
Pre-condition: Must be a manager or receptionist account. Log in successfully and click on product management		
Post-condition: N/A		
Basic flow	**Actor's actions:**	**System's responses:**
	1. Select a line in the product type list and enter the information to be edited in the correct format and click update	2. Display a successful update message and update the list again
Alternativeflow	**Actor's actions:**	**System's responses:**
	1. Select a line in the product type list and enter the information that needs to be corrected in the wrong format	2. Displays a message stating that the input format is incorrect, requiring re-entry
Exceptions	**Actor's actions:**	**System's responses:**
	1. Don't select any line in the list and click update	2. Display a message asking to select a line in the product type list

2.7 Delete product type

Use case name: Delete product type		
Actors: Employees		
Description: Used to delete account information for a product type		
Pre-condition: Must be a manager or receptionist account. Log in successfully and click on employee management		
Post-condition: N/A		
Basic flow	**Actor's actions:**	**System's responses:**
	1. Select a line in the product type list and click delete	2. Display a notification of successful deletion and update of the list
Alternativeflow	**Actor's actions:**	**System's responses:**
	N/A	N/A
Exceptions	**Actor's actions:**	**System's responses:**
	1. Do not select the type of product to delete but press the delete button	2. Display a notification to select a row in the table

2.8 Add customers

Use case name: Add customers		
Actors: Employees		
Description: Used to add information for a customer		
Pre-condition: Must be a manager or receptionist account. Log in successfully and click on customer management		
Post-condition: N/A		
Basic flow	**Actor's actions:**	**System's responses:**
	N/A	N/A
Alternativeflow	**Actor's actions:**	**System's responses:**
	1. Enter missing customer information or incorrect format (Customer name cannot enter numbers and special characters; Phone number must be 9-10 digits, no characters) 3. Enter complete information but the phone number is the same	2. Display an incorrect input message and do not leave that information empty 4. Display notification that the phone number already exists
Exceptions	**Actor's actions:**	**System's responses:**
	N/A	N/A

2.9 Update customers

Use case name: Update customers		
Actors: Employees		
Description: Used to update information for a customer		
Pre-condition: Must be a manager or receptionist account. Log in successfully and click on customer management		
Post-condition: N/A		
Basic flow	**Actor's actions:**	**System's responses:**
	1. Select a line in the customer list and enter the information to be edited in the correct format and click update	2. Display a successful update message and update the list again
Alternativeflow	**Actor's actions:**	**System's responses:**
	1. Select a line in the customer list and enter the information that needs to be corrected in the wrong format	2. Displays a message stating that the input format is incorrect, requiring re-entry
Exceptions	**Actor's actions:**	**System's responses:**
	1. Don't select any line in the list and click update	2. Display a message asking to select a line in the customer list

2.10 More room

Use case name: More room		
Actors: Employees		
Description: Used to add information to a room		
Pre-condition: Must be a manager or receptionist account. Log in successfully and click on room management		
Post-condition: N/A		
Basic flow	**Actor's actions:**	**System's responses:**
	1. Enter complete room information	2. Display a notification of successful addition and update the list again
Alternativeflow	**Actor's actions:**	**System's responses:**
	1. Input missing room information	2. Display notice that room information cannot be left empty
Exceptions	**Actor's actions:**	**System's responses:**
	N/A	N/A

2.11 Room update

Use case name: Room update		
Actors: Employees		
Description: Used to update information for a room		
Pre-condition: Must be a manager or receptionist account. Log in successfully and click on room management		
Post-condition: N/A		
Basic flow	**Actor's actions:**	**System's responses:**
	1. Select a line in the room list and enter the information to be edited in the correct format and click update	2. Display a successful update message and update the list again
Alternativeflow	**Actor's actions:**	**System's responses:**
	N/A	N/A
Exceptions	**Actor's actions:**	**System's responses:**
	1. Don't select any line in the list and click update	2. Display a message asking to select a line in the room list

