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#### 1. Introduce

#### 1.1. Purpose of the document

This document was developed for the purpose of analyzing, specifying the requirements for the hotel management software development project. This document describes software requirements for the entire system or for each of the subsystems used as input to the design process, the programming usecase construction, the system test of the system build.

#### 1.2. Document scope

Documentation is the result of a survey of the requirements, learning the documents related to the necessary functions of the hotel management system.

#### 1.3. Definitions.

Configuration	Definition	Explaining
HTM	Hotel Management	Name of project
DB	Database	Where to store information and allow access.
PK	Primary Key	Main key
UK	Unique Key	Unique key

### 1.4. References

The references are:

- Document about action of hotel.
- Projects related to management in the Internet.

- Experiment when hide hotel room,

#### 1.5. Document description

The structure of the specification document includes the following sections:

- **Part 1 Introduce**: General introduction of the document, help the reader visualize the content, purpose and general layout of the document.
- Part 2 Overview of software: Identify common requirements, objectives, user objects, and build the overall model of the software
- **Part 3 Usecase process analysis**: Presentation and analysis of usecase processes of the bookstore management system module.
- **Part 4 Functional requirements of the software:** Demonstrates the functional requirements that the software should provide.
- **Part 5 Other requirements**: Presentation of non-functional requirements: ease of use, stability, performance, security, backup and restore capabilities, supportability, and more.

#### 2. Software overview

#### 2.1 Software general requirements

General requirements of the hotel management system software consists of two parts: room management; information management in the database.

- a) Room management:
- Processing guest's booking process: check, find room for guests, changing room request.
- Enter customer information for booking.
- Payment and invoice printing for guests
- b) Management of information in the database
- Management, updating information staff, services, rooms in the hotel and discount promotions (if any).
- Manage turnover statistics by day, month, quarter.
- Manage turnover statistics by room.
- Administering user access permissions by functional group: includes "Management" and "Reception". User can change password to access the system.
- Store the list of customers who have reservations in the hotel.
- Store the list of services used by customer to check invoices
- Store invoices that have been paid out over time for future reporting.

#### 2.2 Software objectives

Small and low professional level hotel and motel. Help the management to be more effectively, accurately and quickly.

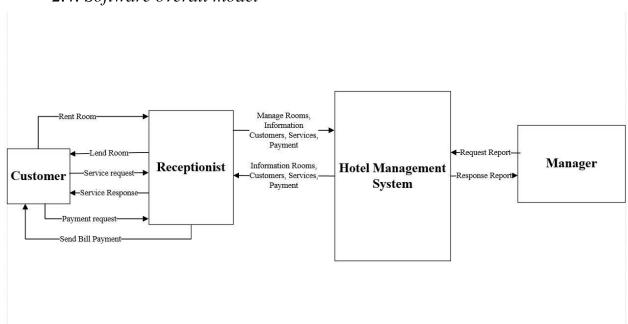
#### 2.3. *User*

System has these user group:

- Management group: control at the whole system.
- Professional operation group:

- + Reception: check availability, enter customer information, book rooms, book services, check out and billing for guests.
- + Customer: Direct reservations or by telephone, call to reception to request service.

#### 2.4. Software overall model

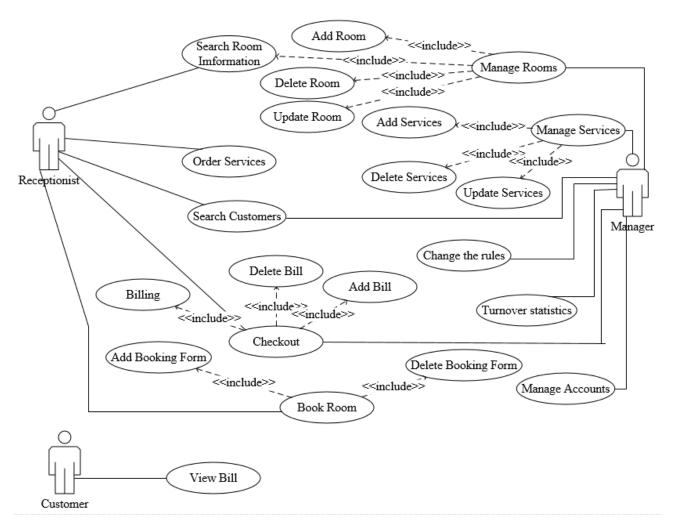


H1. Software overall model

#### 3. Analysis business process

Describe in detail each specific business, allowing members of the project to build the best quality software. With the UseCase (UC) model, software requirements are described by UCs and in additional specifications.

