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| DCS&IT- UOS-Project Coordination Office | Version: 1.0           |
| Final Project                           | Date: January 25, 2021 |



## **Department of Computer Science & Information Technology**

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University of Sargodha

## **Final Project**

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Version 1.0

|   |                        |
|---|------------------------|
| DCS&IT- UOS-Project Coordination Office | Version: 1.0           |
| Final Project                           | Date: January 25, 2021 |

## Revision History

This section describes the revision history of this document.

| Date             | Version | Description of Change                              | Author                      |
|------------------|---------|--|-----------------------------|
| January 25, 2021 | 1.0     | First Draft of Final Project Deliverable Guideline | Project Coordination Office |

## Distribution List

This section describes the distribution list for the recipients of this document.

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|----------------|--------------------|--|--|
| Muhammad Bilal | Head of Department | HOD, Department of Computer Science & Information Technology | <a href="mailto:m.bilal6475482@gmail.com">m.bilal6475482@gmail.com</a> |

## TABLE OF CONTENTS

|   |           |
|---|-----------|
| <b>CHAPTER 1: FINAL PROJECT PROPOSAL .....</b>  | <b>5</b>  |
| 1.1 INTRODUCTION .....  | 5         |
| 1.2. PROJECT TITLE: .....   | 5         |
| 1.3. PROJECT OVERVIEW STATEMENT:.....   | 5         |
| 1.4. PROJECT GOALS & OBJECTIVES: .....  | 7         |
| 1.5. HIGH-LEVEL SYSTEM COMPONENTS: .....  | 7         |
| 1.6. LIST OF OPTIONAL FUNCTIONAL UNITS: .....   | 7         |
| 1.7. EXCLUSIONS: .....  | 7         |
| 1.8. APPLICATION ARCHITECTURE: .....  | 7         |
| 1.9. GANTT CHART: .....   | 8         |
| 1.10. HARDWARE AND SOFTWARE SPECIFICATION: .....  | 8         |
| 1.11. TOOLS AND TECHNOLOGIES USED WITH REASONING: .....                                   | 8         |
| <b>CHAPTER 2: FIRST DELIVERABLE .....</b>   | <b>10</b> |
| 2.1. INTRODUCTION .....   | 10        |
| 2.2. PROJECT/PRODUCT FEASIBILITY REPORT.....  | 10        |
| 2.2.1. <i>Technical Feasibility</i> .....   | 11        |
| 2.2.2. <i>Operational Feasibility</i> .....   | 11        |
| 2.2.3. <i>Economic Feasibility</i> .....  | 11        |
| 2.2.4. <i>Schedule Feasibility</i> .....  | 11        |
| 2.2.5. <i>Specification Feasibility</i> .....   | 11        |
| 2.2.6. <i>Information Feasibility</i> .....   | 11        |
| 2.2.7. <i>Motivational Feasibility</i> .....  | 11        |
| 2.2.8. <i>Legal &amp; Ethical Feasibility</i> .....                                       | 12        |
| 2.3. PROJECT/PRODUCT SCOPE.....   | 12        |
| 2.4. PROJECT/PRODUCT COSTING .....  | 12        |
| 2.4.1. <i>Project Cost Estimation By Function Point Analysis</i> .....                    | 12        |
| 2.4.2. <i>Project Cost Estimation by using COCOMO'81 (Constructive Cost Model).</i> ..... | 14        |
| 2.5. TASK DEPENDENCY TABLE .....  | 15        |
| 2.6. CPM - CRITICAL PATH METHOD .....   | 17        |
| 2.7. GANTT CHART .....  | 19        |
| 2.8. INTRODUCTION TO TEAM MEMBER AND THEIR SKILL SET .....                                | 19        |
| 2.9. TASK AND MEMBER ASSIGNMENT TABLE .....   | 20        |
| 2.10. TOOLS AND TECHNOLOGY WITH REASONING.....  | 22        |
| 2.11. VISION DOCUMENT .....   | 23        |
| 2.12. RISK LIST .....   | 23        |
| 2.13. PRODUCT FEATURES/ PRODUCT DECOMPOSITION .....                                       | 24        |
| <b>CHAPTER 3: SECOND DELIVERABLE FOR OBJECT ORIENTED APPROACH.....</b>                    | <b>25</b> |
| 3.1 INTRODUCTION: .....   | 25        |
| 3.1.1 <i>Systems Specifications</i> .....   | 25        |
| 3.1.2 <i>Introduction</i> .....   | 25        |
| 3.1.3 <i>Existing System</i> .....  | 25        |

|   |    |
|---|----|
| 3.1.4 Organizational Chart.....                             | 26 |
| 3.1.5 Scope of the System.....                              | 26 |
| 3.1.6 Summary of Requirements: (Initial Requirements) ..... | 26 |
| 3.1.7 Identifying External Entities.....                    | 27 |
| 3.1.8 Context Level Data Flow Diagram: .....                | 28 |
| 3.1.9 Capture "shall" Statements: .....                     | 29 |
| 3.1.10 Allocate Requirements: .....                         | 31 |
| 3.1.11 Prioritize Requirements: .....                       | 34 |
| 3.1.12 Requirements Trace-ability Matrix:.....              | 37 |
| 3.1.13 High Level Usecase Diagram:.....                     | 42 |
| 3.1.14 Analysis Level Usecase Diagram: .....                | 43 |
| 3.1.15. Usecase Description.....                            | 46 |

## **CHAPTER 4: THIRD DELIVERABLE FOR OBJECT ORIENTED APPROACH**

### **..... 111**

|                                   |     |
|-----------------------------------|-----|
| 4.1. INTRODUCTION: .....          | 111 |
| 4.2. DOMAIN MODEL.....            | 111 |
| 4.3. SYSTEM SEQUENCE DIAGRAM..... | 112 |
| 4.4. SEQUENCE DIAGRAM .....       | 117 |
| 4.5. COLLABORATION DIAGRAM.....   | 122 |
| 4.6. OPERATION CONTRACTS .....    | 125 |
| 4.7. DESIGN CLASS DIAGRAM.....    | 126 |
| 4.8. STATE CHART DIAGRAM.....     | 127 |
| 4.9. DATA MODEL.....              | 132 |

## **CHAPTER 5: 2<sup>ND</sup> & 3<sup>RD</sup> DELIVERABLE FOR STRUCTURED APPROACH**

### **..... 136**

|   |     |
|---|-----|
| 5.1. INTRODUCTION: .....                        | 136 |
| 5.2. ENTITY RELATIONSHIP DIAGRAM:.....          | 136 |
| 5.3. DATA FLOW DIAGRAM (FUNCTIONAL MODEL) ..... | 137 |
| 5.4. STATE TRANSITION DIAGRAM .....             | 140 |
| 5.5. ARCHITECTURAL DESIGN .....                 | 145 |
| 5.6. COMPONENT LEVEL DESIGN .....               | 146 |

## Chapter 1: Final Project Proposal

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### 1.1 Introduction

IT stands for Information Technology. Information technology (IT) is the application of computers and telecommunications equipment to store, retrieve, transmit and manipulate data, often in the context of a business or other enterprise. IT includes a combination of hardware and software used together to perform the essential functions people need and use every day. Most IT professionals will work with an organization to focus on and meet their needs technologically by understanding what they need, showing them options on what current technology is available to do their needed tasks, then implementing the technology into their current setup, or creating a whole new set up.

We get this idea from the website of the PHA (Parks and Horticulture Authority) website. We are the first one to make this project, so the whole project is new. Therefore we cannot say that we are adding something new because the whole concept of this project is new.

In this project we manage the parks and help the visitors to know about upcoming events and schedule and also about the staff that is working in the designated parks. It will also help the supervisor to manage the parks and the staff also the landscaping etc. the admin will handle all things about them, so we make the city cleaner brighter and greener.

### 1.2. Project Title:

*Online parks and Horticulture Authority of Gujranwala*

### 1.3. Project Overview statement:

This project is about parks and landscaping and how to manage them. The name of this project is PHA (Parks and Horticulture Authority). In this project there is admin who will manage all the things that is happening and under him will some supervisors that control the staff.

This project show that how many parks in the city and gives the news about the events that will help the visitors so that they can find the park that are nearby their location, they can also complain about the park that there is for example the park has not good scenery or the staff do not work properly that will help the supervisor and admin to make that park better in future. It will also help the supervisor to manage and maintain the park and staff.

## Project Overview Statement

|   |                       |  |           |
|---|-----------------------|--|-----------|
| Project Title: Parks and Horticulture Authority   |                       |  |           |
| Project Manager: Muhammad Bilal   |                       |  |           |
| Project Members:  |                       |  |           |
| Name  | Registration #        | Email Address  | Signature |
| M Abdullah  |                       | <a href="mailto:Abdullahm111122@gmail.com">Abdullahm111122@gmail.com</a> |           |
| M Saeed   |                       | <a href="mailto:Saeedmsaeed923@gmail.com">Saeedmsaeed923@gmail.com</a>   |           |
|   |                       |  |           |
|   |                       |  |           |
|   |                       |  |           |
|   |                       |  |           |
| Project Goal:<br>The goal of this project is to manage the parks and gives the news about the upcoming events and about staff to facilitate visitor.  |                       |  |           |
| Objectives:   |                       |  |           |
| Sr. #   |                       |  |           |
| 1   | Manage Parks          |  |           |
| 2   | Landscaping           |  |           |
| 3   | Manage Events         |  |           |
| 4   | Making City Beautiful |  |           |
| 5   | Facilitate Visitor    |  |           |
| 6   | Facilitate Supervisor |  |           |
| Project Success criteria:<br>Success ratio of this project is good because we are the first one of making this project in Gujranwala.   |                       |  |           |
| Assumptions, Risks and Obstacles:<br>A little bit risk but it is ignorable.   |                       |  |           |
| Organization Address (if any):  |                       |  |           |
| Type of project: <input type="checkbox"/> Research <input type="checkbox"/> Development   |                       |  |           |
| Target End users:   |                       |  |           |
| Development Technology: <input type="checkbox"/> Object Oriented <input type="checkbox"/> Structured  |                       |  |           |
| Platform: <input type="checkbox"/> Web based <input type="checkbox"/> Distributed<br><input type="checkbox"/> Desktop based <input type="checkbox"/> Setup Configurations<br><input type="checkbox"/> Other _____ |                       |  |           |
| Approved By:  |                       |  |           |
| Date:   |                       |  |           |

## 1.4. Project Goals & Objectives:

### *Objectives:*

- Manage Parks
- Manage Staff
- Facilitate Visitors
- Manage Events
- Facilitate Supervisor

### *Project Goal:*

The goal of this project is to manage the parks and gives the news about the upcoming events and about staff to facilitate visitor.

## 1.5. High-level system components:

The Components are as follows:

- 1-Admin
- 2-Parks Supervisor
- 3-Staff
- 4-Visitor

## 1.6. List of optional functional units:

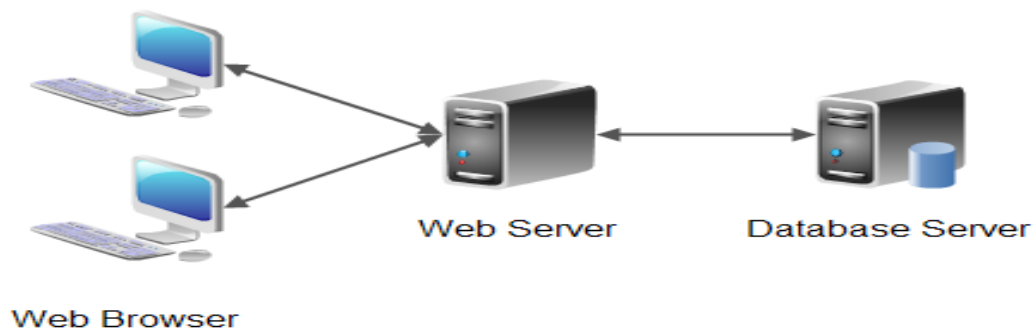
- Manage the parks
- Manage nursery
- Construction report
- Complains
- Parks registration
- Control the staff of PHA

## 1.7. Exclusions:

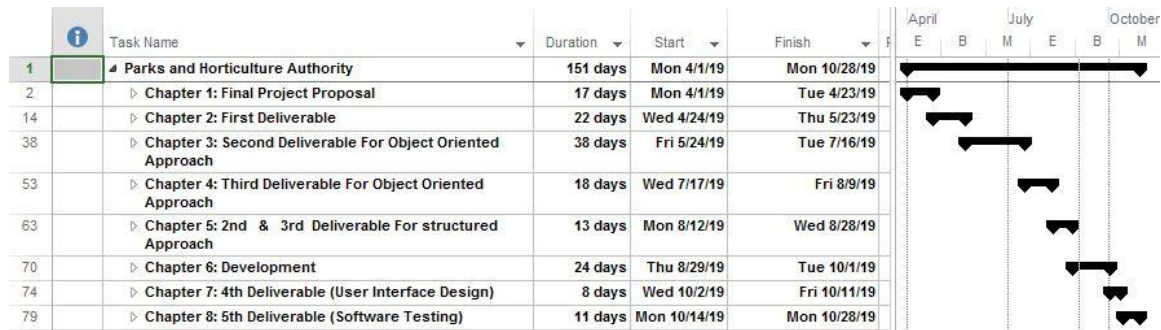
We give the visitor to easily find the details about the parks and upcoming events. We also help the supervisor to manage the staff and Landscaping.

## 1.8. Application Architecture:

Three tier Architecture



## 1.9. Gantt chart:



## 1.10. Hardware and Software Specification:

Hardware and Software required for this Project are as follows:

### 1.10.1. Hardware Required:

|                        |                             |
|------------------------|-----------------------------|
| <b>Minimum CPU:</b>    | Dual Core processor 2.0 GHz |
| <b>Minimum Ram:</b>    | 1GB                         |
| <b>Minimum HDD:</b>    | 15GB                        |
| <b>Input Devices:</b>  | Keyboard, Mouse             |
| <b>Output Devices:</b> | Monitor                     |

### 1.10.2. Software Required:

|                              |                                       |
|------------------------------|---------------------------------------|
| <b>Operating System:</b>     | Window XP/Window 7/Window 8/Window 10 |
| <b>Application Software:</b> | Web Browser                           |

## 1.11. Tools and technologies used with reasoning:

### 1.11.1 MS Word

MS word allows the user to type the and save the document. We will use the MS word to create documentation of our project

### 1.11.2 HTML

Hypertext markup language is the standard language for creation web pages and web application.

### 1.11.3 CSS

Cascading style sheet used for describing the presentation of a document written in a markup language.

### 1.11.4 PHP



PHP is a general purpose scripting language that is used to web development for server side.

### **1.11.5 XAMPP**

We will use xampp to test work on our own computer without any access to the internet.

### **1.11.6 Microsoft Project**

It is used for the development of Gantt chart which shows all the flow of activities of a project.

### **1.11.7 Sublime Text (3)**

It is a simple text editor that is used for coding of web pages.

### **1.11.8 JavaScript**

Java script is a client side scripting language. It is use for the dynamic working on client side.it make the web page more interactive for users.

### **1.11.9 J Query**

J query is a JavaScript library. It is use for the client side scripting and make the web page more attractive for the user.

### **1.11.10 BOOTSTRAP**

Bootstrap is a framework of CSS and JavaScript. It is use easily for the making the web pages.

### **1.11.11 Edraw**

Edraw is used to create the use cases and organization chart.

### **1.11.12 Microsoft Project**

Microsoft project is used to create the Ghent chart of the project.

## Chapter 2: First Deliverable

---

### 2.1. Introduction

IT stands for Information Technology. Information technology (IT) is the application of computers and telecommunications equipment to store, retrieve, transmit and manipulate data, often in the context of a business or other enterprise. IT includes a combination of hardware and software used together to perform the essential functions people need and use every day. Most IT professionals will work with an organization to focus on and meet their needs technologically by understanding what they need, showing them options on what current technology is available to do their needed tasks, then implementing the technology into their current setup, or creating a whole new set up.

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### 2.2. Project/Product Feasibility Report

Any feasibility study is aimed at assisting decision-makers in determining whether or not to implement a particular project or program. After a feasibility study, the decision-maker makes a “go/no-go” decision. It is therefore important to make sure that one is dealing with correct assumptions and up to date data.

There are many types of feasibilities:

- Technical
- Operational
- Economic
- Schedule
- Specification
- Information
- Motivational
- Legal and Ethical

### **2.2.1. Technical Feasibility**

This feasibility is developed by using an Active server page, HTTP, HTML and CSS and MySQL.

- HTTP:  
It sends server to server request submitted by the user. Through HTTP web server view the web pages.
- ASP:  
It is a server side component and is used for sever side validation.
- HTML and CSS:  
It is used for front end design.
- MySQL:  
This is used for making the database.

All the software and the hardware are available in the market so it is technical feasible.

### **2.2.2. Operational Feasibility**

- Sufficient support for visitors.
- Work efficiently after the implementation.
- Visitor can save time by finding the parks that are nearby and also check the news of upcoming event beforehand.
- It will help the admin to gain a lot of profit also to manage the supervisors and visitor complains.

### **2.2.3. Economic Feasibility**

In this feasibility we have to check that hardware and software cost is within the estimation budget or the investment and how much they can benefit or gain for this project.

### **2.2.4. Schedule Feasibility**

In this feasibility we have to complete every step of our project within the time limit so it can meet the deadline that's why we set the schedule to complete the project within the time.

### **2.2.5. Specification Feasibility**

In this feasibility we have to specify the requirements of the visitor, supervisor, staff and admin.

### **2.2.6. Information Feasibility**

In this feasibility we have to give the information about our product that it is easy to use or how to use it.

### **2.2.7. Motivational Feasibility**

In this feasibility we have to motivate the user and the staff so they can work efficiently.

### 2.2.8. Legal & Ethical Feasibility

In this feasibility we can perform the legal activities which is approved by the government.

### 2.3. Project/Product Scope

In this project we facilitate the visitors by giving them the detail of the parks available in the city and events that are upcoming also the schedule of the event and the news of upcoming new parks that are under construction they can also complain that will help the supervisor and admin to make changes in the park according to the visitor if that change is valid. So that's why the scope of this project is good.

### 2.4. Project/Product Costing

#### 2.4.1. Project Cost Estimation By Function Point Analysis

| Type of component                          |          | Complexity of Components |          |       |
|--|----------|--------------------------|----------|-------|
|  | Low      | Average                  | High     | Total |
| External Inputs                            | $6*3=18$ | $6*4=24$                 | $4*6=24$ | 66    |
| External Output                            | $4*4=16$ | $6*5=30$                 | $4*7=28$ | 74    |
| External Inquiries                         | $9*3=27$ | $5*4=20$                 | $5*6=30$ | 77    |
| Internal Logical Files                     | $1*7=7$  | $1*10=10$                | $0*15=0$ | 17    |
| External Interface files                   | $2*5=10$ | $0*7=0$                  | $0*10=0$ | 10    |
| Total Number of Unadjusted Function Points |          |                          |          | 244   |

| Sr. No | Factors                     | Fi Values |
|--------|-----------------------------|-----------|
| 1      | Data communications         | 4         |
| 2      | Distributed data processing | 0         |
| 3      | Performance                 | 2         |
| 4      | Heavily used configuration  | 1         |
| 5      | Transaction rate            | 3         |
| 6      | On-Line data entry          | 4         |
| 7      | On-Line update              | 5         |
| 8      | End-user efficiency         | 2         |
| 9      | Complex processing          | 3         |
| 10     | Reusability                 | 4         |
| 11     | Installation ease           | 3         |
| 12     | Operational ease            | 3         |
| 13     | Multiple sites              | 1         |
| 14     | Facilitate change           | 3         |
|        | $\sum F_i$                  | 38        |

To compute function points (FP), the following relationship is used:

$$\begin{aligned}
 \text{FP est.} &= \text{Count Total} * [0.65 + 0.01 * (F_i)] \\
 &= 244 * [0.65 + 0.01 * 38] \\
 &= 244 * [0.65 + 0.38] \\
 &= 244 * 1.03 \\
 &= 251.32
 \end{aligned}$$

The formulae are given as follows:

$$\begin{aligned}
 \text{Cost / FP} &= \text{labor rate / productivity parameter} \\
 \text{Cost/FP} &= 15000/25 \\
 \text{Cost /FP} &= 600
 \end{aligned}$$

$$\begin{aligned}
 \text{Total Project Cost} &= \text{FP est.} * (\text{cost / FP}) \\
 &= 251.32 * 600 \\
 &= 150792
 \end{aligned}$$

$$\begin{aligned}
 \text{Total Estimated Effort} &= \text{FP est.} / \text{productivity parameter} \\
 &= 251.32 / 25 \\
 &= 10.0528
 \end{aligned}$$

#### 2.4.2. Project Cost Estimation by using COCOMO'81 (Constructive Cost Model)

Boehm's COCOMO model is one of the mostly used models commercially. COCOMO 81 is a model that allows one to estimate the cost, effort, and schedule when planning a new software development activity.

From three types of layers in COCOMO we have selected basic.

- **Basic:** Is used mostly for rough, early estimates.

Model consists on major three levels:

1. Organic(small software projects)
2. Embedded(intermediate between organic and embedded)
3. Semi-detached(including large projects with unfamiliar algorithm)

#### Basic COCOMO

$$\begin{aligned}
 \text{KLOC} &= (251.32 * 40) / 1000 \\
 &= 10.0528
 \end{aligned}$$

$$\begin{aligned}
 \text{PM} &= 2.4 (\text{KLOC})^{1.05} \\
 &= 2.4 (10.0528)^{1.05} \\
 &= 2.4 * 11.28 \\
 &= 27.07
 \end{aligned}$$

$$\begin{aligned}
 \text{TD} &= 2.5 (\text{PM})^{0.38} \\
 &= 2.5 (27.07)^{0.38} \\
 &= 2.5 * 3.50 \\
 &= 8.7
 \end{aligned}$$

| Type    | Effort   | Schedule |
|---------|----------|----------|
| Organic | PM=27.07 | TD=8.7   |

The schedule is determined using the Basic COCOMO schedule equations.

$$\begin{aligned}
 \text{People Required} &= \text{Effort} / \text{Duration} \\
 &= 27.07 / 8.7 \\
 &= 3.11
 \end{aligned}$$

## 2.5. Task Dependency Table

| SR NO     | Task Name  | DURATION (DAYS) | PRECEDENCE |
|-----------|--|-----------------|------------|
| 1         | Parks and Horticulture Authority                                     | 151 days        |            |
| 2         | Chapter 1: Final Project Proposal                                    | 17 days         |            |
| 3         | Introduction   | 1 day           |            |
| 4         | Project Title:   | 1 day           | 3          |
| 5         | Project Overview statement:  | 1 day           | 4          |
| 6         | Project Goals & Objectives:  | 3 days          | 5          |
| 7         | High-level system components:  | 2 days          | 6          |
| 8         | List of optional functional units:                                   | 2 days          | 7          |
| 9         | Exclusions:  | 1 day           | 8          |
| 10        | Application Architecture:  | 2 days          | 8          |
| 11        | Gantt chart:   | 3 days          | 9          |
| 12        | Hardware and Software Specification:                                 | 1 day           | 10         |
| 13        | Tools and technologies used with reasoning:                          | 3 days          |            |
| <b>14</b> | <b>Chapter 2: First Deliverable</b>                                  | <b>22 days</b>  |            |
| 15        | Introduction   | 3 days          | 13         |
| 16        | Project/Product Feasibility Report                                   | 4 days          |            |
| 17        | Technical Feasibility  | 1 day           | 15         |
| 18        | Operational Feasibility  | 1 day           | 17         |
| 19        | Economic Feasibility   | 1 day           | 18         |
| 20        | Schedule Feasibility   | 1 day           | 18         |
| 21        | Specification Feasibility  | 1 day           | 18         |
| 22        | Information Feasibility  | 1 day           | 18         |
| 23        | Motivational Feasibility   | 1 day           | 18         |
| 24        | Legal & Ethical Feasibility  | 1 day           | 18         |
| 25        | Project/Product Scope  | 2 days          | 24         |
| 26        | Project/Product Costing  | 2 days          |            |
| 27        | Project Cost Estimation By Function Point Analysis                   | 1 day           | 25         |
| 28        | Project Cost Estimation by using COCOMO'81 (Constructive Cost Model) | 1 day           | 27         |
| 29        | Task Dependency Table  | 1 day           | 28         |
| 30        | CPM - Critical Path Method   | 1 day           | 29         |
| 31        | Gantt chart  | 2 days          | 30         |
| 32        | Introduction to Team member and their skill set                      | 1 day           | 31         |
| 33        | Task and Member Assignment Table                                     | 1 day           | 31         |
| 34        | Tools and Technology with reasoning                                  | 2 days          | 33         |
| 35        | Vision Document  | 1 day           | 34         |

|           |   |                |    |
|-----------|---|----------------|----|
| 36        | Risk List   | 1 day          | 35 |
| 37        | Product Features/ Product Decomposition                             | 1 day          | 36 |
| <b>38</b> | <b>Chapter 3: Second Deliverable For Object Oriented Approach</b>   | <b>38 days</b> |    |
| 39        | Introduction  | 2 days         | 37 |
| 40        | Existing System   | 2 days         | 39 |
| 41        | Systems Specifications  | 2 days         | 39 |
| 42        | Context Level Data Flow Diagram:                                    | 1 day          | 39 |
| 43        | Scope of the System   | 2 days         | 42 |
| 44        | Summary of Requirements:(Initial Requirements)                      | 1 day          | 43 |
| 45        | Identifying External Entities:                                      | 1 day          | 44 |
| 46        | Capture "shall" Statements:   | 2 days         | 45 |
| 47        | Allocate Requirements:  | 1 day          | 46 |
| 48        | Priorities Requirements:  | 1 day          | 47 |
| 49        | Requirements Traceability Matrix:                                   | 2 days         | 48 |
| 50        | High Level Usecase Diagram:   | 3 days         | 49 |
| 51        | Analysis Level Usecase Diagram:                                     | 1 day          | 49 |
| 52        | Usecase Description   | 1 day          | 51 |
| <b>53</b> | <b>Chapter 4: Third Deliverable For Object Oriented Approach</b>    | <b>18 days</b> |    |
| 54        | Introduction:   | 2 days         | 52 |
| 55        | Domain Model  | 4 days         | 54 |
| 56        | System Sequence Diagram   | 1 day          | 55 |
| 57        | Sequence Diagram  | 1 day          | 56 |
| 58        | Collaboration Diagram   | 2 days         | 57 |
| 59        | Operation Contracts   | 2 days         | 58 |
| 60        | Design Class Diagram  | 1 day          | 58 |
| 61        | State chart diagram   | 1 day          | 60 |
| 62        | Data Model  | 1 day          | 60 |
| <b>63</b> | <b>Chapter 5: 2nd &amp; 3rd Deliverable For structured Approach</b> | <b>13 days</b> |    |
| 64        | Introduction:   | 2 days         | 62 |
| 65        | Entity Relationship Diagram:  | 4 days         | 64 |
| 66        | Data flow diagram (Functional Model)                                | 2 days         | 65 |
| 67        | State Transition Diagram  | 2 days         | 66 |
| 68        | Architectural design  | 2 days         | 67 |
| 69        | Component Level Design  | 1 day          | 68 |
| 70        | Chapter 6: Development  | 24 days        |    |
| 71        | Database design   | 12 days        | 69 |
| 72        | Front End Design  | 4 days         | 71 |



|           |   |                |    |
|-----------|---|----------------|----|
| 73        | Backend Design  | 8 days         | 72 |
| <b>74</b> | <b>Chapter 7: 4th Deliverable (User Interface Design)</b> | <b>8 days</b>  |    |
| 75        | Introduction  | 1 day          | 73 |
| 76        | Site Maps   | 2 days         | 75 |
| 77        | Story boards  | 2 days         | 76 |
| 78        | Navigational maps:  | 3 days         | 77 |
| <b>79</b> | <b>Chapter 8: 5th Deliverable (Software Testing)</b>      | <b>11 days</b> |    |
| 80        | Introduction  | 1 day          | 78 |
| 81        | Test plan   | 10 days        | 80 |

## 2.6. CPM - Critical Path Method

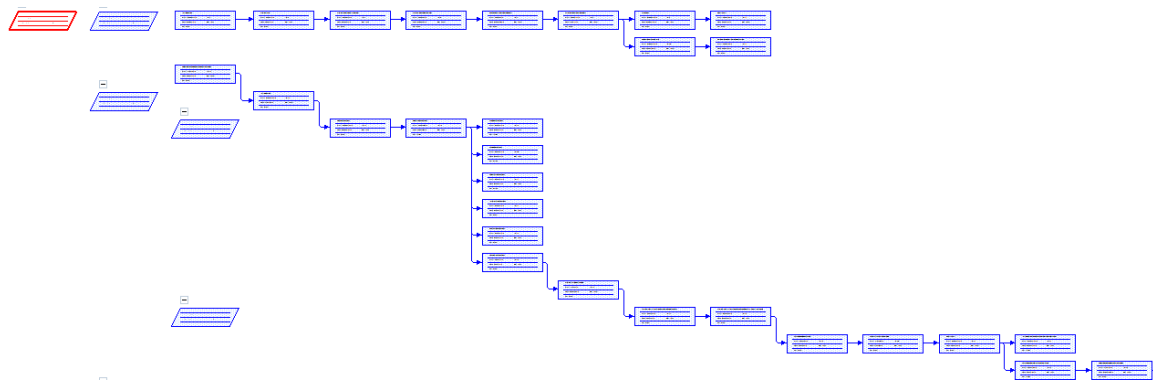
| SR NO | ACTIVITY NAME  | DURATION (DAYS) | ACTIVITY ID |
|-------|--|-----------------|-------------|
| 1     | Chapter 1: Final Project Proposal                          | <b>17 days</b>  | A           |
| 2     | Chapter 2: First Deliverable                               | <b>22 days</b>  | B           |
| 3     | Chapter 3: Second Deliverable For Object Oriented Approach | <b>38 days</b>  | C           |
| 4     | Chapter 4: Third Deliverable For Object Oriented Approach  | <b>18 days</b>  | D           |
| 5     | Chapter 5: 2nd & 3rd Deliverable For structured Approach   | <b>13 days</b>  | E           |
| 6     | Chapter 6: Development                                     | <b>24 days</b>  | F           |
| 7     | Chapter 7: 4th Deliverable (User Interface Design)         | <b>8 days</b>   | G           |
| 8     | Chapter 8: 5th Deliverable (Software Testing)              | <b>11 days</b>  | H           |

### Activity Table:

| SR NO | ACTIVITY ID | DURATION(DAYS) | PRECEDENCE |
|-------|-------------|----------------|------------|
| 1     | A           | <b>17days</b>  |            |
| 2     | B           | <b>22 days</b> | A          |
| 3     | C           | <b>38 days</b> | B          |
| 4     | D           | <b>18 days</b> | C          |
| 5     | E           | <b>13 days</b> | C          |
| 6     | F           | <b>24 days</b> | D,E        |

|   |   |         |   |
|---|---|---------|---|
| 7 | G | 8 days  | F |
| 8 | H | 11 days | G |

### Network Diagram



### Critical Path:

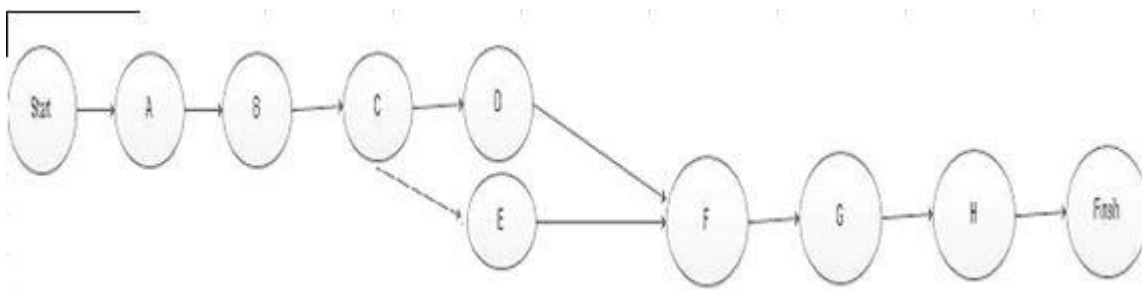
| ACTIVITY ID | DURATION(DAYS) | PRECEDANCE | ES  | EF  | LS  | LF  |
|-------------|----------------|------------|-----|-----|-----|-----|
| A           | 151 days       | -          | 0   | 17  | 0   | 17  |
| B           | 17 days        | A          | 17  | 39  | 17  | 39  |
| C           | 22 days        | B          | 39  | 77  | 39  | 77  |
| D           | 38 days        | C          | 77  | 95  | 77  | 95  |
| E           | 18 days        | C          | 77  | 90  | 82  | 95  |
| F           | 13 days        | D,E        | 95  | 119 | 95  | 119 |
| G           | 24 days        | F          | 119 | 127 | 119 | 127 |
| H           | 8 days         | G          | 127 | 138 | 127 | 138 |

The parameter and slacks are calculated are as follows:

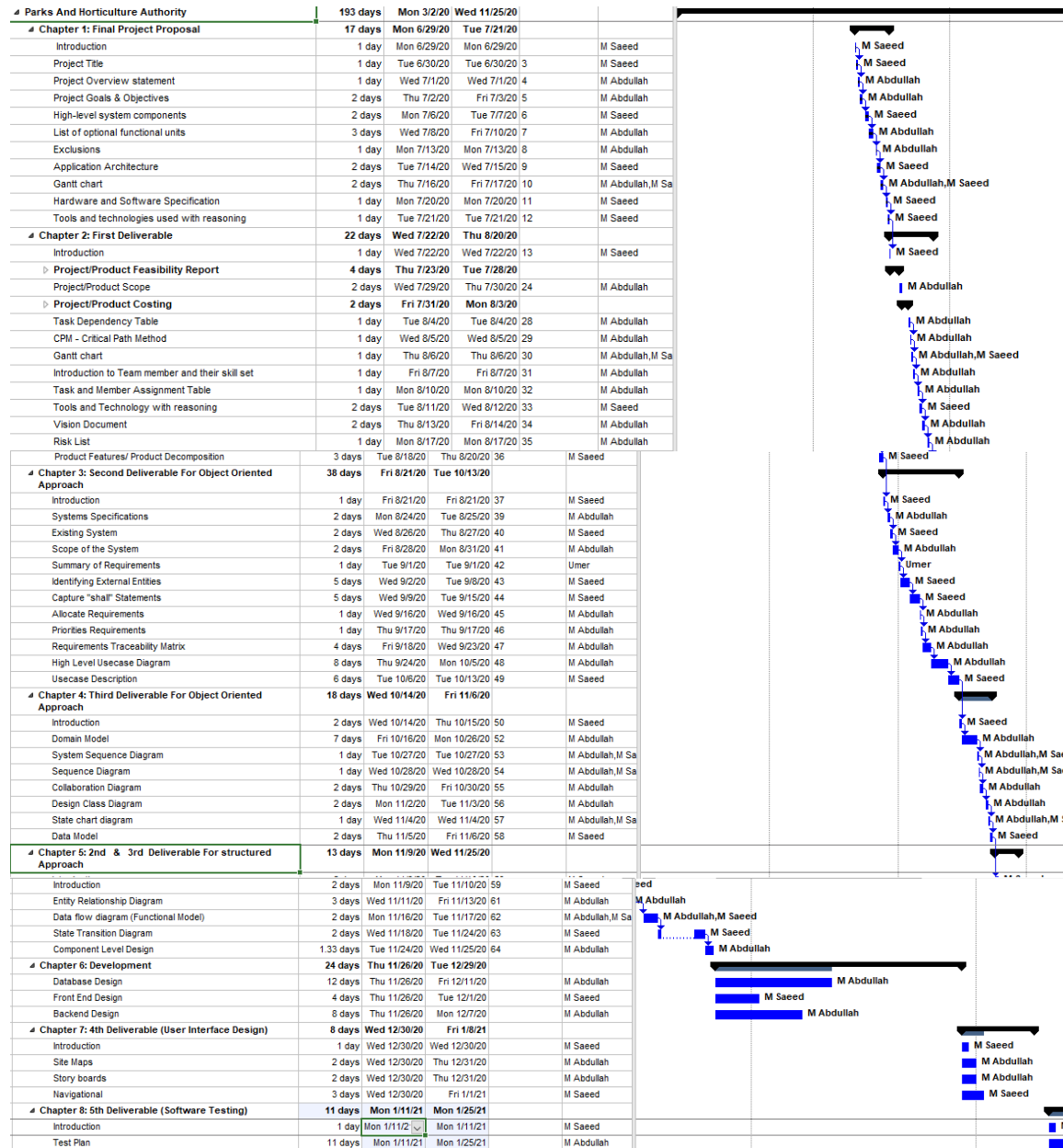
**The critical path is:**

**A, B, C, E, F, G, H**

### INDEMINIFY CRITICAL PATH DIAGRAM



## 2.7. Gantt chart



## 2.8. Introduction to Team member and their skill set

| Serial no. | Member Name | Member ID | Skills   |
|------------|-------------|-----------|--|
| 1          | M Abdullah  | M1        | Database analyst, Backend, Documentation, Frontend |
| 2          | M Saeed     | M2        | Documentation, Frontend                            |

## 2.9. Task and Member Assignment Table

| SR NO | Task Name  | DURATION (DAYS) | PRECEDENCE |
|-------|--|-----------------|------------|
| 1     | Parks and Horticulture Authority                                     | 151 days        |            |
| 2     | Chapter 1: Final Project Proposal                                    | 17 days         |            |
| 3     | Introduction   | 1 day           | M2         |
| 4     | Project Title:   | 1 day           | M2         |
| 5     | Project Overview statement:  | 1 day           | M1         |
| 6     | Project Goals & Objectives:  | 3 days          | M1         |
| 7     | High-level system components:  | 2 days          | M2         |
| 8     | List of optional functional units:                                   | 2 days          | M1         |
| 9     | Exclusions:  | 1 day           | M1         |
| 10    | Application Architecture:  | 2 days          | M1         |
| 11    | Gantt chart:   | 3 days          | M1,M2      |
| 12    | Hardware and Software Specification:                                 | 1 day           | M2         |
| 13    | Tools and technologies used with reasoning:                          | 3 days          | M2         |
| 14    | Chapter 2: First Deliverable   | 22 days         |            |
| 15    | Introduction   | 3 days          | M2         |
| 16    | Project/Product Feasibility Report                                   | 4 days          |            |
| 17    | Technical Feasibility  | 1 day           | M2         |
| 18    | Operational Feasibility  | 1 day           | M2         |
| 19    | Economic Feasibility   | 1 day           | M2         |
| 20    | Schedule Feasibility   | 1 day           | M2         |
| 21    | Specification Feasibility  | 1 day           | M2         |
| 22    | Information Feasibility  | 1 day           | M2         |
| 23    | Motivational Feasibility   | 1 day           | M2         |
| 24    | Legal & Ethical Feasibility  | 1 day           | M2         |
| 25    | Project/Product Scope  | 2 days          | M1         |
| 26    | Project/Product Costing  | 2 days          |            |
| 27    | Project Cost Estimation By Function Point Analysis                   | 1 day           | M1         |
| 28    | Project Cost Estimation by using COCOMO'81 (Constructive Cost Model) | 1 day           | M1         |
| 29    | Task Dependency Table  | 1 day           | M1         |
| 30    | CPM - Critical Path Method   | 1 day           | M1         |
| 31    | Gantt chart  | 2 days          | M1,M2      |
| 32    | Introduction to Team member and their skill set                      | 1 day           | M1         |
| 33    | Task and Member Assignment Table                                     | 1 day           | M1         |
| 34    | Tools and Technology with reasoning                                  | 2 days          | M2         |
| 35    | Vision Document  | 1 day           | M1         |
| 36    | Risk List  | 1 day           | M1         |
| 37    | Product Features/ Product Decomposition                              | 1 day           | M2         |
| 38    | Chapter 3: Second Deliverable For Object Oriented Approach           | 38 days         |            |
| 39    | Introduction   | 2 days          | M2         |
| 40    | Existing System  | 2 days          | M1         |
| 41    | Systems Specifications   | 2 days          | M2         |

|    |   |         |       |
|----|---|---------|-------|
| 42 | Context Level Data Flow Diagram:                          | 1 day   | M1    |
| 43 | Scope of the System                                       | 2 days  | M1    |
| 44 | Summary of Requirements:(Initial Requirements)            | 1 day   | M2    |
| 45 | Identifying External Entities:                            | 1 day   | M2    |
| 46 | Capture "shall" Statements:                               | 2 days  | M2    |
| 47 | Allocate Requirements:                                    | 1 day   | M1    |
| 48 | Priorities Requirements:                                  | 1 day   | M1    |
| 49 | Requirements Traceability Matrix:                         | 2 days  | M1    |
| 50 | High Level Usecase Diagram:                               | 3 days  | M1    |
| 51 | Analysis Level Usecase Diagram:                           | 1 day   | M1    |
| 52 | Usecase Description                                       | 1 day   | M1,M2 |
| 53 | Chapter 4: Third Deliverable For Object Oriented Approach | 18 days |       |
| 54 | Introduction:   | 2 days  | M2    |
| 55 | Domain Model  | 4 days  | M1    |
| 56 | System Sequence Diagram                                   | 1 day   | M2    |
| 57 | Sequence Diagram  | 1 day   | M2    |
| 58 | Collaboration Diagram                                     | 2 days  | M1    |
| 59 | Operation Contracts                                       | 2 days  | M1    |
| 60 | Design Class Diagram                                      | 1 day   | M1    |
| 61 | State chart diagram                                       | 1 day   | M1,M2 |
| 62 | Data Model  | 1 day   | M2    |
| 63 | Chapter 5: 2nd & 3rd Deliverable For structured Approach  | 13 days |       |
| 64 | Introduction:   | 2 days  | M2    |
| 65 | Entity Relationship Diagram:                              | 4 days  | M1    |
| 66 | Data flow diagram (Functional Model)                      | 2 days  | M1,M2 |
| 67 | State Transition Diagram                                  | 2 days  | M2    |
| 68 | Architectural design                                      | 2 days  | M1    |
| 69 | Component Level Design                                    | 1 day   | M1    |
| 70 | Chapter 6: Development                                    | 24 days |       |
| 71 | Database design   | 12 days | M1    |
| 72 | Front End Design  | 4 days  | M2    |
| 73 | Backend Design  | 8 days  | M1    |
| 74 | Chapter 7: 4th Deliverable (User Interface Design)        | 8 days  |       |
| 75 | Introduction  | 1 day   | M2    |
| 76 | Site Maps   | 2 days  | M1    |
| 77 | Story boards  | 2 days  | M1    |
| 78 | Navigational maps:  | 3 days  | M2    |
| 79 | Chapter 8: 5th Deliverable (Software Testing)             | 11 days |       |
| 80 | Introduction  | 1 day   | M1    |
| 81 | Test plan   | 10 days | M2    |

## **2.10. Tools and Technology with reasoning**

### **2.10.1 MS Word**

MS word allows the user to type the and save the document. We will use the MS word to create documentation of our project

### **2.10.2 HTML**

Hypertext markup language is the standard language for creation web pages and web application.

### **2.10.3 CSS**

Cascading style sheet used for describing the presentation of a document written in a markup language.

### **2.10.4 PHP**

PHP is a general purpose scripting language that is used to web development for server side.

### **2.10.5 XAMPP**

We will use xampp to test work on our own computer without any access to the internet.

### **2.10.6 Microsoft Project**

It is used for the development of Gantt chart which shows all the flow of activities of a project.

### **2.10.7 Sublime Text (3)**

It is a simple text editor that is used for coding of web pages.

### **2.10.8 JavaScript**

Java script is a client side scripting language. It is use for the dynamic working on client side.it make the web page more interactive for users.

### **2.10.9 J Query**

J query is a JavaScript library .It is use for the client side scripting and make the web page more attractive for the user.

### **2.10.10 BOOTSTRAP**

Bootstrap is a framework of CSS and JavaScript. It is use easily for the making the web pages.

### 2.10.11 Microsoft Visio

Microsoft Visio is used to create the use cases and organization chart.

### 2.10.12 Microsoft Project

Microsoft project is used to create the Gantt chart of the project.

## 2.11. Vision Document

The Vision of this Project is to facilitate the visitors by giving them the information about the parks available in the city and gave them the news about the upcoming events also the construction of the new park or some upgrading in parks. They can also complain about the staff or park that will help the admin .We can also manage the landscaping in this project.

This project will help the supervisors to manage the parks and staff through this project, they can also add the news about the events and they can also view complains of the visitors and send it to the admins if the given complain is valid and the change is acceptable then they can upgrade the park.

The supervisor can also give the duties to the staff and send the reports of the complaint and parks information to the admin then the admin will handle all the problems and also go through the report about the park because all the decision will be made by admin.

The vision of this project is also to make the cities greener, brighter and cleaner by managing the parks and landscaping through this project.

## 2.12. Risk List

| Sr.no | Risk list/name | Description   |
|-------|----------------|---|
| 1     | Process        | <ul style="list-style-type: none"> <li>When visitor try to search the parks and if the load is too much then the</li> </ul>   |
| 2     | People         | <ul style="list-style-type: none"> <li>If the staff does not complete their given work.</li> <li>If the staff member do not come to work due to some emergency.</li> </ul>  |
| 3     | Product        | <ul style="list-style-type: none"> <li>If website take time to open then the visitor did not view our website.</li> <li>The website may not meet the user expectations then he will leave the website.</li> </ul> |
| 4     | Technology     | <ul style="list-style-type: none"> <li>The admin will find it hard to understand it on the start</li> <li>The developer may not understand the new language.</li> </ul>   |

### **2.13. Product Features/ Product Decomposition**

1. This project gives the information about the parks to the visitor
2. It gives the news about the upcoming events and ongoing construction.
3. The supervisor can manage the staff and also give them the duties of the work they have to done.
4. The visitor can complain about the park and staff if they do not work correctly.
5. The admin can view complains of visitor about park and if the complaint is efficient then admin can take action and change the park according to visitor complain.



## Chapter 3: Second Deliverable For Object Oriented Approach

---

### **3.1 Introduction:**

Requirements engineering process provides the appropriate mechanism for understanding what the customer wants, analyzing need, assessing feasibility, negotiating a reasonable solution, specifying the solution unambiguously, validating the specification and managing the requirements as they are transformed into an operational system. The task of capturing, structuring, and accurately representing the user's requirements so that they can be correctly embodied in systems which meet those requirements.

#### **3.1.1 Systems Specifications**

The following are the clauses that must be included while describing the system specifications.

#### **3.1.2 Introduction**

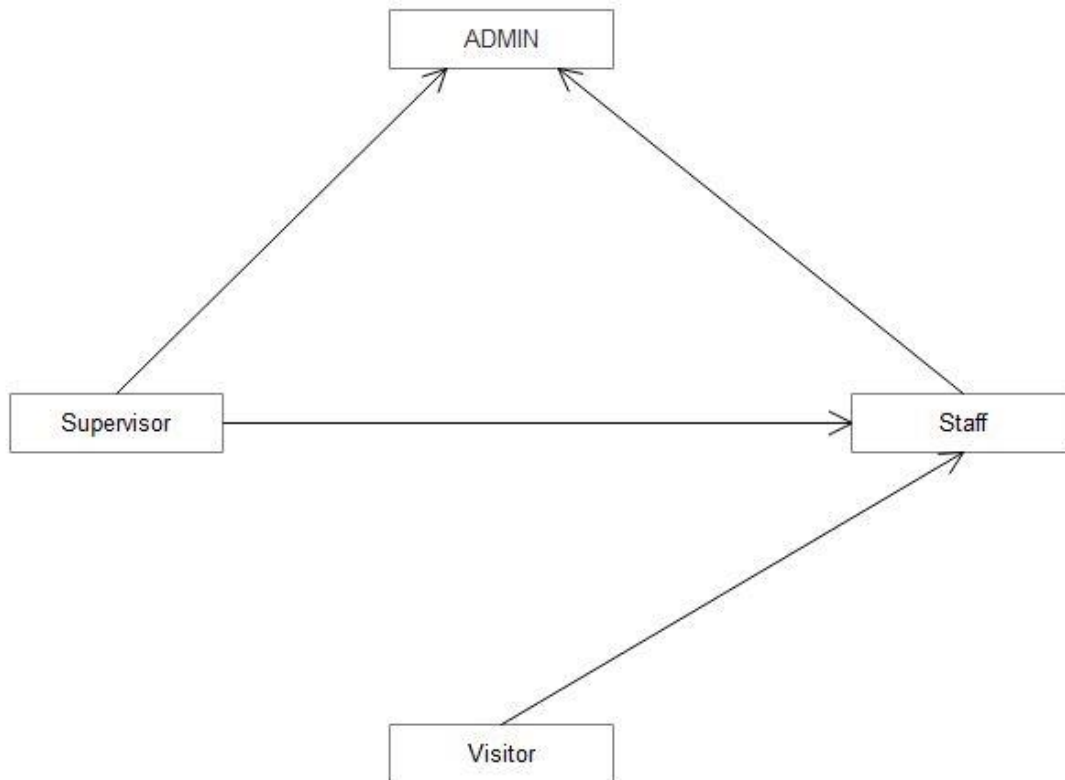
We get this idea from the website of the PHA (Parks and Horticulture Authority) website. We are the first one to make this project, so the whole project is new. Therefore we cannot say that we are adding something new because the whole concept of this project is new.

In this project we manage the parks and help the visitors to know about upcoming events and schedule and also about the staff that is working in the designated parks. It will also help the supervisor to manage the parks and the staff also the landscaping etc., the admin will handle all things about them, so we make the city cleaner brighter and greener.

#### **3.1.3 Existing System**

There is no existing system about the PHA (Parks and Horticulture Authority) in Gujranwala City, so this is first time we are working on this topic Where we have for actors that are Admin, Supervisor, Staff and visitor.

### 3.1.4 Organizational Chart



### 3.1.5 Scope of the System

In this project we facilitate the visitors by giving them the detail of the parks available in the city and events that are upcoming along the schedule of the event and the news of upcoming new parks that are under construction they can also complain that will help the supervisor and admin to make changes in the park according to the visitor if that change is valid. So that's why the scope of this project is good.

### 3.1.6 Summary of Requirements: (Initial Requirements)

Parks and Horticulture much fulfills the initial requirements as follows:

#### ADMIN:

- Register Park in City
- Manage Staff and manage staff duties
- Manage Nursery
- Manage Events and Manage News
- View Complain
- View Parks
- Approve and Disprove the Park

#### Park Supervisor:

- Manage Staff and Manage duties
- Manage Reports and Manage Nursery

- Manage Attendance
- Manage Expenditures
- Vies Contract Detail
- View News
- View Complain Response

**Staff:**

- View Schedule
- View Park Detail
- Attendance
- View Events
- View News
- View Schedule

**Visitor:**

- Add Complain
- View Staff
- View News
- Event Request
- View Events
- View Nursery
- View Park

### **3.1.7 Identifying External Entities**

The Identification of External Entities is done in two phases.

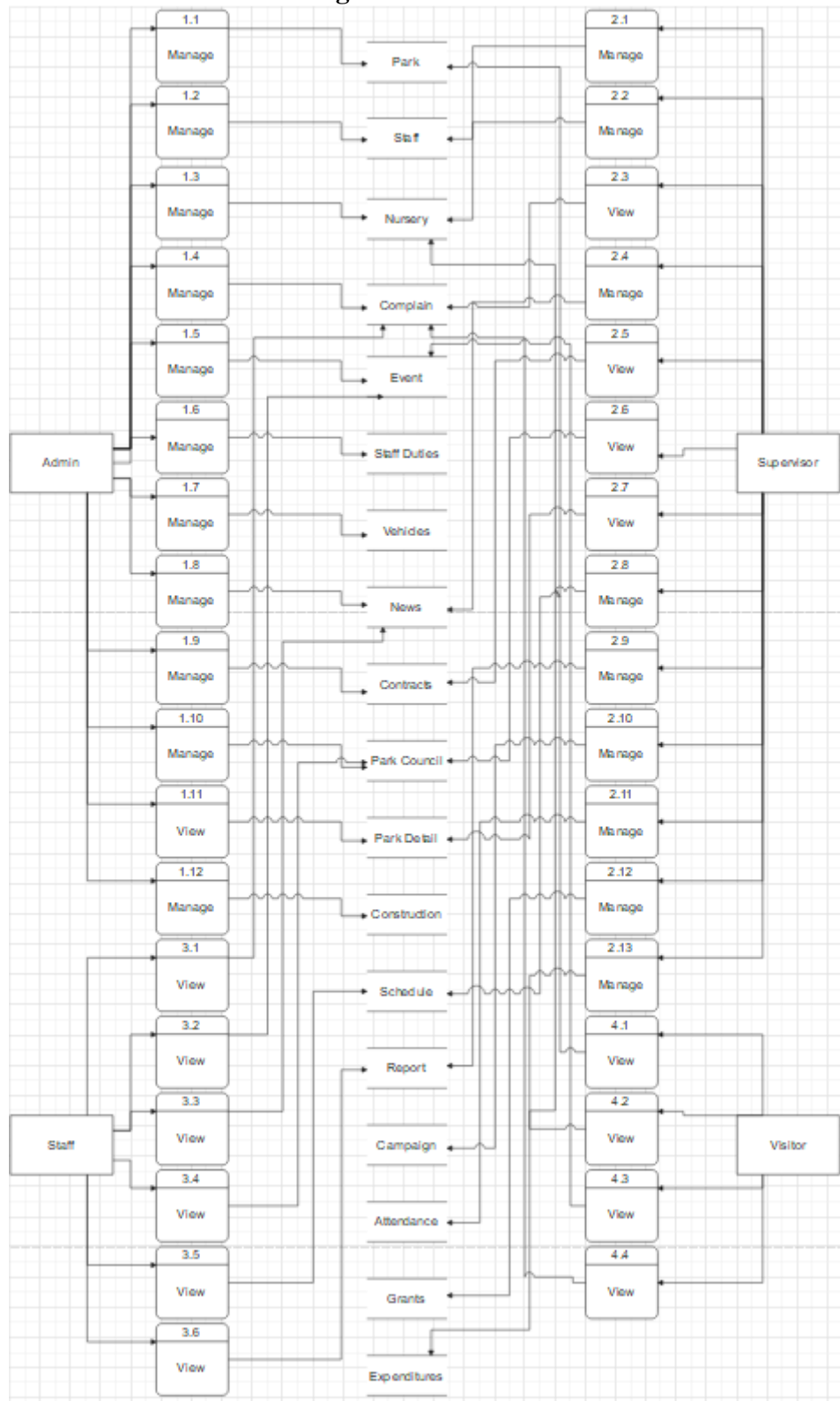
**a. Over Specify Entities from Abstract:**

- 1. Admin**
- 2. Park Supervisor**
- 3. Staff**
- 4. Visitor**
- 5. Register Park**
- 6. Approve and Disprove Park**

**b. Perform Refinement:**

- 1. Admin**
- 2. Park Supervisor**
- 3. Staff**
- 4. Visitor**

### 3.1.8 Context Level Data Flow Diagram:



### 3.1.9 Capture "shall" Statements:

| Para # | Initial Requirement                |
|--------|------------------------------------|
| 1      | Admin "shall" Login                |
| 1.1    | Admin "shall" view Park detail     |
| 1.2    | Admin "shall" Register park        |
| 1.3    | Admin "shall" Edit park            |
| 1.4    | Admin "shall" Delete park          |
| 1.5    | Admin "shall" View staff           |
| 1.6    | Admin "shall" Register staff       |
| 1.7    | Admin "shall" Edit staff           |
| 1.8    | Admin "shall" Delete staff         |
| 1.9    | Admin "shall" view nursery         |
| 1.10   | Admin "shall" Register Nursery     |
| 1.11   | Admin "shall" Edit Nursery         |
| 1.12   | Admin "shall" Delete Nursery       |
| 1.13   | Admin "shall" View Complain        |
| 1.14   | Admin "shall" Response of complain |
| 1.15   | Admin "shall" View Events          |
| 1.16   | Admin "shall" Register Events      |
| 1.17   | Admin "shall" Edit Event           |
| 1.18   | Admin "shall" Delete Event         |
| 1.19   | Admin "shall" View staff Duties    |
| 1.20   | Admin "shall" Assign the duties    |
| 1.21   | Admin "shall" Edit the duties      |
| 1.22   | Admin "shall" view Vehicles        |
| 1.23   | Admin "shall" Register Vehicles    |
| 1.24   | Admin "shall" Edit Vehicle         |
| 1.25   | Admin "shall" Delete Vehcile       |
| 1.26   | Admin "shall" View news            |
| 1.27   | Admin "shall" Add news             |
| 1.28   | Admin "shall" Edit news            |
| 1.29   | Admin "shall" Delete news          |
| 1.30   | Admin "shall" View Contracts       |
| 1.31   | Admin "shall" Add new Contract     |
| 1.32   | Admin "shall" Edit Contract        |
| 1.33   | Admin "shall" Delete Contract      |
| 1.34   | Admin "shall" View Park Council    |
| 1.35   | Admin "shall" Add Park Council     |
| 1.36   | Admin "shall" Edit Park council    |

|      |  |
|------|--|
| 1.37 | Admin "shall" delete Park Council      |
| 1.38 | Admin "shall" view construction        |
| 1.40 | Admin "shall" Logout                   |
| 2    | Supervisor "shall" login               |
| 2.1  | Supervisor "shall" view Staff          |
| 2.2  | Supervisor "shall" Register Staff      |
| 2.3  | Supervisor "shall" Edit Staff          |
| 2.4  | Supervisor "shall" Delete Staff        |
| 2.5  | Supervisor "shall" View Nursery        |
| 2.6  | Supervisor "shall" Register Nursery    |
| 2.7  | Supervisor "shall" Edit Nursery        |
| 2.8  | Supervisor "shall" Delete Nursery      |
| 2.9  | Supervisor "shall" view Complain       |
| 2.10 | Supervisor "shall" view News           |
| 2.11 | Supervisor "shall" Add news            |
| 2.12 | Supervisor "shall" Edit News           |
| 2.13 | Supervisor "shall" Delete News         |
| 2.14 | Supervisor "shall" View Contracts      |
| 2.15 | Supervisor "shall" view Council        |
| 2.16 | Supervisor "shall" View Parks detail   |
| 2.17 | Supervisor "shall" View Schedule       |
| 2.18 | Supervisor "shall" Add schedule        |
| 2.19 | Supervisor "shall" Edit schedule       |
| 2.20 | Supervisor "shall" Delete Schedule     |
| 2.21 | Supervisor "shall" View reports        |
| 2.22 | Supervisor "shall" add reports         |
| 2.23 | Supervisor "shall" Edit Reports        |
| 2.24 | Supervisor "shall" Delete Reports      |
| 2.25 | Supervisor "shall" View Campaign       |
| 2.26 | Supervisor "shall" Add Campaign        |
| 2.27 | Supervisor "shall" Edit Campaign       |
| 2.28 | Supervisor "shall" Delete Campaign     |
| 2.29 | Supervisor "shall" view attendance     |
| 2.30 | Supervisor "shall" View Grants         |
| 2.31 | Supervisor "shall" Add Grants          |
| 2.32 | Supervisor "shall" Edit Grants         |
| 2.33 | Supervisor "shall" Delete Grants       |
| 2.34 | Supervisor "shall" View expenditures   |
| 2.35 | Supervisor "shall" Add expenditures    |
| 2.36 | Supervisor "shall" Edit Expenditures   |
| 2.37 | Supervisor "shall" Delete Expenditures |

|      |                                      |
|------|--------------------------------------|
| 2.38 | Supervisor "shall" View Evnets       |
| 2.39 | Supervisor "shall" view Staff Duties |
| 2.40 | Supervisor "shall" Logout            |
| 3    | Staff "shall" Login                  |
| 3.1  | Staff "shall" View Schedule          |
| 3.2  | Staff "shall" view Reports           |
| 3.3  | Staff "shall" View Complain          |
| 3.4  | Staff "shall" View Events            |
| 3.5  | Staff "shall" View News              |
| 3.6  | Staff "shall" View park Council      |
| 3.7  | Staff "shall" add Attendance         |
| 3.8  | Staff "shall" View Staff Duties      |
| 3.9  | Staff "shall" Logout                 |
| 4    | Visitor:                             |
| 4.1  | Visitor "shall" add complain         |
| 4.3  | Visitor "shall" View News            |
| 4.4  | Visitor "shall" Event request        |
| 4.5  | Visitor "shall" View Events          |
| 4.6  | Visitor "shall" View nursery         |
| 4.7  | Visitor "shall" view parks           |
| 4.8  | Visitor "shall" View Complain        |

### 3.1.10 Allocate Requirements:

| Para | initial Requirement                 | Usecase_Nmae        |
|------|-------------------------------------|---------------------|
| 1.0  | Admin "shall" Login                 | UC_Login            |
| 2.0  | Supervisor "shall" Login            | UC_Login            |
| 3.0  | Staff "shall" login                 | UC_Login            |
| 1.1  | Admin "shall" View park detail      | UC_View_park_Detail |
| 2.16 | Supervisor "shall" View Park Detail | UC_View_park_Detail |
| 1.2  | Admin "shall" Register Park         | UC_Register_Park    |
| 1.3  | Admin "shall" Edit Park             | UC_Edit_Park        |
| 1.4  | Admin "shall" Delete park           | UC_Delete_park      |
| 1.5  | Admin "shall" View Staff            | UC_View_Staff       |
| 2.1  | Supervisor "shall" View Staff       | UC_View_Staff       |
| 1.6  | Admin "shall" Register Staff        | UC_Register_Staff   |
| 2.2  | Supervisor "shall" Register Staff   | UC_Register_Staff   |
| 1.7  | Admin "shall" Edit Staff            | UC_Edit_Staff       |
| 2.3  | Supervisor "shall" Edit Staff       | UC_Edit_Staff       |
| 1.8  | Admin "shall" Delete Staff          | UC_Delete_Staff     |
| 2.4  | Supervisor "shall" Delete Staff     | UC_Delete_Staff     |
| 1.9  | Admin "shall" View Nursery          | UC_View_Nursery     |

|      |                                      |                          |
|------|--------------------------------------|--------------------------|
| 2.5  | Supervisor "shall" View Nursery      | UC_View_Nursery          |
| 4.6  | Visitor "shall" View Nursery         | UC_View_Nursery          |
| 1.10 | Admin "shall" Register Nursery       | UC_Register_Nursery      |
| 2.6  | Supervisor "shall" Register Nursery  | UC_Register_Nursery      |
| 1.11 | Admin "shall" Edit Nursery           | UC_Edit_Nursery          |
| 2.7  | Supervisor "shall" Edit Nursery      | UC_Edit_Nursery          |
| 1.12 | Admin "shall" Delete Nursery         | UC_Delete_Nursery        |
| 2.8  | Supervisor "shall" Delete Nursery    | UC_Delete_Nursery        |
| 1.13 | Admin "shall" View Complain          | UC_View_Complain         |
| 2.9  | Supervisor "shall" View Complain     | UC_View_Complain         |
| 3.3  | Staff "shall" View Complain          | UC_View_Complain         |
| 4.8  | Visitor "shall" View Complain        | UC_View_Complain         |
| 1.14 | Admin "shall" Response the complain  | UC_Response_the_Complain |
| 1.15 | Admin "shall" View Events            | UC_View_Event            |
| 2.38 | Supervisor "shall" View Events       | UC_View_Event            |
| 3.4  | Supervisor "shall" View Events       | UC_View_Event            |
| 4.5  | Visitor "shall" View Events          | UC_View_Event            |
| 1.16 | Admin "shall" Register Event         | UC_Register_Event        |
| 1.17 | Admin "shall" Edit Event             | UC_Edit_Event            |
| 1.18 | Admin "shall" Delete Event           | UC_Delete_Event          |
| 1.19 | Admin "shall" View Staff Duties      | UC_View_Staff_Duties     |
| 2.39 | Supervisor "shall" View Staff Duties | UC_View_Staff_Duties     |
| 3.8  | Visitor "shall" View Staff Duties    | UC_View_Staff_Duties     |
| 1.20 | Admin "shall" Assign Duties          | UC_Asign_Duties          |
| 1.21 | Admin "shall" Edit Duties            | UC_Edit_Duties           |
| 1.22 | Admin "shall" View Vehicles          | UC_View_Vehciles         |
| 1.23 | Admin "shall" Register Vehicles      | UC_Register_Vehciles     |
| 1.24 | Admin "shall" Edit Vehicles          | UC_Edit_Vehciles         |
| 1.25 | Admin "shall" Delete Vehicles        | UC_Delete_Vehciles       |
| 1.26 | Admin "shall" View News              | UC_View_News             |
| 2.10 | Supervisor "shall" View News         | UC_View_News             |
| 3.5  | Staff "shall" View News              | UC_View_News             |
| 4.3  | Visitor "shall" View News            | UC_View_News             |
| 1.27 | Admin "shall" Add News               | UC_Add_News              |
| 2.11 | Supervisor "shall" Add News          | UC_Add_News              |
| 1.28 | Admin "shall" Edit News              | UC_Edit_News             |
| 2.12 | Supervisor "shall" Edit News         | UC_Edit_News             |
| 1.29 | Admin "shall" Delete News            | UC_Delete_News           |
| 2.13 | Supervisor "shall" Delete News       | UC_Delete_News           |
| 1.30 | Admin "shall" View Contract          | UC_View_contract         |
| 2.14 | Supervisor "shall" View Contract     | UC_View_contract         |



|      |  |                        |
|------|--|------------------------|
| 1.31 | Admin "shall" Add Contract             | UC_Add_Contract        |
| 1.32 | Admin "shall" Edit Contract            | UC_Edit_Contract       |
| 1.33 | Admin "shall" Delete Contract          | UC_Delete_Contract     |
| 1.34 | Admin "shall" View Park Council        | UC_View_Park_Council   |
| 2.15 | Supervisor "shall" View Park Council   | UC_View_Park_Council   |
| 3.6  | Staff "shall" View Park Council        | UC_View_Park_Council   |
| 1.35 | Admin "shall" Add Park Council         | UC_Add_Park_Council    |
| 1.36 | Admin "shall" Edit Park Council        | UC_Edit_Park_Council   |
| 1.37 | Admin "shall" Delete Park Council      | UC_Delete_Park_Council |
| 1.38 | Admin "shall" View Construction        | UC_View_Construction   |
| 2.17 | Supervisor "shall" View Schedule       | UC_View_Schedule       |
| 3.1  | Staff "shall" View Schedule            | UC_View_Schedule       |
| 2.18 | Supervisor "shall" Add Schedule        | UC_Add_Schedule        |
| 2.19 | Supervisor "shall" Edit Schedule       | UC_Edit_Schedule       |
| 2.20 | Supervisor "shall" Delete Schedule     | UC_Delete_Schedule     |
| 2.21 | Supervisor "shall" View Report         | UC_View_Report         |
| 3.2  | Staff "shall" View Report              | UC_View_Report         |
| 2.22 | Supervisor "shall" Add Report          | UC_Add_report          |
| 2.23 | Supervisor "shall" Edit Report         | UC_Edit_report         |
| 2.24 | Supervisor "shall" Delete Report       | UC_Delete_report       |
| 2.25 | Supervisor "shall" View Campaign       | UC_View_Campaign       |
| 2.26 | Supervisor "shall" Add Campaign        | UC_Add_Campaign        |
| 2.27 | Supervisor "shall" Edit Campaign       | UC_Edit_Campaign       |
| 2.28 | Supervisor "shall" Delete Campaign     | UC_Delete_Campaign     |
| 2.29 | Supervisor "shall" View Attendance     | UC_View_Attendance     |
| 2.30 | Supervisor "shall" View Grants         | UC_View_Grants         |
| 2.31 | Supervisor "shall" Add Grants          | UC_Add_Grants          |
| 2.32 | Supervisor "shall" Edit Grants         | UC_Edit_Grants         |
| 2.33 | Supervisor "shall" Delete Grants       | UC_Delete_Grants       |
| 2.34 | Supervisor "shall" View Expenditures   | UC_View_Expenditures   |
| 2.35 | Supervisor "shall" Add Expenditures    | UC_Add_Expenditures    |
| 2.36 | Supervisor "shall" Edit Expenditures   | UC_Edit_Expenditures   |
| 2.37 | Supervisor "shall" Delete Expenditures | UC_Delete_Expenditures |
| 3.7  | Staff "shall" Add Attendance           | UC_Add_Attendance      |
| 4.1  | Visitor "shall" Add Complain           | UC_Add_Complain        |
| 4.4  | Visitor "shall" Event Request          | UC_Event_Request       |
| 4.7  | Visitor "shall" view Parks             | UC_View_Parks          |
| 1.39 | Admin "shall" Logout                   | UC_Logout              |
| 2.40 | Supervisor "shall" Logout              | UC_Logout              |
| 3.9  | Staff "shall" Logout                   | UC_Logout              |

