A Real Time and Interactive Dashboard for Tourism Industry

**Software Requirement Specification**

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# 1. Document History

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| History | Status | Date | Viewable | Editable | Responsible |
| Project-Software Requirement Specification\_v1.docx  Create:  - Introduction  - Project Feature  - User Requirement Specification  - Specific Requirement  - System Requirement Specification  - Reference | Draft | 29 June 2019 | ZJY, LYW,  AJP | ZJY, LYW | ZJY, LYW |
| Project-Software Requirement Specification\_v2.docx  Modify:  User Requirement Specification  - Specific Requirement  - System Requirement Specification | Draft | 22  Aug  2019 | ZJY, LYW,  AJP | ZJY, LYW | ZJY, LYW |
| Project-Software Requirement Specification\_v3.docx  Modify:  User Requirement Specification  - Specific Requirement  - System Requirement Specification | Draft | 07  Oct  2019 | ZJY, LYW,  AJP | ZJY, LYW | ZJY, LYW |
| Project-Software Requirement Specification\_v4.docx  Modify:  User Requirement Specification  - Specific Requirement  - System Requirement Specification | Final | 20  Nov  2019 | ZJY, LYW,  AJP | ZJY, LYW | ZJY, LYW |

ZJY = Junyu Zhou

LYW = Yawei Li

AJP = Dr. Pree Thiengburanathum

# 2. Introduction

## 2.1 Purpose

The purpose of the software requirement specification (SRS) is to describe the functional and non-functional requirements of a real time and interactive dashboard in tourism industry. The requirements in the SRS are involved with the users to use the web-based application. The software requirement specification provides developers and users to understand each other in structure details. The application will be designed followed the SRS.

## 2.2 Project Overview

A Real Time and Interactive Dashboard for Tourism Industry is developed for the decision maker to view and manage the data easily and efficiently. Due to a large number of data, there are numerous work and extra things to do for doing statistics. A real time and interactive dashboard in tourism industry will provide the effective platform to decision maker to manage and statistics the massive data.

**2.2.1 Project Scope**

A Real Time and Interactive Dashboard for Tourism Industry is a web-based application. It is for decision maker to do the easy statistics of mess data in a real time way. For decision maker to manage and keep tracks all the data.

**2.2.2 Document Scope**

This document will include use case, use case description and software requirement of A real time and interactive dashboard in tourism industry. The scope of use case will cover the dashboard system and login/logout system.

Use case diagrams are usually referred to as behavior diagrams used to describe a set of actions (use cases) that some system or systems (subject) should or can perform in collaboration with one or more external users of the system (actors).

A software requirements specification (SRS) is a comprehensive description of the intended purpose and environment for software under development. The SRS fully describes what the software will do and how it will be expected to perform.

## 2.3 User Characteristics

This system provides visualization data for decision makers easily to do statistics. In addition, A real-time and interactive dashboard in tourism industry will provide more than one types of visualization for users (for example, heatmap, word cloud)), they will reduce the paper-based work and record all data in an understandable way.

In this application we have three actors following:

**2.3.1 The super admin**

The super admin can manage accounts and do all admin stuffs.

**2.3.2 The admin**

The admin can register accounts, login to dashboard and view data visualization summaries.

**2.3.3 The user**

The user can view and write comments.

## 2.4 Operation Environment

PyCharm

Visual Studio Code

MongoDB

Pusher

React

Flask

GitHub

Draw.io

## 2.5 Acronyms and Definitions

**2.5.1 Acronyms**

ZJY = Junyu Zhou

LYW = Yawei Li

AJP = Dr. Pree Thiengburanathum

RIDT = A Real Time and Interactive Dashboard for Tourism Industry

UC = Use Case

URS = User Requirement Specification

SRS = System Requirement Specification  
AD = Activity Diagram

CD = Class Diagram

**2.5.2 Definitions**

|  |  |
| --- | --- |
| Name | Description |
| Use case | (1) A use case is a software and system engineering term that describes how a user uses a system to accomplish a particular goal. A use case acts as a software modeling technique that defines the features to be implemented and the resolution of any errors that may be encountered. [1] |
| Requirement | (1)A condition or capability needed by the user to solve a problem or achieve an objective for project.  (2) A condition or capability that must be met or possessed by a system or system component to satisfy a contract, standard, specification, or other formally imposed document. [2] |
| Specification | Description of an activity or work product that serves as the basis or input for further activities or work product. A specification can comprise requirements to a Product and how they will be solved. [3] |
| User Interface | Visual part of computer application or operating system through which a user interacts with a computer or a software. It determines how commands are given to the computer or the program and how information is displayed on the screen. [4] |

# 3. Project Feature

**Feature-1. Account authorization**

* Super admin could login to system.
* Super admin could view all accounts.
* Super admin could delete account.
* Super admin could add admin account.
* Super admin could accept or reject admin account register request.
* Admin could register account.
* Admin could login to dashboard.
* Admin could edit their account information.
* Admin could logout.

**Feature-2. Admin views the summary of data visualization result**

* Admin could view all visualization data summaries which contains:

1. All the summary sparkline chart.

2. Positive comments rate line chart.

3. Word frequency bar chart.

4. Number of comments bar chart.

5. Types of comments stacked column chart.

**Feature-3. View the word-cloud of data.**

* Admin could view data presented in word-cloud which contains the most frequently occurring words.

**Feature-4. View the heatmap of data.**

* Admin could view data presented in a heatmap.

**Feature-5. View the data by date, sentiment for reviews.**

* Admin could view data by date of comments and sentiment of comments.

**Feature-6. All users view comments.**

* All the website user could view the comments in the home page which contains:

1. Hotel list

2. Comments list.

**Feature-7. Admin writes comments.**

* Admin could write hotel comments.
* Comments will real time show at main page.

**Feature-8. Super admin views system log.**

* Super admin could view the system log (Time, type of log, creator, info).
* Super admin could view online user.
* Super admin could view number of users who are typing comments.

# 4. User Requirement Specification

## 4.1 User Requirement Analysis

In systems engineering and software engineering, requirements analysis encompasses those tasks that go into determining the needs or conditions to meet for a new or altered product or project, taking account of the possibly conflicting requirements of the various stakeholders, analyzing, documenting, validating and managing software or system requirements.