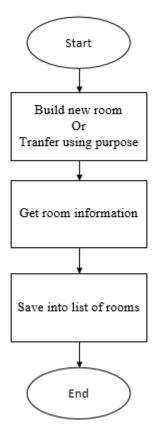
### Use case diagram



H2. Use Case Diagram

- 3.1. Use case "Manage Room"
- 3.1.1. Use case "Add room"
- a. Event triggered

When hotel build more rooms or tranfer using purpose of other rooms to rentor room, information of rooms must be updated.

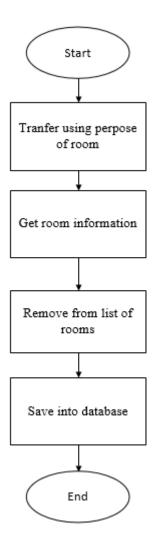


- c. Describe the steps
- Step 1: Get information of room
- + Input: Room note.
- + Output: Room information is entered.
- Step 2: Update to list of rooms
- + Input: Information of room need to store.
- + Output: Database store room information

#### 3.1.2. Use case "Delete Room"

#### a. Event triggered

When hotel tranfer using purpose of rentor rooms to other purpose, database should be update.

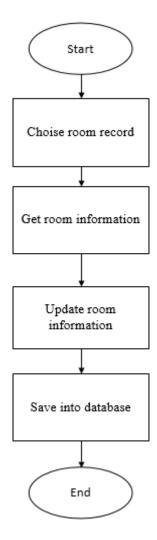


- c. Describe the steps
- Step 1: Get information of room
- + Input: Choise room.
- + Output: Room information.
- Step 2: Remove room record from database:
- + Input: Room record.
- + Output: Room record is removed from database.

#### 3.1.2. Use case "Update Room"

#### a. Event triggered

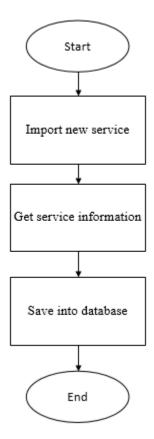
When manager want change information of room, it should be updated.



- c. Describe the steps
- Step 1: Get information of room
- + Input: Information from manager
- + Output: Information of room is entered
- Step 2: Update to database
- + Input: Room information
- + Output: Database updated new information of room.

- 3.2. Use case "Manage Service"
- 3.2.1. Use case "Add Service"
- a. Event triggered

When manager decide to provide new service in hotel.



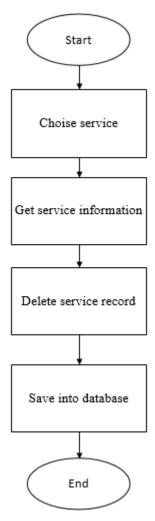
- c. Describe the steps
- Step 1: Import new service information
- + Input: Service information
- + Output: Service information is entered
- Step 2: Get new service information
- + Input: Service information
- + Output: Save service information to list of service.

#### 3.2.2. Use case "Delete Service"

#### a. Event triggered

When manager decide stop providing service.

b. Business process model



c. Describe the steps

- Step 1:Get service information

+ Input: Manager choise the service need to delete

+ Output: Service information

- Step 2: Delete service

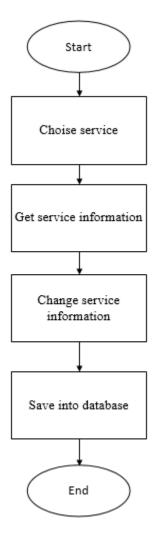
+ Input: Service code

+ Output: Service records is removed from database.

### 3.2.3. Use case "Update Service"

#### a. Event triggered

When manager change service information.



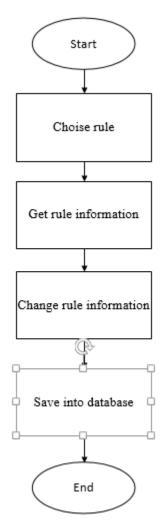
- c. Describe the steps
- Step 1: Get service information
- + Input: Choise service
- + Outut: Service information
- Step 2: Change service information
- + Input: New information of service
- + Output: Database updated new information of the service.