2.12 Delete room

Use case name: Delete room		
Actors: Employees		
Description: Used to delete account information for a room		
Pre-condition: Must be a manager or receptionist account. Log in successfully and click on room management		
Post-condition: N/A		
Basic flow	**Actor's actions:**	**System's responses:**
	1. Select a line in the room list and press delete	2. Display a notification of successful deletion and update of the list
Alternativeflow	**Actor's actions:**	**System's responses:**
	N/A	N/A
Exceptions	**Actor's actions:**	**System's responses:**
	1. Do not select the room to delete but press the delete button	2. Display a notification to select a row in the table

2.13 Finding customers

Use case name: Finding customers		
Actors: Employees		
Description: Used to search for information of customers who need to make a reservation		
Pre-condition: Must be a manager or receptionist account. Log in successfully and click on booking		
Post-condition: N/A		
Basic flow	**Actor's actions:**	**System's responses:**
	1. Enter the phone number the customer needs to make a reservation and press the search button	2. Display customer booking information
Alternativeflow	**Actor's actions:**	**System's responses:**
	1. Enter the customer phone number that has not been added to the customer list and press the search button	2. isplay interface without customers
Exceptions	**Actor's actions:**	**System's responses:**
	1. Do not enter the phone number of the customer coming to make the reservation and press the search button	2. Display interface without customers

2.14 Add food

Use case name: Add food		
Actors: Employees		
Description: Used to add food to a customer's bill		
Pre-condition: Must be a manager or receptionist account. Log in successfully and click on payment		
Post-condition: N/A		
Basic flow	Actor's actions:	System's responses:
	1. Enter complete food information	2. Display the notification of successfully adding food and update the invoice detail list
Alternativeflow	Actor's actions:	System's responses:
	1. Enter missing food information or incorrect format (Quantity must be a positive integer greater than 0)	2. Display an incorrect input message and do not leave that information empty
Exceptions	Actor's actions:	System's responses:
	1. Choose the same foods	2. Display duplicate food notification

2.15 Delete food

Use case name: Delete food		
Actors: Employees		
Description: Used to delete food for customer invoices		
Pre-condition: Must be a manager or receptionist account. Log in successfully and click on payment		
Post-condition: N/A		
Basic flow	Actor's actions:	System's responses:
	1. Select a line in the invoice details list and click delete	2. Display a notification of successful deletion and update of the list
Alternativeflow	Actor's actions:	System's responses:
	N/A	N/A
Exceptions	Actor's actions:	System's responses:
	1. Do not select the room to delete but press the delete button	2. Display a notification to select a line in the invoice detail table

2.16 Food updates

Use case name: Food updates		
Actors: Employees		
Description: Used to update food items for customer invoices		
Pre-condition: Must be a manager or receptionist account. Log in successfully and click on payment		
Post-condition: N/A		
Basic flow	**Actor's actions:**	**System's responses:**
	1. Select a line in the room list and enter the information to be edited in the correct format and click update	2. Display a successful update message and update the list again
Alternativeflow	**Actor's actions:**	**System's responses:**
	N/A	N/A
Exceptions	**Actor's actions:**	**System's responses:**
	1. Don't select any line in the list and click update	2. Display a message asking to select a line in the invoice detail list

2.17 Pay

Use case name: Pay		
Actors: Employees		
Description: Used to pay customer orders		
Pre-condition: Must be a manager or receptionist account. Log in successfully and click on payment		
Post-condition: N/A		
Basic flow	**Actor's actions:**	**System's responses:**
	1. Select 1 room to pay for in the booking list	2. Display successful payment interface
Alternativeflow	**Actor's actions:**	**System's responses:**
	N/A	N/A
Exceptions	**Actor's actions:**	**System's responses:**
	1. Do not select a room in the booking list and click pay	2. Displays a message that no room has been selected for payment

2.18 Invoice

Use case name: Invoice		
Actors: Employees		
Description: Used to issue customer invoices		
Pre-condition: Must be a manager or receptionist account. Log in successfully and click on payment		
Post-condition: N/A		
Basic flow	**Actor's actions:**	**System's responses:**
	1. Select 1 invoice to export in the invoice list table 3.Select the path, enter the file name and click export invoice	2. Display file selection interface (where invoices are stored) 4. Display exported invoice excel file (including invoice information and invoice details)
Alternativeflow	**Actor's actions:**	**System's responses:**
	N/A	N/A
Exceptions	**Actor's actions:**	**System's responses:**
	N/A	N/A