Requirements analysis is critical to the success or failure of a systems or software project. The requirements should be documented, actionable, measurable, testable, traceable, related to identified business needs or opportunities, and defined to a level of detail sufficient for system design.[5]

## 4.2 User Requirement Specification

**Feature-1. Account authorization**

URS-01: Super admin can login to system.

URS-02: Super admin can view all accounts or waiting list page.

URS-03: Super admin can edit account information.

URS-04: Super admin can delete account.

URS-05: Super admin can add admin account.

URS-06: Super admin can accept admin account register request.

URS-07: Super admin can reject admin account register request.

URS-08: Admin can register account.

URS-09: Admin can login to dashboard.

URS-10: Admin can edit account information.

URS-11: Admin can logout.

**Feature-2. Admin views the summary of data visualization result**

URS-12: Admin can view all the summary by using sparkline chart.

URS-13: Admin can view positive comments rate by using line chart.

URS-14: Admin can view word frequency by using bar chart.

URS-15: Admin can view number of comments by using bar chart.

URS-16: Admin can view types of comments stacked by using column chart.

**Feature-3. View the word-cloud of data**

URS-17: Admin can view the most frequently occurring words by word cloud.

**Feature-4. View the heatmap of data**

URS-18: Admin can view data presented in a heatmap.

**Feature-5. View the comments by date, sentiment**

URS-19: Admin can view data by date.

URS-20: Admin can view data by click positive button.

URS-21: Admin can view data by click natural button.

URS-22: Admin can view data by click negative button.

**Feature-6. All users view comments**

URS-23: All users can view hotel list in the homepage.

URS-24: All users can click to view a hotel page.

URS-25: All users can view all comments of a hotel.

**Feature-7. Admin writes comments**

URS-26: Admin can write hotel comments.

**Feature-8. Super admin views system log**

URS-27: Super admin can view the system log (Time, type of log, creator, info).

URS-28: Super admin can view online user.

URS-29: Super admin can view number of users who are typing comments.

# 5. Specific Requirement

## 5.1.1 Use Case Diagram of Feature 1

图片包含 文字, 地图

描述已自动生成

Figure : Use Case Diagram of Feature 1

## 5.1.2 Use Case Diagram of Feature 2

图片包含 文字

描述已自动生成

Figure : Use Case Diagram of Feature 2

## 5.1.3 Use Case Diagram of Feature 3

图片包含 文字

描述已自动生成

Figure : Use Case Diagram of Feature 3

## 5.1.4 Use Case Diagram of Feature 4

**图片包含 文字

描述已自动生成**

Figure : Use Case Diagram of Feature 4

## 5.1.5 Use Case Diagram of Feature 5

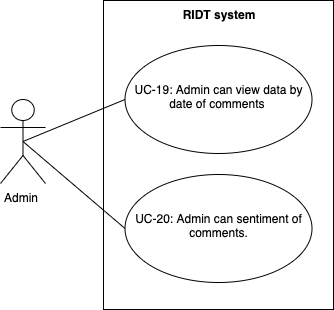


Figure : Use Case Diagram of Feature 5

## 5.1.6 Use Case Diagram of Feature 6

图片包含 文字

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Figure : Use Case Diagram of Feature 6

## 5.1.4 Use Case Diagram of Feature 7

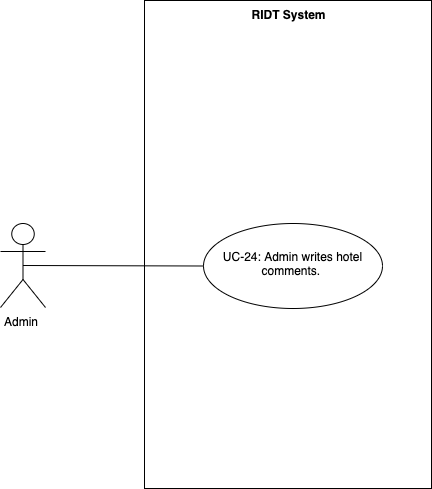


Figure : Use Case Diagram of Feature 7

## 5.1.4 Use Case Diagram of Feature 8

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Figure : Use Case Diagram of Feature 8

## 5.2 Use Case Description and Activity Diagram

## 5.2.1 Account authorization

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Use Case ID | UC-01 | | | |
| Use Case Name | Login to the administer system | | | |
| Actors | Super admin | | | |
| Description | Super admin can login to the administer system by inputting username and password | | | |
| Trigger | Super admin clicks “Login” button | | | |
| Preconditions | System connect with internet successful | | | |
| Use Case Input Specification | | | | |
| Input | type | Constraint | | Example |
| Username | String | - More than 6 digits.  - Must contain characters and not more than 12 digits.  - No special characters and space. | | Admin001 |
| Password | String | - Not less than 6 digits. | | Admin001 |
| Post conditions | Super admin login to dashboard successful. | | | |
| Normal Flows | User | | System | |
|  | 1. Super admin clicks login button. | |  | |
|  |  | | 2. System provides the login interface. | |
|  | 3. Super admin inputs username and password. | |  | |
|  |  | | 4. System checks input format. [E1] [E2] | |
|  |  | | 5.System validates that the username and password. [A1] | |
|  |  | | 6.System directs to system. | |
| Alternative Flow | A1: Username and password do not match.  1: Display: “The username or password is incorrect.”  2: System goes to 3rd step in normal flows. | | | |
| Exception | E1: Cannot connect to database.  1: Display: “Cannot connect to database.”  2: System provides a button to refresh/cancel.  E2: Input format error.  1: Display: “Format is incorrect.”  2: System goes to 3rd step in normal flows. | | | |
| Assumption | Decision maker must have an individual account. | | | |

## AD01: Login to the system

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描述已自动生成

Figure : Login to the system

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Use Case ID | UC-02 | | | |
| Use Case Name | View all accounts | | | |
| Actors | Super admin | | | |
| Description | Super admin can view all accounts | | | |
| Trigger | Super admin clicks “all accounts” button | | | |
| Preconditions | Super admin must login into the system | | | |
| Use Case Input Specification | | | | |
| Input | type | Constraint | | Example |
|  |  |  | |  |
| Post conditions | Super admin can view all accounts information. | | | |
| Normal Flows | User | | System | |
|  | 1. Super admin clicks all accounts button. | |  | |
|  |  | | 2. System displays all accounts information. [E1] | |
| Alternative Flow |  | | | |
| Exception | E1: Cannot connect to database.  1: Display: “Cannot connect to database.”  2: System provides a button to refresh/cancel. | | | |
| Assumption | Super admin must have an individual account. | | | |

