ASSIGNMENT - 2

Aim: Prepare the Use Case Model

Problem Statement:

- Prepare Use Case Model
- Identify Major Use Cases, Identify actors.
- Write Use Case specification for all major Use Cases.
- Draw detail Use Case Diagram using UML2.0 notations.

Objectives:

- To Identify Major Use Cases, Identify actors.
- To Write Use Case specification.
- To Draw detail Use Case Diagram.

Theory:

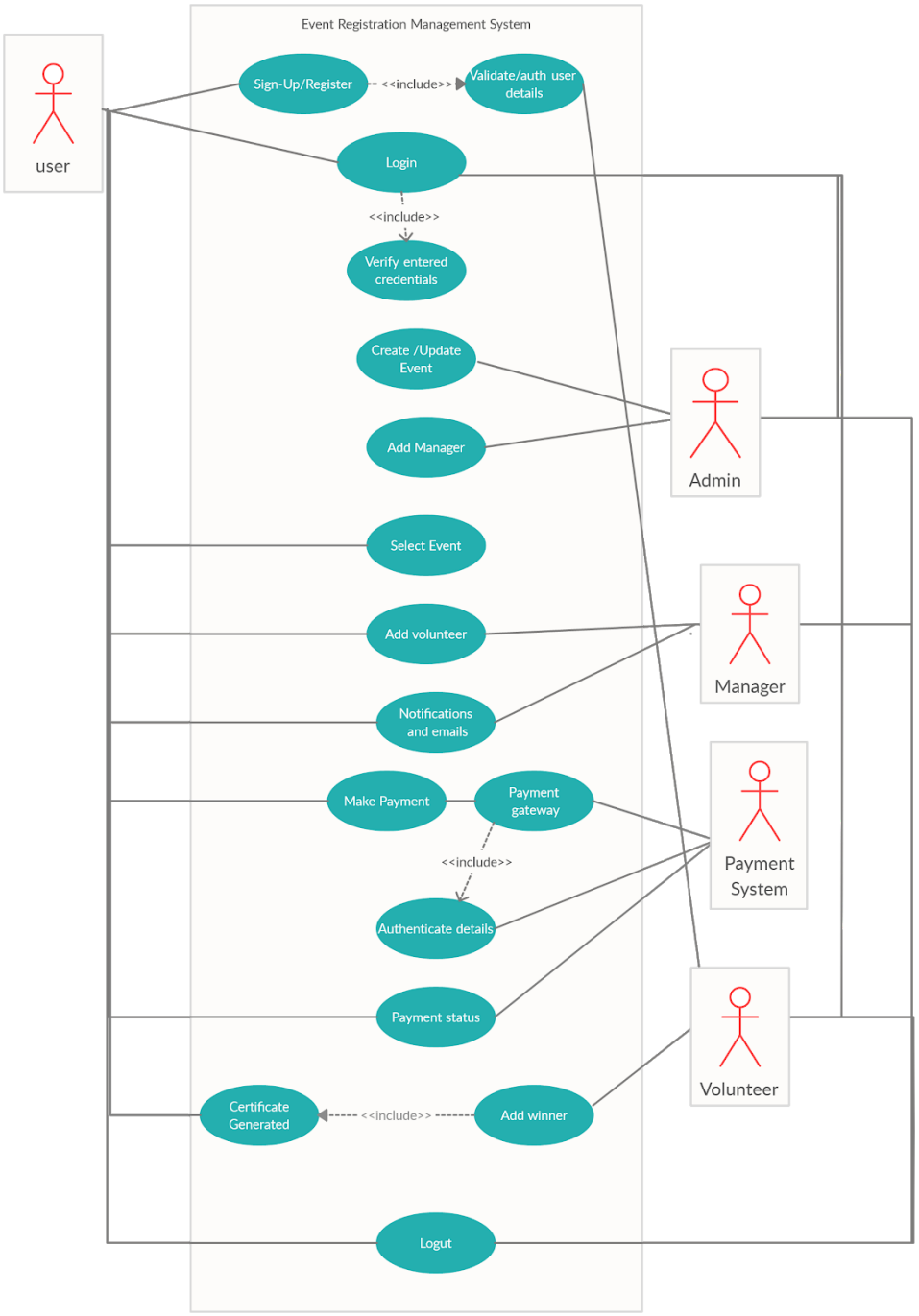
Use case diagram in UML

Use-case diagrams model the behaviour of a system and help to capture the requirements of the system. Use-case diagrams describe the high-level functions and scope of a system. These diagrams also identify the interactions between the system and its actors. The use cases and actors in use-case diagrams describe what the system does and how the actors use it, but not how the system operates internally. Use-case diagrams illustrate and define the context and requirements of either an entire system or the important parts of the system. You can model a complex system with a single use-case diagram,or create many use-case diagrams to model the components of the system.

Creating Use case diagram

Use-case diagrams describe the main functions of a system and identify the interactions between the system and its external environment, represented by actors.These actors can be people, organizations, machines, or other external systems.