### 3.1.11 Prioritize Requirements:

| para | Rank    | initial Requirment                  | Usecase_Nmae        | Usecase_ID   |
|------|---------|-------------------------------------|---------------------|--------------|
| 1    | Highest | Admin"shall" Login                  | UC_Login            | UC_3.1.15.1  |
| 2    | Highest | Supervisor "shall" Logim            | UC_Login            | UC_3.1.15.1  |
| 3    | Highest | Staff "shall" login                 | UC_Login            | UC_3.1.15.1  |
| 1.1  | Medium  | Admin "shall" View park detail      | UC_View_park_Detail | UC_3.1.15.2  |
| 2.16 | Medium  | Supervisor "shall" View Park Detail | UC_View_park_Detail | UC_3.1.15.2  |
| 1.2  | Highest | Admin "shall" Register Park         | UC_Register_Park    | UC_3.1.15.3  |
| 1.3  | Highest | Admin "shall" Edit Park             | UC_Edit_Park        | UC_3.1.15.4  |
| 1.4  | Lowest  | Admin "shall" Delete park           | UC_Delete_park      | UC_3.1.15.5  |
| 1.5  | Medium  | Admin "shall" View Staff            | UC_View_Staff       | UC_3.1.15.6  |
| 2.1  | Medium  | Supervisor "shall" View Staff       | UC_View_Staff       | UC_3.1.15.6  |
| 1.6  | Highest | Admin"shall" Registor Staff         | UC_Register_Staff   | UC_3.1.15.7  |
| 2.2  | Highest | Supervisor "shall" Register Staff   | UC_Register_Staff   | UC_3.1.15.7  |
| 1.7  | Highest | Admin "shall" Edit Staff            | UC_Edit_Staff       | UC_3.1.15.8  |
| 2.3  | Highest | Supervisor "shall" Edit Staff       | UC_Edit_Staff       | UC_3.1.15.8  |
| 1.8  | Lowest  | Admin "shall" Delete Staff          | UC_Delete_Staff     | UC_3.1.15.9  |
| 2.4  | Lowest  | Supervisor "shall" Delete Staff     | UC_Delete_Staff     | UC_3.1.15.9  |
| 1.9  | Medium  | Admin "shall" View Nursery          | UC_View_Nursery     | UC_3.1.15.10 |
| 2.5  | Medium  | Supervisor "shall" View Nursery     | UC_View_Nursery     | UC_3.1.15.10 |
| 4.6  | Medium  | Visitor "shall" View Nursery        | UC_View_Nursery     | UC_3.1.15.10 |
| 1.1  | Highest | Admin "shall" Register Nursery      | UC_Register_Nursery | UC_3.1.15.11 |
| 2.6  | Medium  | Supervisor "shall" Register Nursery | UC_Register_Nursery | UC_3.1.15.11 |
| 1.11 | Highest | Admin "shall" Edit Nursery          | UC_Edit_Nursery     | UC_3.1.15.12 |
| 2.7  | Highest | Supervisor "shall" Edit Nursery     | UC_Edit_Nursery     | UC_3.1.15.12 |
| 1.12 | Lowest  | Admin "shall" Delete Nursery        | UC_Delete_Nursery   | UC_3.1.15.13 |
| 2.8  | Lowest  | Supervisor "shall" Delete Nursery   | UC_Delete_Nursery   | UC_3.1.15.13 |
| 1.13 | Medium  | Admin "shall" View Complain         | UC_View_Complain    | UC_3.1.15.14 |

|      |         |                                      |                          |              |
|------|---------|--------------------------------------|--------------------------|--------------|
| 2.9  | Medium  | Supervisor "shall" View Complain     | UC_View_Complain         | UC_3.1.15.14 |
| 3.3  | Medium  | Staff "shall" View Complain          | UC_View_Complain         | UC_3.1.15.14 |
| 4.8  | Medium  | Visitor "shall" View Complain        | UC_View_Complain         | UC_3.1.15.14 |
| 1.14 | Highest | Admin "shall" Response the complain  | UC_Response_the_Complain | UC_3.1.15.15 |
| 1.15 | Medium  | Admin "shall" View Events            | UC_View_Event            | UC_3.1.15.16 |
| 2.38 | Medium  | Supervisor "shall" View Events       | UC_View_Event            | UC_3.1.15.16 |
| 3.4  | Medium  | Supervisor "shall" View Events       | UC_View_Event            | UC_3.1.15.16 |
| 4.5  | Medium  | Visitor "shall" View Events          | UC_View_Event            | UC_3.1.15.16 |
| 1.16 | Highest | Admin "shall" Register Event         | UC_Register_Event        | UC_3.1.15.17 |
| 1.17 | Highest | Admin "shall" Edit Event             | UC_Edit_Event            | UC_3.1.15.18 |
| 1.18 | Lowest  | Admin "shall" Delete Event           | UC_Delete_Event          | UC_3.1.15.19 |
| 1.19 | Medium  | Admin "shall" View Staff Duties      | UC_View_Staff_Duties     | UC_3.1.15.20 |
| 2.39 | Medium  | Supervisor "shall" View Staff Duties | UC_View_Staff_Duties     | UC_3.1.15.20 |
| 3.8  | Medium  | Visitor "shall" View Staff Duties    | UC_View_Staff_Duties     | UC_3.1.15.20 |
| 1.2  | Highest | Admin "shall" Assign Duties          | UC_Assign_Duties         | UC_3.1.15.21 |
| 1.21 | Highest | Admin "shall" Edit Duties            | UC_Edit_Duties           | UC_3.1.15.22 |
| 1.22 | Medium  | Admin "shall" View Vehicles          | UC_View_Vehicles         | UC_3.1.15.23 |
| 1.23 | Highest | Admin "shall" Register Vehicles      | UC_Register_Vehicles     | UC_3.1.15.24 |
| 1.24 | Highest | Admin "shall" Edit Vehicles          | UC_Edit_Vehicles         | UC_3.1.15.25 |
| 1.25 | Lowest  | Admin "shall" Delete Vehicles        | UC_Delete_Vehicles       | UC_3.1.15.26 |
| 1.26 | Medium  | Admin "shall" View News              | UC_View_News             | UC_3.1.15.27 |
| 2.1  | Medium  | Supervisor "shall" View News         | UC_View_News             | UC_3.1.15.27 |
| 3.5  | Medium  | Staff "shall" View News              | UC_View_News             | UC_3.1.15.27 |
| 4.3  | Medium  | Visitor "shall" View News            | UC_View_News             | UC_3.1.15.27 |
| 1.27 | Highest | Admin "shall" Add News               | UC_Add_News              | UC_3.1.15.28 |
| 2.11 | Highest | Supervisor "shall" Add News          | UC_Add_News              | UC_3.1.15.28 |
| 1.28 | Highest | Admin "shall" Edit News              | UC_Edit_News             | UC_3.1.15.29 |
| 2.12 | Medium  | Supervisor "shall" Edit News         | UC_Edit_News             | UC_3.1.15.29 |

|      |         |                                      |                        |              |
|------|---------|--------------------------------------|------------------------|--------------|
| 1.29 | Lowest  | Admin "shall" Delete News            | UC_Delete_News         | UC_3.1.15.30 |
| 2.13 | Lowest  | Supervisor "shall" Delete News       | UC_Delete_News         | UC_3.1.15.30 |
| 1.3  | Medium  | Admin "shall" View Contract          | UC_View_contract       | UC_3.1.15.31 |
| 2.14 | Medium  | Supervisor "shall" View Contract     | UC_View_contract       | UC_3.1.15.31 |
| 1.31 | Highest | Admin "shall" Add Contract           | UC_Add_Contract        | UC_3.1.15.32 |
| 1.32 | Highest | Admin "shall" Edit Contract          | UC_Edit_Contract       | UC_3.1.15.33 |
| 1.33 | Lowest  | Admin "shall" Delete Contract        | UC_Delete_Contract     | UC_3.1.15.34 |
| 1.34 | Medium  | Admin "shall" View Park Council      | UC_View_Park_Council   | UC_3.1.15.35 |
| 2.15 | Medium  | Supervisor "shall" View Park Council | UC_View_Park_Council   | UC_3.1.15.35 |
| 3.6  | Medium  | Staff "shall" View Park Council      | UC_View_Park_Council   | UC_3.1.15.35 |
| 1.35 | Highest | Admin "shall" Add Park Council       | UC_Add_Park_Council    | UC_3.1.15.36 |
| 1.36 | Highest | Admin "shall" Edit Park Council      | UC_Edit_Park_Council   | UC_3.1.15.37 |
| 1.37 | Lowest  | Admin "shall" Delete Park Council    | UC_Delete_Park_Council | UC_3.1.15.38 |
| 1.38 | Highest | Admin "shall" View Construction      | UC_View_Construction   | UC_3.1.15.39 |
| 2.17 | Medium  | Supervisor "shall" View Schedule     | UC_View_Schedule       | UC_3.1.15.40 |
| 3.1  | Medium  | Staff "shall" View Schedule          | UC_View_Schedule       | UC_3.1.15.40 |
| 2.18 | Highest | Supervisor "shall" Add Schedule      | UC_Add_Schedule        | UC_3.1.15.41 |
| 2.19 | Medium  | Supervisor "shall" Edit Schedule     | UC_Edit_Schedule       | UC_3.1.15.42 |
| 2.2  | Lowest  | Supervisor "shall" Delete Schedule   | UC_Delete_Schedule     | UC_3.1.15.43 |
| 2.21 | Medium  | Supervisor "shall" View Report       | UC_View_Report         | UC_3.1.15.44 |
| 3.2  | Lowest  | Staff "shall" View Report            | UC_View_Report         | UC_3.1.15.44 |
| 2.22 | Highest | Supervisor "shall" Add Report        | UC_Add_report          | UC_3.1.15.45 |
| 2.23 | Highest | Supervisor "shall" Edit Report       | UC_Edit_report         | UC_3.1.15.46 |
| 2.24 | Lowest  | Supervisor "shall" Delete Report     | UC_Delete_report       | UC_3.1.15.47 |

|      |         |  |                        |              |
|------|---------|--|------------------------|--------------|
| 2.25 | Medium  | Supervisor "shall" View Campaign       | UC_View_Campaign       | UC_3.1.15.48 |
| 2.26 | Highest | Supervisor "shall" Add Campaign        | UC_Add_Campaign        | UC_3.1.15.49 |
| 2.27 | Highest | Supervisor "shall" Edit Campaign       | UC_Edit_Campaign       | UC_3.1.15.50 |
| 2.28 | Lowest  | Supervisor "shall" Delete Campaign     | UC_Delete_Campaign     | UC_3.1.15.51 |
| 2.29 | Medium  | Supervisor "shall" View Attendance     | UC_View_Attendance     | UC_3.1.15.52 |
| 2.3  | Medium  | Supervisor "shall" View Grants         | UC_View_Grants         | UC_3.1.15.53 |
| 2.31 | Highest | Supervisor "shall" Add Grants          | UC_Add_Grants          | UC_3.1.15.54 |
| 2.32 | Highest | Supervisor "shall" Edit Grants         | UC_Edit_Grants         | UC_3.1.15.55 |
| 2.33 | Lowest  | Supervisor "shall" Delete Grants       | UC_Delete_Grants       | UC_3.1.15.56 |
| 2.34 | Medium  | Supervisor "shall" View Expenditures   | UC_View_Expenditures   | UC_3.1.15.57 |
| 2.35 | Highest | Supervisor "shall" Add Expenditures    | UC_Add_Expenditures    | UC_3.1.15.58 |
| 2.36 | Medium  | Supervisor "shall" Edit Expenditures   | UC_Edit_Expenditures   | UC_3.1.15.59 |
| 2.37 | Lowest  | Supervisor "shall" Delete Expenditures | UC_Delete_Expenditures | UC_3.1.15.60 |
| 3.7  | Lowest  | Staff "shall" Add Attendance           | UC_Add_Attendance      | UC_3.1.15.61 |
| 4.1  | Highest | Visitor "shall" Add Complain           | UC_Add_Complain        | UC_3.1.15.62 |
| 4.4  | Lowest  | Visitor "shall" Event Request          | UC_Event_Request       | UC_3.1.15.63 |
| 4.7  | Medium  | Visitor "shall" view Parks             | UC_View_Parks          | UC_3.1.15.64 |
| 1.4  | Highest | Admin "shall" Logout                   | UC_Logout              | UC_3.1.15.65 |
| 2.4  | Highest | Supervisor "shall" Logout              | UC_Logout              | UC_3.1.15.65 |
| 3.9  | Highest | Staff "shall" Logout                   | UC_Logout              | UC_3.1.15.65 |

### 3.1.12 Requirements Trace-ability Matrix:

| Sr.No | para | Build | initial Requirment             | Usecase_Nmae        | Category |
|-------|------|-------|--------------------------------|---------------------|----------|
| 1     | 1    | B1    | Admin"shall" Login             | UC_Login            | Business |
| 2     | 2    | B1    | Supervisor "shall" Logim       | UC_Login            | Business |
| 3     | 3    | B1    | Staff "shall" login            | UC_Login            | Business |
| 4     | 1.1  | B1    | Admin "shall" View park detail | UC_View_park_Detail | Business |

|    |      |    |                                     |                     |          |
|----|------|----|-------------------------------------|---------------------|----------|
| 5  | 2.16 | B1 | Supervisor "shall" View Park Detail | UC_View_park_Detail | Business |
| 6  | 1.2  | B1 | Admin "shall" Register Park         | UC_Register_Park    | Business |
| 7  | 1.3  | B1 | Admin "shall" Edit Park             | UC_Edit_Park        | Business |
| 8  | 1.4  | B1 | Admin "shall" Delete park           | UC_Delete_park      | Business |
| 9  | 1.5  | B1 | Admin "shall" View Staff            | UC_View_Staff       | Business |
| 10 | 2.1  | B1 | Supervisor "shall" View Staff       | UC_View_Staff       | Business |
| 11 | 1.6  | B1 | Admin "shall" Register Staff        | UC_Register_Staff   | Business |
| 12 | 2.2  | B1 | Supervisor "shall" Register Staff   | UC_Register_Staff   | Business |
| 13 | 1.7  | B1 | Admin "shall" Edit Staff            | UC_Edit_Staff       | Business |
| 14 | 2.3  | B1 | Supervisor "shall" Edit Staff       | UC_Edit_Staff       | Business |
| 15 | 1.8  | B1 | Admin "shall" Delete Staff          | UC_Delete_Staff     | Business |
| 16 | 2.4  | B1 | Supervisor "shall" Delete Staff     | UC_Delete_Staff     | Business |
| 17 | 1.9  | B1 | Admin "shall" View Nursery          | UC_View_Nursery     | Business |
| 18 | 2.5  | B1 | Supervisor "shall" View Nursery     | UC_View_Nursery     | Business |
| 19 | 4.6  | B1 | Visitor "shall" View Nursery        | UC_View_Nursery     | Business |
| 20 | 1.1  | B1 | Admin "shall" Register Nursery      | UC_Register_Nursery | Business |
| 21 | 2.6  | B1 | Supervisor "shall" Register Nursery | UC_Register_Nursery | Business |
| 22 | 1.11 | B1 | Admin "shall" Edit Nursery          | UC_Edit_Nursery     | Business |
| 23 | 2.7  | B1 | Supervisor "shall" Edit Nursery     | UC_Edit_Nursery     | Business |
| 24 | 1.12 | B1 | Admin "shall" Delete Nursery        | UC_Delete_Nursery   | Business |
| 25 | 2.8  | B1 | Supervisor "shall" Delete Nursery   | UC_Delete_Nursery   | Business |
| 26 | 1.13 | B1 | Admin "shall" View Complain         | UC_View_Complain    | Business |
| 27 | 2.9  | B1 | Supervisor "shall" View Complain    | UC_View_Complain    | Business |
| 28 | 3.3  | B1 | Staff "shall" View Complain         | UC_View_Complain    | Business |

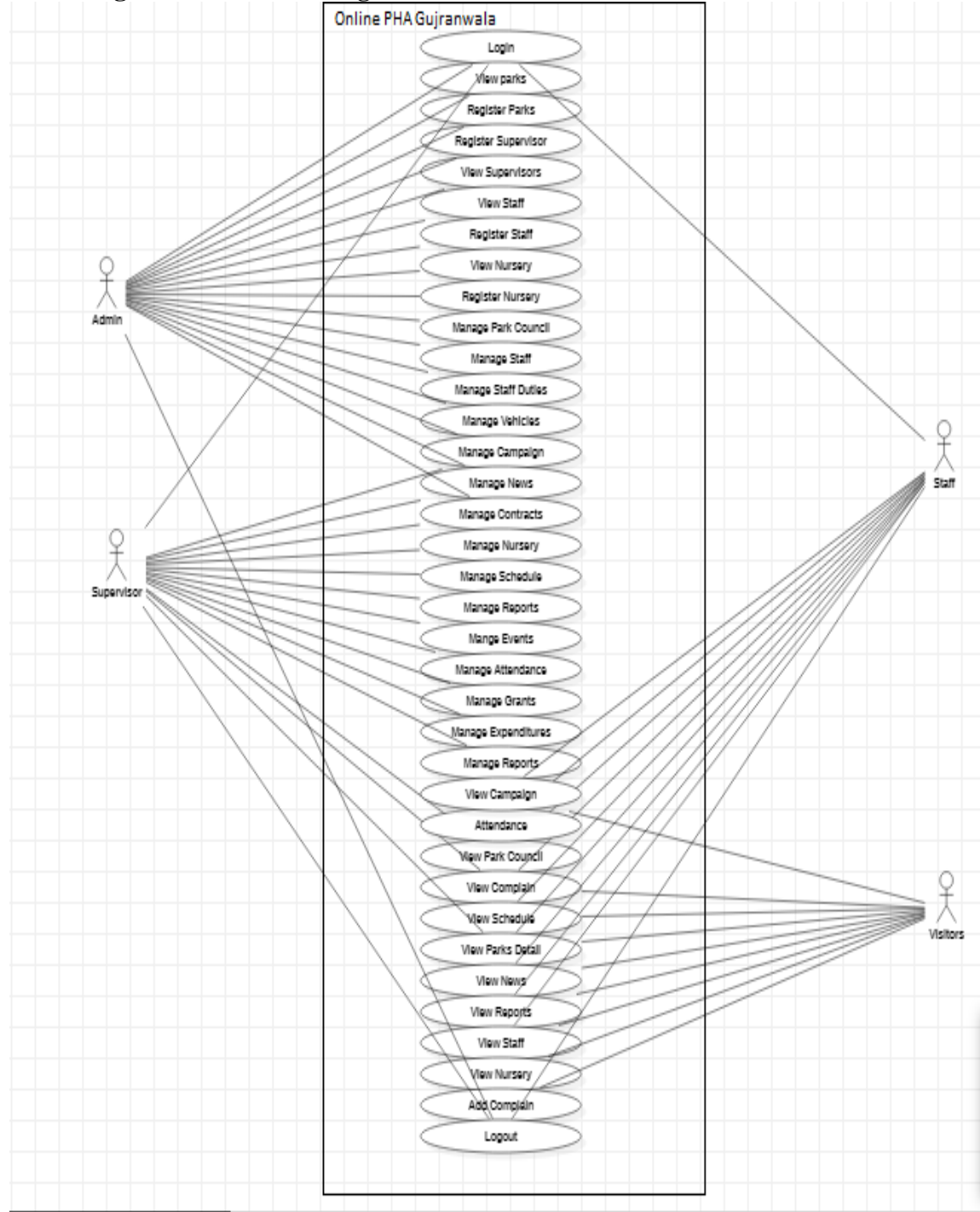
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|----|------|----|--------------------------------------|--------------------------|----------|
| 29 | 4.8  | B1 | Visitor "shall" View Complain        | UC_View_Complain         | Business |
| 30 | 1.14 | B1 | Admin "shall" Response the complain  | UC_Response_the_Complain | Business |
| 31 | 1.15 | B1 | Admin "shall" View Events            | UC_View_Event            | Business |
| 32 | 2.38 | B1 | Supervisor "shall" View Events       | UC_View_Event            | Business |
| 33 | 3.4  | B1 | Supervisor "shall" View Events       | UC_View_Event            | Business |
| 34 | 4.5  | B1 | Visitor "shall" View Events          | UC_View_Event            | Business |
| 35 | 1.16 | B1 | Admin "shall" Register Event         | UC_Register_Event        | Business |
| 36 | 1.17 | B1 | Admin "shall" Edit Event             | UC_Edit_Event            | Business |
| 37 | 1.18 | B1 | Admin "shall" Delete Event           | UC_Delete_Event          | Business |
| 38 | 1.19 | B1 | Admin "shall" View Staff Duties      | UC_View_Staff_Duties     | Business |
| 39 | 2.39 | B1 | Supervisor "shall" View Staff Duties | UC_View_Staff_Duties     | Business |
| 40 | 3.8  | B1 | Visitor "shall" View Staff Duties    | UC_View_Staff_Duties     | Business |
| 41 | 1.2  | B1 | Admin "shall" Assign Duties          | UC_Assign_Duties         | Business |
| 42 | 1.21 | B1 | Admin "shall" Edit Duties            | UC_Edit_Duties           | Business |
| 43 | 1.22 | B1 | Admin "shall" View Vehicles          | UC_View_Vehicles         | Business |
| 44 | 1.23 | B1 | Admin "shall" Register Vehicles      | UC_Register_Vehicles     | Business |
| 45 | 1.24 | B1 | Admin "shall" Edit Vehicles          | UC_Edit_Vehicles         | Business |
| 46 | 1.25 | B1 | Admin "shall" Delete Vehicles        | UC_Delete_Vehicles       | Business |
| 47 | 1.26 | B1 | Admin "shall" View News              | UC_View_News             | Business |
| 48 | 2.1  | B1 | Supervisor "shall" View News         | UC_View_News             | Business |
| 49 | 3.5  | B1 | Staff "shall" View News              | UC_View_News             | Business |
| 50 | 4.3  | B1 | Visitor "shall" View News            | UC_View_News             | Business |
| 51 | 1.27 | B1 | Admin "shall" Add News               | UC_Add_News              | Business |

|    |      |    |                                      |                        |          |
|----|------|----|--------------------------------------|------------------------|----------|
| 52 | 2.11 | B1 | Supervisor "shall" Add News          | UC_Add_News            | Business |
| 53 | 1.28 | B1 | Admin "shall" Edit News              | UC_Edit_News           | Business |
| 54 | 2.12 | B1 | Supervisor "shall" Edit News         | UC_Edit_News           | Business |
| 55 | 1.29 | B1 | Admin "shall" Delete News            | UC_Delete_News         | Business |
| 56 | 2.13 | B1 | Supervisor "shall" Delete News       | UC_Delete_News         | Business |
| 57 | 1.3  | B1 | Admin "shall" View Contract          | UC_View_contract       | Business |
| 58 | 2.14 | B1 | Supervisor "shall" View Contract     | UC_View_contract       | Business |
| 59 | 1.31 | B1 | Admin "shall" Add Contract           | UC_Add_Contract        | Business |
| 60 | 1.32 | B1 | Admin "shall" Edit Contract          | UC_Edit_Contract       | Business |
| 61 | 1.33 | B1 | Admin "shall" Delete Contract        | UC_Delete_Contract     | Business |
| 62 | 1.34 | B1 | Admin "shall" View Park Council      | UC_View_Park_Council   | Business |
| 63 | 2.15 | B1 | Supervisor "shall" View Park Council | UC_View_Park_Council   | Business |
| 64 | 3.6  | B1 | Staff "shall" View Park Council      | UC_View_Park_Council   | Business |
| 65 | 1.35 | B1 | Admin "shall" Add Park Council       | UC_Add_Park_Council    | Business |
| 66 | 1.36 | B1 | Admin "shall" Edit Park Council      | UC_Edit_Park_Council   | Business |
| 67 | 1.37 | B1 | Admin "shall" Delete Park Council    | UC_Delete_Park_Council | Business |
| 68 | 1.38 | B1 | Admin "shall" View Construction      | UC_View_Construction   | Business |
| 69 | 2.17 | B1 | Supervisor "shall" View Schedule     | UC_View_Schedule       | Business |
| 70 | 3.1  | B1 | Staff "shall" View Schedule          | UC_View_Schedule       | Business |
| 71 | 2.18 | B1 | Supervisor "shall" Add Schedule      | UC_Add_Schedule        | Business |
| 72 | 2.19 | B1 | Supervisor "shall" Edit Schedule     | UC_Edit_Schedule       | Business |
| 73 | 2.2  | B1 | Supervisor "shall" Delete Schedule   | UC_Delete_Schedule     | Business |
| 74 | 2.21 | B1 | Supervisor "shall" View Report       | UC_View_Report         | Business |



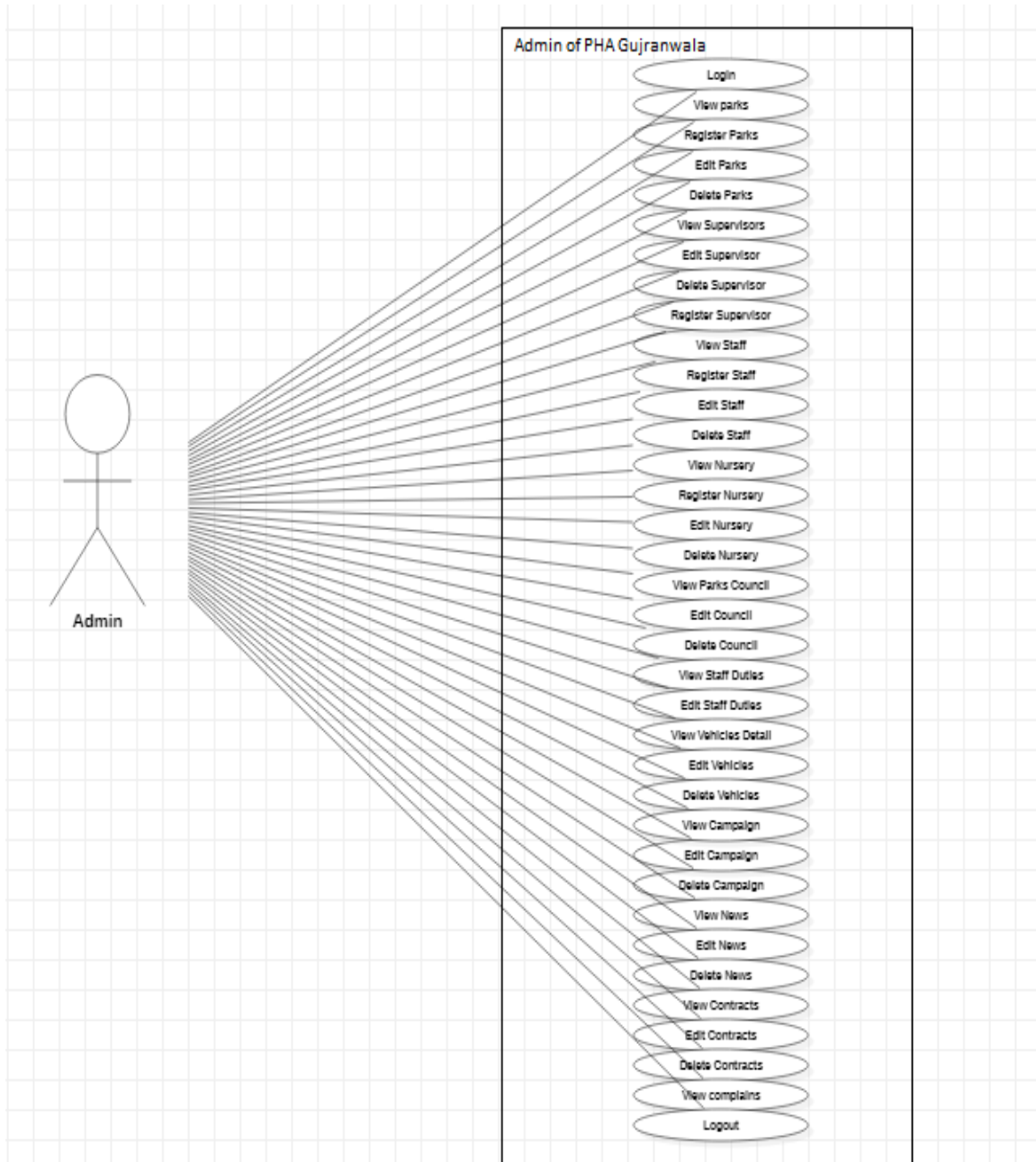
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|----|------|----|--|------------------------|----------|
| 75 | 3.2  | B1 | Staff "shall" View Report              | UC_View_Report         | Business |
| 76 | 2.22 | B1 | Supervisor "shall" Add Report          | UC_Add_report          | Business |
| 77 | 2.23 | B1 | Supervisor "shall" Edit Report         | UC_Edit_report         | Business |
| 78 | 2.24 | B1 | Supervisor "shall" Delete Report       | UC_Delete_report       | Business |
| 79 | 2.25 | B1 | Supervisor "shall" View Campaign       | UC_View_Campaign       | Business |
| 80 | 2.26 | B1 | Supervisor "shall" Add Campaign        | UC_Add_Campaign        | Business |
| 81 | 2.27 | B1 | Supervisor "shall" Edit Campaign       | UC_Edit_Campaign       | Business |
| 82 | 2.28 | B1 | Supervisor "shall" Delete Campaign     | UC_Delete_Campaign     | Business |
| 83 | 2.29 | B1 | Supervisor "shall" View Attendance     | UC_View_Attendance     | Business |
| 84 | 2.3  | B1 | Supervisor "shall" View Grants         | UC_View_Grants         | Business |
| 85 | 2.31 | B1 | Supervisor "shall" Add Grants          | UC_Add_Grants          | Business |
| 86 | 2.32 | B1 | Supervisor "shall" Edit Grants         | UC_Edit_Grants         | Business |
| 87 | 2.33 | B1 | Supervisor "shall" Delete Grants       | UC_Delete_Grants       | Business |
| 88 | 2.34 | B1 | Supervisor "shall" View Expenditures   | UC_View_Expenditures   | Business |
| 89 | 2.35 | B1 | Supervisor "shall" Add Expenditures    | UC_Add_Expenditures    | Business |
| 90 | 2.36 | B1 | Supervisor "shall" Edit Expenditures   | UC_Edit_Expenditures   | Business |
| 91 | 2.37 | B1 | Supervisor "shall" Delete Expenditures | UC_Delete_Expenditures | Business |
| 92 | 3.7  | B1 | Staff "shall" Add Attendance           | UC_Add_Attendance      | Business |
| 93 | 4.1  | B1 | Visitor "shall" Add Complain           | UC_Add_Complain        | Business |
| 94 | 4.4  | B1 | Visitor "shall" Event Request          | UC_Event_Request       | Business |
| 95 | 4.7  | B1 | Visitor "shall" view Parks             | UC_View_Parks          | Business |
| 96 | 1.4  | B1 | Admin "shall" Logout                   | UC_Logout              | Business |
| 97 | 2.4  | B1 | Supervisor "shall" Logout              | UC_Logout              | Business |
| 98 | 3.9  | B1 | Staff "shall" Logout                   | UC_Logout              | Business |