## AD02: View all accounts

图片包含 文字, 地图

描述已自动生成

Figure : View all accounts

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Use Case ID | UC-03 | | | |
| Use Case Name | Super admin edits account information | | | |
| Actors | Super admin | | | |
| Description | Super admin can edit account information | | | |
| Trigger | Super admin clicks “Edit” button | | | |
| Preconditions | Super admin must login into the system | | | |
| Use Case Input Specification | | | | |
| Input | type | Constraint | | Example |
| Username | String | - More than 6 digits.  - Must contain characters and not more than 12 digits.  - No special characters and space. | | Admin001 |
| Password | String | - Not less than 6 digits. | | Admin001 |
| Post conditions | Super admin can edit account information. | | | |
| Normal Flows | User | | System | |
|  | 1. Super admin clicks Edit button. | |  | |
|  |  | | 2. System provides edit information page. [E1] | |
|  | 3. Super admin inputs information. | |  | |
|  | 4. Super admin saves information. | |  | |
|  |  | | 5. System checks input format. [E2] | |
|  |  | | 6. System stores to database. | |
| Alternative Flow |  | | | |
| Exception | E1: Cannot connect to database.  1: Display: “Cannot connect to database.”  2: System provides a button to refresh/cancel.  E2: Input format error.  1: Display: “Format is incorrect.”  2: System goes to 4th step in normal flows. | | | |
| Assumption | Super admin must have an individual account. | | | |

## AD03: Super admin edits account information

**图片包含 文字, 地图

描述已自动生成**

Figure : Super admin edits account information

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Use Case ID | UC-04 | | | |
| Use Case Name | Delete account | | | |
| Actors | Super admin | | | |
| Description | Super admin can delete account | | | |
| Trigger | Super admin clicks “Delete” button | | | |
| Preconditions | Super admin must login into the system | | | |
| Use Case Input Specification | | | | |
| Input | type | Constraint | | Example |
|  |  |  | |  |
| Post conditions | Super admin can view all accounts information. | | | |
| Normal Flows | User | | System | |
|  | 1. Super admin clicks delete account button. | |  | |
|  | 2. Super admin selects account to delete. | |  | |
|  |  | | 3. System deletes account. [E1] | |
| Alternative Flow |  | | | |
| Exception | E1: Cannot connect to database.  1: Display: “Cannot connect to database.”  2: System provides a button to refresh/cancel. | | | |
| Assumption | Super admin must have an individual account. | | | |

## AD04: Delete account

图片包含 文字, 地图

描述已自动生成

Figure : Delete account

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Use Case ID | UC-05 | | | |
| Use Case Name | Add admin account directly | | | |
| Actors | Super admin | | | |
| Description | Super admin can add admin account for admin directly | | | |
| Trigger | Super admin clicks “Add admin account” button | | | |
| Preconditions | System connect with internet successful | | | |
| Use Case Input Specification | | | | |
| Input | type | Constraint | | Example |
| Username | String | - More than 6 digits.  - Must contain characters and not more than 12 digits.  - No special characters and space. | | Admin001 |
| Password | String | - Not less than 6 digits. | | Admin001 |
| Post conditions | Super admin login to system successful. | | | |
| Normal Flows | User | | System | |
|  | 1. Super admin clicks “Add admin account” button. | |  | |
|  |  | | 2. System provides add account page. [E1] | |
|  | 3. Super admin inputs username and password. | |  | |
|  | 4. Super admin clicks save information. | |  | |
|  |  | | 5. System checks input format. [E2] [E3] | |
|  |  | | 6. System stores to database | |
|  |  | | 7. System displays: “Add account successful.” | |
| Alternative Flow |  | | | |
| Exception | E1: Cannot connect to database.  1: Display: “Cannot connect to database.”  2: System provides a button to refresh/cancel.  E2: Input format error.  1: Display: “Format is incorrect.”  2: System goes to 4th step in normal flows.  E3: Account already exists in database.  1: Display: “The account already exists in database.”  2. System goes to 3rd step in normal flows. | | | |
| Assumption | Super admin must have an individual account. | | | |

## AD05: Add admin account directly

图片包含 文字, 地图

描述已自动生成

Figure : Add admin account directly

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Use Case ID | UC-06 | | | |
| Use Case Name | Accept admin accept register request | | | |
| Actors | Super admin | | | |
| Description | Super admin can accept admin account register request | | | |
| Trigger | Super admin clicks Accept button | | | |
| Preconditions | Super admin must login into the system | | | |
| Use Case Input Specification | | | | |
| Input | type | Constraint | | Example |
|  |  |  | |  |
| Post conditions | Super admin can accept admin account register request. | | | |
| Normal Flows | User | | System | |
|  | 1. Super admin clicks waiting list button. | |  | |
|  |  | | 2. System displays all waiting list accounts information. [E1] | |
|  | 3. Super admin clicks accept button. | |  | |
|  |  | | 4. System stores account into database. | |
|  |  | | 5. System returns result to admin. | |
| Alternative Flow |  | | | |
| Exception | E1: Cannot connect to database.  1: Display: “Cannot connect to database.”  2: System provides a button to refresh/cancel. | | | |
| Assumption | Super admin must have an individual account. | | | |

## AD06: Accept admin account register request

图片包含 屏幕截图

描述已自动生成

Figure : Accept admin account register request

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Use Case ID | UC-07 | | | |
| Use Case Name | Reject admin account register request | | | |
| Actors | Super admin | | | |
| Description | Super admin can reject admin account register request | | | |
| Trigger | Super admin clicks ‘Reject’ button | | | |
| Preconditions | Super admin must login into the system | | | |
| Use Case Input Specification | | | | |
| Input | type | Constraint | | Example |
|  |  |  | |  |
| Post conditions | Super admin can reject admin account register request. | | | |
| Normal Flows | User | | System | |
|  | 1. Super admin clicks waiting list button. | |  | |
|  |  | | 2. System displays all waiting list accounts information. [E1] | |
|  | 3. Super admin clicks reject button. | |  | |
|  |  | | 4. System returns result to admin. | |
| Alternative Flow |  | | | |
| Exception | E1: Cannot connect to database.  1: Display: “Cannot connect to database.”  2: System provides a button to refresh/cancel. | | | |
| Assumption | Super admin must have an individual account. | | | |