ENTITY RELATIONSHIP DIAGRAM (ERD)
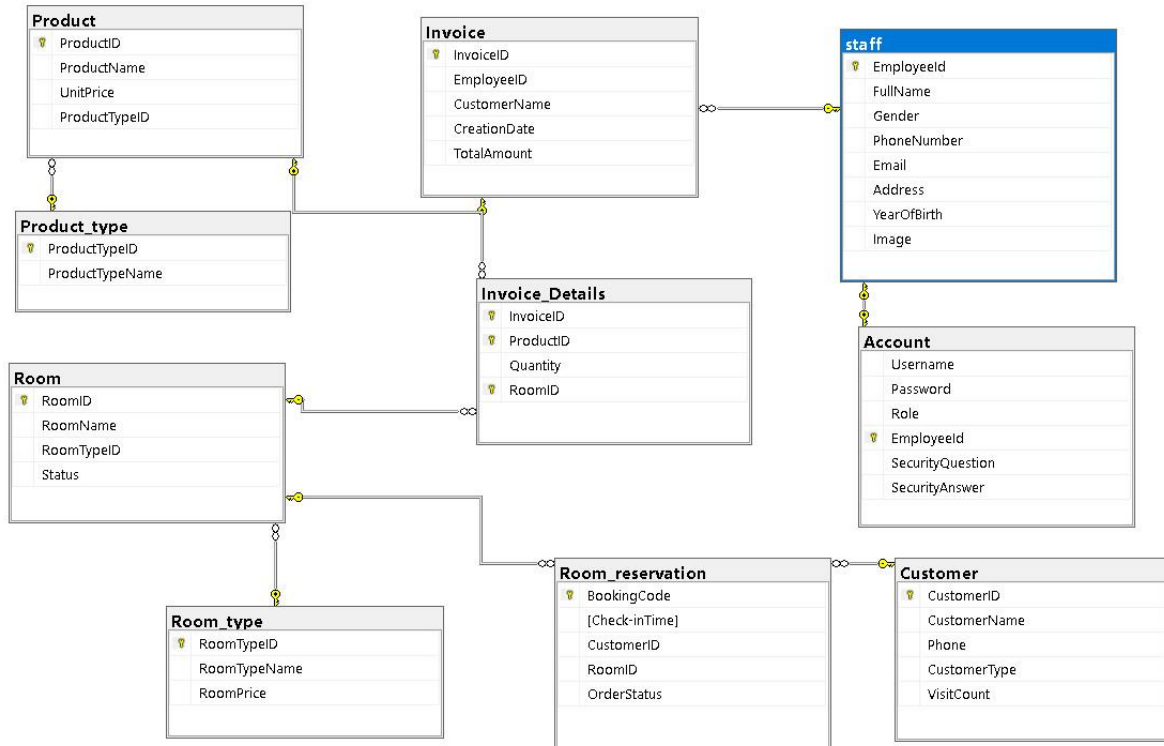
1. Account:

Column Name	Data Type	Allow Nulls
Username	varchar(50)	☐
Password	varchar(50)	☐
Role	nvarchar(50)	☐
EmployeeId	int	☐
SecurityQuestion	nvarchar(50)	☐
SecurityAnswer	nvarchar(50)	☐
		☐

2. Customer

Column Name	Data Type	Allow Nulls
InvoiceID	int	☐
EmployeeID	int	☐
CustomerName	nvarchar(50)	☐
CreationDate	date	☐
TotalAmount	money	☑
		☐

3. Invoice

Column Name	Data Type	Allow Nulls
InvoiceID	int	☐
EmployeeID	int	☐
CustomerName	nvarchar(50)	☐
CreationDate	date	☐
TotalAmount	money	☑
		☐