### 3.3. Use case "Change rules"

#### a. Event triggered

When manager change rule of hotel.

b. Business process model



c. Describe the steps

- Step 1: Get rule information

+ Input: Choise rule

+ Outut: rule information

- Step 2: Change rule information

+ Input: New information of rule

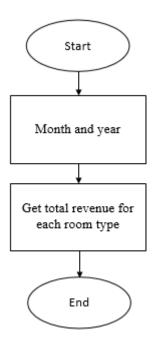
+ Output: Database updated new information of the rule.

3.4. Use case "Turnover statistics"

a. Event triggered

When manager need audit Turnover.

b. Business process model



c. Describe the steps

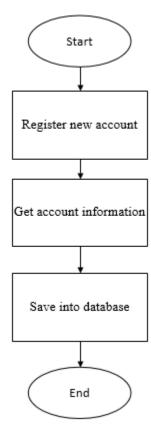
- Step 1: Enter month and year

+ Input: Month and year need to statistic

+ Output: Corresponding Turnovers of room types

- 3.5. Use case "Manage accounts"
- 3.5.1. Use case "Add account"
- a. Event triggered

When manager decide to provide new account in hotel.

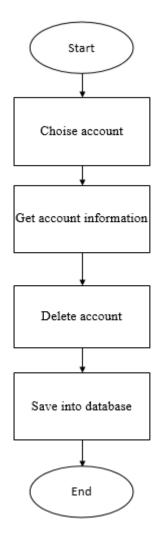


- c. Describe the steps
- Step 1: Import new account information
- + Input: Account information
- + Output: Account information is entered
- Step 2: Get new account information
- + Input: Account information
- + Output: Save account information to list of account.

#### 3.5.2. Use case "Delete account"

#### a. Event triggered

When manager decide stop providing account.

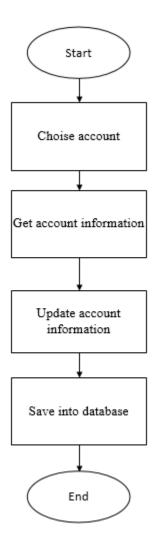


- c. Describe the steps
- Step 1:Get account information
- + Input: Manager choise the account need to delete
- + Output: Account information
- Step 2: Delete service
- + Input: Account ID
- + Output: Account records is removed from database.

### 3.5.3. Use case "Update account"

#### a. Event triggered

When manager change account information.



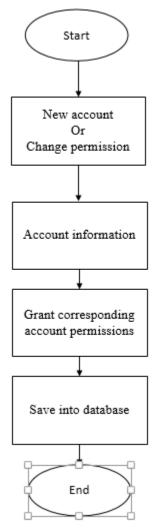
- c. Describe the steps
- Step 1: Get account information
- + Input: Choise account
- + Outut: Account information
- Step 2: Change account information
- + Input: New information of account
- + Output: Database updated new information of the account.

#### 3.5.4. Use case "Change security level"

#### a. Event triggered

Each account has different security level to access the system.

When account is added new or changed security level.

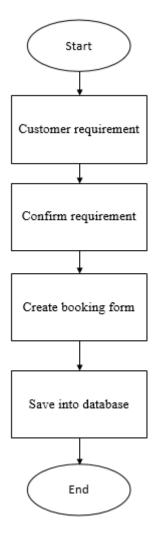


- c. Describe the steps
- Step 1: Get account information
- + Input: Account ID
- + Output: Accout information
- Step 2: Grant account permission
- + Input: Grant new permission or change permission
- + Output: Database updated account information

#### 3.6. Use case "Book room"

#### a. Event triggered

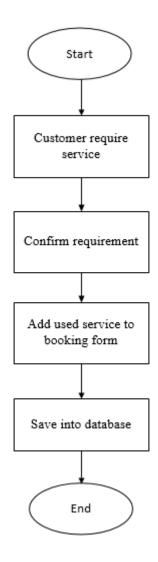
When customer require booking hotel room.



- c. Describe the steps
- Step 1: Get customer requirement
- + Input: Customer requirement
- + Output: Information of corresponding rooms
- Step 2: Create booking form
- + Input: Customer and room information
- + Output: New booking form is saved to database

- 3.7 Use case "Order services"
- a. Event triggered

When customer call the receptionist to order services.

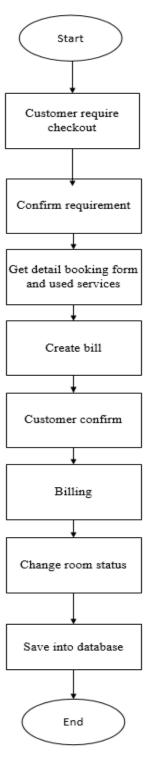


- c. Describe the steps
- Step 1: Get order service
- + Input: Customer requirement
- + Output: Get ordered services information
- Step 2: Order service
- + Input: Ordered services information
- + Output: Corresponding services were ordered and add used service to booking form.