### 3.1.13 High Level Usecase Diagram:

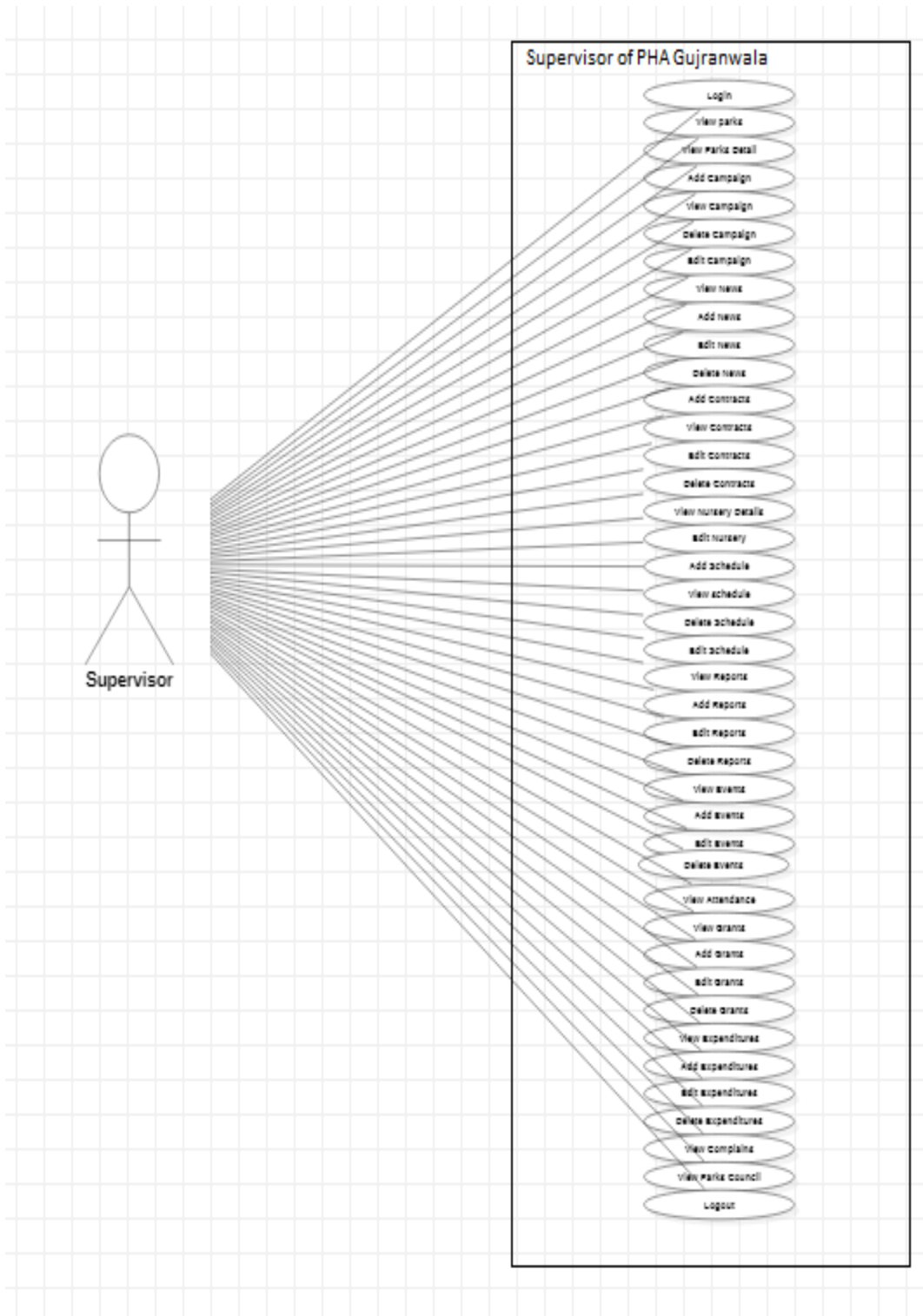


### 3.1.14 Analysis Level Usecase Diagram:

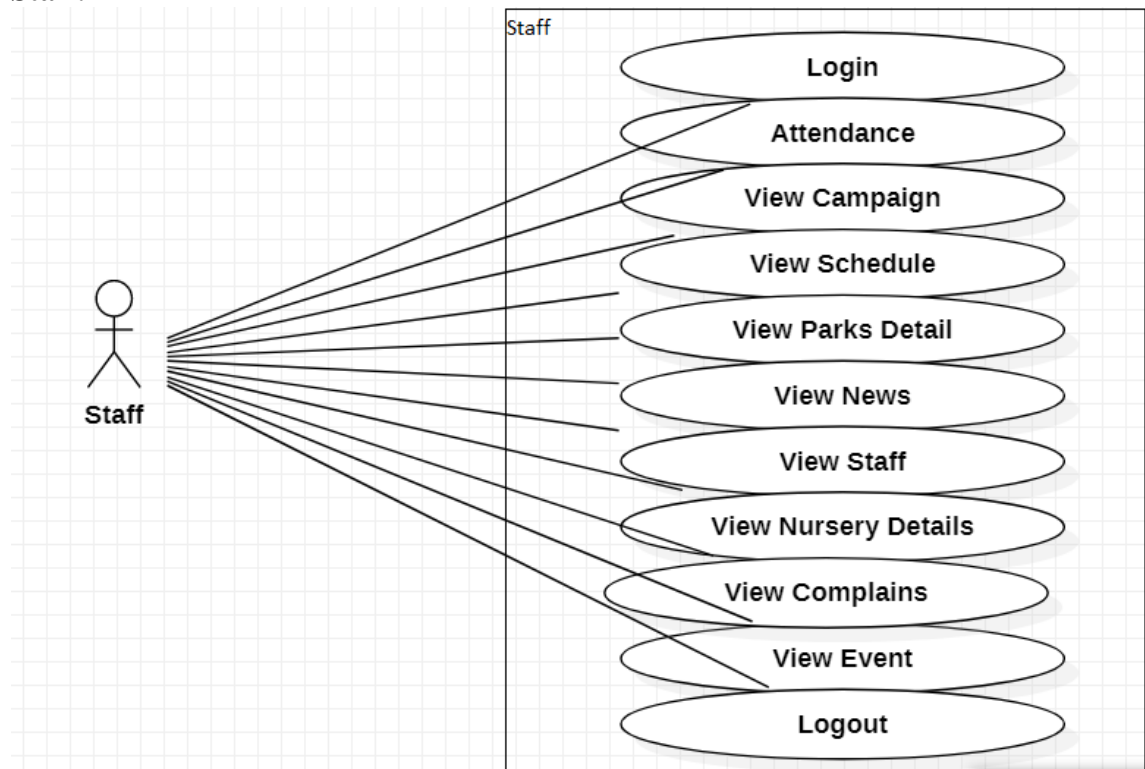
**Admin:**



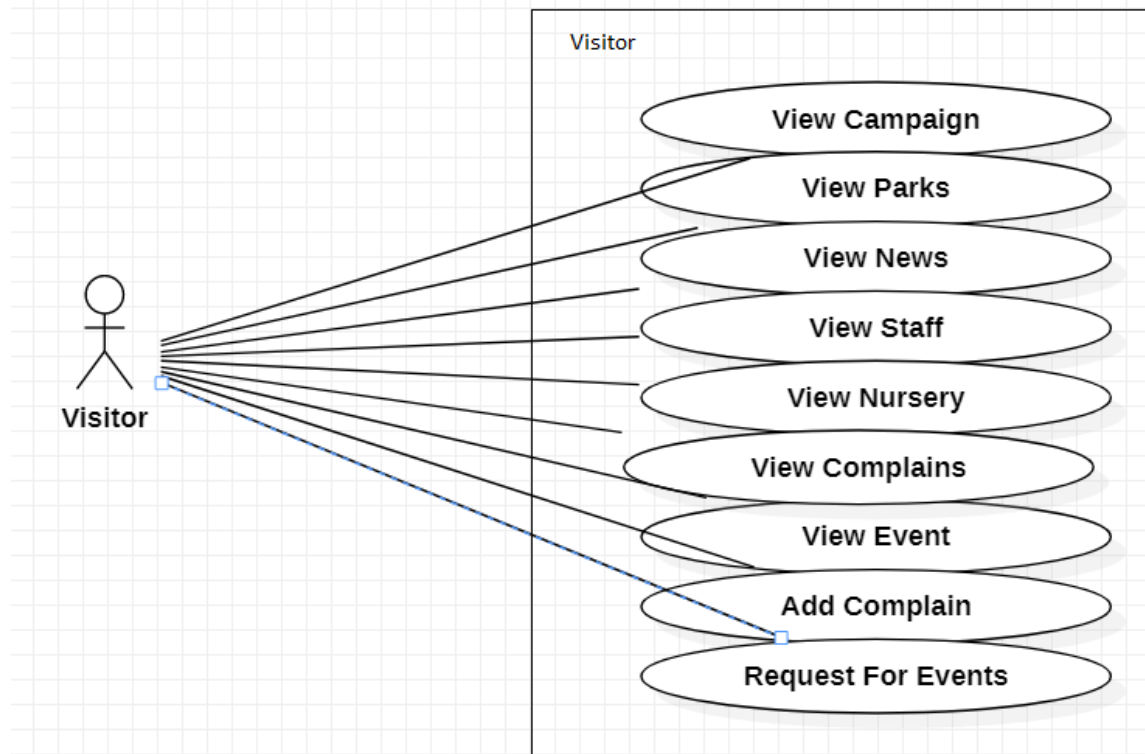
## Supervisor:



### Staff:



### Visitors:



### 3.1.15. Usecase Description

| UC_3.1.15.1:Login   |                                    |  |
|---|------------------------------------|--|
| Actors:   | Member(Admin, Supervisor, Staff)   |  |
| Feature:  | Member can Lgoin                   |  |
| Use case Id:  | UC_3.1.15.1                        |  |
| Pre-condition:  | Member should Register             |  |
| Scenarios:  |                                    |  |
| Step#   | Action                             | Software Reaction                          |
| 1.  | Member will request for login page | System will show the Login page            |
| 2.  | Member will enter data and submit  | System will validate and verify login page |
| Alternate Scenarios:  |                                    |  |
| In case of non-availability of system, it will display error message.<br>If the member is not register then it will show error message. |                                    |  |
| Post Conditions:  |                                    |  |
| Step#   | Description                        |  |
| 1.  | Member has successfully login.     |  |

| UC_3.1.15.2:View_Park_Detail                          |  |                                   |
|---|--|-----------------------------------|
| Actors:   | Member(Admin, Supervisor)                          |                                   |
| Feature:  | Member can view park detail                        |                                   |
| Use case Id:  | UC_3.1.15.2  |                                   |
| Pre-condition:  | Member should be login first.                      |                                   |
| Scenarios:  |  |                                   |
| Step#   | Action   | Software Reaction                 |
| 1.  | Member will request for view park detail           | System will show Park detail page |
| Alternate Scenarios:                                  |  |                                   |
| The page is not loaded correctly.<br>Page will crash. |  |                                   |
| Post Conditions:                                      |  |                                   |
| Step#   | Description  |                                   |
| 2.  | Member has successfully View the park detail page. |                                   |

| UC_3.1.15.3:Register_Park  |  |  |
|--|--|--|
| Actors:  | Member(Admin)  |  |
| Feature:   | Member will open the park registration form                                |  |
| Use case Id:   | UC_3.1.15.3  |  |
| Pre-condition:   | Member have to login first   |  |
| Scenarios:   |  |  |
| Step#  | Action   | Software Reaction                              |
| 1.   | Member will click on the register park button                              | System will show the form of park registration |
| 2.   | Member will fill out park registration form and click on the submit button | System will register the park                  |
| Alternate Scenarios:   |  |  |
| If the data is not enter in any given block then it will show error to fill out it |  |  |
| Post Conditions:   |  |  |
| Step#  | Description  |  |
| 3.   | Member has successfully Register park.                                     |  |



| UC_3.1.15.4:Edit_Park   |   |   |
|---|---|---|
| Actors:   | Member(Admin)   |   |
| Feature:  | Member will edit the park detail                                      |   |
| Use case Id:  | UC_3.1.15.4   |   |
| Pre-condition:  | Member Should be login<br>Park should be register in the website.     |   |
| Scenarios:  |   |   |
| Step#   | Action  | Software Reaction   |
| 1.  | Member will click the edit park option                                | System will open edit park page                           |
| 2.  | Member will enter the detail of park update and click the edit button | System will validate the details and edit the park detail |
| Alternate Scenarios:  |   |   |
| Member will enter the wrong information or left the block empty then it will show error |   |   |
| Post Conditions:  |   |   |
| Step#   | Description   |   |
| 4.  | Member has successfully edit the park detail.                         |   |

| UC_3.1.15.5:Delete_Park_Detail          |   |  |
|---|---|--|
| Actors:                                 | Member(Admin)   |  |
| Feature:                                | Member can delete the park detail                         |  |
| Use case Id:                            | UC_3.1.15.5   |  |
| Pre-condition:                          | Member should be login first.<br>Park should be register. |  |
| Scenarios:                              |   |  |
| Step#                                   | Action  | Software Reaction                            |
| 1.                                      | Member will click on the park detail button               | System will show the park detail page        |
| 2.                                      | Member will select the park and click the delete button   | System will delete the selected park detail. |
| Alternate Scenarios:                    |   |  |
| The page can be crashed during deletion |   |  |
| Post Conditions:                        |   |  |
| Step#                                   | Description   |  |
| 5.                                      | Member has successfully delete the park detail            |  |

| UC_3.1.15.6:View_Staff   |                                     |                                 |
|--------------------------|-------------------------------------|---------------------------------|
| Actors:                  | Member(Admin, Supervisor)           |                                 |
| Feature:                 | Member can view the staff           |                                 |
| Use case Id:             | UC_3.1.15.6                         |                                 |
| Pre-condition:           | Member should be login first        |                                 |
| Scenarios:               |                                     |                                 |
| Step#                    | Action                              | Software Reaction               |
| 1.                       | Member will click view staff button | System will show the Staff page |
| Alternate Scenarios:     |                                     |                                 |
| The page can be crashed. |                                     |                                 |
| Post Conditions:         |                                     |                                 |
| Step#                    | Description                         |                                 |
| 6.                       | Member has successfully view staff  |                                 |

| UC_3.1.15.7:Register_Staff  |  |  |
|---|--|--|
| Actors:   | Member(Admin, Supervisor)                                  |  |
| Feature:  | Member can register the staff member                       |  |
| Use case Id:  | UC_3.1.15.7  |  |
| Pre-condition:  | Member should be login first.                              |  |
| Scenarios:  |  |  |
| Step#   | Action   | Software Reaction                                      |
| 1.  | Member will click on the Staff registration button         | System will show the form of the registration of staff |
| 2.  | Member will fill the form with the require date and submit | System will register the staff member.                 |
| Alternate Scenarios:  |  |  |
| If the data is not enter in any given block then it will show error to fill out it. |  |  |
| Post Conditions:  |  |  |
| Step#   | Description  |  |
| 7.  | Member has successfully staff member register.             |  |

| UC_3.1.15.8:Edit_Staff  |   |  |
|---|---|--|
| Actors:   | Member(Admin, Supervisor)   |  |
| Feature:  | Member can edit the staff member detail                           |  |
| Use case Id:  | UC_3.1.15.8   |  |
| Pre-condition:  | Member should be login first.<br>Staff member should be register. |  |
| Scenarios:  |   |  |
| Step#   | Action  | Software Reaction                                      |
| 1.  | Member will click on view staff button                            | System will show the staff page                        |
| 2.  | Member will select staff member and click on edit button.         | System will show the edit page.                        |
| 3   | Member will enter the staff date and click on edit button         | System will validate and edit the staff member detail. |
| Alternate Scenarios:  |   |  |
| Member will enter the wrong information or left the block empty then it will show error |   |  |
| Post Conditions:  |   |  |
| Step#   | Description   |  |
| 8.  | Member has successfully edit the staff member detail.             |  |

| UC_3.1.15.9:Delete_Staff                |  |  |
|---|--|--|
| Actors:                                 | Member(Admin, Supervisor)  |  |
| Feature:                                | Member can delete the staff member                                 |  |
| Use case Id:                            | UC_3.1.15.9  |  |
| Pre-condition:                          | Member should be login first.<br>Staff member should be register   |  |
| Scenarios:                              |  |  |
| Step#                                   | Action   | Software Reaction                            |
| 1.                                      | Member will click on the view staff button                         | System will show the staff page              |
| 2.                                      | Member will select the staff member and click on the delete button | System will delete the selected staff member |
| Alternate Scenarios:                    |  |  |
| The page can be crashed during deletion |  |  |
| Post Conditions:                        |  |  |
| Step#                                   | Description  |  |
| 9.                                      | Member has successfully delete the staff member                    |  |

| UC_3.1.15.10:View_Nursery                             |  |                               |
|---|--|-------------------------------|
| Actors:   | Member(Admin, Supervisor, Visitor)         |                               |
| Feature:  | Member can view Nursery                    |                               |
| Use case Id:  | UC_3.1.115.10                              |                               |
| Pre-condition:  | Member should be login first.              |                               |
| Scenarios:  |  |                               |
| Step#   | Action                                     | Software Reaction             |
| 1.  | Member will request for view Nursery       | System will show Nursery page |
| Alternate Scenarios:                                  |  |                               |
| The page is not loaded correctly.<br>Page will crash. |  |                               |
| Post Conditions:                                      |  |                               |
| Step#   | Description                                |                               |
| 10.   | Member has successfully View the Nursery.. |                               |

| UC_3.1.15.11:Register_Nursery  |   |   |
|--|---|---|
| Actors:  | Member(Admin, Supervisor)   |   |
| Feature:   | Member will register nursery  |   |
| Use case Id:   | UC_3.1.15.11  |   |
| Pre-condition:   | Member have to login first.   |   |
| Scenarios:   |   |   |
| Step#  | Action  | Software Reaction                                 |
| 1.   | Member will click on the register nursery button                              | System will show the form of nursery registration |
| 2.   | Member will fill out nursery registration form and click on the submit button | System will register the nursert                  |
| Alternate Scenarios:   |   |   |
| If the data is not enter in any given block then it will show error to fill out it |   |   |
| Post Conditions:   |   |   |
| Step#  | Description   |   |
| 11.  | Member has successfully Register nursery.                                     |   |



| UC_3.1.15.12:Edit_nursery   |  |   |
|---|--|---|
| Actors:   | Member(Admin, Supervisor)  |   |
| Feature:  | Member will edit the nursery detail                                    |   |
| Use case Id:  | UC_3.1.15.12   |   |
| Pre-condition:  | Member Should be login<br>Nursery should be register in the website.   |   |
| Scenarios:  |  |   |
| Step#   | Action   | Software Reaction   |
| 1.  | Member will click the edit Nursery option                              | System will open edit Nursery page                            |
| 2.  | Member will enter the detail of nursery edit and click the edit button | System will validate the details and edit the nursery detail. |
| Alternate Scenarios:  |  |   |
| Member will enter the wrong information or left the block empty then it will show error |  |   |
| Post Conditions:  |  |   |
| Step#   | Description  |   |
| 12.   | Member has successfully edit the nursery detail.                       |   |

| UC_3.1.15.13:Delete_Nursery             |  |   |
|---|--|---|
| Actors:                                 | Member(Admin, Supervisor)                                    |   |
| Feature:                                | Member can delete the nursery detail                         |   |
| Use case Id:                            | UC_3.1.15.13   |   |
| Pre-condition:                          | Member should be login first.<br>Nursery should be register. |   |
| Scenarios:                              |  |   |
| Step#                                   | Action   | Software Reaction                               |
| 1.                                      | Member will click on the view nursery button                 | System will show the view nursery page          |
| 2.                                      | Member will select the nursery and click the delete button   | System will delete the selected nursery detail. |
| Alternate Scenarios:                    |  |   |
| The page can be crashed during deletion |  |   |
| Post Conditions:                        |  |   |
| Step#                                   | Description  |   |
| 13.                                     | Member has successfully delete the nursery detail            |   |

| UC_3.1.15.14:View_Complains                           |   |                                      |
|---|---|--------------------------------------|
| Actors:   | Member(Admin, Supervisor, Staff, Visitor)     |                                      |
| Feature:  | Member can view park complains                |                                      |
| Use case Id:  | UC_3.1.15.14                                  |                                      |
| Pre-condition:  | Member should be login first.                 |                                      |
| Scenarios:  |   |                                      |
| Step#   | Action  | Software Reaction                    |
| 1.  | Member will request for view complains detail | System will show view complains page |
| Alternate Scenarios:                                  |   |                                      |
| The page is not loaded correctly.<br>Page will crash. |   |                                      |
| Post Conditions:                                      |   |                                      |
| Step#   | Description                                   |                                      |
| 14.   | Member has successfully view complains page.  |                                      |

| UC_3.1.15.15:Response_Complain   |   |   |
|--|---|---|
| Actors:  | Member(Admin)   |   |
| Feature:   | Member will response of the complains                             |   |
| Use case Id:   | UC_3.1.15.15  |   |
| Pre-condition:   | Member have to login first  |   |
| Scenarios:   |   |   |
| Step#  | Action  | Software Reaction                       |
| 1.   | Member will request for view complains page.                      | System will show the view complain page |
| 2.   | Member will select the complaint and click on the response button | System will show the response form.     |
| 3  | Member will write the message and click on the send.              | System will send the message.           |
| Alternate Scenarios:   |   |   |
| If the data is not enter in any given block then it will show error to fill out it |   |   |
| Post Conditions:   |   |   |
| Step#  | Description   |   |
| 15.  | Member has successfully send the response of the complaint.       |   |

| UC_3.1.15.16:View_Event                               |  |                             |
|---|--|-----------------------------|
| Actors:   | Member(Admin, Supervisor, Staff, Visitor)    |                             |
| Feature:  | Member can view Event                        |                             |
| Use case Id:  | UC_3.1.15.16                                 |                             |
| Pre-condition:  | Event should be register                     |                             |
| Scenarios:  |  |                             |
| Step#   | Action                                       | Software Reaction           |
| 1.  | Member will request for view Event           | System will show Event page |
| Alternate Scenarios:                                  |  |                             |
| The page is not loaded correctly.<br>Page will crash. |  |                             |
| Post Conditions:                                      |  |                             |
| Step#   | Description                                  |                             |
| 16.   | Member has successfully View the Event page. |                             |

| UC_3.1.15.17:Register_Event  |   |   |
|--|---|---|
| Actors:  | Member(Admin)   |   |
| Feature:   | Member will register the Event  |   |
| Use case Id:   | UC_3.1.15.17  |   |
| Pre-condition:   | Member have to login first  |   |
| Scenarios:   |   |   |
| Step#  | Action  | Software Reaction                               |
| 1.   | Member will click on the register Event button                              | System will show the form of Event registration |
| 2.   | Member will fill out Event registration form and click on the submit button | System will register the Event                  |
| Alternate Scenarios:   |   |   |
| If the data is not enter in any given block then it will show error to fill out it |   |   |
| Post Conditions:   |   |   |
| Step#  | Description   |   |
| 17.  | Member has successfully Register Event.                                     |   |

| UC_3.1.15.18:Edit_Event   |  |  |
|---|--|--|
| Actors:   | Member(Admin)  |  |
| Feature:  | Member will edit the Event detail                                      |  |
| Use case Id:  | UC_3.1.15.18   |  |
| Pre-condition:  | Member Should be login<br>Event should be register in the website.     |  |
| Scenarios:  |  |  |
| Step#   | Action   | Software Reaction  |
| 1.  | Member will click the edit Event option                                | System will open edit Event page                           |
| 2.  | Member will enter the detail of Event update and click the edit button | System will validate the details and edit the Event detail |
| Alternate Scenarios:  |  |  |
| Member will enter the wrong information or left the block empty then it will show error |  |  |
| Post Conditions:  |  |  |
| Step#   | Description  |  |
| 18.   | Member has successfully edit the Event detail.                         |  |

| UC_3.1.15.19:Delete_Event               |   |  |
|---|---|--|
| Actors:                                 | Member(Admin)   |  |
| Feature:                                | Member can delete the Event                               |  |
| Use case Id:                            | UC_3.1.15.19  |  |
| Pre-condition:                          | Member should be login first.<br>Park should be register. |  |
| Scenarios:                              |   |  |
| Step#                                   | Action  | Software Reaction                      |
| 1.                                      | Member will request for event page                        | System will show the Event page        |
| 2.                                      | Member will select the event and click the delete button  | System will delete the selected event. |
| Alternate Scenarios:                    |   |  |
| The page can be crashed during deletion |   |  |
| Post Conditions:                        |   |  |
| Step#                                   | Description   |  |
| 19.                                     | Member has successfully delete the Event.                 |  |



| UC_3.1.15.20:View_Staff_Duties                        |   |                                    |
|---|---|------------------------------------|
| Actors:   | Member(Admin, Supervisor, Visitor)                  |                                    |
| Feature:  | Member can view staff duties                        |                                    |
| Use case Id:  | UC_3.1.15.20  |                                    |
| Pre-condition:  | Staff should be register first.                     |                                    |
| Scenarios:  |   |                                    |
| Step#   | Action  | Software Reaction                  |
| 1.  | Member will request for view staff duties           | System will show staff duties page |
| Alternate Scenarios:                                  |   |                                    |
| The page is not loaded correctly.<br>Page will crash. |   |                                    |
| Post Conditions:                                      |   |                                    |
| Step#   | Description   |                                    |
| 20.   | Member has successfully View the staff duties page. |                                    |

| UC_3.1.15.21:Assign_duties   |   |                                 |
|--|---|---------------------------------|
| Actors:  | Member(Admin)   |                                 |
| Feature:   | Member will assign the duties to staff                  |                                 |
| Use case Id:   | UC_3.1.15.21  |                                 |
| Pre-condition:   | Member have to login first                              |                                 |
| Scenarios:   |   |                                 |
| Step#  | Action  | Software Reaction               |
| 1.   | Member will request for view staff page.                | System will show the staff page |
| 2.   | Member will select the staff member and assign the duty | System will assign the duty     |
| Alternate Scenarios:   |   |                                 |
| If the data is not enter in any given block then it will show error to fill out it |   |                                 |
| Post Conditions:   |   |                                 |
| Step#  | Description   |                                 |
| 21.  | Member has successfully assign the duties to the staff. |                                 |

| UC_3.1.15.22:Edit_Duties  |  |  |
|---|--|--|
| Actors:   | Member(Admin)  |  |
| Feature:  | Member will edit Duties  |  |
| Use case Id:  | UC_3.1.15.22   |  |
| Pre-condition:  | Member Should be login   |  |
| Scenarios:  |  |  |
| Step#   | Action   | Software Reaction  |
| 1.  | Member will request for view staff.                                  | System will show the staff page.                                       |
| 2.  | Member will select the staff member and edit the duty of that member | System will validate the details and edit the duty of the staff member |
| Alternate Scenarios:  |  |  |
| Member will enter the wrong information or left the block empty then it will show error |  |  |
| Post Conditions:  |  |  |
| Step#   | Description  |  |
| 22.   | Member has successfully edit the duty of the staff member.           |  |

| UC_3.1.15.23:View_Vehicles                            |   |                                     |
|---|---|-------------------------------------|
| Actors:   | Member(Admin)                                     |                                     |
| Feature:  | Member can view Vehicles detail                   |                                     |
| Use case Id:  | UC_3.1.15.23                                      |                                     |
| Pre-condition:  | Member should be login.                           |                                     |
| Scenarios:  |   |                                     |
| Step#   | Action  | Software Reaction                   |
| 1.  | Member will request for view Vehicles detail      | System will show view vehicles page |
| Alternate Scenarios:                                  |   |                                     |
| The page is not loaded correctly.<br>Page will crash. |   |                                     |
| Post Conditions:                                      |   |                                     |
| Step#   | Description                                       |                                     |
| 23.   | Member has successfully View the vehicles detail. |                                     |

| UC_3.1.15.24:Register_Vehicles   |   |   |
|--|---|---|
| Actors:  | Member(Admin)   |   |
| Feature:   | Member will register the vehicles   |   |
| Use case Id:   | UC_3.1.15.24  |   |
| Pre-condition:   | Member have to login first  |   |
| Scenarios:   |   |   |
| Step#  | Action  | Software Reaction                                 |
| 1.   | Member will click on the register vehicle button                              | System will show the form of vehicle registration |
| 2.   | Member will fill out vehicle registration form and click on the submit button | System will register the vehicle                  |
| Alternate Scenarios:   |   |   |
| If the data is not enter in any given block then it will show error to fill out it |   |   |
| Post Conditions:   |   |   |
| Step#  | Description   |   |
| 24.  | Member has successfully Register vehicle.                                     |   |

| UC_3.1.15.25:Edit_Vehicles  |  |  |
|---|--|--|
| Actors:   | Member(Admin)  |  |
| Feature:  | Member will edit the Event Vehicles detail                               |  |
| Use case Id:  | UC_3.1.15.25   |  |
| Pre-condition:  | Member Should be login   |  |
| Scenarios:  |  |  |
| Step#   | Action   | Software Reaction  |
| 1.  | Member will request for view vehicles.                                   | System will show the view vehicles page                      |
| 2.  | Member will enter the detail of vehicle update and click the edit button | System will validate the details and edit the vehicle detail |
| Alternate Scenarios:  |  |  |
| Member will enter the wrong information or left the block empty then it will show error |  |  |
| Post Conditions:  |  |  |
| Step#   | Description  |  |
| 25.   | Member has successfully edit the vehicle detail.                         |  |

| UC_3.1.15.26:Delete_Vehicle             |  |  |
|---|--|--|
| Actors:                                 | Member(Admin)  |  |
| Feature:                                | Member can delete the vehicle                              |  |
| Use case Id:                            | UC_3.1.15.26   |  |
| Pre-condition:                          | Member should be login first.                              |  |
| Scenarios:                              |  |  |
| Step#                                   | Action   | Software Reaction                        |
| 1.                                      | Member will request for view vehicle page                  | System will show the view vehicles page  |
| 2.                                      | Member will select the vehicle and click the delete button | System will delete the selected vehicle. |
| Alternate Scenarios:                    |  |  |
| The page can be crashed during deletion |  |  |
| Post Conditions:                        |  |  |
| Step#                                   | Description  |  |
| 26.                                     | Member has successfully delete the vehicle.                |  |

| UC_3.1.15.27:View_News                                |   |                            |
|---|---|----------------------------|
| Actors:   | Member(Admin, Supervisor, Staff, Visitor)   |                            |
| Feature:  | Member can view news                        |                            |
| Use case Id:  | UC_3.1.15.27                                |                            |
| Pre-condition:  | News should be register                     |                            |
| Scenarios:  |   |                            |
| Step#   | Action                                      | Software Reaction          |
| 1.  | Member will request for view news           | System will show news page |
| Alternate Scenarios:                                  |   |                            |
| The page is not loaded correctly.<br>Page will crash. |   |                            |
| Post Conditions:                                      |   |                            |
| Step#   | Description                                 |                            |
| 27.   | Member has successfully View the news page. |                            |



| UC_3.1.15.28:Add_News  |  |  |
|--|--|--|
| Actors:  | Member(Admin, Supervisor)                                  |  |
| Feature:   | Member will add news                                       |  |
| Use case Id:   | UC_3.1.15.28   |  |
| Pre-condition:   | Member have to login first                                 |  |
| Scenarios:   |  |  |
| Step#  | Action   | Software Reaction                      |
| 1.   | Member will click on the add news button                   | System will show the form for add news |
| 2.   | Member will fill out news form and click on the add button | System will add news                   |
| Alternate Scenarios:   |  |  |
| If the data is not enter in any given block then it will show error to fill out it |  |  |
| Post Conditions:   |  |  |
| Step#  | Description  |  |
| 28.  | Member has successfully add news.                          |  |

| UC_3.1.15.29:Edit_News  |   |   |
|---|---|---|
| Actors:   | Member(Admin, Supervisor)   |   |
| Feature:  | Member will edit the news   |   |
| Use case Id:  | UC_3.1.15.29  |   |
| Pre-condition:  | Member Should be login<br>New should be add in website              |   |
| Scenarios:  |   |   |
| Step#   | Action  | Software Reaction   |
| 1.  | Member will request for view news page                              | System will show the news page                            |
| 2.  | Member will enter the detail of News data and click the edit button | System will validate the details and edit the news detail |
| Alternate Scenarios:  |   |   |
| Member will enter the wrong information or left the block empty then it will show error |   |   |
| Post Conditions:  |   |   |
| Step#   | Description   |   |
| 29.   | Member has successfully edit News.                                  |   |

| UC_3.1.15.30:Delete_News                |   |                                       |
|---|---|---------------------------------------|
| Actors:                                 | Member(Admin, Supervisor)                                       |                                       |
| Feature:                                | Member can delete the news                                      |                                       |
| Use case Id:                            | UC_3.1.15.30  |                                       |
| Pre-condition:                          | Member should be login first.<br>News should be add in website. |                                       |
| Scenarios:                              |   |                                       |
| Step#                                   | Action  | Software Reaction                     |
| 1.                                      | Member will request for view news page                          | System will show the news page        |
| 2.                                      | Member will select the news and click the delete button         | System will delete the selected news. |
| Alternate Scenarios:                    |   |                                       |
| The page can be crashed during deletion |   |                                       |
| Post Conditions:                        |   |                                       |
| Step#                                   | Description   |                                       |
| 30.                                     | Member has successfully delete the news.                        |                                       |

| UC_3.1.15.31:View_Contract                            |   |                                |
|---|---|--------------------------------|
| Actors:   | Member(Admin, Supervisor)                       |                                |
| Feature:  | Member can view contract                        |                                |
| Use case Id:  | UC_3.1.15.31                                    |                                |
| Pre-condition:  | Member should be login                          |                                |
| Scenarios:  |   |                                |
| Step#   | Action  | Software Reaction              |
| 1.  | Member will request for view Contract           | System will show contract page |
| Alternate Scenarios:                                  |   |                                |
| The page is not loaded correctly.<br>Page will crash. |   |                                |
| Post Conditions:                                      |   |                                |
| Step#   | Description                                     |                                |
| 31.   | Member has successfully View the contract page. |                                |

| UC_3.1.15.32:Add_Contract  |  |  |
|--|--|--|
| Actors:  | Member(Admin)  |  |
| Feature:   | Member will add contract                                       |  |
| Use case Id:   | UC_3.1.15.32   |  |
| Pre-condition:   | Member have to login first                                     |  |
| Scenarios:   |  |  |
| Step#  | Action   | Software Reaction                          |
| 1.   | Member will click on the add contract button                   | System will show the form for add contract |
| 2.   | Member will fill out contract form and click on the add button | System will add contract                   |
| Alternate Scenarios:   |  |  |
| If the data is not enter in any given block then it will show error to fill out it |  |  |
| Post Conditions:   |  |  |
| Step#  | Description  |  |
| 32.  | Member has successfully add contract.                          |  |

| UC_3.1.15.33:Edit_Contract  |   |   |
|---|---|---|
| Actors:   | Member(Admin)   |   |
| Feature:  | Member will edit the contract   |   |
| Use case Id:  | UC_3.1.15.33  |   |
| Pre-condition:  | Member Should be login<br>Contract should be add in website             |   |
| Scenarios:  |   |   |
| Step#   | Action  | Software Reaction   |
| 1.  | Member will request for view contract page                              | System will show the contract page                            |
| 2.  | Member will enter the detail of contract data and click the edit button | System will validate the details and edit the contract detail |
| Alternate Scenarios:  |   |   |
| Member will enter the wrong information or left the block empty then it will show error |   |   |
| Post Conditions:  |   |   |
| Step#   | Description   |   |
| 33.   | Member has successfully edit contract.                                  |   |

| UC_3.1.15.34:Delete_Contract            |   |   |
|---|---|---|
| Actors:                                 | Member(Admin)   |   |
| Feature:                                | Member can delete the contract                                      |   |
| Use case Id:                            | UC_3.1.15.34  |   |
| Pre-condition:                          | Member should be login first.<br>Contract should be add in website. |   |
| Scenarios:                              |   |   |
| Step#                                   | Action  | Software Reaction                         |
| 1.                                      | Member will request for view contract page                          | System will show the contract page        |
| 2.                                      | Member will select the contract and click the delete button         | System will delete the selected contract. |
| Alternate Scenarios:                    |   |   |
| The page can be crashed during deletion |   |   |
| Post Conditions:                        |   |   |
| Step#                                   | Description   |   |
| 34.                                     | Member has successfully delete the news.                            |   |

| UC_3.1.15.35:View_Park_Council                        |   |                                    |
|---|---|------------------------------------|
| Actors:   | Member(Admin, Supervisor, Staff, Visitor)           |                                    |
| Feature:  | Member can View park council                        |                                    |
| Use case Id:  | UC_3.1.15.35  |                                    |
| Pre-condition:  | Park council should be register                     |                                    |
| Scenarios:  |   |                                    |
| Step#   | Action  | Software Reaction                  |
| 1.  | Member will request for view park council page      | System will show park council page |
| Alternate Scenarios:                                  |   |                                    |
| The page is not loaded correctly.<br>Page will crash. |   |                                    |
| Post Conditions:                                      |   |                                    |
| Step#   | Description   |                                    |
| 35.   | Member has successfully View the park council page. |                                    |



| UC_3.1.15.36:Add_Park_Council  |   |   |
|--|---|---|
| Actors:  | Member(Admin)   |   |
| Feature:   | Member will add park council                                  |   |
| Use case Id:   | UC_3.1.15.36  |   |
| Pre-condition:   | Member have to login first                                    |   |
| Scenarios:   |   |   |
| Step#  | Action  | Software Reaction                         |
| 1.   | Member will click on the add park council button              | System will show the form for add council |
| 2.   | Member will fill out council form and click on the add button | System will add park council              |
| Alternate Scenarios:   |   |   |
| If the data is not enter in any given block then it will show error to fill out it |   |   |
| Post Conditions:   |   |   |
| Step#  | Description   |   |
| 36.  | Member has successfully add park council.                     |   |