4. Invoice_Details

Column Name	Data Type	Allow Nulls
InvoiceID	int	☐
ProductID	int	☐
Quantity	int	☐
RoomID	int	☐
		☐

5. Product

Column Name	Data Type	Allow Nulls
ProductID	int	☐
ProductName	nvarchar(50)	☐
UnitPrice	money	☐
ProductTypeID	int	☐
		☐

6. Product_Type

Column Name	Data Type	Allow Nulls
ProductTypeID	int	☐
ProductTypeName	nvarchar(50)	☐
		☐

7. Room

Column Name	Data Type	Allow Nulls
RoomID	int	☐
RoomName	nvarchar(50)	☐
RoomTypeID	nvarchar(50)	☐
Status	nvarchar(50)	☑
		☐

8. Room_reservation

Column Name	Data Type	Allow Nulls
BookingCode	int	☐
CheckinTime	datetime	☐
CustomerID	int	☐
RoomID	int	☐
OrderStatus	nvarchar(50)	☐
		☐

9. Room_Type

Column Name	Data Type	Allow Nulls
RoomTypeID	nvarchar(50)	☐
RoomTypeName	nvarchar(50)	☐
RoomPrice	money	☐
		☐

10.   Staff

Column Name	Data Type	Allow Nulls
EmployeeID	int	☐
FullName	nvarchar(50)	☐
Gender	int	☐
PhoneNumber	nvarchar(50)	☐
Email	nvarchar(50)	☐
Address	nvarchar(50)	☑
DateOfBirth	nvarchar(50)	☐
Image	image	☑
		☐

TASK SHEET REVIEW 2

Project:Karaoke management			Date of preparation of activity plan:			
#	Task	Prepared by	Start date	days	Team member name	status
1	Use case	NGUYEN HOANG MINH NGOC	31/05/2024	07/06/2024	NGUYEN HOANG MINH NGOC	completed
2	ENTITY RELATIONSHIP DIAGRAM (ERD)	DANG TO NHAN NGUYEN HOANG ANH PHAN TRAN DANG CHI NGUYEN HOANG MINH NGOC PHAN VAN DUY	31/05/2024	07/06/2024	DANG TO NHAN NGUYEN HOANG ANH PHAN TRAN DANG CHI NGUYEN HOANG MINH NGOC PHAN VAN DUY	completed
Review			Signature of instructor			
			Mr.Pham Cong Danh			

REVIEW 3

GUI DESIGN

1. Personnel management

1: Click the "Employee Management" button to display the employee management interface

2: Fields used to enter employee information.

3: Table displaying Staff list

4: Enter employee information (1), press the "Add" button to add employee

5: Select the employee to update in the Staff list table (3), enter the information to be edited (2) and press the "Update" button to update the employee

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6: Click the "Refresh" button to refresh the input fields (2) and Staff list (3)

7: Click the "Open photo" button to select a photo for the employee (if desired)

8: Select the employee code you want to search and press the "Search" button, employee information will be displayed in the employee list (3)

9: Click the "Log out" button to exit the application

- **Validate:**
  o Fullname : staff name cannot be blank , Full name cannot contain special characters
  o Email: Email cannot be blank , Email format is wrong.
  o PhoneNumber: PhoneNumber cannot be blank , The phone number is in the wrong format, must have 9-10 digits, no special characters.
  o DateOfBirth : dateofbirth cannot be blank , There are 4 digits, no letters or special characters
  o Address : address cannot be blank

2. Account management

1: Click the Account Management button to display the account management interface

2: Fields used to enter account information.

3: The table displays the accounts list

4: Enter employee account information (2), press the "Add" button to add an employee account

5: Select the employee account to delete in the employee account list table (3), press the "Delete" button to delete the employee account

6: Click the "Refresh" button to refresh the input fields (2) and account list (3)

7: Select the login name in the combobox and press the TextField, the employee account information will be displayed in the employee account list (3)

- **Validate:**
  - UserName : username cannot blank, The login name must not contain spaces or special characters
  - Password : password cannot blank ,Password must have at least 1 lowercase letter, 1 uppercase letter, 1 special character, no spaces and at least 8 characters
  - Role : cannot blank

3. Product Management

1: Click the "Product Management" button to display the product management interface

2: Fields used to enter product information.