### 3.8. Use case "Checkout"

a. Event triggered

When customer checkout.



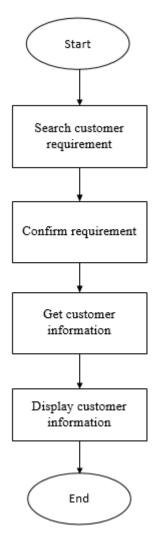
- c. Describe the steps
- Step 1: Get customer requirement checkout
- + Input: Customer information
- + Output: Rentor room, booking form information and used service
- Step 2: Create bill
- + Input: Booking form information and used service
- + Output: Payment
- Step 3: Checkout
- + Input: Customer confirm
- + Output: Billing, change room status to empty and save changes to database.

3.9. Use case "Search customer information"

#### a. Event triggered

When manager or receptionist search customer

b. Business process model



c. Describe the steps

- Step 1: Get searching customer requirement

+ Input: Customer information

+ Output: Customer record

- Step 2: Display customer record

+ Input: Customer record

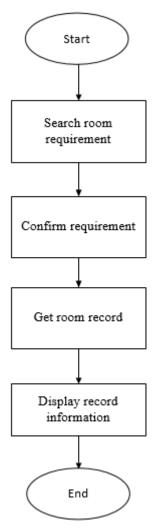
+ Output: Display full customer record

### 3.10. Use case "Search Room Information"

#### a. Event triggered

When manager or receptionist search customer

b. Business process model



c. Describe the steps

- Step 1: Get searching customer requirement

+ Input: Room information

+ Output: Room record

- Step 2: Display room record

+ Input: Room record

+ Output: Display full room information

### 4. Specific requirements for functional software

To perform the above mentioned operations, the software must have the following functions:

### 4.1. Specifications "Login" function

Use Case: {UC_01_Login}	
Purpose	User log in the system based on permision
Description	Allow user to log in to use the functions that supported for these kinds of user
Actor	Reception and manager
<b>Pre-condition</b>	Access the hotel management software
Basic flows	- Enter username - Enter password
Alternative Flows	<ul> <li>Fail to log in because of wrong username -&gt; Re-enter</li> <li>Fail to log in because password does not match-&gt; Re-enter</li> </ul>
Post-condition	Log in successfully and start to use other functions of the system

### 4.2. Specifications "Create new account" function

Use Case: {UC_02_Create new account}	
Purpose	Provide account for user
Description	Enter user information

Actor	Manager
Pre-condition	<ul><li>Log in successfully with administrator permision</li><li>Click "Staff" on "Admin"</li><li>Click button "Provide account" in this form</li></ul>
Basic flows	Enter user name, password for user account
Alternative Flows	User account information is stored in Database
Post-condition	Enter username, password for user's account

# 4.3. Specifications "Change Password" function

Use Case: {UC_03_Change Passwrod}	
Purpose	Change user password
Description	Change user password
Actor	Manager + Attendants
Pre-condition	- Log in successfully - Click "Account" in Main menu - Choose "Change password"
Basic flows	Change user account password
Alternative Flows	Informations are saved in database

Post-condition	Change user password

## 4.4. Specifications "Reservation" function

Use Case: {UC_04_Reservation}	
Purpose	Reservation
Description	Check room list and show customer the room that not currently in use, then connect to reservation data
Actor	Reception
Pre-condition	<ul> <li>Log in successfully with reception permision or higher</li> <li>Click "Room", then "Reservation" This time room list displays</li> <li>Choose room by images or room number.</li> </ul>
Basic flows	Reservation for customers
Alternative Flows	Out of room or don't meet the customer's requirements  Reservation ends
Post-condition	Reservation complete, save reservation and customer data. Update room status from "Free" to "Currently in use"

## 4.5. Specifications "Check out" function

Use Case: {UC_05_Check out}	
Purpose	Check out by demand of customer or out of time

Description	Process of payment, printing invoice and updating status of room, Delete guest list.
Actor	Reception
Pre-condition	<ul> <li>Log in successfully with reception permision or higher</li> <li>Click "Room", then "Check out". This time room list displays</li> <li>Click onto room in list.</li> <li>Click "Add invoice" to invoicing.</li> <li>Click "Pay" to print invoice for our customer.</li> </ul>
Basic flows	Add and print invoices.
Alternative Flows	Customer have response about invoice(bill) or want to cancel reservation → Delete invoice to re-check invoice information.
Post-condition	List of rooms, customers is updated by data and status

# 4.6. Specifications "Add room" function

Use Case: {UC_06_Add room}	
Purpose	Add room for rent
Description	Add room for rent into database.
Actor	Manager
Pre-condition	-Log in successfully with manager permision.