## AD07: Reject admin account register request

图片包含 屏幕截图

描述已自动生成

Figure : Reject admin account register request

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Use Case ID | UC-08 | | | |
| Use Case Name | Register account | | | |
| Actors | Admin | | | |
| Description | Admin can register account | | | |
| Trigger | Admin clicks “Register” button | | | |
| Preconditions | System connect with internet successful | | | |
| Use Case Input Specification | | | | |
| Input | type | Constraint | | Example |
| Username | String | - More than 6 digits.  - Must contain characters and not more than 12 digits.  - No special characters and space. | | Admin001 |
| Password | String | - Not less than 6 digits. | | Admin001 |
| Post conditions | Admin can register account. | | | |
| Normal Flows | User | | System | |
|  | 1. Admin clicks Register button. | |  | |
|  |  | | 2. System provides register information page. [E1] | |
|  | 3. Admin inputs information. | |  | |
|  | 4. Admin saves information. | |  | |
|  |  | | 5. System checks input format. [E2] | |
|  |  | | 6. System sends account information to waiting list. | |
|  |  | | 7. System displays: “register information was recorded, please wait for the result.” | |
| Alternative Flow |  | | | |
| Exception | E1: Cannot connect to database.  1: Display: “Cannot connect to database.”  2: System provides a button to refresh/cancel.  E2: Input format error.  1: Display: “Format is incorrect.”  2: System goes to 4th step in normal flows. | | | |
| Assumption | Super admin must have an individual account. | | | |

## AD08: Register account

图片包含 文字, 地图

描述已自动生成

Figure : Register account

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Use Case ID | UC-09 | | | |
| Use Case Name | Login to dashboard | | | |
| Actors | Admin | | | |
| Description | Admin can login to dashboard | | | |
| Trigger | Admin clicks “Login” button | | | |
| Preconditions | System connect with internet successful | | | |
| Use Case Input Specification | | | | |
| Input | type | Constraint | | Example |
| Username | String | - More than 6 digits.  - Must contain characters and not more than 12 digits.  - No special characters and space. | | Admin001 |
| Password | String | - Not less than 6 digits. | | Admin001 |
| Post conditions | Admin login to dashboard successful. | | | |
| Normal Flows | User | | System | |
|  | 1. Admin clicks login button. | |  | |
|  |  | | 2. System provides the login interface. | |
|  | 3. Admin inputs username and password. | |  | |
|  |  | | 4. System checks input format. [E1] [E2] | |
|  |  | | 5.System validates that the username and password. [A1] | |
|  |  | | 6.System directs to dashboard. | |
| Alternative Flow | A1: Username and password do not match.  1: Display: “The username or password is incorrect.”  2: System goes to 3rd step in normal flows. | | | |
| Exception | E1: Cannot connect to database.  1: Display: “Cannot connect to database.”  2: System provides a button to refresh/cancel.  E2: Input format error.  1: Display: “Format is incorrect.”  2: System goes to 3rd step in normal flows. | | | |
| Assumption | Decision maker must have an individual account. | | | |

## AD09: Login to dashboard

图片包含 文字, 地图

描述已自动生成

Figure : Login to dashboard

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Use Case ID | UC-10 | | | |
| Use Case Name | Admin edits account information | | | |
| Actors | Admin | | | |
| Description | Admin can edit account information | | | |
| Trigger | Admin clicks “Edit” button | | | |
| Preconditions | Admin must login into system | | | |
| Use Case Input Specification | | | | |
| Input | type | Constraint | | Example |
| Username | String | - More than 6 digits.  - Must contain characters and not more than 12 digits.  - No special characters and space. | | Admin001 |
| Password | String | - Not less than 6 digits. | | Admin001 |
| Post conditions | Admin can edit account information. | | | |
| Normal Flows | User | | System | |
|  | 1. Admin clicks Edit button. | |  | |
|  |  | | 2. System provides edit information page. [E1] | |
|  | 3. Admin inputs information. | |  | |
|  | 4. Admin saves information. | |  | |
|  |  | | 5. System checks input format. [E2] | |
|  |  | | 6. System stores to database. | |
| Alternative Flow |  | | | |
| Exception | E1: Cannot connect to database.  1: Display: “Cannot connect to database.”  2: System provides a button to refresh/cancel.  E2: Input format error.  1: Display: “Format is incorrect.”  2: System goes to 4th step in normal flows. | | | |
| Assumption | Admin must have an individual account. | | | |

## AD10: Admin edits account information

**图片包含 文字, 地图

描述已自动生成**

Figure : Admin edits account information

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Use Case ID | UC-11 | | | |
| Use Case Name | Log out | | | |
| Actors | Admin | | | |
| Description | Admin can log out from dashboard | | | |
| Trigger | Admin clicks “Logout” button | | | |
| Preconditions | Admin must login into dashboard | | | |
| Use Case Input Specification | | | | |
| Input | type | Constraint | | Example |
|  |  |  | |  |
| Post conditions | Admin log out from system. | | | |
| Normal Flows | User | | System | |
|  | 1. Admin clicks Log out button. | |  | |
|  |  | | 2. System log out from dashboard. | |
| Alternative Flow |  | | | |
| Exception |  | | | |
| Assumption | Super admin must have an individual account. | | | |

## AD11: Log out from dashboard

图片包含 屏幕截图

描述已自动生成

Figure : Log out from dashboard

## 5.2.2 Admin views the summary of data visualization result

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Use Case ID | UC-12 | | | |
| Use Case Name | View summary sparkline chart | | | |
| Actors | Admin | | | |
| Description | Admin can view summary sparkline chart | | | |
| Trigger | Admin click view dashboard button | | | |
| Preconditions | Admin login to dashboard | | | |
| Use Case Input Specification | | | | |
| Input | type | Constraint | | Example |
|  |  |  | |  |
| Post conditions | Admin can view summary sparkline chart | | | |
| Normal Flows | User | | System | |
|  |  | | 1. System displays a summary sparkline chart. [E1] | |
| Alternative Flow |  | | | |
| Exception | E1: Cannot connect to database.  1: Display: “Cannot connect to database.”  2: System provides a button to refresh/cancel. | | | |
| Assumption | Admin must have an individual account. | | | |