3: Table displaying product list

4: Enter product information (2), press the "Add" button to add the product

5: Select a product to update in the product list (3), enter the information to edit (2) and press the "Update" button to update the product.

6: Select a product to delete in the product list (3), press the "Delete" button to delete the product

7: Fields used to enter product type information.

8: Table displaying the list of product types

9: Enter product type information (7), press the "Add" button to add the product type

10: Select a product type to update in the product type list (8), enter the information to edit (7) and click the "Update" button to update the product type.

11: Select a product type to delete in the product type list (8), press the "Delete" button to delete the product type

12: Click the "Refresh" button to refresh the input fields (2, 7) and product list (3, 8)

13: Select the product name in the combobox and press the TextField , product information will be displayed in the product list (3)

- **Validate:**
  o ProductName: Product type name cannot be blank
  o Product_Type: Product type name is wrong. Do not enter numbers and special characters, Product name cannot be blank
  o price: Unit prices can only be entered numerically,Unit price cannot be blank

4.Customer Relationship Management

1: Click the "Customer Management" button to display the customer management interface

2: Fields used to enter customer information

3: Table displaying customer list

4: Enter product information (2), press the "Add" button to add customers

5: Select a customer that needs to be edited in the customer list table (3), enter the customer information that needs to be edited (2) and press the "Edit" button to edit the customer.

6: Click the "Refresh" to refresh the page again

- **Validate:**
  o CustomerName : Customer name cannot be blank,Customer name is wrong. Do not enter numbers and special characters
  o PhoneNumber:Phone number can not be left blank, The phone number is in the wrong format, must have 9-10 digits, no characters. For example: 0788775877, Phone number already exists

5.room manager

1: Click the "Room management" button to display the room management interface

2: Fields used to enter room information

3: Table displaying room list

4: Enter room information (2), press the "Add Room" button to add a room

5: Select the room to delete in the room list table (3), press the "Delete Room" button to delete the room

6: Select a room to edit in the room list table (3), enter the information to edit (2) and press the "Update" button to update

7: Select the room status in the combobox ("Empty", "In use"), the room information will be displayed in the room list (3)

6. Book Room

1: Click the "Book a room" button to display the booking interface

2: Enter the phone number of the customer who wants to book a room and press the search button to display the information of the customer coming to book the room

3: List of available rooms

4: List of bookings

5: After successfully searching for the customer and selecting an available room according to the customer's request, press the "Rent now" button to book a room for the customer to check in directly, and the reservation information will appear in the order list. booking (4)

6: Refresh the reservation list (4) and customer information (2) to the original state

7: Select search criteria in the combobox, enter information into the textfield, search results will display in the list of bookings (4)

8: Click "Reserve" if the customer wants to reserve a room in advance. After pressing the button, a Reservation interface will appear.

7.Payment Management

1: Click the "Pay" button to display the payment interface

2: Select the booking you want to order the service

3: Fields display customer information, room and room price

4: Select product type to filter products by type

5: Select products to add food to customers

6: Enter the quantity of food to order

7: Click the "Add food" button to add food

8: Select the food to delete in the invoice details list (11), press the "Delete" button to delete the food

9: Select the food to be changed in the invoice detail list (11), enter the quantity to be changed (6) then press the "Update" button to update the food quantity

10: Click the "Refresh" button to refresh the data

11: List of invoice details for 1 invoice

12: Total customer service fee

13: Display employee information currently logged in

14: Total amount of the bill

15: Enter the amount given by the customer

16: Excess money needs to be returned to customers

17: Click the "Pay" button to pay the bill

18: Click the "View invoice list" button to see the list of invoices by employee

19: Select search criteria in the combobox, enter information in the textfield, search results will be displayed in the list of rooms in use (2)