| UC_3.1.15.37:Edit_Park_Council  |   |   |
|---|---|---|
| Actors:   | Member(Admin)   |   |
| Feature:  | Member will edit the park council   |   |
| Use case Id:  | UC_3.1.15.37  |   |
| Pre-condition:  | Member Should be login<br>Park council should be add in website             |   |
| Scenarios:  |   |   |
| Step#   | Action  | Software Reaction   |
| 1.  | Member will request for view park council page                              | System will show the park council page                            |
| 2.  | Member will enter the detail of park council data and click the edit button | System will validate the details and edit the park council detail |
| Alternate Scenarios:  |   |   |
| Member will enter the wrong information or left the block empty then it will show error |   |   |
| Post Conditions:  |   |   |
| Step#   | Description   |   |
| 37.   | Member has successfully edit park council.                                  |   |

| UC_3.1.15.38:Delete_Park_Council        |   |   |
|---|---|---|
| Actors:                                 | Member(Admin)   |   |
| Feature:                                | Member can delete the park council                                      |   |
| Use case Id:                            | UC_3.1.15.38  |   |
| Pre-condition:                          | Member should be login first.<br>Park council should be add in website. |   |
| Scenarios:                              |   |   |
| Step#                                   | Action  | Software Reaction                             |
| 1.                                      | Member will request for view park council page                          | System will show the park council page        |
| 2.                                      | Member will select the park council and click the delete button         | System will delete the selected park council. |
| Alternate Scenarios:                    |   |   |
| The page can be crashed during deletion |   |   |
| Post Conditions:                        |   |   |
| Step#                                   | Description   |   |
| 38.                                     | Member has successfully delete the park council.                        |   |

| UC_3.1.15.39:View_Construction                        |  |                                    |
|---|--|------------------------------------|
| Actors:   | Member(Admin)                                  |                                    |
| Feature:  | Member can view construction                   |                                    |
| Use case Id:  | UC_3.1.15.39                                   |                                    |
| Pre-condition:  | Member should be login                         |                                    |
| Scenarios:  |  |                                    |
| Step#   | Action   | Software Reaction                  |
| 1.  | Member will request for view construction page | System will show construction page |
| Alternate Scenarios:                                  |  |                                    |
| The page is not loaded correctly.<br>Page will crash. |  |                                    |
| Post Conditions:                                      |  |                                    |
| Step#   | Description                                    |                                    |
| 39.   | Member has successfully View the construction. |                                    |

| UC_3.1.15.40:View_Schedule                            |   |                                 |
|---|---|---------------------------------|
| Actors:   | Member(Supervisor, Staff)                       |                                 |
| Feature:  | Member can view schedule                        |                                 |
| Use case Id:  | UC_3.1.15.40                                    |                                 |
| Pre-condition:  | Member should be login                          |                                 |
| Scenarios:  |   |                                 |
| Step#   | Action  | Software Reaction               |
| 1.  | Member will request for view schedule           | System will show schedule page. |
| Alternate Scenarios:                                  |   |                                 |
| The page is not loaded correctly.<br>Page will crash. |   |                                 |
| Post Conditions:                                      |   |                                 |
| Step#   | Description                                     |                                 |
| 40.   | Member has successfully View the schedule page. |                                 |

| UC_3.1.15.41:Add_Schedule  |  |  |
|--|--|--|
| Actors:  | Member(Supervisor)   |  |
| Feature:   | Member will add schedule                                       |  |
| Use case Id:   | UC_3.1.15.41   |  |
| Pre-condition:   | Member have to login first                                     |  |
| Scenarios:   |  |  |
| Step#  | Action   | Software Reaction                          |
| 1.   | Member will click on the add schedule button                   | System will show the form for add schedule |
| 2.   | Member will fill out schedule form and click on the add button | System will add schedule                   |
| Alternate Scenarios:   |  |  |
| If the data is not enter in any given block then it will show error to fill out it |  |  |
| Post Conditions:   |  |  |
| Step#  | Description  |  |
| 41.  | Member has successfully add schedule.                          |  |

| UC_3.1.15.42:Edit_schedule  |   |   |
|---|---|---|
| Actors:   | Member(Supervisor)  |   |
| Feature:  | Member will edit the schedule   |   |
| Use case Id:  | UC_3.1.15.42  |   |
| Pre-condition:  | Member Should be login<br>Schedule should be add in website             |   |
| Scenarios:  |   |   |
| Step#   | Action  | Software Reaction   |
| 1.  | Member will request for view schedule page                              | System will show the schedule page                            |
| 2.  | Member will enter the detail of schedule data and click the edit button | System will validate the details and edit the schedule detail |
| Alternate Scenarios:  |   |   |
| Member will enter the wrong information or left the block empty then it will show error |   |   |
| Post Conditions:  |   |   |
| Step#   | Description   |   |
| 42.   | Member has successfully edit schedule                                   |   |

| UC_3.1.15.43:Delete_Schedule            |   |   |
|---|---|---|
| Actors:                                 | Member(Supervisor)  |   |
| Feature:                                | Member can delete the schedule                                      |   |
| Use case Id:                            | UC_3.1.15.43  |   |
| Pre-condition:                          | Member should be login first.<br>Schedule should be add in website. |   |
| Scenarios:                              |   |   |
| Step#                                   | Action  | Software Reaction                         |
| 1.                                      | Member will request for view schedule page                          | System will show the schedule page        |
| 2.                                      | Member will select the schedule and click the delete button         | System will delete the selected schedule. |
| Alternate Scenarios:                    |   |   |
| The page can be crashed during deletion |   |   |
| Post Conditions:                        |   |   |
| Step#                                   | Description   |   |
| 43.                                     | Member has successfully delete the schedule.                        |   |



| UC_3.1.15.44:View_Report                              |  |                              |
|---|--|------------------------------|
| Actors:   | Member(Supervisor, Staff,)                   |                              |
| Feature:  | Member can view report                       |                              |
| Use case Id:  | UC_3.1.15.44                                 |                              |
| Pre-condition:  | Member should be login                       |                              |
| Scenarios:  |  |                              |
| Step#   | Action                                       | Software Reaction            |
| 1.  | Member will request for view report          | System will show report page |
| Alternate Scenarios:                                  |  |                              |
| The page is not loaded correctly.<br>Page will crash. |  |                              |
| Post Conditions:                                      |  |                              |
| Step#   | Description                                  |                              |
| 44.   | Member has successfully View the report page |                              |

| UC_3.1.15.45:Add_Report  |  |  |
|--|--|--|
| Actors:  | Member(Supervisor)   |  |
| Feature:   | Member will add report                                       |  |
| Use case Id:   | UC_3.1.15.45   |  |
| Pre-condition:   | Member have to login first                                   |  |
| Scenarios:   |  |  |
| Step#  | Action   | Software Reaction                        |
| 1.   | Member will click on the add report button                   | System will show the form for add report |
| 2.   | Member will fill out report form and click on the add button | System will add report                   |
| Alternate Scenarios:   |  |  |
| If the data is not enter in any given block then it will show error to fill out it |  |  |
| Post Conditions:   |  |  |
| Step#  | Description  |  |
| 45.  | Member has successfully add report.                          |  |

| UC_3.1.15.46:Edit_Report  |   |   |
|---|---|---|
| Actors:   | Member(Supervisor)  |   |
| Feature:  | Member will edit the report   |   |
| Use case Id:  | UC_3.1.15.46  |   |
| Pre-condition:  | Member Should be login<br>Report should be add in website             |   |
| Scenarios:  |   |   |
| Step#   | Action  | Software Reaction   |
| 1.  | Member will request for view report page                              | System will show the report page                            |
| 2.  | Member will enter the detail of report data and click the edit button | System will validate the details and edit the report detail |
| Alternate Scenarios:  |   |   |
| Member will enter the wrong information or left the block empty then it will show error |   |   |
| Post Conditions:  |   |   |
| Step#   | Description   |   |
| 46.   | Member has successfully edit report                                   |   |

| UC_3.1.15.47:Delete_Report              |   |   |
|---|---|---|
| Actors:                                 | Member(Supervisor)  |   |
| Feature:                                | Member can delete the report                                      |   |
| Use case Id:                            | UC_3.1.15.47  |   |
| Pre-condition:                          | Member should be login first.<br>Report should be add in website. |   |
| Scenarios:                              |   |   |
| Step#                                   | Action  | Software Reaction                       |
| 1.                                      | Member will request for view report page                          | System will show the report page.       |
| 2.                                      | Member will select the report and click the delete button         | System will delete the selected report. |
| Alternate Scenarios:                    |   |   |
| The page can be crashed during deletion |   |   |
| Post Conditions:                        |   |   |
| Step#                                   | Description   |   |
| 47.                                     | Member has successfully delete the report.                        |   |

| UC_3.1.15.48:View_Campaign                            |   |                                |
|---|---|--------------------------------|
| Actors:   | Member( Supervisor)                             |                                |
| Feature:  | Member can view campaign                        |                                |
| Use case Id:  | UC_3.1.15.48                                    |                                |
| Pre-condition:  | Member should be login                          |                                |
| Scenarios:  |   |                                |
| Step#   | Action  | Software Reaction              |
| 1.  | Member will request for view campaign           | System will show campaign page |
| Alternate Scenarios:                                  |   |                                |
| The page is not loaded correctly.<br>Page will crash. |   |                                |
| Post Conditions:                                      |   |                                |
| Step#   | Description                                     |                                |
| 48.   | Member has successfully View the campaign page. |                                |

| UC_3.1.15.49:Add_Campaign  |  |  |
|--|--|--|
| Actors:  | Member(Supervisor)   |  |
| Feature:   | Member will add campaign                                       |  |
| Use case Id:   | UC_3.1.15.49   |  |
| Pre-condition:   | Member have to login first                                     |  |
| Scenarios:   |  |  |
| Step#  | Action   | Software Reaction                          |
| 1.   | Member will click on the add campaign button                   | System will show the form for add campaign |
| 2.   | Member will fill out campaign form and click on the add button | System will add campaign                   |
| Alternate Scenarios:   |  |  |
| If the data is not enter in any given block then it will show error to fill out it |  |  |
| Post Conditions:   |  |  |
| Step#  | Description  |  |
| 49.  | Member has successfully add campaign.                          |  |

| UC_3.1.15.50:Edit_Campaign  |   |   |
|---|---|---|
| Actors:   | Member(Supervisor)  |   |
| Feature:  | Member will edit the campaign   |   |
| Use case Id:  | UC_3.1.15.50  |   |
| Pre-condition:  | Member Should be login<br>Campaign should be add in website             |   |
| Scenarios:  |   |   |
| Step#   | Action  | Software Reaction   |
| 1.  | Member will request for view campaign page                              | System will show the campaign page                            |
| 2.  | Member will enter the detail of campaign data and click the edit button | System will validate the details and edit the campaign detail |
| Alternate Scenarios:  |   |   |
| Member will enter the wrong information or left the block empty then it will show error |   |   |
| Post Conditions:  |   |   |
| Step#   | Description   |   |
| 50.   | Member has successfully edit campaign.                                  |   |

| UC_3.1.15.51:Delete_Campaign            |   |   |
|---|---|---|
| Actors:                                 | Member(Supervisor)  |   |
| Feature:                                | Member can delete the campaign                                      |   |
| Use case Id:                            | UC_3.1.15.51  |   |
| Pre-condition:                          | Member should be login first.<br>Campaign should be add in website. |   |
| Scenarios:                              |   |   |
| Step#                                   | Action  | Software Reaction                         |
| 1.                                      | Member will request for view campaign page                          | System will show the campaign page        |
| 2.                                      | Member will select the campaign and click the delete button         | System will delete the selected campaign. |
| Alternate Scenarios:                    |   |   |
| The page can be crashed during deletion |   |   |
| Post Conditions:                        |   |   |
| Step#                                   | Description   |   |
| 51.                                     | Member has successfully delete the campaign.                        |   |



| UC_3.1.15.52:View_Attendance                          |  |                                   |
|---|--|-----------------------------------|
| Actors:   | Member(Supervisor)                           |                                   |
| Feature:  | Member can view attendance                   |                                   |
| Use case Id:  | UC_3.1.15.52                                 |                                   |
| Pre-condition:  | Member should be login                       |                                   |
| Scenarios:  |  |                                   |
| Step#   | Action                                       | Software Reaction                 |
| 1.  | Member will request for view attendance      | System will show attendance page. |
| Alternate Scenarios:                                  |  |                                   |
| The page is not loaded correctly.<br>Page will crash. |  |                                   |
| Post Conditions:                                      |  |                                   |
| Step#   | Description                                  |                                   |
| 52.   | Member has successfully View the attendance. |                                   |

| UC_3.1.15.53:View_Grants                              |  |                             |
|---|--|-----------------------------|
| Actors:   | Member( Supervisor)                          |                             |
| Feature:  | Member can view grants                       |                             |
| Use case Id:  | UC_3.1.15.53                                 |                             |
| Pre-condition:  | Member should be login                       |                             |
| Scenarios:  |  |                             |
| Step#   | Action                                       | Software Reaction           |
| 1.  | Member will request for view grants          | System will show grant page |
| Alternate Scenarios:                                  |  |                             |
| The page is not loaded correctly.<br>Page will crash. |  |                             |
| Post Conditions:                                      |  |                             |
| Step#   | Description                                  |                             |
| 53.   | Member has successfully View the grant page. |                             |

| UC_3.1.15.54:Add_Grant   |  |  |
|--|--|--|
| Actors:  | Member( Supervisor)  |  |
| Feature:   | Member will add grants                                       |  |
| Use case Id:   | UC_3.1.15.54   |  |
| Pre-condition:   | Member have to login first                                   |  |
| Scenarios:   |  |  |
| Step#  | Action   | Software Reaction                        |
| 1.   | Member will click on the add grant button                    | System will show the form for add grants |
| 2.   | Member will fill out grants form and click on the add button | System will add grants                   |
| Alternate Scenarios:   |  |  |
| If the data is not enter in any given block then it will show error to fill out it |  |  |
| Post Conditions:   |  |  |
| Step#  | Description  |  |
| 54.  | Member has successfully add grants.                          |  |

| UC_3.1.15.55:Edit_Grants  |   |   |
|---|---|---|
| Actors:   | Member( Supervisor)   |   |
| Feature:  | Member will edit the grants   |   |
| Use case Id:  | UC_3.1.15.55  |   |
| Pre-condition:  | Member Should be login<br>Grants should be add in website             |   |
| Scenarios:  |   |   |
| Step#   | Action  | Software Reaction   |
| 1.  | Member will request for view grants page                              | System will show the grants page                            |
| 2.  | Member will enter the detail of grants data and click the edit button | System will validate the details and edit the grants detail |
| Alternate Scenarios   |   |   |
| Member will enter the wrong information or left the block empty then it will show error |   |   |
| Post Conditions:  |   |   |
| Step#   | Description   |   |
| 55.   | Member has successfully edit grants                                   |   |

| UC_3.1.15.56:Delete_Grants              |   |   |
|---|---|---|
| Actors:                                 | Member(Supervisor)  |   |
| Feature:                                | Member can delete the grants                                      |   |
| Use case Id:                            | UC_3.1.15.56  |   |
| Pre-condition:                          | Member should be login first.<br>Grants should be add in website. |   |
| Scenarios:                              |   |   |
| Step#                                   | Action  | Software Reaction                       |
| 1.                                      | Member will request for view grants page                          | System will show the news page          |
| 2.                                      | Member will select the grants and click the delete button         | System will delete the selected grants. |
| Alternate Scenarios:                    |   |   |
| The page can be crashed during deletion |   |   |
| Post Conditions:                        |   |   |
| Step#                                   | Description   |   |
| 56.                                     | Member has successfully delete the grants.                        |   |

| UC_3.1.15.57:View_Expenditures                        |  |                                    |
|---|--|------------------------------------|
| Actors:   | Member(Supervisor,)                            |                                    |
| Feature:  | Member can view expenditures                   |                                    |
| Use case Id:  | UC_3.1.15.57                                   |                                    |
| Pre-condition:  | Member should be login                         |                                    |
| Scenarios:  |  |                                    |
| Step#   | Action   | Software Reaction                  |
| 1.  | Member will request for view expenditures      | System will show expenditures page |
| Alternate Scenarios:                                  |  |                                    |
| The page is not loaded correctly.<br>Page will crash. |  |                                    |
| Post Conditions:                                      |  |                                    |
| Step#   | Description                                    |                                    |
| 57.   | Member has successfully View the expenditures. |                                    |

| UC_3.1.15.58:Add_Expenditures  |   |  |
|--|---|--|
| Actors:  | Member( Supervisor)   |  |
| Feature:   | Member will add expenditures                                      |  |
| Use case Id:   | UC_3.1.15.58  |  |
| Pre-condition:   | Member have to login first  |  |
| Scenarios:   |   |  |
| Step#  | Action  | Software Reaction                              |
| 1.   | Member will click on the add expenditure button                   | System will show the form for add expenditures |
| 2.   | Member will fill out expenditure form and click on the add button | System will add expenditures                   |
| Alternate Scenarios:   |   |  |
| If the data is not enter in any given block then it will show error to fill out it |   |  |
| Post Conditions:   |   |  |
| Step#  | Description   |  |
| 58.  | Member has successfully add expenditures.                         |  |

| UC_3.1.15.59:Edit_Expenditures  |   |   |
|---|---|---|
| Actors:   | Member( Supervisor)   |   |
| Feature:  | Member will edit the expenditures   |   |
| Use case Id:  | UC_3.1.15.59  |   |
| Pre-condition:  | Member Should be login<br>Expenditures should be add in website             |   |
| Scenarios:  |   |   |
| Step#   | Action  | Software Reaction   |
| 1.  | Member will request for view expenditures page                              | System will show the expenditures page                            |
| 2.  | Member will enter the detail of expenditures data and click the edit button | System will validate the details and edit the expenditures detail |
| Alternate Scenarios:  |   |   |
| Member will enter the wrong information or left the block empty then it will show error |   |   |
| Post Conditions:  |   |   |
| Step#   | Description   |   |
| 59.   | Member has successfully edit expenditures.                                  |   |



| UC_3.1.15.60:Delete_Expenditures        |   |   |
|---|---|---|
| Actors:                                 | Member( Supervisor)   |   |
| Feature:                                | Member can delete the expenditures                                      |   |
| Use case Id:                            | UC_3.1.15.60  |   |
| Pre-condition:                          | Member should be login first.<br>Expenditures should be add in website. |   |
| Scenarios:                              |   |   |
| Step#                                   | Action  | Software Reaction                             |
| 1.                                      | Member will request for view expenditures page                          | System will show the expenditures page        |
| 2.                                      | Member will select the expenditures and click the delete button         | System will delete the selected expenditures. |
| Alternate Scenarios:                    |   |   |
| The page can be crashed during deletion |   |   |
| Post Conditions:                        |   |   |
| Step#                                   | Description   |   |
| 60.                                     | Member has successfully delete the expenditures.                        |   |

| UC_3.1.15.61:Add_Attendance  |  |  |
|--|--|--|
| Actors:  | Member( Staff)   |  |
| Feature:   | Member will add attendance                                       |  |
| Use case Id:   | UC_3.1.15.61   |  |
| Pre-condition:   | Member have to login first                                       |  |
| Scenarios:   |  |  |
| Step#  | Action   | Software Reaction                            |
| 1.   | Member will click on the add attendance button                   | System will show the form for add attendance |
| 2.   | Member will fill out attendance form and click on the add button | System will add attendance                   |
| Alternate Scenarios:   |  |  |
| If the data is not enter in any given block then it will show error to fill out it |  |  |
| Post Conditions:   |  |  |
| Step#  | Description  |  |
| 61.  | Member has successfully add attendance.                          |  |

| UC_3.1.15.62:Add_Complain  |  |  |
|--|--|--|
| Actors:  | Member( Visitor)   |  |
| Feature:   | Member will add Complain                                       |  |
| Use case Id:   | UC_3.1.15.62   |  |
| Pre-condition:   | Member have to login first                                     |  |
| Scenarios:   |  |  |
| Step#  | Action   | Software Reaction                          |
| 1.   | Member will click on the add complain button                   | System will show the form for add complain |
| 2.   | Member will fill out complain form and click on the add button | System will add complain                   |
| Alternate Scenarios:   |  |  |
| If the data is not enter in any given block then it will show error to fill out it |  |  |
| Post Conditions:   |  |  |
| Step#  | Description  |  |
| 62.  | Member has successfully add complain.                          |  |

| UC_3.1.15.63:Request_Event   |   |   |
|--|---|---|
| Actors:  | Member( Visitor)  |   |
| Feature:   | Member will request for event                                       |   |
| Use case Id:   | UC_3.1.15.63  |   |
| Pre-condition:   | Visitor view the event  |   |
| Scenarios:   |   |   |
| Step#  | Action  | Software Reaction                               |
| 1.   | Member will click on the request event button                       | System will show the form for request for event |
| 2.   | Member will fill out request event form and click on the add button | System will send request                        |
| Alternate Scenarios:   |   |   |
| If the data is not enter in any given block then it will show error to fill out it |   |   |
| Post Conditions:   |   |   |
| Step#  | Description   |   |
| 63.  | Member has successfully request send for event.                     |   |

| UC_3.1.15.64:View_Park                                |  |                                |
|---|--|--------------------------------|
| Actors:   | Member( Visitor)                           |                                |
| Feature:  | Member will View park                      |                                |
| Use case Id:  | UC_3.1.15.64                               |                                |
| Pre-condition:  | Member must visit the website              |                                |
| Scenarios:  |  |                                |
| Step#   | Action                                     | Software Reaction              |
| 1.  | Member will request for view park          | System will show the park page |
| Alternate Scenarios:                                  |  |                                |
| The page is not loaded correctly.<br>Page will crash. |  |                                |
| Post Conditions:                                      |  |                                |
| Step#   | Description                                |                                |
| 64.   | Member has successfully view the park page |                                |

| UC_3.1.15.65:Logout   |                                  |                               |
|---|----------------------------------|-------------------------------|
| Actors:   | Member(Admin, Supervisor, Staff) |                               |
| Feature:  | Member can Logout                |                               |
| Use case Id:  | UC_3.1.15.65                     |                               |
| Pre-condition:  | Member should be login           |                               |
| Scenarios:  |                                  |                               |
| Step#   | Action                           | Software Reaction             |
| 1.  | Member will request for logout.  | System will logout the member |
| Alternate Scenarios:  |                                  |                               |
| In case of non-availability of system, it will display error message.<br>If the member is not register then it will show error message. |                                  |                               |
| Post Conditions:  |                                  |                               |
| Step#   | Description                      |                               |
| 65.   | Member has successfully logout.  |                               |

## Chapter 4: Third Deliverable For Object Oriented Approach

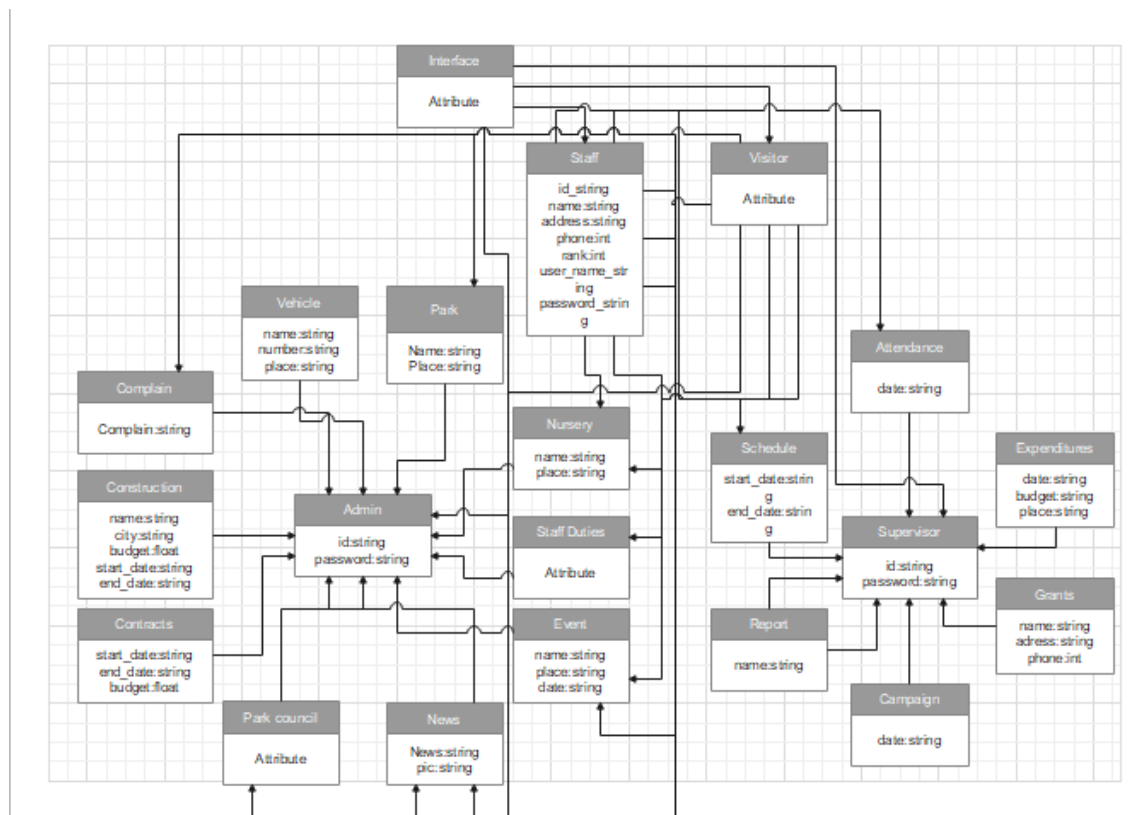
### 4.1. Introduction:

Third deliverable is all about the software design. In the previous deliverable, analysis of the system is completed. So we understand the current situation of the problem domain. Now we are ready to strive for a solution for the problem domain by using object-oriented approach. Following artifacts must be included in the 3<sup>rd</sup> deliverable.

1. Domain Model
2. System Sequence Diagram
3. Sequence Diagram
4. Collaboration Diagram
5. Operation Contracts
6. Design Class Diagram
7. State Transition Diagram
8. Data Model

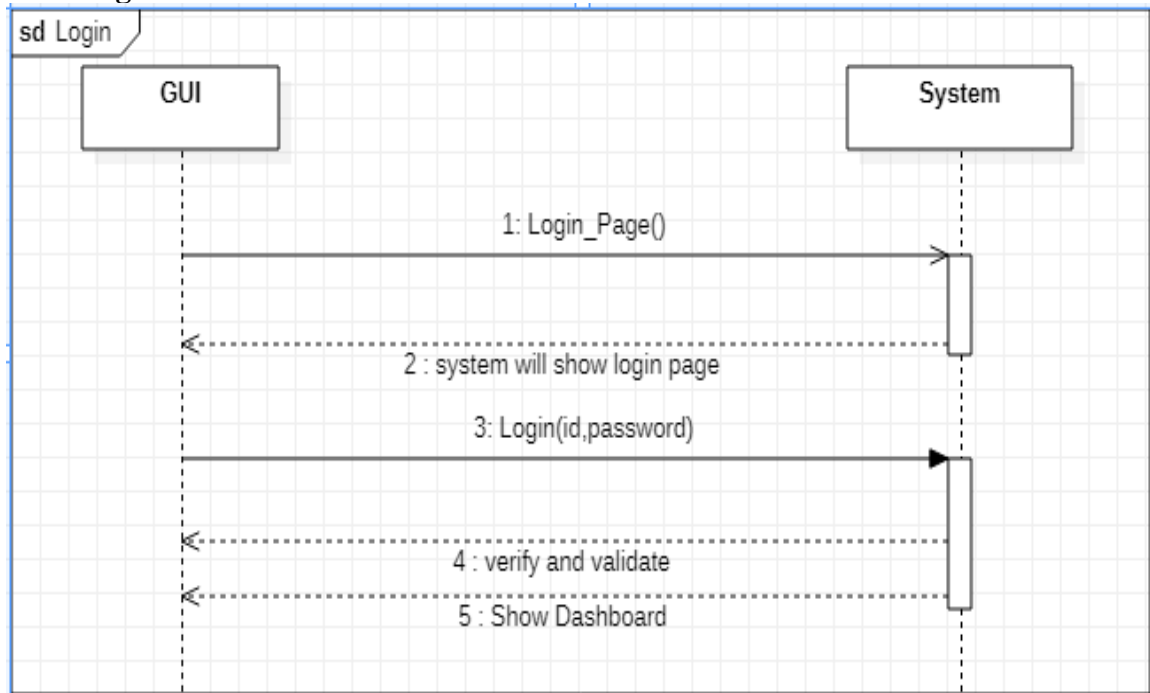
Now we discuss these artifacts one by one as follows:

### 4.2. Domain Model

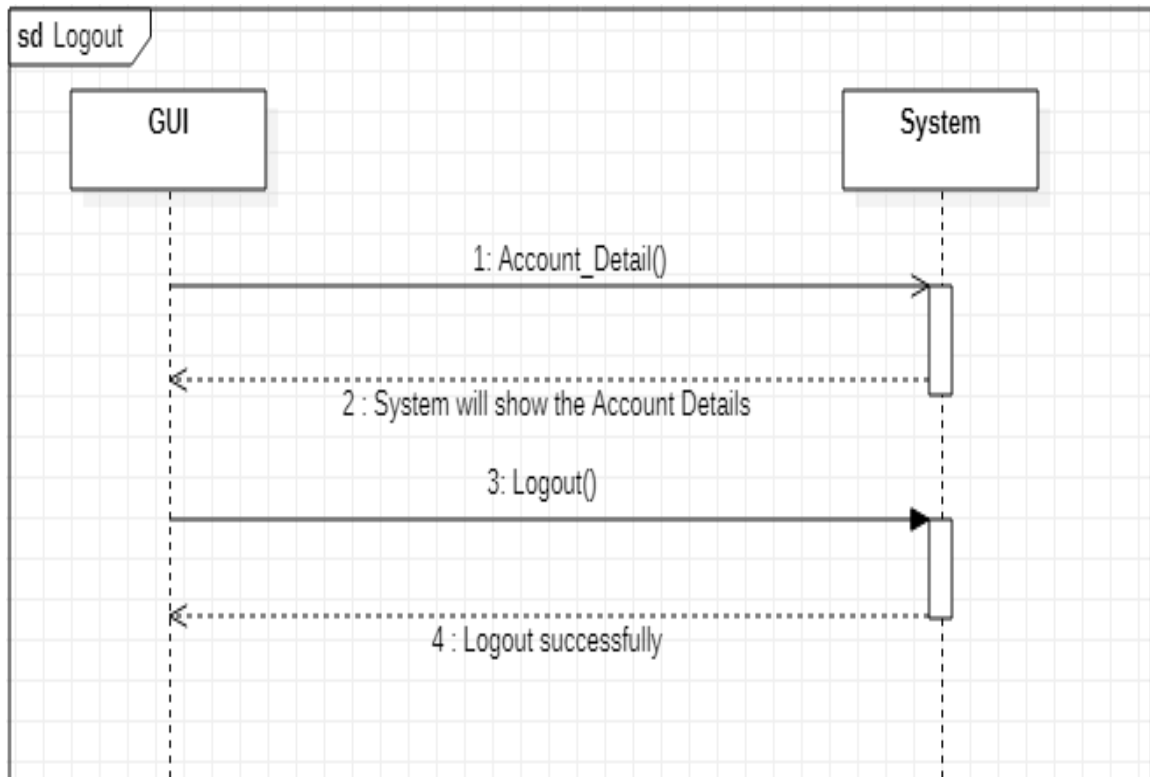


## 4.3. System Sequence Diagram

### 4.3.1 Login:

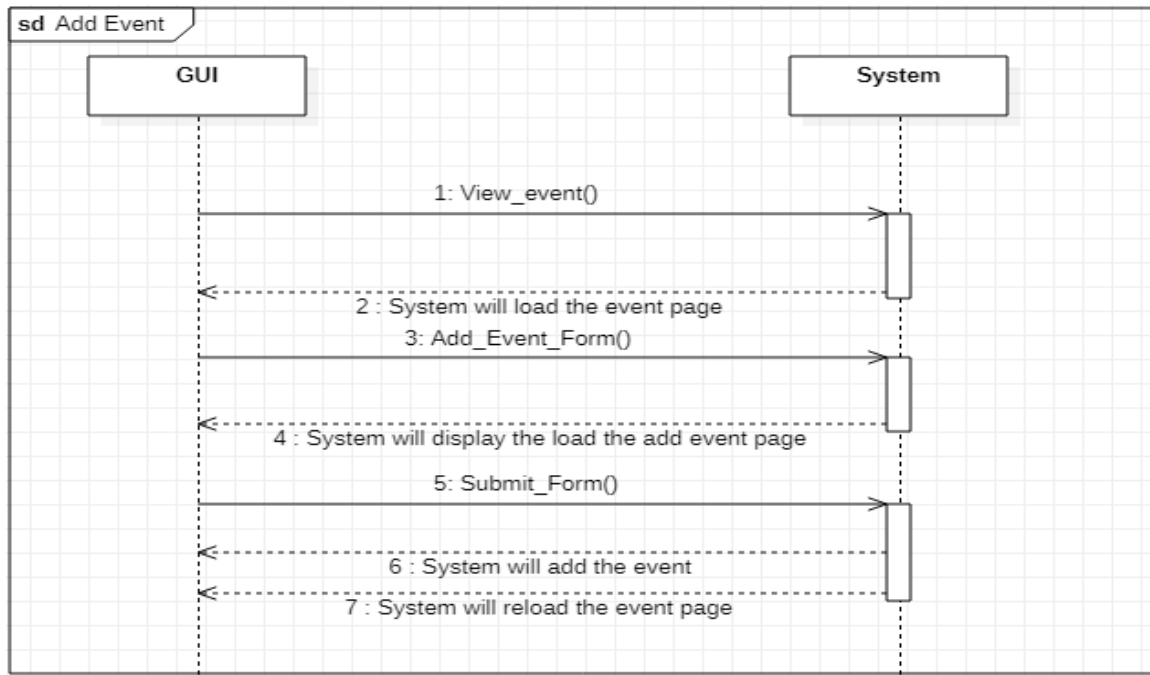


### 4.3.2 Logout:

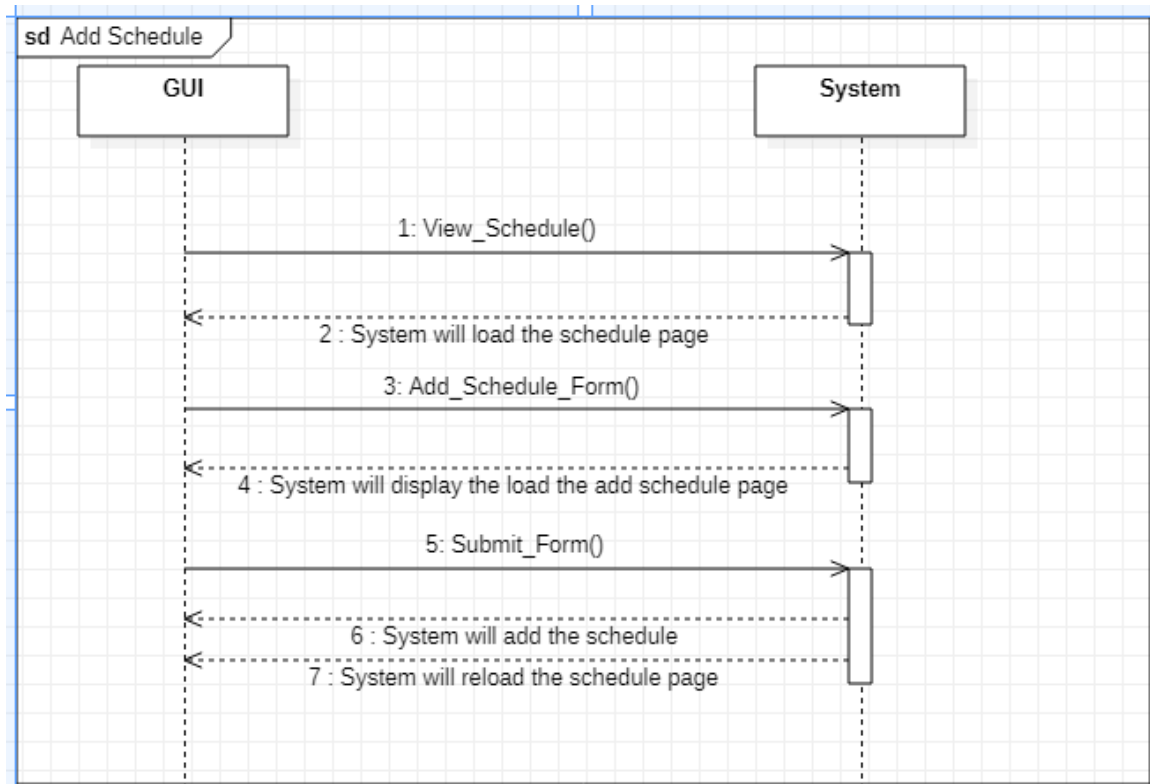




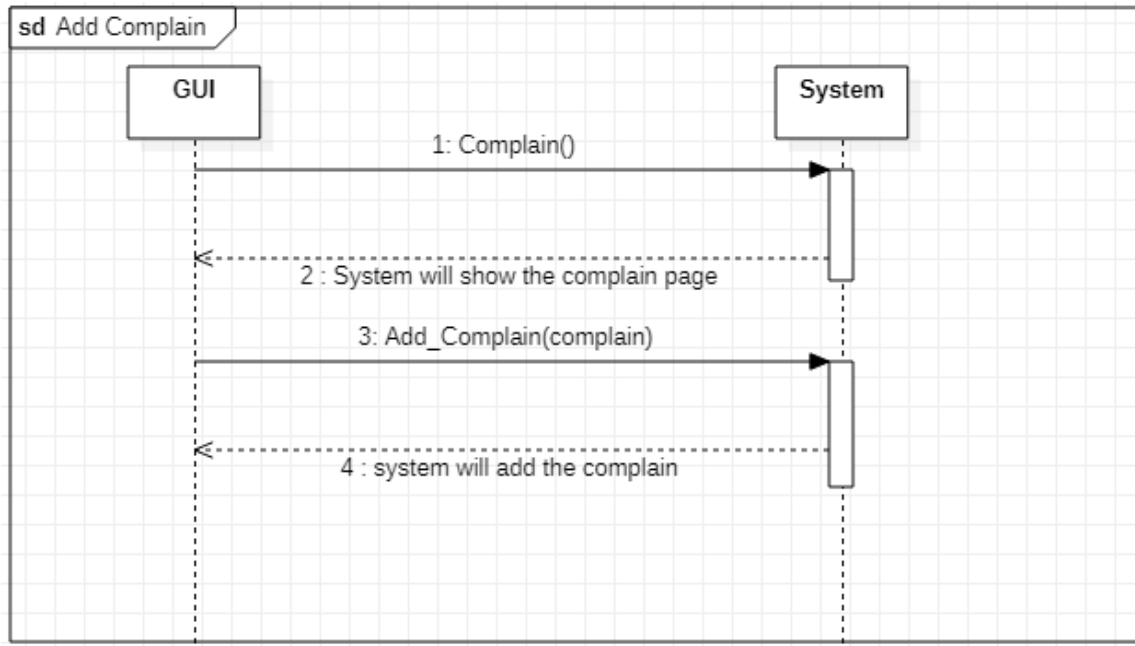
### 4.3.3 Add Event:



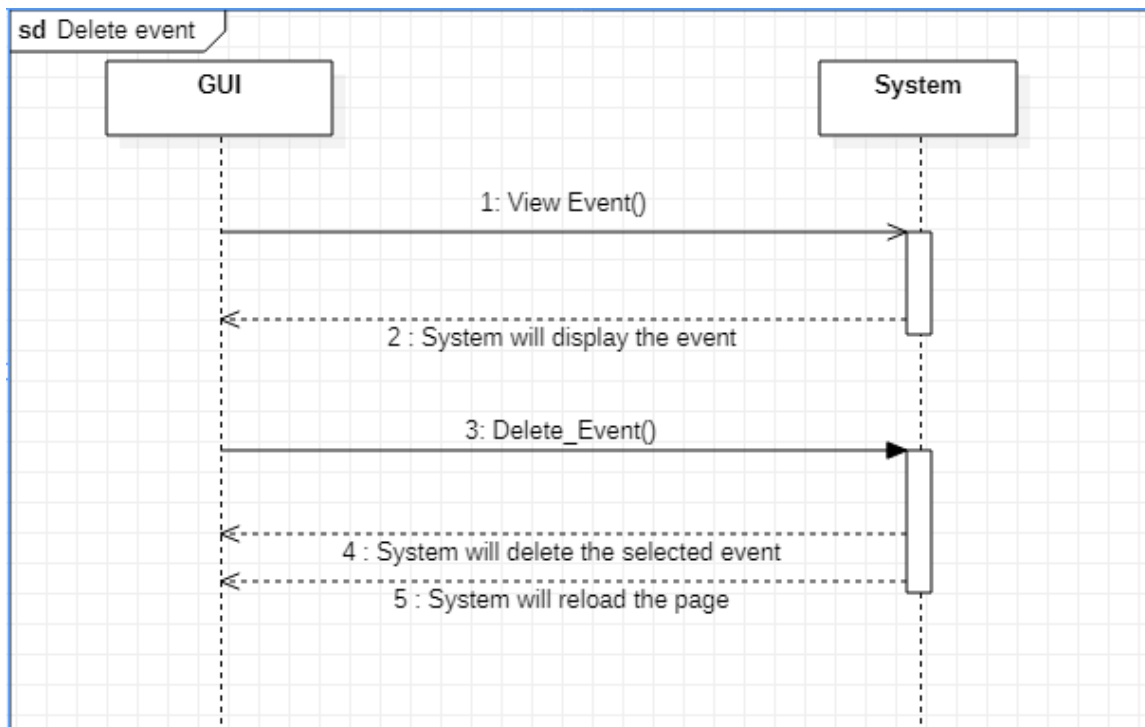
### 4.3.4 Add Schedule:



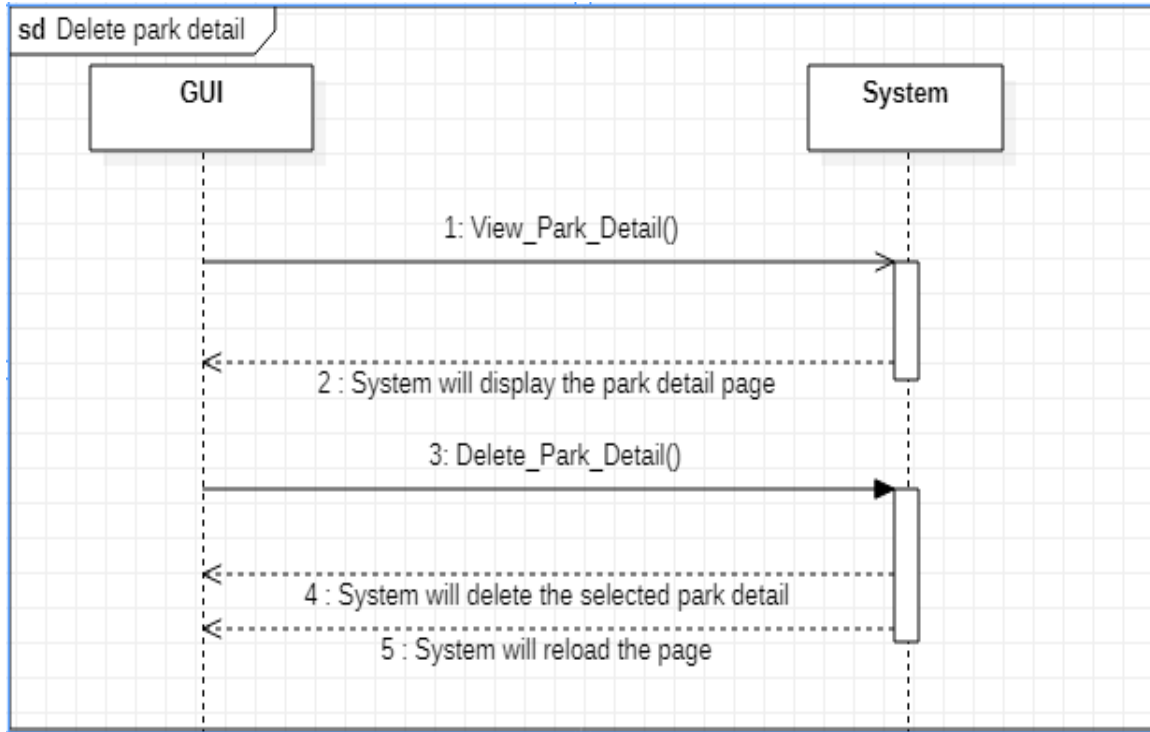
### 4.3.5 Add Complain:



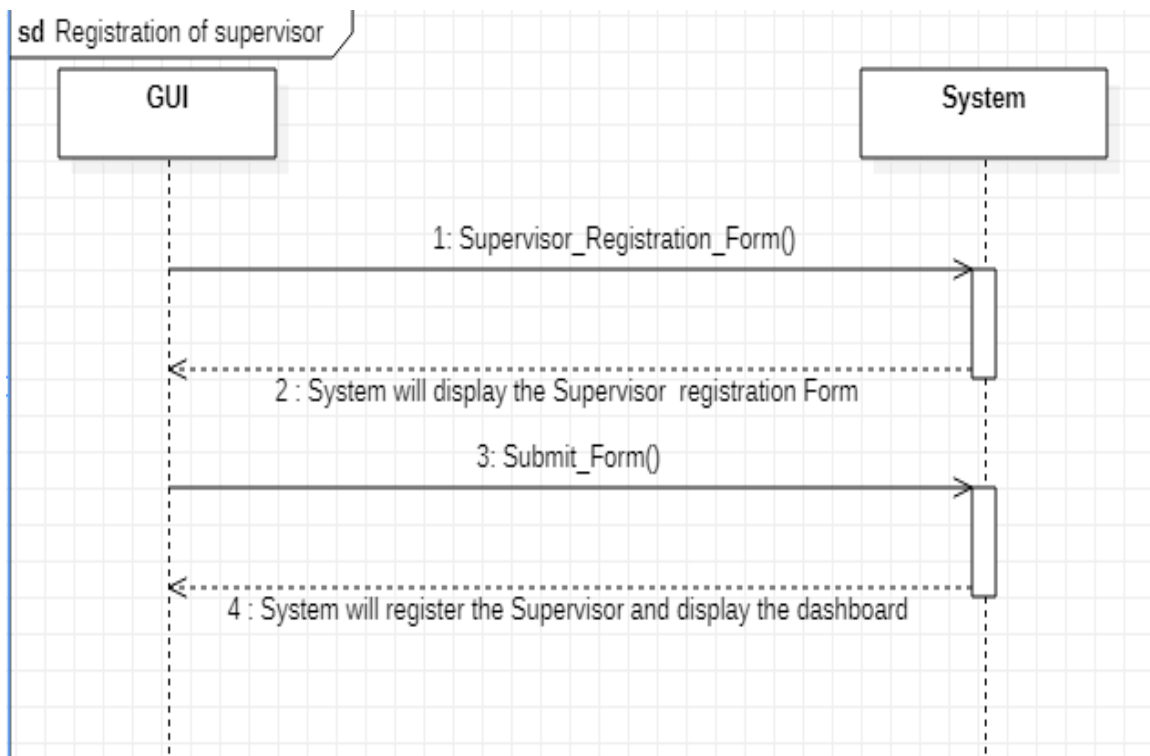
### 4.3.6 Delete Event:



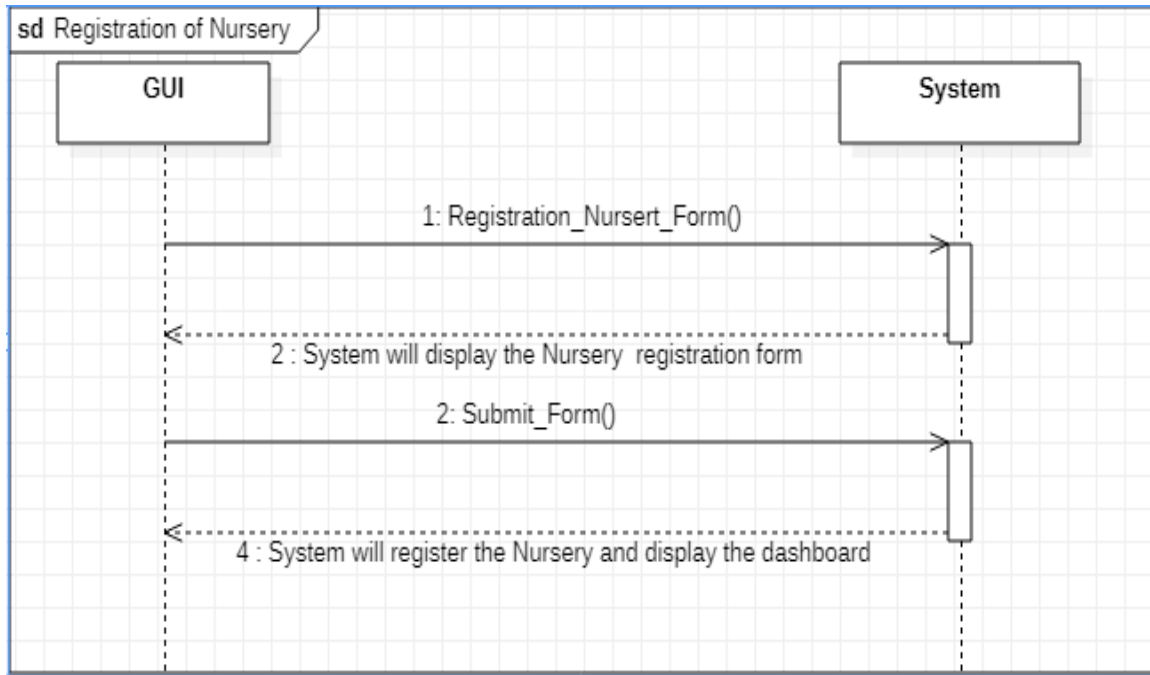
#### 4.3.7 Delete Park Detail:



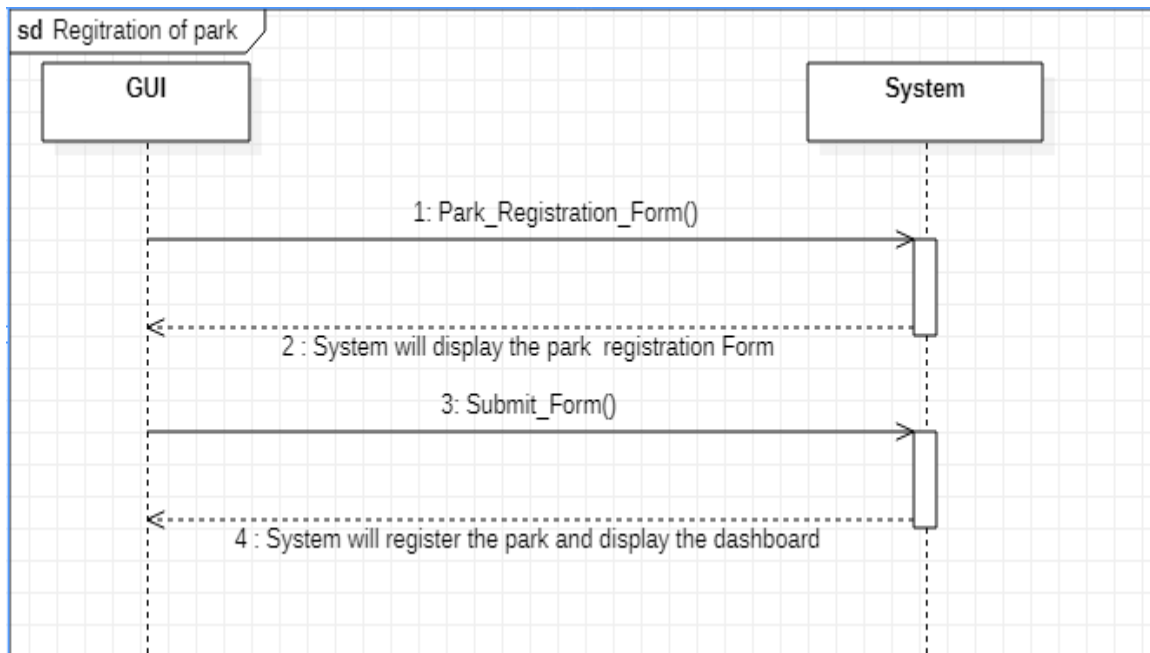
#### 4.3.8 Registration of Supervisor:



#### 4.3.9 Registration of Nursery:

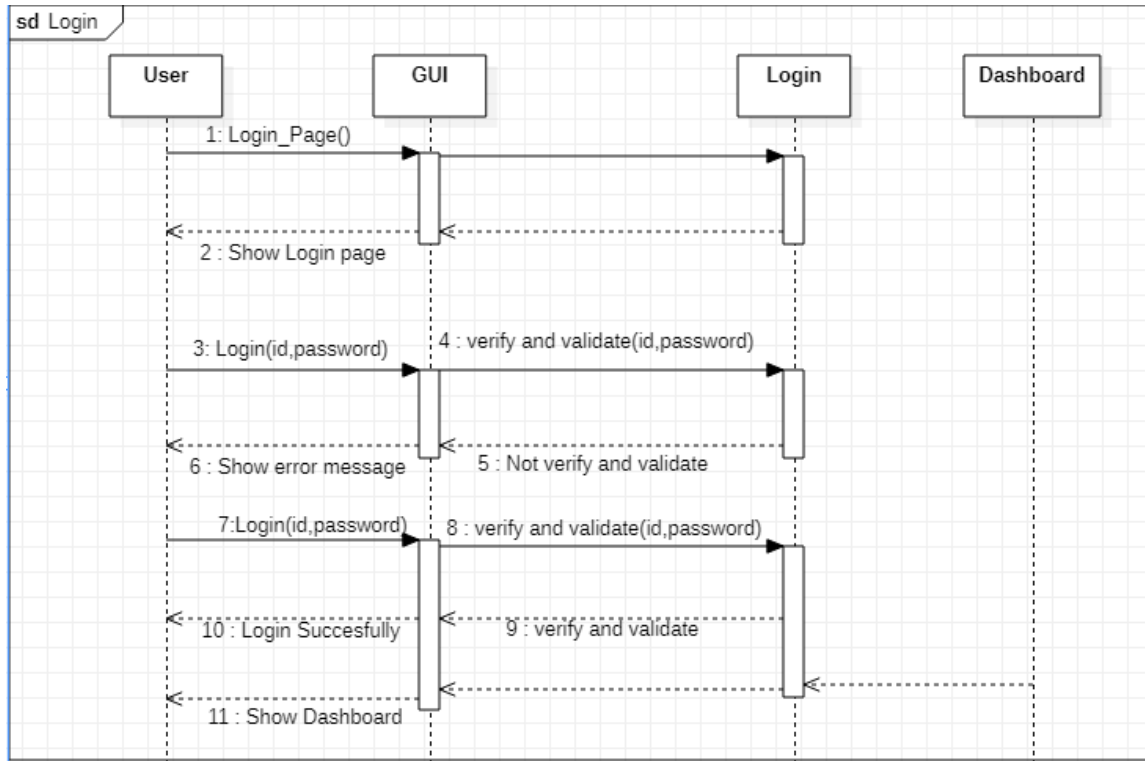


#### 4.3.10 Registration of Park:

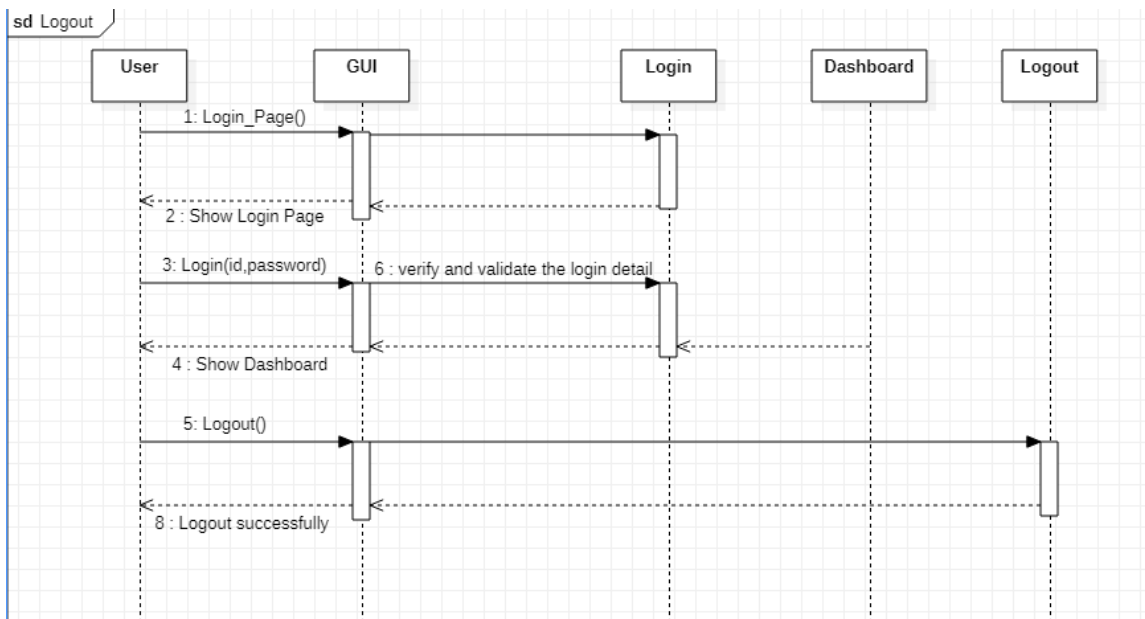


## 4.4. Sequence Diagram

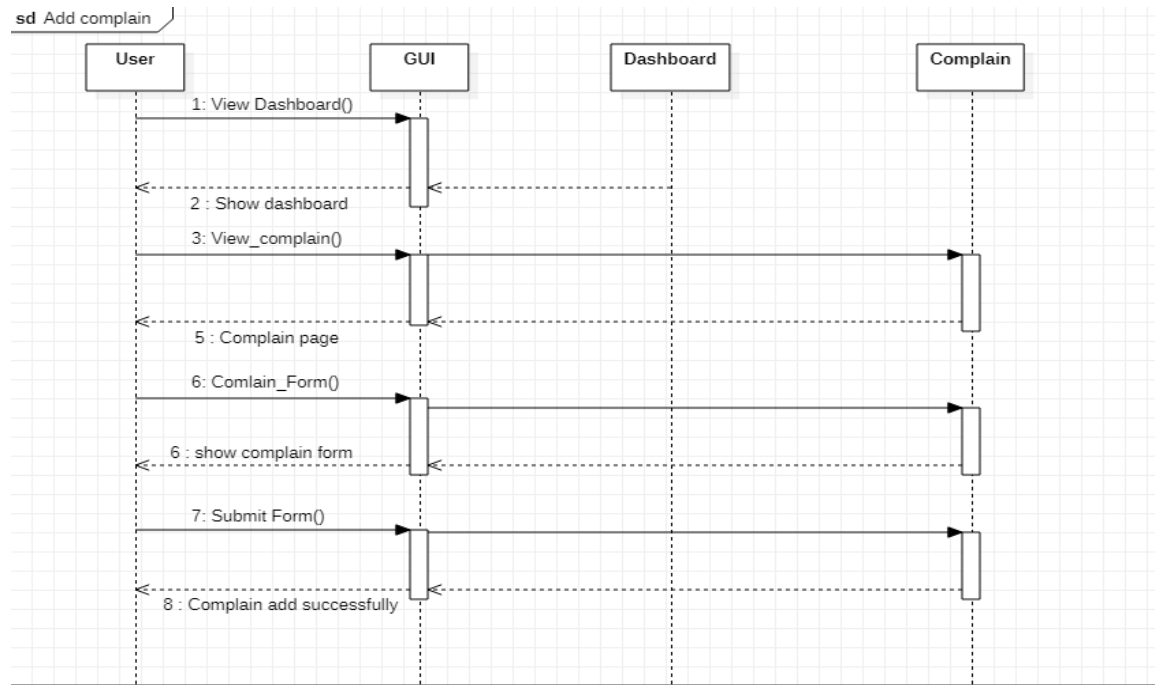
### 4.4.1 Login



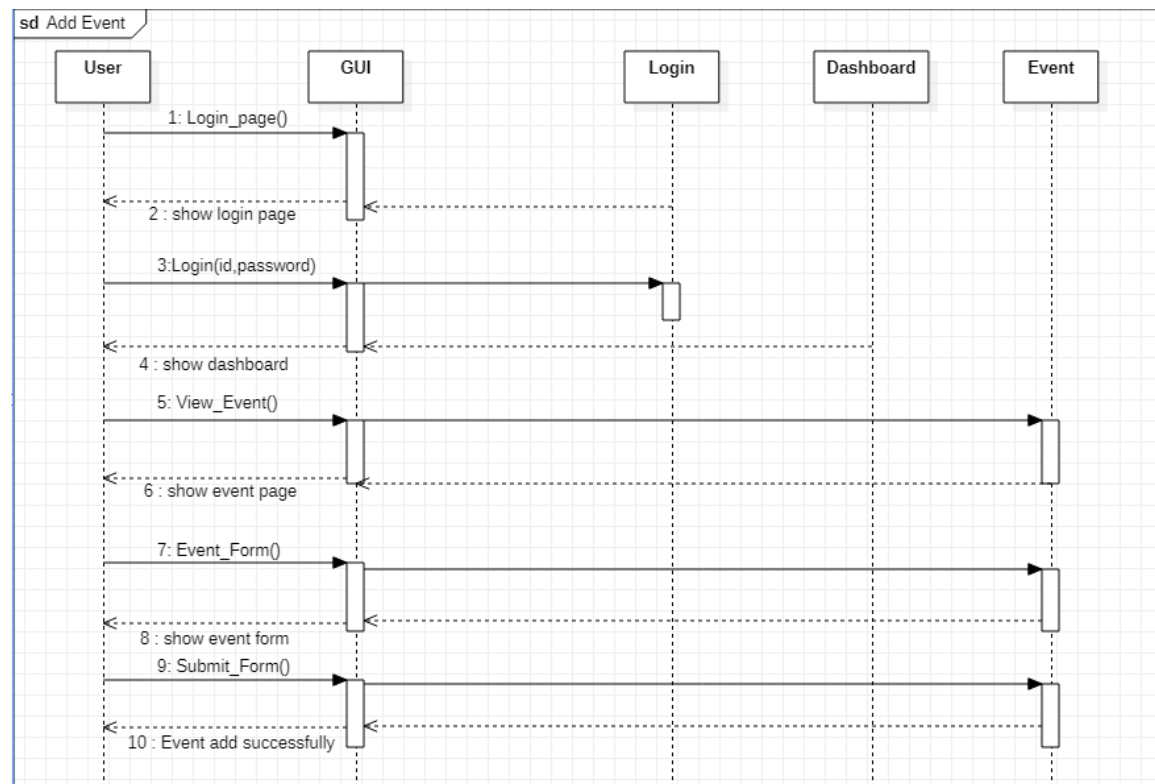
### 4.4.2 Logout



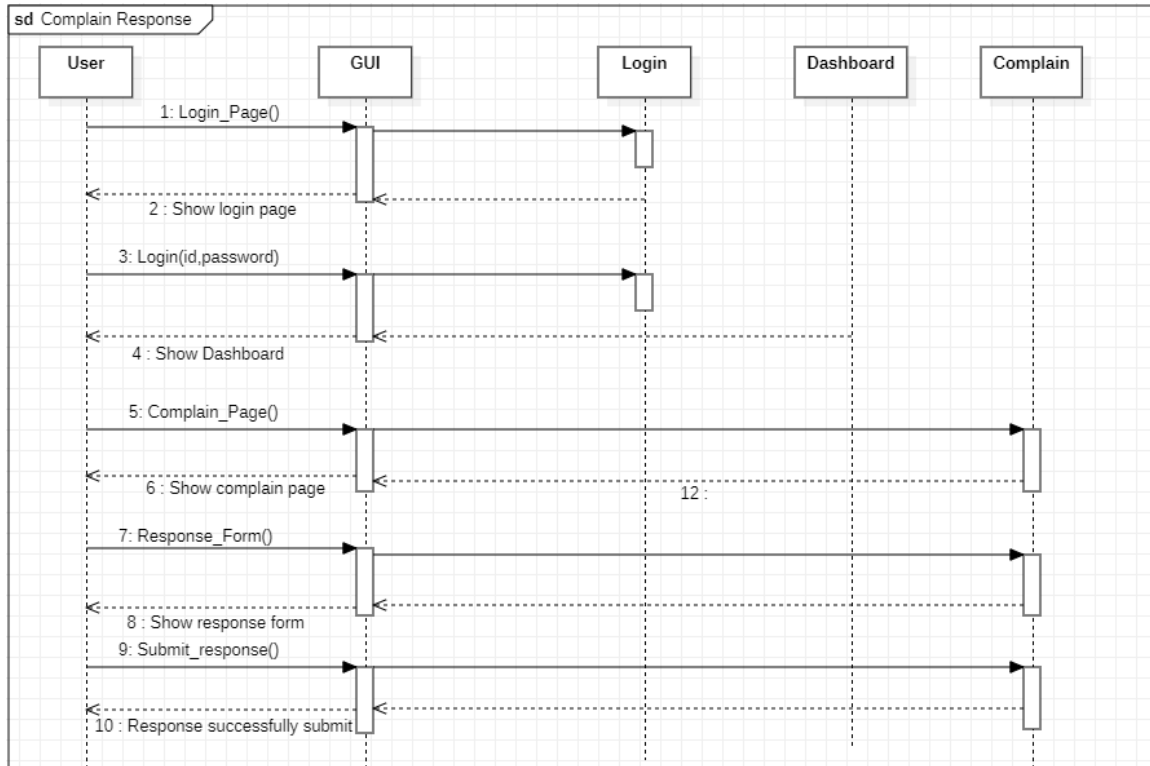
### 4.4.3 Add Complain



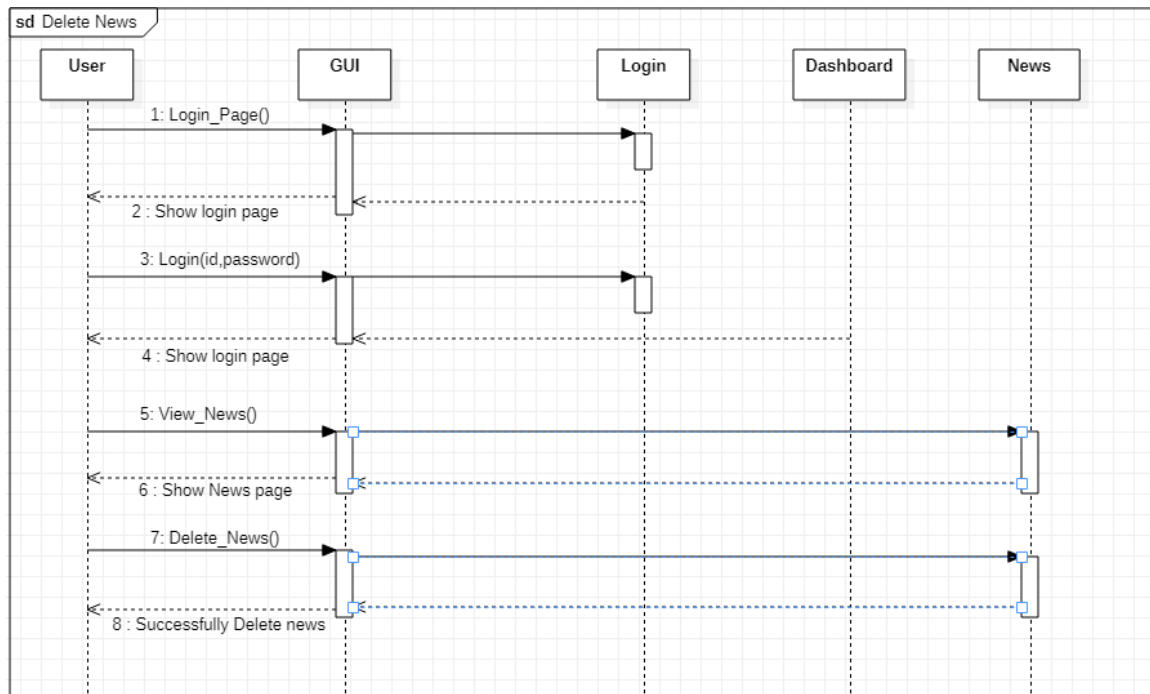
### 4.4.4 Add Event



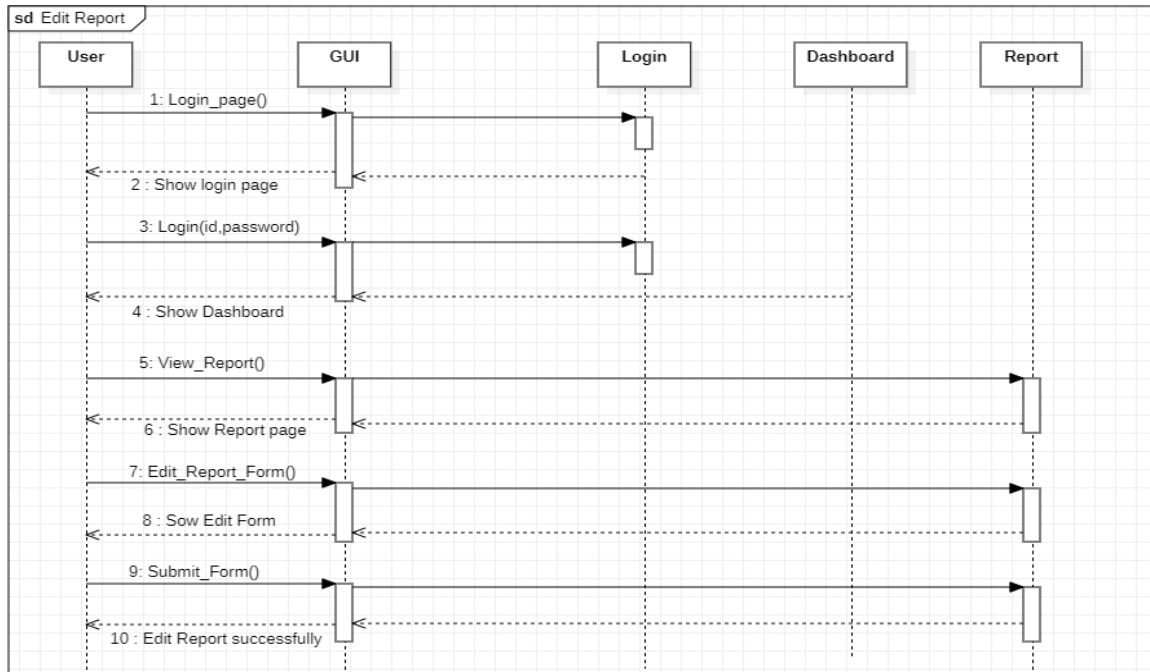
#### 4.4.5 Complain Response



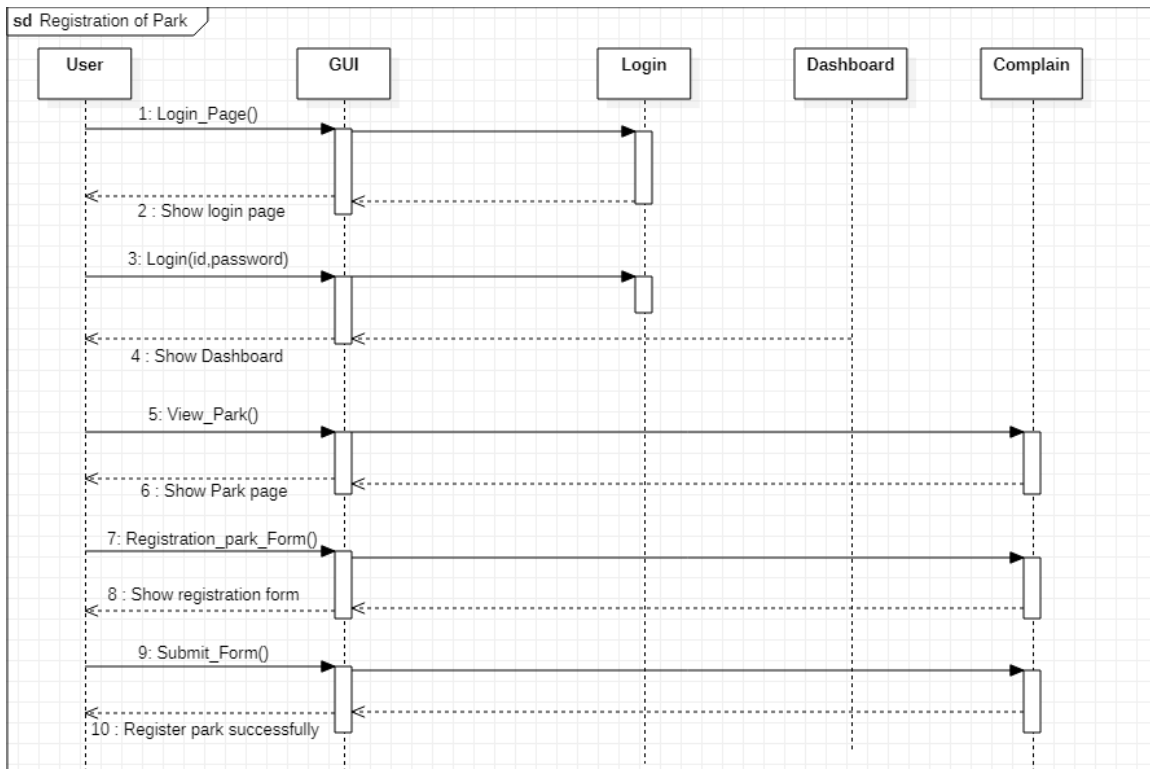
#### 4.4.6 Delete News



#### 4.4.7 Edit Report

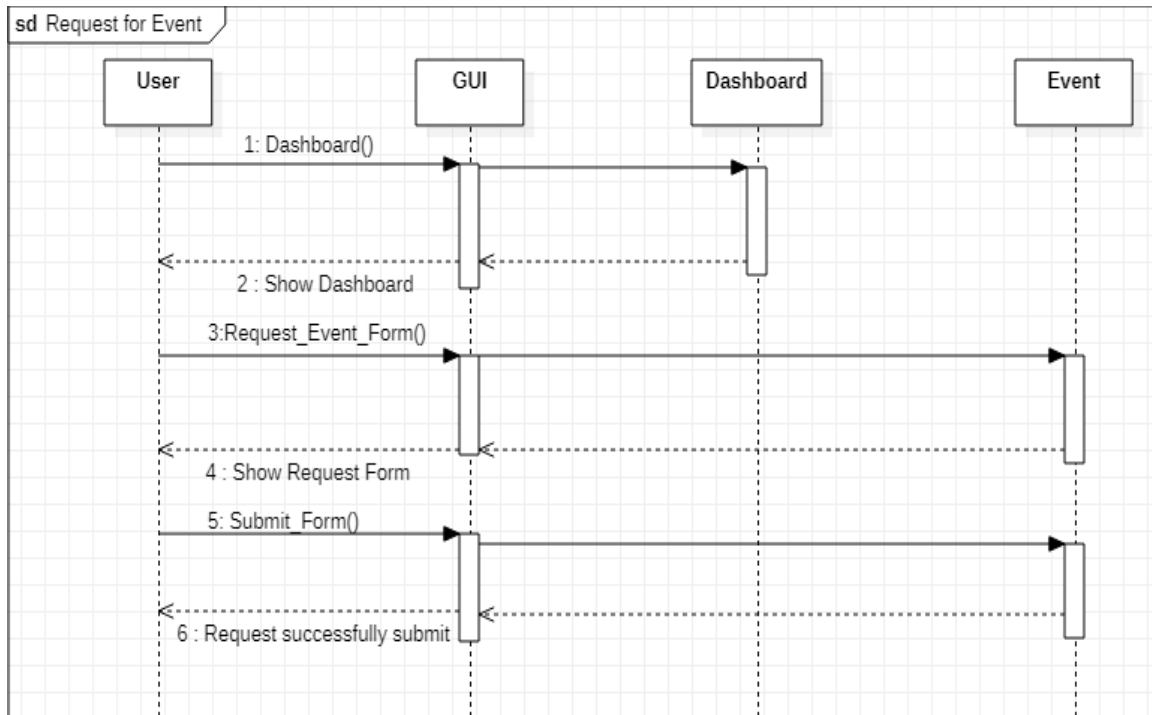


#### 4.4.8 Registration of park

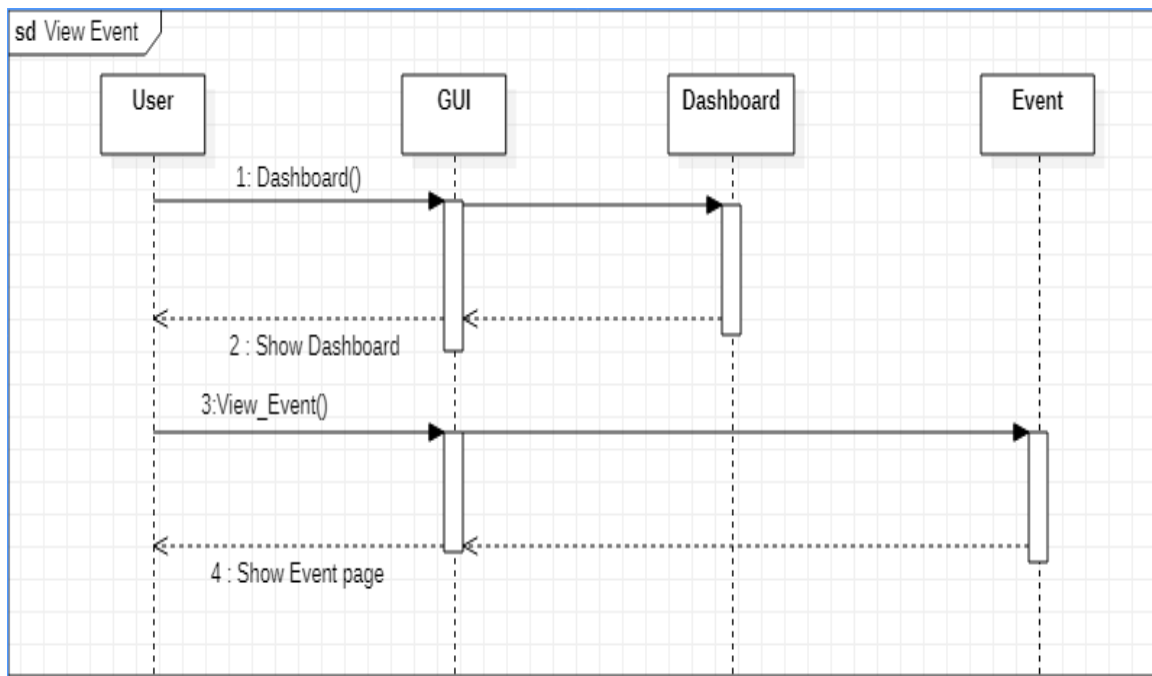




#### 4.4.9 Request for Event

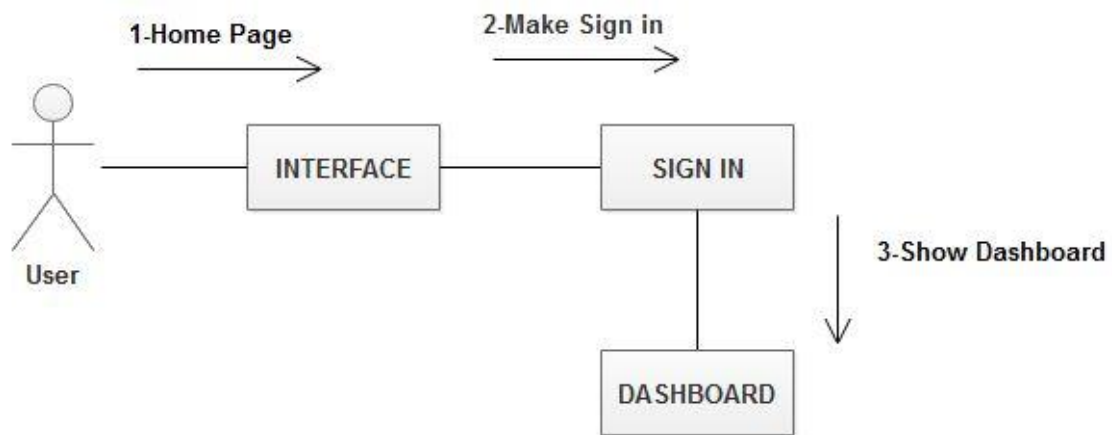


#### 4.4.10 View Event

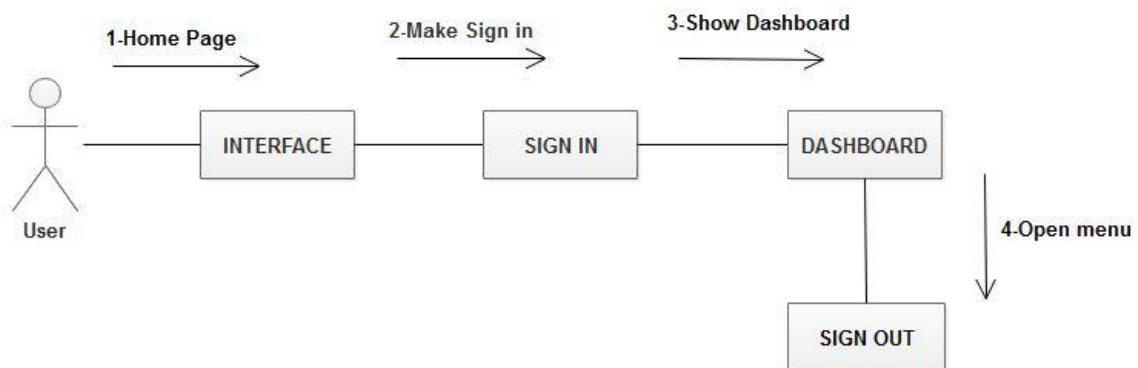


## 4.5. Collaboration Diagram

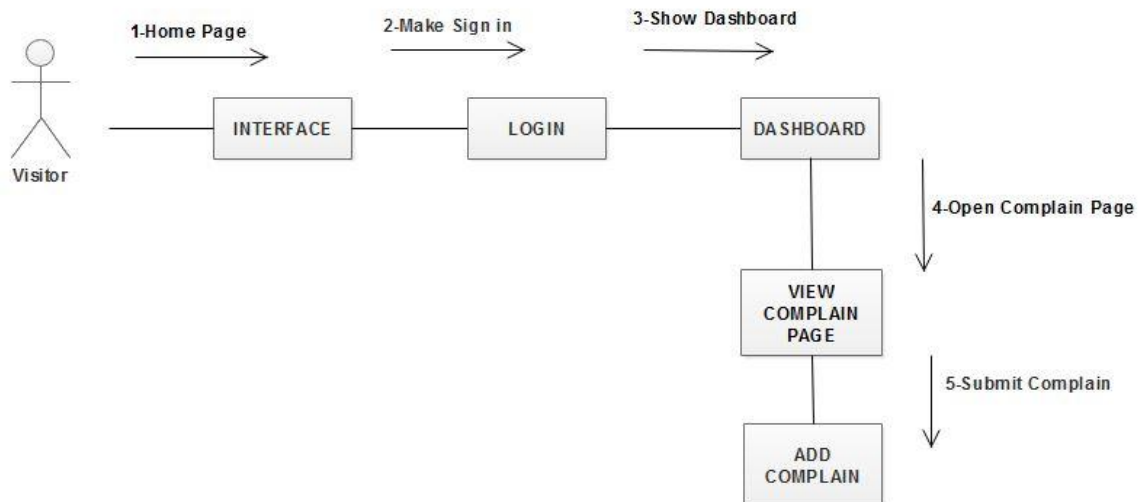
### 4.5.1 Login



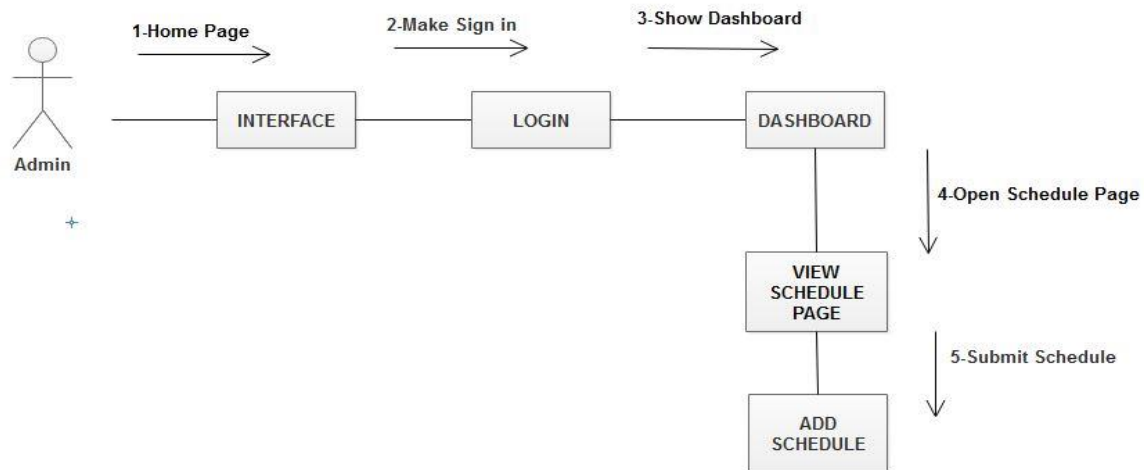
### 4.5.2 Logout



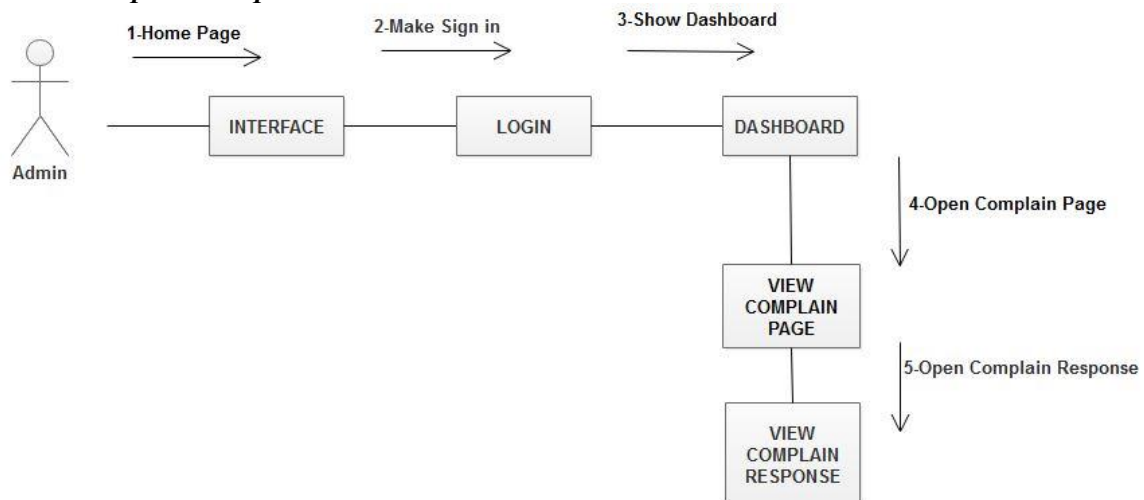
### 4.5.3 Add Complain



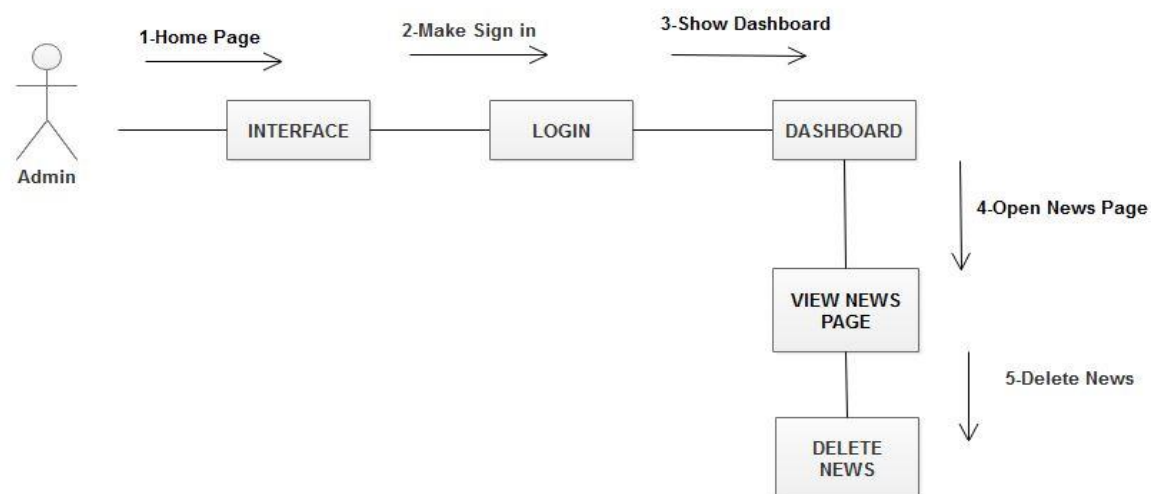
#### 4.5.4 Add Schedule



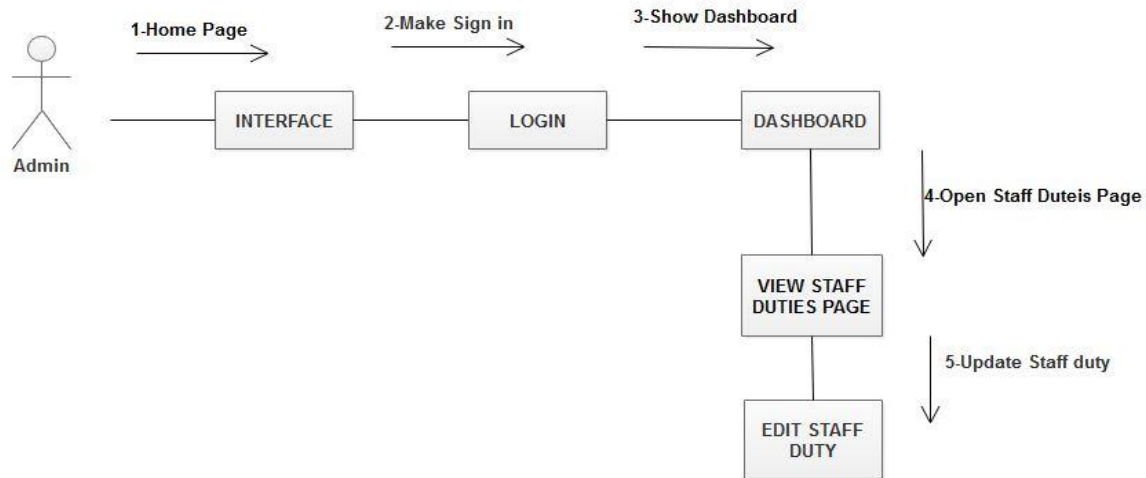
#### 4.5.5 Complain Response



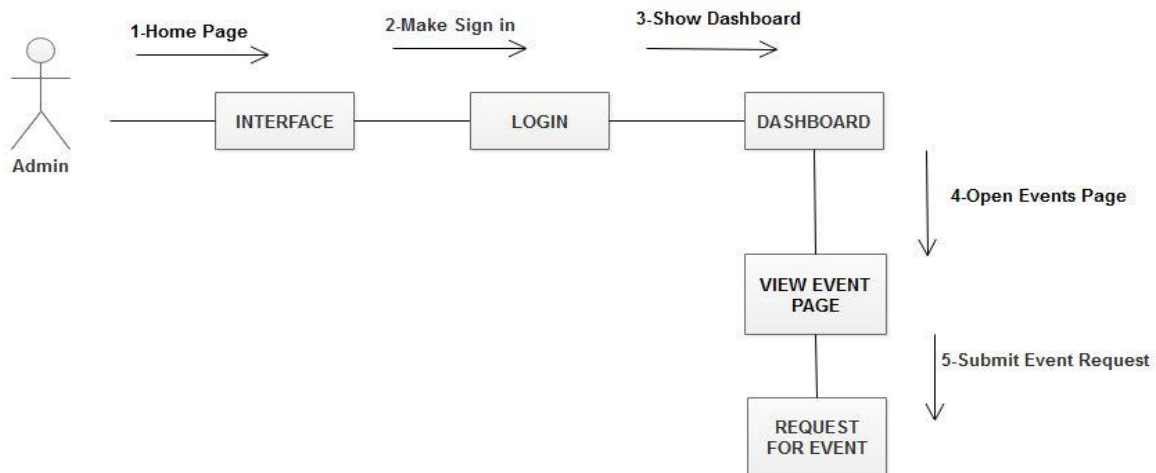
#### 4.5.6 Delete News



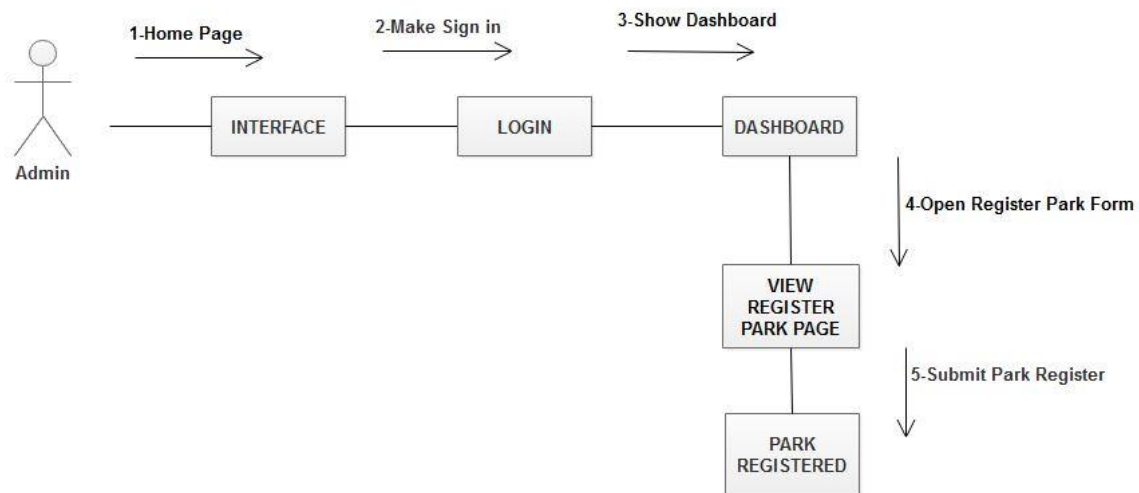
#### 4.5.7 Edit Staff Duty



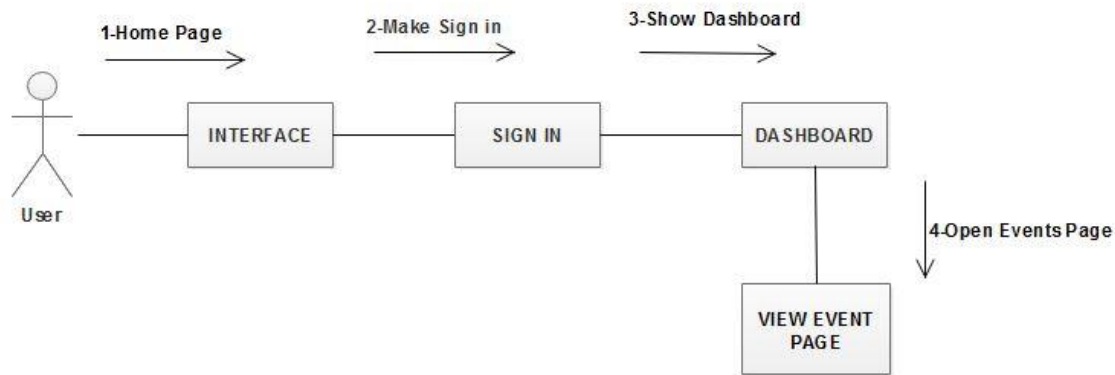
#### 4.5.8 Event Request



#### 4.5.9 Register Park



#### 4.5.10 View Event



#### 4.6. Operation Contracts

A UML Operation contract identifies system state changes when an operation happens. Effectively, it will define what each system operation does. An operation is taken from a system sequence diagram. It is a single event from that diagram. A domain model can be used to help generate an operation contract.

##### Operation Contract Syntax

Name: appropriateName

Responsibilities: Perform a function

Cross References: System functions and Use Cases

Exceptions: none

Preconditions: Something or some relationship exists

Post conditions: An association was formed

When making an operation contract, think of the state of the system before the action (snapshot) and the state of the system after the action (a second snapshot). The conditions both before and after the action should be described in the operation contract. Do not describe how the action or state changes were done. The pre and post conditions describe state, not actions.

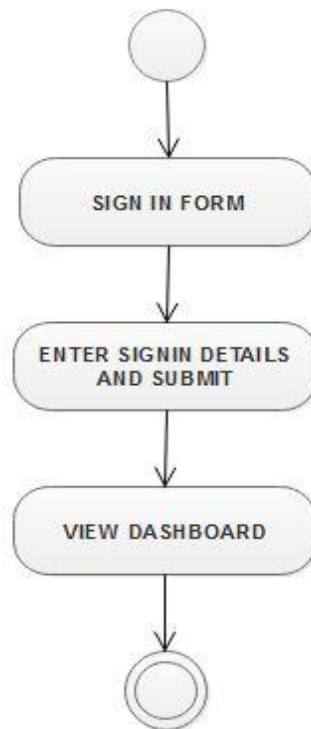
Typical post condition changes:

- Object attributes were changed.
- An instance of an object was created.
- An association was formed or broken.
- Post conditions are described in the past tense. They declare state changes to the system. Fill in the name, then responsibilities, then postconditions.