Use Case Model



List of major use cases :

1. Register end-user
2. Login user - login end-user
3. Login Admin
4. Login Manager
5. Create event - edit, delete event details, login
6. Add Manager
7. Add volunteer
8. Select event - view available events, select event/sub event, payments
9. Update event details after finishing - login volunteer, declare winners (if any), generate participant/winner certificates

List of actors :

1. Participant (User)
2. Admin
3. Manager
4. Volunteer
5. Payment System

Use Case Specifications

Use Case 1

1) **Use Case Name** : Register/Sign up

2) **Use Case Id** : ERS01

3) **Actors** : Participant(user), Volunteer

4) **Scenario** : Participant wants to register or sign up to the system in order to register for an event for the first time.

5) **Pre conditions** : None

6) **Post conditions** :
    a) If registration is successful, the user is returned to the home page as logged in user.
    b) If registration is not successful, the user is returned to the home page as a guest user.
    c) The volunteer can view the details of the registered user in the database.

7) **Related Use Case** : Validate user

8) **Flow of activities** :
    a) The system prompts users to login or sign up.
    b) The user selects the sign up option.
    c) The system prompts the user for basic details,username,password,etc.
    d) The user enters all the information.
    e)
        i) The user tries to save the information entered.
            (1) System verifies the information and creates an account. The user gets a prompt saying registration successful.
            (2) The entered information is invalid. The user will be prompted to re-enter invalid information.
        ii) The user tries to cancel the login.

(1) The system returns the user to the home page without being logged in and all entered information will be erased.

9) **Exception Handling** :
   a) Database server not responding.
   b) Unstable Network Connection.

Use Case 2

1) **Use Case Name** : Login user

2) **Use Case ID** : ERS02

3) **Actors** : Participant(user)

4) **Scenario** : The user wants to use the system and register for events or view details of previously registered events.
5) **Pre conditions** :
   a) The user has an account in the system.
   b) The user is trying to log in with their account.
   c) The user is not already logged into the system

6) Post conditions :
   a) The user is logged into the system.
   b) The user has access to functionalities of the system like registering for events, viewing logs of events registered, etc.

7) **Related Use Case** : Verify entered credentials.

8) **Flow of activities** :
   a) The system prompts the user to login or sign up.
   b) The user selects the login option.
   c) The system prompts the user to enter their account credentials.
   d) The user enters their account username and password.
   e) The system authenticates the login id and password with the database.
   f)

i) The entered username and password are correct. The user gains access to the system's functionality.
ii) The entered username or password is invalid.
(1) The user will be prompted to re-enter the username and
(2) password.

g) User forgot the password and wants to retrieve it.
i) The username and password is mailed to the user by the system.
ii) The user can login into the system using these credentials.

9) **Exception Handling** :
a) Username and password re-entered many times.
b) User forgot the password.
c) Unstable Network Connection.

Use Case 3

1) **Use Case Name** : Manager Login

2) **Use Case ID** : ERS03

3) **Actors** : Admin, Manager

4) **Scenario** : Manager wants to login into the system.After verification of entered credentials Admin will add managers into the system.

5) **Pre-conditions** : The admin will add managers in the system.

6) **Post-conditions** :
a) The manager can add volunteers for an event.
b) The manager can verify users.
c) The manager can add volunteers.
d) The manager can modify event details.

7) **Related** : Verify entered credentials, Add volunteer,users

8) **Flow of Activities** :

a) Admin -
    i) Login into the system
    ii) Send a request to the manager through mail.
    iii) Admin will get a response of confirmation.
    iv) Logs out of system
b) Manager -
    i) Get mail from the admin to register on the system.
    ii) Enter his details into the system.
    iii) System generates a login id for the manager.
    iv) Manager logs in using his credentials.
    v) Add volunteers for an event.
    vi) Log out of system

9) **Exception handling** :
    a) Database server not responding
    b) Login error

Use Case 4

1) **Use Case Name** : Admin Login

2) **Use Case ID** : ERS04

3) **Actors** : Admin

4) **Scenario** : Admin wants to login into the system.After verification of entered credentials admin will be able to system.

5) **Pre-conditions** : The admin needs to be added into the database.DBA will add entry for Admin into database.

6) **Post-conditions** :
    a) The admin can add managers for an event.
    b) The admin can add,delete events.
    c) Admin can update event details.

7) **Related** : Verify entered credentials, Add manager

8) **Flow of Activities** :
    i) Login into the system
    ii) Send a request to the DBA.
    iii) Admin will get a response of confirmation.
    iv) Logs out of system.

9) **Exception handling** :
    a) Database server not responding
    b) Login error

Use Case 5

1) **Use Case Name** : Create Event

2) **Use Case ID** : ERS05

3) **Actors** : Admin, Manager

4) **Scenario** :
    a) Admin wants to add an event to the system

5) **Pre-conditions** :
    a) The admin needs to login into the system.
    b) The manager needs to login into the system.

6) **Post-conditions** :
    a) The admin can add/delete events.
    b) The admin can add managers.
    c) The admin can verify managers, volunteers and users.
    d) The managers can add volunteers.
    e) The managers can check payments status of users registered for an event.
    f) The managers can change the ownership of events.