	<ul> <li>Click "Manager", click "Room management". This time room list displays</li> <li>Click "Add room" to enter information of the new room.</li> </ul>
Basic flows	Type Room Code, Room Status, Room Type, Price and Note
Alternative Flows	Newly added room's code is duplicated → Re-enter
Post-condition	Room list is updated.

## 4.7. Specifications "Delete room" function

Use Case: {UC_07_Delete room}	
Purpose	Delete room that will be not in use out of the system
Description	Delete room that will be not in use out of the system
Actor	Manager
Pre-condition	<ul> <li>Log in successfully with manager permision.</li> <li>Click "Manager", click "Room management". This time room list displays</li> <li>Click onto the room you want to delete. Click "Delete room" to delete data of that room.</li> </ul>
Basic flows	Delete room from list
Alternative Flows	Chosen room is at status "Full" or "Repairing" → Delete room is not permitted

Post-condition	Room list is updated.
----------------	-----------------------

## 4.8. Specifications "Update room" function

Use Case: {UC_08_Update room}	
Purpose	Edit room information
Description	Edit room information
Actor	Manager
Pre-condition	<ul> <li>-Log in successfully with manager permision.</li> <li>- Click click "Manager", click "Room management". This time room list displays</li> <li>- Click the room that you want to edit. Click click "Update room"</li> </ul>
Basic flows	Enter room status, type and notes
Alternative Flows	Click "Stop" -> Cancel update room
Post-condition	Room list is updated

### 4.9. Specifications "Add service" function

Use Case: {UC_09_Add service}	
Purpose	Add new service
Description	Add new service when add service

Actor	Manager
Pre-condition	<ul> <li>-Log in successfully with manager permision.</li> <li>- Click "Manager", click "Manager service". This time service list displays</li> <li>- Click "Add service" then enter information about new service.</li> </ul>
Basic flows	Service được add mới
Alternative Flows	New service code is duplicated → Re-enter
Post-condition	Service list is updated.

# 4.10. Specifications "Delete service" function

Use Case: {UC_10_Delete service}	
Purpose	Delete services that are no longer supported
Description	Delete services that are no longer supported
Actor	Manager
Pre-condition	<ul> <li>-Log in successfully with manager permision</li> <li>- Click click "Manager", click "Manager service". This time service list displays</li> <li>- Click "Delete service" to delete that service.</li> </ul>
Basic flows	Delete service out of database.

Alternative Flows	None
Post-condition	Service list is updated.

## 4.11. Specifications "Update service" function

Use Case: {UC_11_Update service}	
Purpose	Update service information
Description	Create list of the thing that customer require
Actor	Manager
Pre-condition	<ul> <li>-Log in successfully with manager permision</li> <li>- Click click "Manager", click "Manager service". This time service list displays</li> <li>- Click "Update service" to change service information.</li> </ul>
Basic flows	Enter service name, unit, price.
Alternative Flows	Service data is stored in database
Post-condition	Service list is updated.

### 4.12. Specifications "Order services" function

**Use Case:** {UC\_12\_Order services}

Purpose	Order services for customers to select
Description	Customer call the Reception to request for a service. Reception will execute the resquest
Actor	Reception and Manager
Pre-condition	<ul> <li>Log in successfully with reception permision or higher</li> <li>Click "Manager", then "Service management", choose "Order service".</li> <li>Or click "Room", then "Order service". This time order service table display</li> </ul>
Basic flows	- Enter room code  - Click service name  - Enter quantity
Alternative Flows	Close → Cancel Oerder
Post-condition	Information about "Order services" is saved to attach into invoice

## 4.13. Specifications "Room search" function

Use Case: {UC_13_Room search}	
Purpose	Check information of rooms in hotel
Description	Provide information by room, price, availability

Actor	Reception + Manager
Pre-condition	- Click search button - Click "Room search" button
Basic flows	- Click type or price range to show proper room information - Click empty ,Click button "Reservation".
Alternative Flows	Room doesn't found=> Search again
Post-condition	Information list of rooms