8.Login
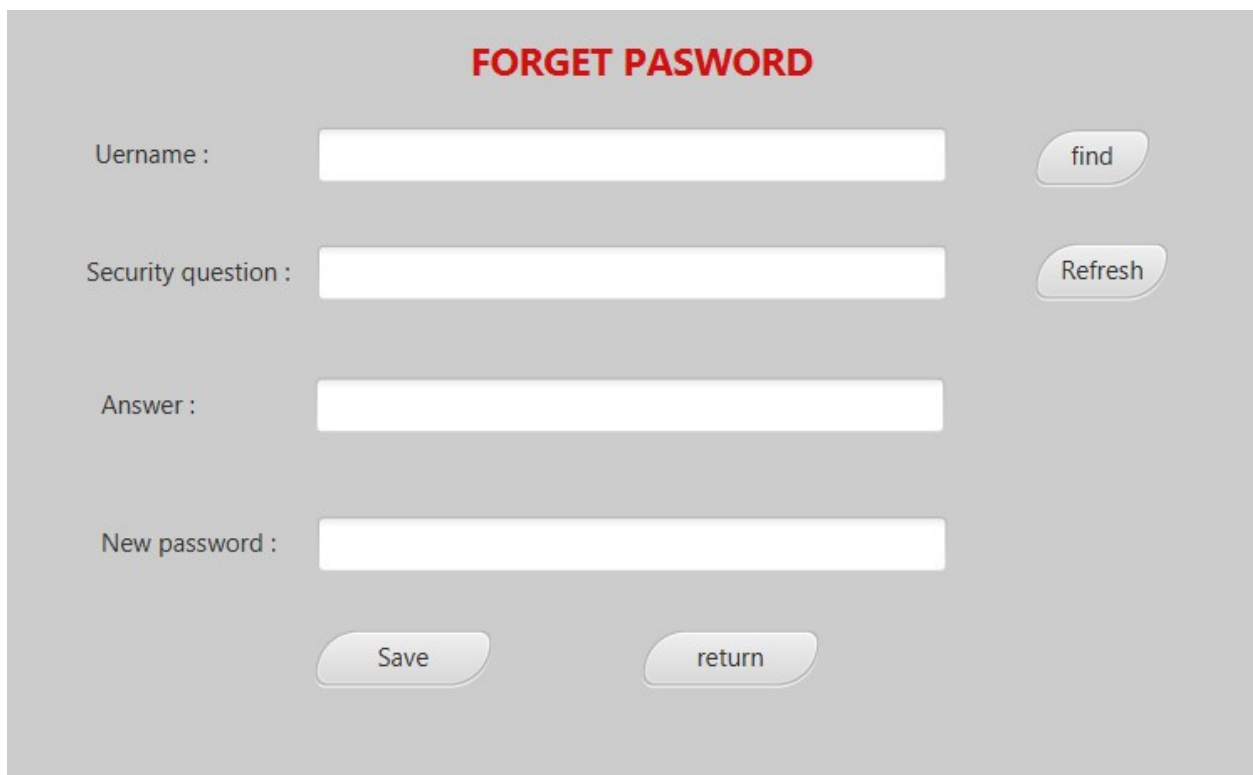
1: Fields used to enter employee account information

2: Click "Login" to be able to use the application

3: Tap "Cancel" if you want to exit the application

4: If you forget your password, tap "Forget password?"

9. Login

1: Enter your login name into the application

2: Click the "find" button to check your username

3: If the account is correct, the security question information that the manager has created for you will appear

4: Enter the answer to confirm the account

5: Enter a new password if your account is correct

6: press the "Save" button to save the new password

7: Press the "Refresh" button to refresh all data

TASK SHEET REVIEW 3

Project: Karaoke management			Date of preparation of activity plan:			
#	Task	Prepared by	Start date	Actual Days	Team member name	status
1	GUI DESIGN	DANG TO NHAN NGUYEN HOANG ANH PHAN TRAN DANG CHI NGUYEN HOANG MINH NGOC PHAN VAN DUY	07/06/2024	17/06/2024	DANG TO NHAN NGUYEN HOANG ANH PHAN TRAN DANG CHI NGUYEN HOANG MINH NGOC PHAN VAN DUY	completed
Review			Signature of instructor			
			Mr.Pham Cong Danh			