7) **Related** : Add manager, Add volunteer

8) **Flow of Activities** :
    a) Admin -
        i) Login into the system
        ii) The admin creates a new event.
        iii) Send a request to the manager to be added into an event.
        iv) Gets confirmation from the manager.
        v) The admin can add/delete/edit events at any stage.
        vi) The admin can verify managers, volunteers and users.
        vii) Logs out of system
        viii)
    b) Manager -
        i) Get mail from the admin to register on the system.
        ii) Enter his details into the system.
        iii) System generates a login id for the manager.
        iv) Manager logs in using his credentials
        v) Add volunteers for an event.
        vi) The manager can edit/delete events.
        vii) The manager can check the payment status of a user for an event.
        viii) Change the ownership of an event.
        ix) Log out of system

9) **Exception handling** :
    a) Database server not responding
    b) Admin login error

Use Case 6

1) **Use Case Name** : Add Manager

2) **Use Case ID** : ERS06

3) **Actors** : Admin, Manager

4) **Scenario** : Adding a new Event

5) **Pre-conditions** : The admin needs to login into the system.

6) **Post-conditions** :
    a) The manager can add volunteers for an event.
    b) The manager can verify users.
    c) The manager can modify event details.

7) **Related** : Add volunteer

8) **Flow of Activities** :
    a) Admin -
        i) Login into the system
        ii) Send a request to the manager through mail.
        iii) Admin will get a response of confirmation.
        iv) Logs out of system
    b) Manager -
        i) Get mail from the admin to register on the system.
        ii) Enter his details into the system.
        iii) System generates a login id for the manager.
        iv) Manager logs in using his credentials
        v) Add volunteers for an event.
        vi) Log out of system
        vii)
9) **Exception handling** :
    a) Database server not responding
    b) Admin login error

Use Case 7

1) **Use Case Name** : Add volunteer

2) **Use Case ID** : ERS07

3) **Actors** : Manager, Volunteer

4) **Scenario** : Manager wants to add a managerial team for an event.

5) **Pre-conditions** : The manager needs to login into the system.

6) **Post-conditions** :
    a) The volunteers can check participants and team details.
    b) The volunteers can update payment status of users.
    c) The volunteers can add a winner.

7) **Related** : Add winner

8) **Flow of Activities** :
    a) Manager -
        i) The manager logs in using his credentials.
        ii) Add volunteers for an event.
        iii) The manager can verify details of volunteer for an event
        iv) The manager can delete volunteers at any stage.
        v) Logs out of the system.
    b) Volunteer -
        i) The volunteer logs in using his credentials.
        ii) The volunteers can check participants and team details.
        iii) The volunteers can update payment status of users.
        iv) The volunteers can add a winner.
        v) Logs out of the system.

9) **Exception handling** :
    a) Database server not responding
    b) Admin login error

Use Case 8

1) **Use Case Name** : Select Event

2) **Use Case ID** : ERS08

3) **Actors** : Users, Payment System

4) **Scenario** : User wants to select a particular event for registration.

5) **Pre-conditions** :The user needs to login into the system

6) **Post-conditions** :
    a) The user can add his team details if any.
    b) The user can make payment for the registered event.

7) **Related** : Receive Notifications and emails, Make payment

8) **Flow of Activities** :
    a) User -
        i) The user logs into the system
        ii) Searches for current, upcoming events and searches through categories.
        iii) Selects the event/ sub event.
        iv) Add team members if any.
        v) Selects desired slot for the event from the mentioned list.
        vi) Makes payments for the registered event
        vii) Receives email after payment confirmation.
        viii) Logs out of the system

9) **Exception handling** :
    a) Database server not responding
    b) Login error

Use Case 9

1) **Use Case Name** : Update Event

2) **Use Case ID** : ERS09

3) **Actors** : Admin, Manager, Volunteers

4) **Scenario** :
    a) Manager wants to add volunteers for a particular event.
    b) The volunteers add a winner for a particular event.

5) **Pre-conditions** :
    a) The admin needs to login into the system
    b) The manager needs to login into the system.
    c) The volunteer needs to login into the system

6) **Post-conditions** :
    a) The admin can update details of an event.
    b) The managers can update details of an event.
    c) The managers can change the ownership of events.
    d) The volunteers can add winners for an event.

7) **Related** : Add winner, Generate Certificate

8) **Flow of Activities** :
    a) Admin -
        i) Login into the system
        ii) The admin adds manager for an event
        iii) The admin can update events at any stage.
        iv) The admin can verify managers, volunteers and users.
        v) Logs out of system
    b) Manager -
        i) Manager logs in using his credentials
        ii) The manager can update events.
        iii) The manager can check the payment status of a user for an event.
        iv) Change the ownership of an event.
        v) Logs out of system

9) **Exception handling** :
    a) Database server not responding
    b) Login error

Conclusion:

We have thus implemented accepted standards and procedures to develop a UML Use Case Model for the project idea we have picked (Event Registration System). The purpose of use case diagrams is to capture the core functionalities of a system. Use case specifications are a way to capture the system's requirements in UML diagrams.