## AD12: View summary sparkline chart

图片包含 文字, 地图

描述已自动生成

Figure : View summary sparkline chart

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Use Case ID | UC-13 | | | |
| Use Case Name | View positive comments rate line chart | | | |
| Actors | Admin | | | |
| Description | Admin can view positive comments rate line chart | | | |
| Trigger | Admin click view dashboard button | | | |
| Preconditions | Admin login to dashboard | | | |
| Use Case Input Specification | | | | |
| Input | type | Constraint | | Example |
|  |  |  | |  |
| Post conditions | Admin can view positive comments rate line chart | | | |
| Normal Flows | User | | System | |
|  |  | | 1. System displays a positive comments rate line chart. [E1] | |
| Alternative Flow |  | | | |
| Exception | E1: Cannot connect to database.  1: Display: “Cannot connect to database.”  2: System provides a button to refresh/cancel. | | | |
| Assumption | Admin must have an individual account. | | | |

## AD13: View positive comments rate line chart

图片包含 文字, 地图

描述已自动生成

Figure : View positive comments rate line chart

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Use Case ID | UC-14 | | | |
| Use Case Name | View word frequency bar chart | | | |
| Actors | Admin | | | |
| Description | Admin can view word frequency bar chart | | | |
| Trigger | Admin click view dashboard button | | | |
| Preconditions | Admin login to dashboard | | | |
| Use Case Input Specification | | | | |
| Input | type | Constraint | | Example |
|  |  |  | |  |
| Post conditions | Admin can view word frequency bar chart | | | |
| Normal Flows | User | | System | |
|  |  | | 1. System displays a word frequency bar chart. [E1] | |
| Alternative Flow |  | | | |
| Exception | E1: Cannot connect to database.  1: Display: “Cannot connect to database.”  2: System provides a button to refresh/cancel. | | | |
| Assumption | Admin must have an individual account. | | | |

## AD14: View word frequency bar chart

图片包含 文字, 地图

描述已自动生成

Figure : View word frequency bar chart

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Use Case ID | UC-15 | | | |
| Use Case Name | View number of comments bar chart | | | |
| Actors | Admin | | | |
| Description | Admin can view number of comments bar chart | | | |
| Trigger | Admin click view dashboard button | | | |
| Preconditions | Admin login to dashboard | | | |
| Use Case Input Specification | | | | |
| Input | type | Constraint | | Example |
|  |  |  | |  |
| Post conditions | Admin can view number of comments bar chart | | | |
| Normal Flows | User | | System | |
|  |  | | 1. System displays a number of comments bar chart. [E1] | |
| Alternative Flow |  | | | |
| Exception | E1: Cannot connect to database.  1: Display: “Cannot connect to database.”  2: System provides a button to refresh/cancel. | | | |
| Assumption | Admin must have an individual account. | | | |

## AD15: View number of comments bar chart

**图片包含 文字, 地图

描述已自动生成**

Figure : View number of comments bar chart

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Use Case ID | UC-16 | | | |
| Use Case Name | View types of comments stacked column chart | | | |
| Actors | Admin | | | |
| Description | Admin can view types of comments stacked column chart | | | |
| Trigger | Admin click view dashboard button | | | |
| Preconditions | Admin login to dashboard | | | |
| Use Case Input Specification | | | | |
| Input | type | Constraint | | Example |
|  |  |  | |  |
| Post conditions | Admin views types of comments stacked column chart | | | |
| Normal Flows | User | | System | |
|  |  | | 1. System displays types of comments stacked column chart. [E1] | |
| Alternative Flow |  | | | |
| Exception | E1: Cannot connect to database.  1: Display: “Cannot connect to database.”  2: System provides a button to refresh/cancel. | | | |
| Assumption | Admin must have an individual account. | | | |

## AD16: View types of comments stacked column chart

图片包含 文字, 地图

描述已自动生成

Figure : View types of comments stacked column chart

## 5.2.3 Admin views the word-cloud of data

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Use Case ID | UC-17 | | | |
| Use Case Name | View the word-cloud of data | | | |
| Actors | Admin | | | |
| Description | Admin can view the most frequently occurring words by word cloud | | | |
| Trigger | Admin clicks view word-cloud button | | | |
| Preconditions | Admin login to system | | | |
| Use Case Input Specification | | | | |
| Input | type | Constraint | | Example |
|  |  |  | |  |
| Post conditions | Admin views the word cloud | | | |
| Normal Flows | User | | System | |
|  | 1. Admin clicks word-cloud button. | |  | |
|  |  | | 2. System displays the most frequently occurring words by word cloud. [E1] | |
| Alternative Flow |  | | | |
| Exception | E1: Cannot connect to database.  1: Display: “Cannot connect to database.”  2: System provides a button to refresh/cancel. | | | |
| Assumption | Admin must have an individual account. | | | |

## AD17: View the word-cloud of data

图片包含 文字, 地图

描述已自动生成

Figure : View the word-cloud of data

## 5.2.4 Admin views the heatmap of data

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Use Case ID | UC-18 | | | |
| Use Case Name | View the heatmap of data | | | |
| Actors | Admin | | | |
| Description | Admin can view data presented in a heatmap. | | | |
| Trigger | Admin clicks view heatmap button | | | |
| Preconditions | Admin login to dashboard | | | |
| Use Case Input Specification | | | | |
| Input | type | Constraint | | Example |
|  |  |  | |  |
| Post conditions | Admin views the heatmap | | | |
| Normal Flows | User | | System | |
|  | 1. Admin clicks heatmap button. | |  | |
|  |  | | 2. System displays data in a heatmap. [E1] | |
| Alternative Flow |  | | | |
| Exception | E1: Cannot connect to database.  1: Display: “Cannot connect to database.”  2: System provides a button to refresh/cancel. | | | |
| Assumption | Admin must have an individual account. | | | |