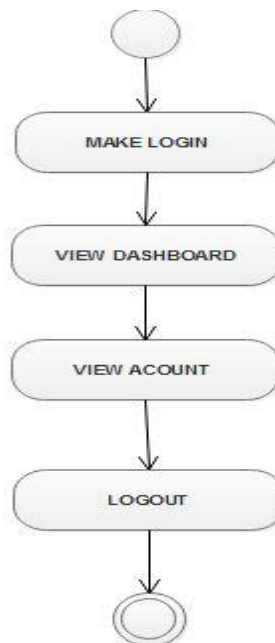


## 4.8. State chart diagram

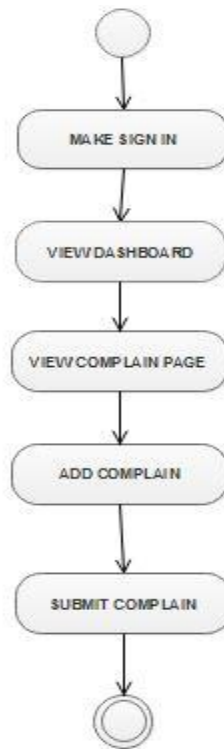
### 4.8.1 Login



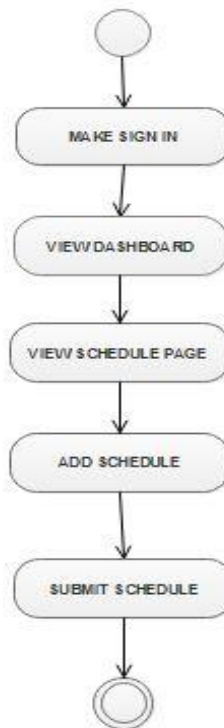
### 4.8.2 Logout



### 4.8.3 Add Complain

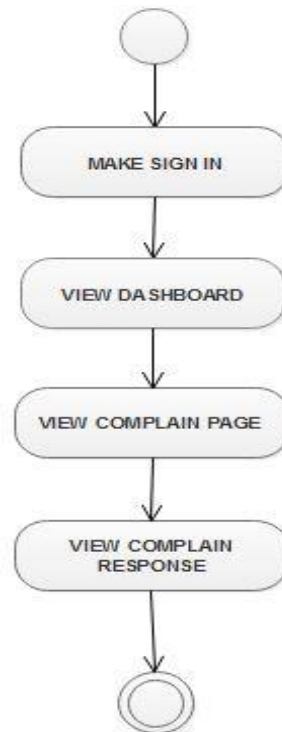


### 4.8.4 Add schedule

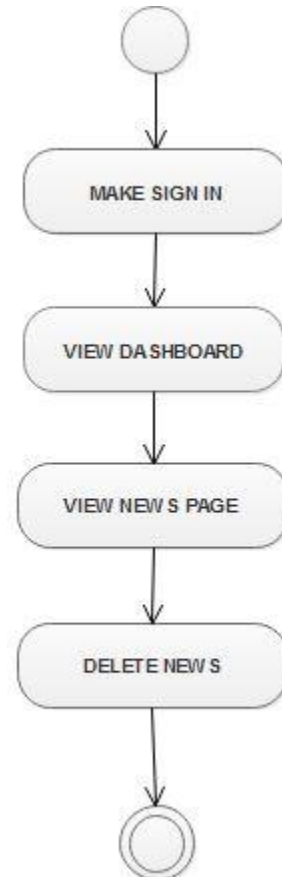




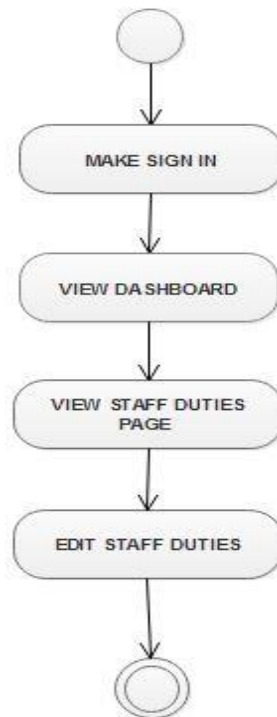
#### 4.8.5 Complain Response



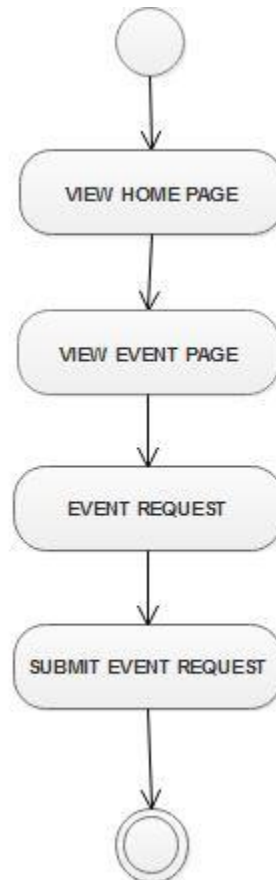
#### 4.8.6 Delete News



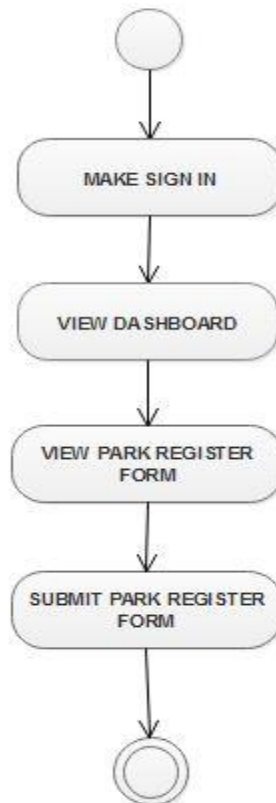
#### 4.8.7 Edit Staff Duty



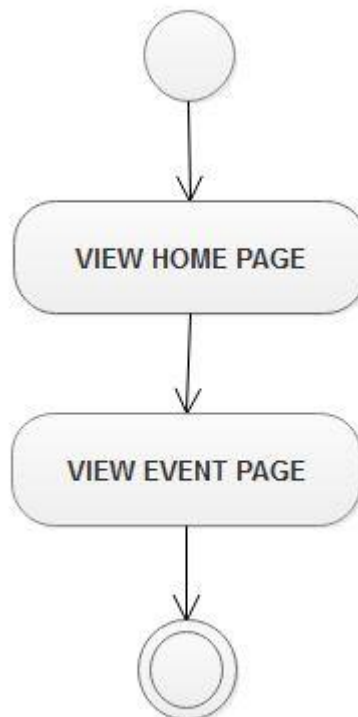
#### 4.8.8 Event Request



#### 4.8.9 Register Park



#### 4.8.10 View Event



#### 4.9. Data Model

| DM:1.1         |           |              |      | Admin, Supervisor, Staff     |   |
|----------------|-----------|--------------|------|------------------------------|---|
| Name: Register |           |              |      |                              |   |
| Sr-No          | Attribute | Data-type    | Size | Description                  | Constraints                                 |
| 1              | FirstName | Alphabetic   | 20   | First name of the Member     | NOT NULL                                    |
| 2              | LastName  | Alphabetic   | 20   | Last Name of the Member.     | NOT NULL,                                   |
| 3              | Email     | Alphanumeric | 20   | ID of the Member.            | NOT NULL, PRIMARY, Must include @ in Email, |
| 4              | Password  | Alphanumeric | 15   | Password of the ID.          | NOT NULL                                    |
| 5              | Type      | Alphanumeric | 20   | About member designation.    | NOT NULL                                    |
| 6              | Address   | Alphanumeric | 30   | Email address of the Member. | NOT NULL                                    |
| 7              | PhoneNo   | numeric      | 20   | Address of the Member.       | NOT NULL                                    |
| 8              | Image     | Alphanumeric | 50   | Image of the Member.         | NOT NULL                                    |
| 10             | Age       | numeric      | 20   | Age of the Member.           | NOT NULL                                    |
| 11             | Gander    | Alphabetic   | 15   | Gander of the Member.        | NOT NULL                                    |

| D.M 1.2           |              |            |      | Admin, Supervisor   |                  |
|-------------------|--------------|------------|------|---------------------|------------------|
| Name:Park Council |              |            |      |                     |                  |
| Sr-No             | Attribute    | Data-type  | Size | Description         | Constraints      |
| 1                 | Council name | Alphabetic | 20   | Name of the Council | NOT NULL PRIMARY |

| D.M 1.2.1                          |                |              |      |                           |             |
|------------------------------------|----------------|--------------|------|---------------------------|-------------|
| Name:<br>ParkCouncil_CouncilMember |                |              |      |                           |             |
| Sr-No                              | Attribute      | Data-type    | Size | Description               | Constraints |
| 1                                  | Council member | Alphabetic   | 20   | Member of the council     | NOT NULL    |
| 2                                  | Phone No       | numeric      | 10   | Ph no of the staff member | NOT NULL    |
| 3                                  | Address        | Alphanumeric | 30   | Address of the Council    | NOT NULL    |
| 4                                  | Image          | Alphanumeric | 30   | Picture of Council        | NOT NULL    |

| D.M 1.4                    |            |              |      |                             |                  |
|----------------------------|------------|--------------|------|-----------------------------|------------------|
| Admin, Supervisor, Visitor |            |              |      |                             |                  |
| Name: Staff                |            |              |      |                             |                  |
| Sr-No                      | Attribute  | Data-type    | Size | Description                 | Constraints      |
| 1                          | Email      | Alphanumeric | 10   | Email of the Staff          | NOTNULL, PRIMARY |
| 2                          | Duty       | Alphabetic   | 30   | Duty of the Staff           | NOT NULL         |
| 3                          | Start-Time | Alphanumeric | 20   | Start time of Staff working | NOT NULL         |
| 4                          | End-time   | Alphanumeric | 10   | End time of Staff working   | NOT NULL         |
| 5                          | Attendance | Alphanumeric | 10   | Attendance of the Staff     | NOT NULL         |

| D.M 1.5                           |              |              |      |                  |                  |
|-----------------------------------|--------------|--------------|------|------------------|------------------|
| Admin, Supervisor, Staff, Visitor |              |              |      |                  |                  |
| Name: Park                        |              |              |      |                  |                  |
| Sr-No                             | Attribute    | Data-type    | Size | Description      | Constraints      |
| 1                                 | ParkName     | Alphabetic   | 30   | Name of park     | NOT NULL PRIMARY |
| 2                                 | City         | Alphanumeric | 30   | City of the park | NOT NULL         |
| 3                                 | Park Council | Alphabetic   | 20   | Council of park  | NOT NULL         |

|   |            |            |    |                        |          |
|---|------------|------------|----|------------------------|----------|
| 4 | Supervisor | Alphabetic | 20 | Supervisor of the Park | NOT NULL |
|---|------------|------------|----|------------------------|----------|

| D.M 1.6       |               |              |      | Admin, Supervisor     |                     |
|---------------|---------------|--------------|------|-----------------------|---------------------|
| Name Vehicles |               |              |      |                       |                     |
| Sedr-No       | Attribute     | Data-type    | Size | Description           | Constraints         |
| 1             | VahicleName   | Alphanumeric | 20   | Name of vahicle       | NOT NULL<br>PRIMARY |
| 2             | Work          | Alphanumeric | 20   | Working of vahicle    | NOT NULL            |
| 3             | VahicleNumber | Alphanumeric | 10   | Number of the vahicle | NOT NULL            |
| 4             | ParkName      | Alphabetic   | 30   | Name of the park      | NOT NULL            |

| D.M 1.7         |           |            |      | Admin   |             |
|-----------------|-----------|------------|------|---|-------------|
| Name Supervisor |           |            |      |   |             |
| Sr-No           | Attribute | Data-type  | Size | Description                                   | Constraints |
| 1               | Budget    | numeric    | 20   | Park Budget                                   | NOT NULL    |
| 2               | Suggesion | Alphabetic | 30   | Suggest how much budget is given to Each park | NOT NULL    |

| D.M 1.8     |           |              |      | Admin, Supervisor, Staff, Visitor       |                         |
|-------------|-----------|--------------|------|---|-------------------------|
| Name: Event |           |              |      |   |                         |
| Sr-No       | Attribute | Data-type    | Size | Description                             | Constraints             |
| 1           | Event ID  | Alphanumeric | 10   | ID is Unique                            | NOT NULL<br>PRIMARY KEY |
| 2           | Email     | Alphanumeric | 20   | Email of Member                         | NOT NULL                |
| 3           | Detail    | Alphabetic   | 30   | Information about Event                 | NOT NULL                |
| 4           | Park name | Alphabetic   | 30   | Park name where event is going to occur | NOT NULL                |

|   |            |         |    |                        |          |
|---|------------|---------|----|------------------------|----------|
| 5 | Start time | Numeric | 15 | Starting time of Event | NOT NULL |
| 6 | End time   | Numeric | 15 | Ending rime of Event   | NOT NULL |

| D.M 1.9       |            |            |                                   |  |             |
|---------------|------------|------------|-----------------------------------|--|-------------|
| Name: Nursery |            |            | Admin, Supervisor, Visitor, Staff |  |             |
| Sr-No         | Attribute  | Data-type  | Size                              | Description                                      | Constraints |
| 1             | Name       | Alphabetic | 20                                | Name of the Nursery                              | NOT NULL    |
| 2             | City       | Alphabetic | 20                                | Name of the City                                 | NOT NULL    |
| 3             | Supervisor | Alphabetic | 20                                | The Name of Supervisor That Maintain the Nursery | NOT NULL    |

| Admin, Supervisor, Visitor, Staff |           |            |      |                     |             |
|-----------------------------------|-----------|------------|------|---------------------|-------------|
| Name: Nursery_Plant               |           |            |      |                     |             |
| Sr-No                             | Attribute | Data-type  | Size | Description         | Constraints |
| 1                                 | PlantName | Alphabetic | 20   | Name of the Plant   | NOT NULL    |
| 2                                 | PlantType | Alphabetic | 20   | Type of the Plant   | NOT NULL    |
| 3                                 | Detail    | Alphabetic | 20   | Detail of the plant | NOT NULL    |

| D.M 1.10       |              |            |                   |   |             |
|----------------|--------------|------------|-------------------|---|-------------|
| Name: Campaign |              |            | Admin, Supervisor |   |             |
| Sr-No          | Attribute    | Data-type  | Size              | Description                                       | Constraints |
| 1              | CampaignName | Alphabetic | 20                | Name of the Campaign                              | NOT NULL    |
| 2              | City         | Alphabetic | 20                | Name of the City Where Campaign is going to occur | NOT NULL    |

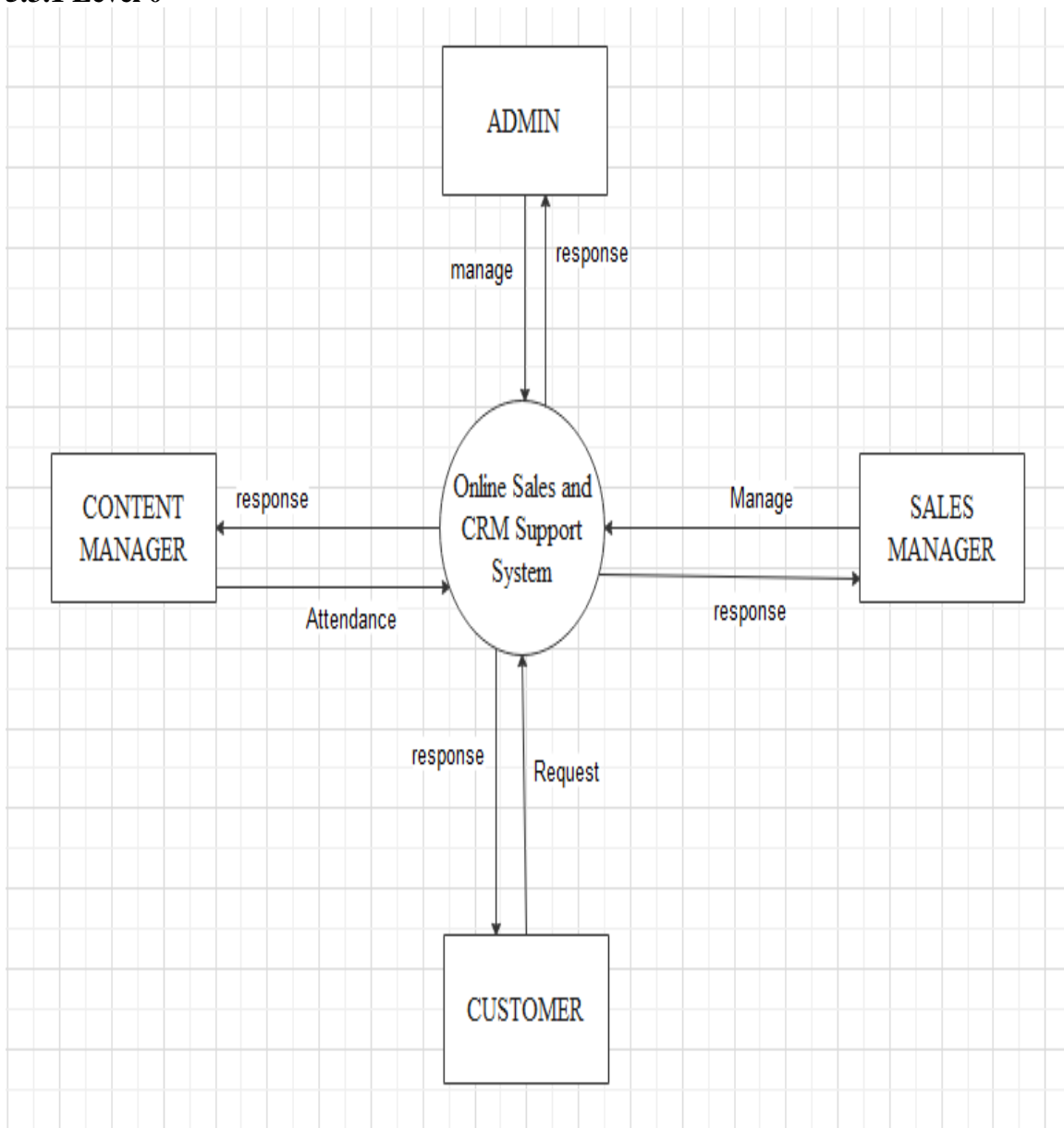
| Name: Campaign_Email |           |              |      |                    |             |
|----------------------|-----------|--------------|------|--------------------|-------------|
| Sr-No                | Attribute | Data-type    | Size | Description        | Constraints |
| 1                    | Email     | Alphanumeric | 20   | Email of the staff | NOT NULL    |



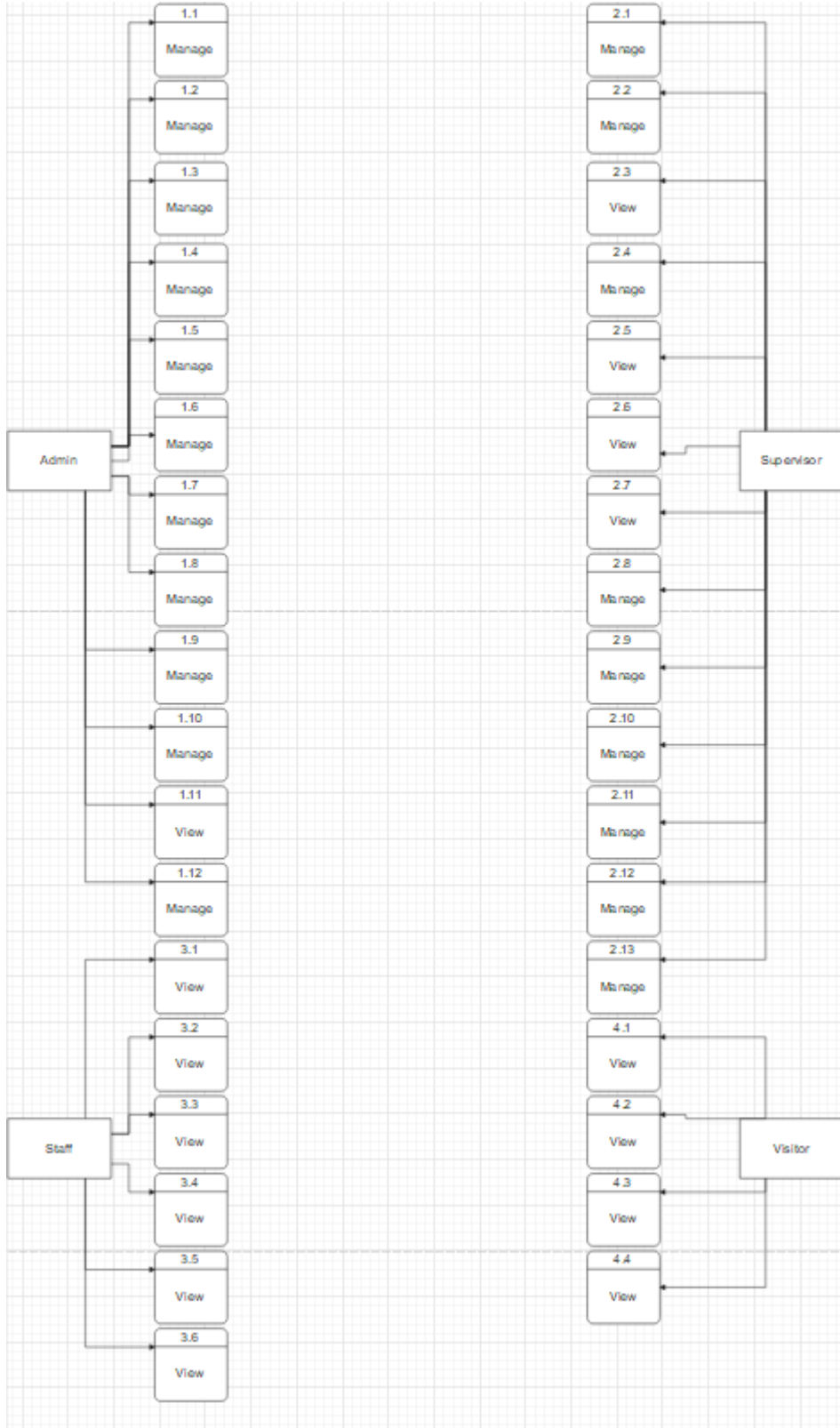


### 5.3. Data flow diagram (Functional Model)

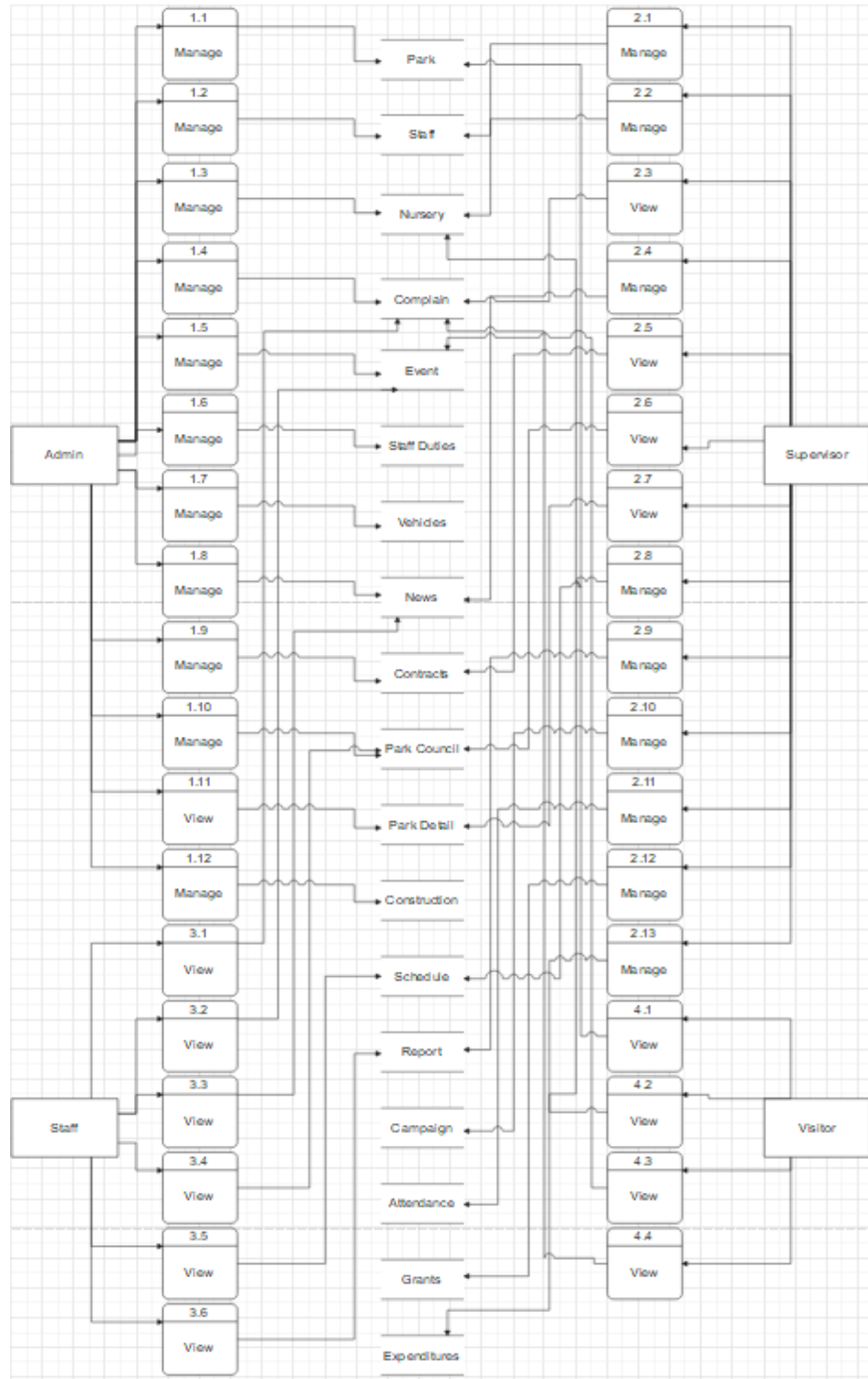
#### 5.3.1 Level 0



### 5.3.2 Level 1

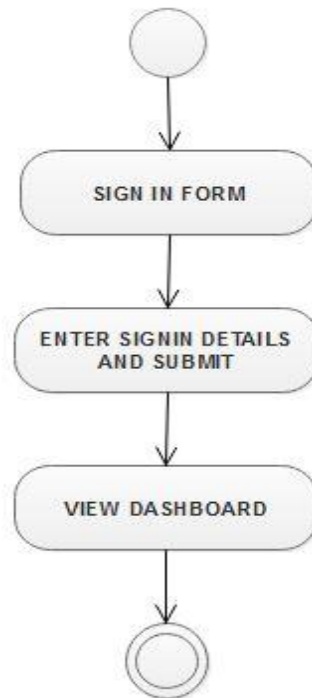


### 5.3.3 Level 2

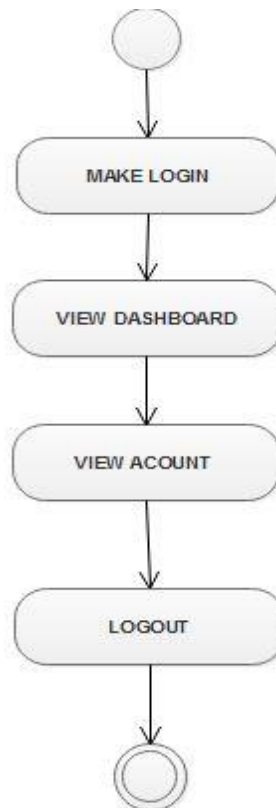


## 5.4. State Transition Diagram

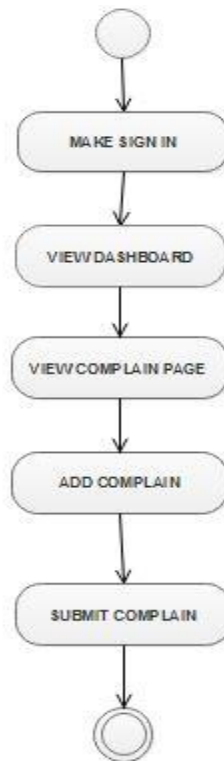
### 5.4.1 Login



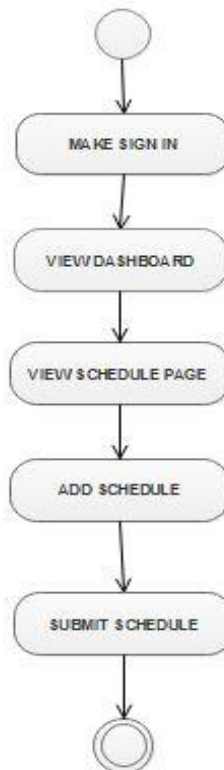
### 5.4.2 Logout



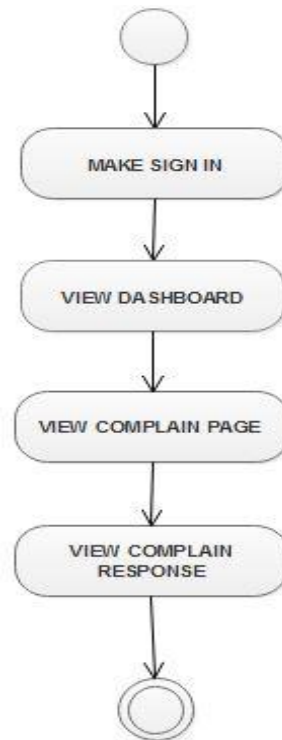
### 5.4.3 Add Complain



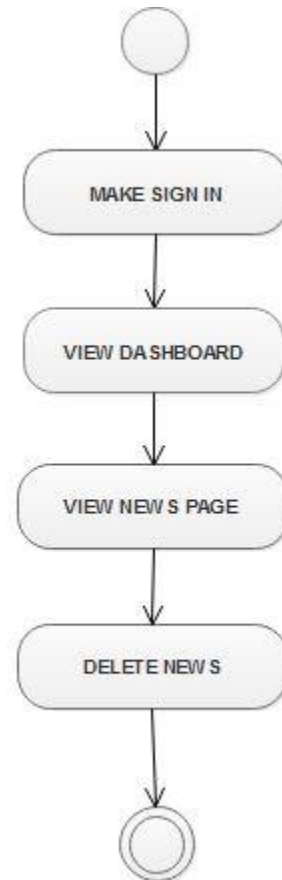
### 5.4.4 Add schedule



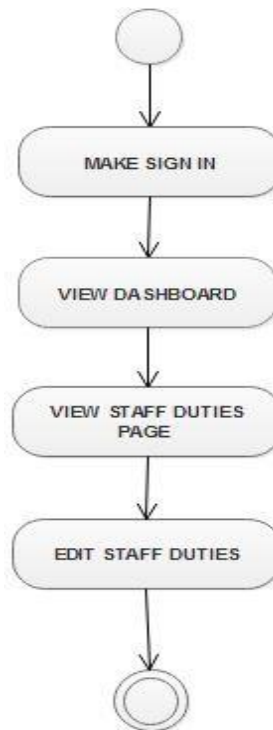
#### 5.4.5 Complain Response



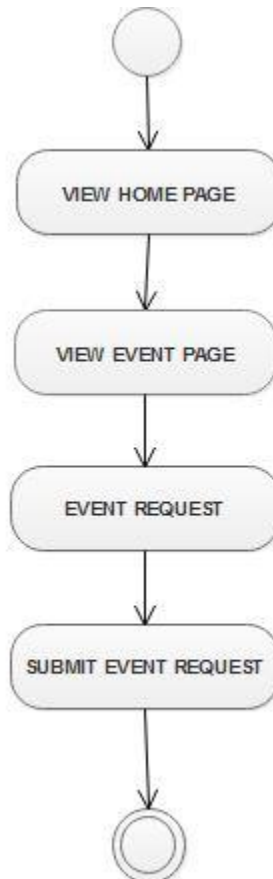
#### 5.4.6 Delete News



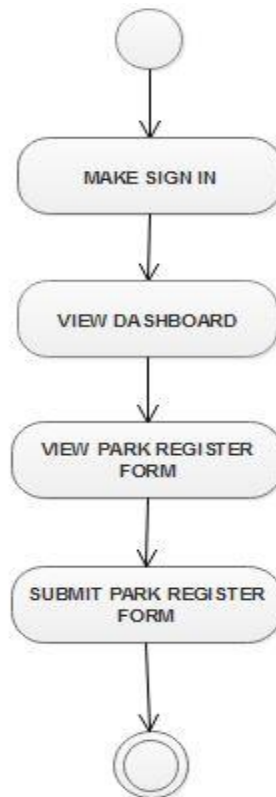
#### 5.4.7 *Edit Staff Duty*



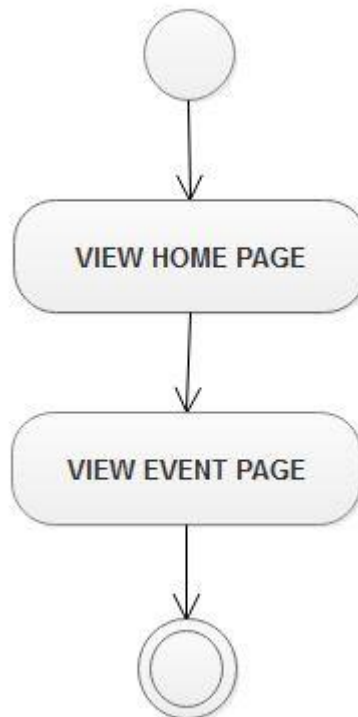
#### 5.4.8 *Event Request*



#### 5.4.9 Register Park

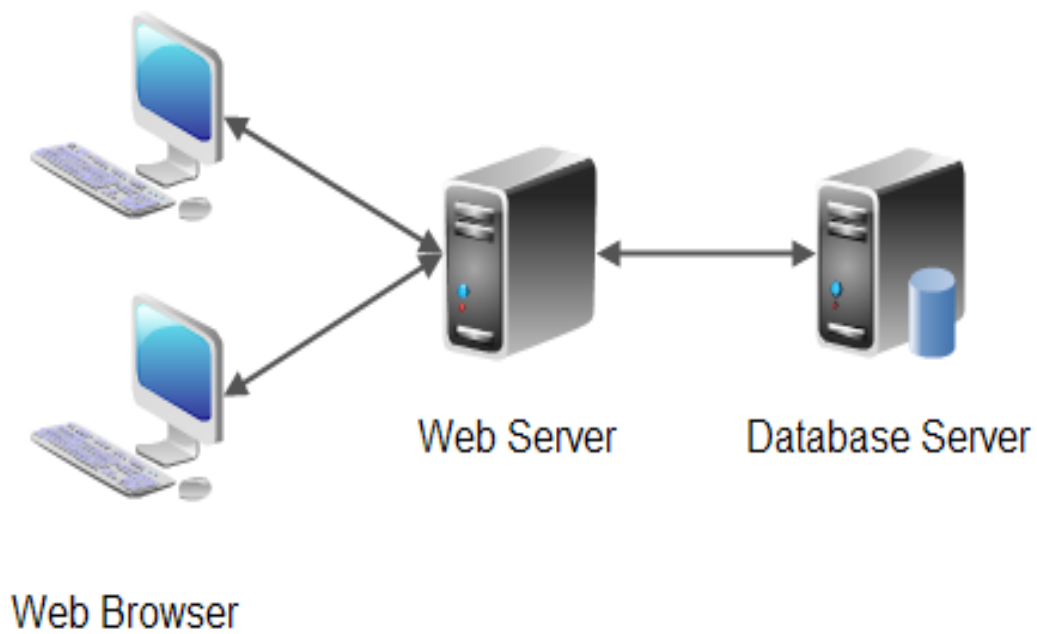


#### 5.4.10 View Event

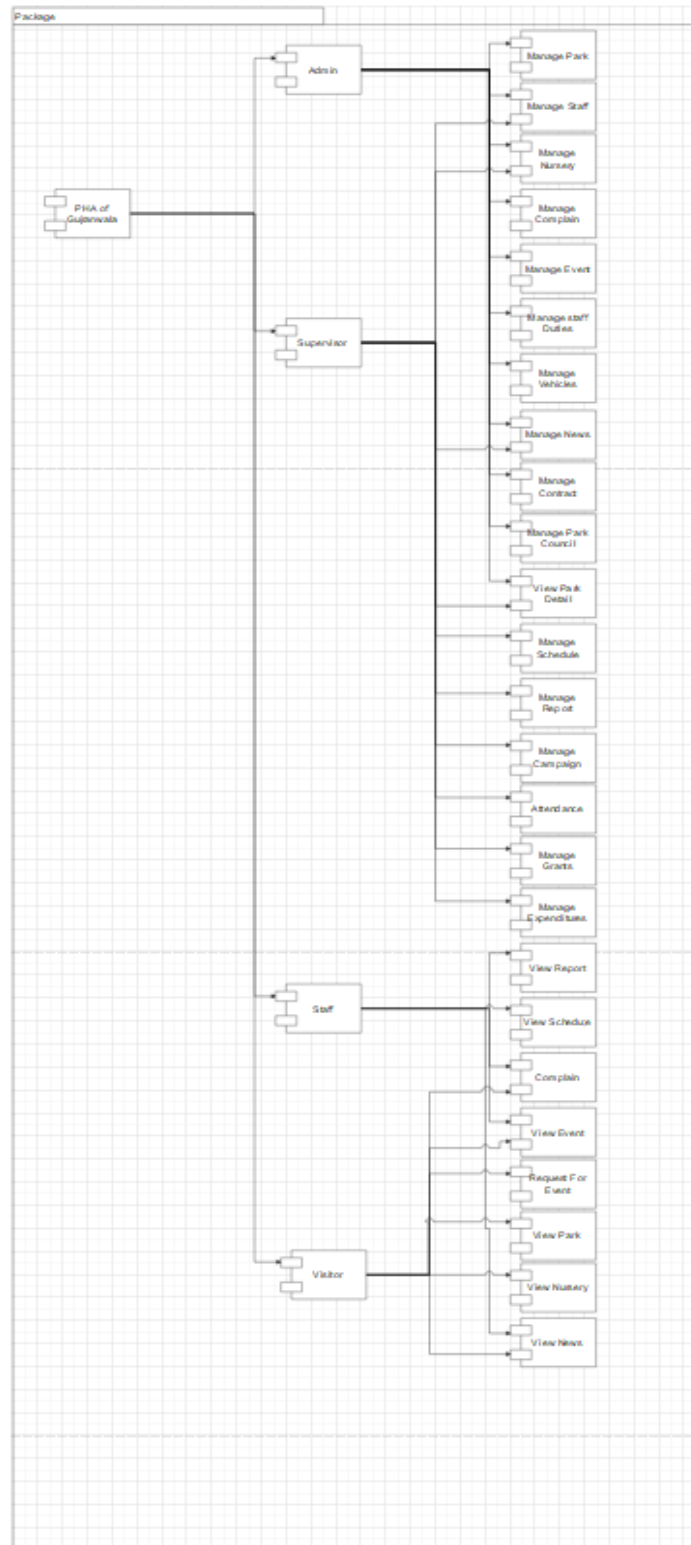




### 5.5. Architectural design



## 5.6. Component Level Design



## ONLINE PHA GUJRANWALA



**Session : BSCS Fall 2016-2020**

**Project Advisor:      Muhammad Bilal**

**Submitted By**

*Muhammad Abdullah                      16BSCS-20318*

*Muhammad Saeed                        16BSCS-20319*

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Department of Computer Science & Information Technology  
University of Sargodha

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