# 4.14. Specifications "Search customer" function

Use Case: {UC_14_ Search customer}	
Purpose	Search for detail customer information
Description	See in detail customer information
Actor	Reception và manager
Pre-condition	Log in successfully with reception permision or higher  - Click search button  - Click "Search customer" in "Admin"
Basic flows	<ul> <li>Choose customer by writing their name(customer's name,address, customer type, room code) in search box.</li> <li>Show customer information</li> </ul>

Alternative Flows	-Search is failed because of wrong information -> Re-enter
Post-condition	List of customers with detail informations

### 4.15. Specifications "Change regulation" function

Use Case: {UC_15_Change regulation}	
Purpose	Reinstall important value of the system
Description	Update: price, surcharge, coefficient, number of customers
Actor	Manager
Pre-condition	<ul><li>Log in successfully with manager permision</li><li>Click "System", choose "Change regulation"</li></ul>
Basic flows	<ul><li>Choose parameters</li><li>Enter new values</li><li>Click "Update" to save</li></ul>
Alternative Flows	Parameters are not entered → No update occurs  Close → Section ends
Post-condition	Change regulation of the system

### 4.16. Specifications "Turnover statistics by room type" function

**Use Case:** {UC\_16\_Turnover statistics by room type}

Purpose	Check turnover statistic by room type
Description	Calculate turnover statistics in each room in specific period of time
Actor	Manager
Pre-condition	<ul><li>Log in successfully with manager permision</li><li>Click "Turnover" in "Admin"</li><li>Click "Turnover by room type".</li></ul>
Basic flows	- Click reservation time Click button "Show statistic"
Alternative Flows	- Enter wrong format data type
Post-condition	Turnover statistics in each room in specific period of time

## 4.17. Specifications "Show used service list" function

Use Case: {UC_17_Show used service list}	
Purpose	To compare with the invoice (bill)
Description	When customer requests service, the history will be stored
Actor	Manager
Pre-condition	<ul><li>Log in successfully with reception or manager permision</li><li>Click "Invoice list"</li></ul>
Basic flows	Enter room code and reservation time

Alternative Flows	Wrong room code → Re-enter  Reservation time doesn't not match → Re-enter
Post-condition	Corresponding service list is shown

### 5. Other requirements

### 5.1. Ease of Use Requirements

Request code	Describe
RQ 5.1.1	Interface language easy to understand
RQ 5.1.2	Symbols should have a consistent meaning
RQ 5.1.2	Support for using fast shortcuts
RQ 5.1.2	Building the notification system
RQ 5.1.3	The functions are consistent with the user's habits
RQ 5.1.4	Icons, interface close to the working environment
RQ 5.1.5	Manipulation directly on icons to represent a function
RQ 5.1.6	Functions need to enter data, must create a form for the user to enter data

### 5.2. Stability requirements

Request code	Describe
RQ 5.2.1	Operates 24/24

### 5.3. Security requirements

Request code	Describe
RQ 5.3.1	The user is granted a unique account and password
RQ 5.3.2	Authorize the user to each function

Request code	Describe
RQ 5.3.3	The user only has the right to change the login password,
	can not change the account name.

### 5.4. Backup and restore requirements

Request code	Describe
RQ 5.4.1	Ask before performing a function such as delete, save.
RQ 5.4.2	Temporary deletions can be resumed by using checkpointing.

### 5.5. Support eligibility requirements

Request code	Describe
RQ 5.5.1	Have help categories to guide the user
RQ 5.5.2	The information must be short, easy to understand
RQ 5.5.2	Support for installation and operation

### 5.6. Technology requirements

Request code	Describe
RQ 5.6.1	Applying new and modern technologies.
RQ 5.6.2	Buy software support to ensure the software runs securely in all environments.
RQ 5.6.3	Minimum configuration: The software must be installed on the windows operating system, from the windows xp version upwards.

### 5.7. Communication requirements

Request code	Describe
RQ 5.7.1	Use natural language.
RQ 5.7.2	Use sequence diagrams to represent the operations of the system.

### 5.8. Requires user documentation and online support

Request code	Describe
RQ 5.8.1	Maintain software to ensure that the software does not give
	the wrong results, perform the correct functions.

### 5.9. Legal requirements

Request code	Describe
RQ 5.9.1	Do not violate copyright laws when developing software.
RQ 5.9.2	Ensures software privacy and security

### 5.10. Requirements for applicable standards

Request code	Describe
RQ 5.10.1	Meets IEEE standards for software documentation