## AD18: View the heatmap of data

图片包含 文字, 地图

描述已自动生成

Figure : View the heatmap of data

## 5.2.5 View the comments by date, sentiment.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Use Case ID | UC-19 | | | |
| Use Case Name | View the comments by date | | | |
| Actors | Admin | | | |
| Description | Admin can view the comments by date | | | |
| Trigger | Admin click button to select year | | | |
| Preconditions | Admin login to dashboard | | | |
| Use Case Input Specification | | | | |
| Input | type | Constraint | | Example |
|  |  |  | |  |
| Post conditions | Admin views comments by date. | | | |
| Normal Flows | User | | System | |
|  | 1. Admin clicks button to select year. | |  | |
|  |  | | 2. System displays data by date. [E1] | |
| Alternative Flow |  | | | |
| Exception | E1: Cannot connect to database.  1: Display: “Cannot connect to database.”  2: System provides a button to refresh/cancel. | | | |
| Assumption | Admin must have an individual account. | | | |

## AD19: View the comments by date

图片包含 地图, 文字, 屏幕截图

描述已自动生成

Figure : View the comments by date

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Use Case ID | UC-20 | | | |
| Use Case Name | View the comments by sentiment | | | |
| Actors | Admin | | | |
| Description | Admin can view comments by sentiment. | | | |
| Trigger | Admin click sentiment button | | | |
| Preconditions | Admin login to dashboard | | | |
| Use Case Input Specification | | | | |
| Input | type | Constraint | | Example |
|  |  |  | |  |
| Post conditions | Admin views comments | | | |
| Normal Flows | User | | System | |
|  | 1. Admin clicks sentiment button | |  | |
|  |  | | 2. System displays data by sentiment. [E1] | |
| Alternative Flow |  | | | |
| Exception | E1: Cannot connect to database.  1: Display: “Cannot connect to database.”  2: System provides a button to refresh/cancel. | | | |
| Assumption | Admin must have an individual account. | | | |

## AD20: View the comments by sentiment

**图片包含 文字, 地图

描述已自动生成**

Figure : View the comments by sentiment

## 5.2.6 All users view comments.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Use Case ID | UC-21 | | | |
| Use Case Name | View the hotel list | | | |
| Actors | Users | | | |
| Description | Users can view the hotel list in the homepage. | | | |
| Trigger | Users access homepage | | | |
| Preconditions | Users must connect to internet | | | |
| Use Case Input Specification | | | | |
| Input | type | Constraint | | Example |
|  |  |  | |  |
| Post conditions | Users can view the hotel list in the homepage. | | | |
| Normal Flows | User | | System | |
|  |  | | 1. System displays hotel list. [E1] | |
| Alternative Flow |  | | | |
| Exception | E1: Cannot connect to database.  1: Display: “Cannot connect to database.”  2: System provides a button to refresh/cancel. | | | |
| Assumption | User must open website page. | | | |

## AD21: View the hotel list

图片包含 文字, 地图

描述已自动生成

Figure : View the hotel list

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Use Case ID | UC-22 | | | |
| Use Case Name | Click to view a hotel page. | | | |
| Actors | Users | | | |
| Description | Users can click to view a hotel page. | | | |
| Trigger | Users click a hotel | | | |
| Preconditions | Users must connect to internet | | | |
| Use Case Input Specification | | | | |
| Input | type | Constraint | | Example |
|  |  |  | |  |
| Post conditions | Users can access the hotel page. | | | |
| Normal Flows | User | | System | |
|  | 1. User clicks a hotel. | |  | |
|  |  | | 2. System redirects to hotel page. [E1] | |
| Alternative Flow |  | | | |
| Exception | E1: Cannot connect to database.  1: Display: “Cannot connect to database.”  2: Refresh and back to homepage. | | | |
| Assumption | Website user must open website page. | | | |

## AD22: Click to view a hotel page.

图片包含 屏幕截图

描述已自动生成

Figure : Click to view a hotel page.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Use Case ID | UC-23 | | | |
| Use Case Name | View all comments | | | |
| Actors | Users | | | |
| Description | Users can view all comments of a hotel. | | | |
| Trigger | Users access a hotel page | | | |
| Preconditions | Users must select a hotel to view | | | |
| Use Case Input Specification | | | | |
| Input | type | Constraint | | Example |
|  |  |  | |  |
| Post conditions | Users can view all comments of a hotel | | | |
| Normal Flows | User | | System | |
|  |  | | 1. System displays the comments list. [E1] | |
| Alternative Flow |  | | | |
| Exception | E1: Cannot connect to database.  1: Display: “Cannot connect to database.”  2: Refresh and back to homepage. | | | |
| Assumption | Users must open website page. | | | |

## AD23: View all comments

图片包含 屏幕截图

描述已自动生成

Figure : View all comments

## 5.2.7 Admin writes comments

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Use Case ID | UC-24 | | | |
| Use Case Name | Write hotel comments | | | |
| Actors | Admin | | | |
| Description | Admin can write hotel comments. | | | |
| Trigger | Admin types comments and clicks “submit” button. | | | |
| Preconditions | Admin login to system. | | | |
| Use Case Input Specification | | | | |
| Input | type | Constraint | | Example |
| Comments | String | - More than 1 character.  - Not more than 120 characters. | | Good place |
| Post conditions | Admin can write hotel comments. | | | |
| Normal Flows | User | | System | |
|  |  | | 1. System displays the view comment page. | |
|  | 2. Admin clicks write comments. [A1] | |  | |
|  |  | | 3. system displays the page for inputting. | |
|  | 4. Admin inputs comments. | |  | |
|  | 5. Admin clicks submit button. [E1] | |  | |
|  |  | |  | |
| Alternative Flow | A1: User didn’t login to system.  1: Display: “You must login before typing” | | | |
| Exception | E1: Cannot connect to database.  1: Display: “Cannot connect to database.”  2: System provides a button to refresh/cancel. | | | |
| Assumption | Website user must open website page. | | | |

## AD24: Write hotel comments

图片包含 文字, 地图

描述已自动生成

Figure : Write hotel comments

## 5.2.8 Super admin views system log.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Use Case ID | UC-25 | | | |
| Use Case Name | View system log (Time, type of log, creator, info) | | | |
| Actors | Super admin | | | |
| Description | Super admin can view system log (Time, type of log, creator, info) | | | |
| Trigger | Super admin clicks system log button | | | |
| Preconditions | Super admin login to system. | | | |
| Use Case Input Specification | | | | |
| Input | type | Constraint | | Example |
|  |  |  | |  |
| Post conditions | Super admin can view system log information. | | | |
| Normal Flows | User | | System | |
|  | 1. Super admin clicks system log button. | |  | |
|  |  | | 2. System displays log information. [E1] | |
| Alternative Flow |  | | | |
| Exception | E1: Cannot connect to database.  1: Display: “Cannot connect to database.”  2: System provides a button to refresh/cancel. | | | |
| Assumption | Super admin must understand English. | | | |

## AD25: View system log (Time, type of log, creator, info)

图片包含 文字, 地图

描述已自动生成

Figure : View system log (Time, type of log, creator, info)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Use Case ID | UC-26 | | | |
| Use Case Name | View online user | | | |
| Actors | Super admin | | | |
| Description | Super admin can view online user | | | |
| Trigger | Super admin clicks system log button | | | |
| Preconditions | Super admin login to system. | | | |
| Use Case Input Specification | | | | |
| Input | type | Constraint | | Example |
|  |  |  | |  |
| Post conditions | Super admin can view online user | | | |
| Normal Flows | User | | System | |
|  | 1. Super admin clicks all accounts button. | |  | |
|  |  | | 2. System displays online user. [E1] | |
| Alternative Flow |  | | | |
| Exception | E1: Cannot connect to database.  1: Display: “Cannot connect to database.”  2: System provides a button to refresh/cancel. | | | |
| Assumption | Super admin must open website. | | | |

## AD26: View online user

图片包含 文字, 地图

描述已自动生成

Figure : View online user

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Use Case ID | UC-27 | | | |
| Use Case Name | View number of users who are typing | | | |
| Actors | Super admin | | | |
| Description | Super admin can view number of users who are typing comments | | | |
| Trigger | Super admin clicks system log button | | | |
| Preconditions | Super admin login to system. | | | |
| Use Case Input Specification | | | | |
| Input | type | Constraint | | Example |
|  |  |  | |  |
| Post conditions | Super admin can view number of users who are typing comments | | | |
| Normal Flows | User | | System | |
|  | 1. Super admin clicks all accounts button. | |  | |
|  |  | | 2. System displays number of users who are typing comments. [E1] | |
| Alternative Flow |  | | | |
| Exception | E1: Cannot connect to database.  1: Display: “Cannot connect to database.”  2: System provides a button to refresh/cancel. | | | |
| Assumption | Super admin must open website. | | | |

## AD27: View number of users who are typing

图片包含 文字, 地图

描述已自动生成

Figure : View number of users who are typing

# 6.System Requirements Specification

## 6.1 System Requirements Specification List

SRS-01: The system shall provide the admin login page.

SRS-02: The system shall provide the register column.

SRS-03: The system shall provide the login column.

SRS-04: The system shall provide the username textbox.

SRS-05: The system shall provide the password textbox.

SRS-06: The system shall provide the login button.

SRS-07: The system shall provide the cancel button.

SRS-08: The system shall check input format.

SRS-09: The system shall validate that the username and password.

SRS-10: The system shall direct to admin system.

SRS-11: The system shall provide the all accounts information**.**

SRS-12: The system shall provide the accounts status column.

SRS-13: The system shall provide edit information page.

SRS-14: The system shall store account to database.

SRS-15: The system shall delete account.

SRS-16: The System shall provide add account page.

SRS-17: The system shall display: “Add account successful.”

SRS-18: The system shall display all waiting list accounts information.

SRS-19: The system shall return result to admin.

SRS-20: The system shall provide register information page.

SRS-21: The system shall provide the admin login column.

SRS-22: The system shall send account information to waiting list.

SRS-23: The system shall display: “register information was recorded, please wait for the result.”

SRS-24: The system shall provide the login page.

SRS-25: The system shall direct to dashboard.

SRS-26: The system shall provide edit information page.

SRS-27: The system shall provide Change Username button.

SRS-28: The system shall provide Change Password button.

SRS-29: The system shall provide the New Username textbox.

SRS-30: The system shall provide the Confirm button.

SRS-31: The system shall provide the Back button.

SRS-32: The system shall log out from dashboard.

SRS-33: The system shall provide the summary page.

SRS-34: The system shall display a summary sparkline chart.

SRS-35: The system shall provide the Word-Cloud column.

SRS-36: The system shall provide the Heatmap column.

SRS-37: The system shall display a positive comments rate line chart.

SRS-38: The system shall display a word frequency bar chart.

SRS-39: The system shall display a number of comments bar chart.

SRS-40: The system shall display types of comments stacked column chart.

SRS-41: The system shall provide the summary page column.

SRS-42: The system shall display the most frequently occurring words by word cloud.

SRS-43: The system shall display data in a Heatmap.

SRS-44: The system shall provide the Clear button.

SRS-45: The system shall provide the Submit button.

SRS-46: The system shall provide the Show More button.

SRS-47: The system shall provide the Show Less button.

SRS-48: The system shall display the view comment page.

SRS-49: The system shall provide the Back to Home button.

SRS-50: The system shall provide the Logout button.

SRS-51: The system shall display the hotel name box.

SRS-52: The system shall display Hello user box.

SRS-53: The system shall provide the write comments textbox.

SRS-54: The system shall provide the textbox to show comments details.

SRS-55: The system shall provide the System Logs textbox.

SRS-56: The system shall provide the Search textbox.

SRS-57: The system shall display online user.

SRS-58: The system shall display number of users who are typing comments.

## 6.2 Requirements Specification

**6.2.1 Use Case: Login to the administer system**

SRS-01: The system shall provide the admin login page.

SRS-02: The system shall provide the register column.

SRS-03: The system shall provide the login column.

SRS-04: The system shall provide the username textbox.

SRS-05: The system shall provide the password textbox.

SRS-06: The system shall provide the login button.

SRS-07: The system shall provide the cancel button.

SRS-08: The system shall check input format.

SRS-09: The system shall validate that the username and password.

SRS-10: The system shall direct to admin system.

**6.2.2 Use Case: View all accounts**

SRS-11: The system shall provide the all accounts information**.**

SRS-12: The system shall provide the accounts status column.

**6.2.3 Use Case:** **Super admin edits account information**

SRS-13: The system shall provide edit information page.

SRS-08: The system shall check input format.

SRS-14: The system shall store account to database.

**6.2.4 Use Case:** **Delete account**

SRS-11: The system shall provide the all accounts information**.**

SRS-15: The system shall delete account.

**6.2.5 Use Case:** **Add admin account**

SRS-16: The System shall provide add account page.

SRS-08: The system shall check input format.

SRS-14: The system shall store account to database.

SRS-17: The system shall display: “Add account successful.”

**6.2.6 Use Case:** **Accept admin account register request**

SRS-18: The system shall display all waiting list accounts information.

SRS-14: The system shall store account to database.

SRS-19: The system shall return result to admin.

**6.2.7 Use Case:** **Reject admin account register request**

SRS-18: The system shall display all waiting list accounts information.

SRS-19: The system shall return result to admin.

**6.2.8 Use Case:** **Register account**

SRS-20: The system shall provide register information page.

SRS-03: The system shall provide the login column.

SRS-21: The system shall provide the admin login column.

SRS-04: The system shall provide the username textbox.

SRS-05: The system shall provide the password textbox.

SRS-06: The system shall provide the login button.

SRS-07: The system shall provide the cancel button.

SRS-08: The system shall check input format.

SRS-22: The system shall send account information to waiting list.

SRS-23: The system shall display: “register information was recorded, please wait for the result.”

**6.2.9 Use Case:** **Login to dashboard**

SRS-24: The system shall provide the login page.

SRS-02: The system shall provide the register column.

SRS-21: The system shall provide the admin login column.

SRS-04: The system shall provide the username textbox.

SRS-05: The system shall provide the password textbox.

SRS-06: The system shall provide the login button.

SRS-07: The system shall provide the cancel button.

SRS-08: The system shall check input format.

SRS-09: The system shall validate that the username and password.

SRS-03: The system shall validate that the username and password.

SRS-25: The system shall direct to dashboard.

**6.2.10 Use Case: Admin edits account information**

SRS-26: The system shall provide edit information page.

SRS-27: The system shall provide Change Username button.

SRS-28: The system shall provide Change Password button.

SRS-04: The system shall provide the username textbox.

SRS-29: The system shall provide the New Username textbox.

SRS-30: The system shall provide the Confirm button.

SRS-07: The system shall provide the Cancel button.

SRS-08: The system shall check input format.

SRS-14: The system shall store account to database.

SRS-31: The system shall provide the Back button.

**6.2.11 Use Case: Log out**

SRS-32: The system shall log out from dashboard.

**6.2.12 Use Case: View all the summary by using sparkline chart**

SRS-33: The system shall provide the summary page.

SRS-34: The system shall display a summary sparkline chart.

SRS-35: The system shall provide the Word-Cloud column.

SRS-36: The system shall provide the Heatmap column.

SRS-31: The system shall provide the Back button.

**6.2.13 Use Case: View positive comments rate by using line chart**

SRS-33: The system shall provide the summary page.

SRS-37: The system shall display a positive comments rate line chart.

SRS-35: The system shall provide the Word-Cloud column.

SRS-36: The system shall provide the Heatmap column.

SRS-31: The system shall provide the Back button.

**6.2.14 Use Case: View word frequency by using bar chart**

SRS-33: The system shall provide the summary page.

SRS-38: The system shall display a word frequency bar chart.

SRS-35: The system shall provide the Word-Cloud column.

SRS-36: The system shall provide the Heatmap column.

SRS-31: The system shall provide the Back button.

**6.2.15 Use Case: View number of comments by using bar chart**

SRS-33: The system shall provide the summary page.

SRS-39: The system shall display a number of comments bar chart.

SRS-35: The system shall provide the Word-Cloud column.

SRS-36: The system shall provide the Heatmap column.

SRS-31: The system shall provide the Back button.

**6.2.16 Use Case:** **View types of comments by using stacked column chart**

SRS-33: The system shall provide the summary page.

SRS-40: The system shall display types of comments stacked column chart.

SRS-35: The system shall provide the Word-Cloud column.

SRS-36: The system shall provide the Heatmap column.

SRS-31: The system shall provide the Back button.

**6.2.17 Use Case:** **View the Word-Cloud of data**

SRS-41: The system shall provide the summary page column.

SRS-42: The system shall display the most frequently occurring words by word cloud.

SRS-36: The system shall provide the Heatmap column.

SRS-31: The system shall provide the Back button.

**6.2.18 Use Case:** **View the Heatmap of data**

SRS-41: The system shall provide the summary page column.

SRS-35: The system shall provide the Word-Cloud column.

SRS-43: The system shall display data in a Heatmap.

SRS-31: The system shall provide the Back button.

**6.2.19 Use Case: View the comments by date, sentiment**

SRS-41: The system shall provide the summary page column.

SRS-35: The system shall provide the Word-Cloud column.

SRS-36: The system shall provide the Heatmap column.

SRS-31: The system shall provide the Back button.

**6.2.20 Use Case:** **All users view comments**

SRS-41: The system shall display hotel list.

SRS-42: The system shall redirect to hotel page.

SRS-43: The system shall display the comments list.

SRS-44: The system shall provide the Clear button.

SRS-45: The system shall provide the Submit button.

SRS-46: The system shall provide the Show More button.

SRS-47: The system shall provide the Show Less button.

**6.2.21 Use Case: Write hotel comments**

SRS-48: The system shall display the view comment page.

SRS-44: The system shall provide the Clear button.

SRS-45: The system shall provide the Submit button.

SRS-49: The system shall provide the Back to Home button.

SRS-50: The system shall provide the Logout button.

SRS-51: The system shall display the hotel name box.

SRS-52: The system shall display Hello user box.

SRS-53: The system shall provide the write comments textbox.

SRS-54: The system shall provide the textbox to show comments details.

SRS-46: The system shall provide the Show More button.

SRS-47: The system shall provide the Show Less button.

**6.2.22 Use Case: Super admin views system log.**

SRS-55: The system shall provide the System Logs textbox.

SRS-56: The system shall provide the Search textbox.

SRS-57: The system shall display online user.

SRS-58: The system shall display number of users who are typing comments.

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