

Swimming Pool Management Software

SOFTWARE REQUIREMENT SPECIFICATION

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1. Introduction

This is Software requirement specification document for the project Swimming Pool Management Software. This section describes the software and hardware requirements for the software.

1.1. Problem Definition

The software is intended to provide different types of users with the web portal to book slots for the swimming pool, apply for membership, apply for participation in events, Buy tickets for the competitions and to apply for different periods of Swimming courses conducted by the Swimming pool committee. And more managing facilities like Time table maintenance and Courses management for the Manager.

1.2. Purpose

The purpose of this document is to give a detailed description of the requirements for the Swimming Pool Management Software (SPMS). It will illustrate the purpose and complete declaration for the development of system. It will explain system constraints, interface and interactions with other external applications.

1.3. Document conventions

The format of this SRS is simple. Bold face and indentation is used on general topics and or specific points of interest. The remainder of the document will be written using the font Constantia.

1.4. Intended Audience

This document is written for those who want to manage a Swimming pool, and software developers, advanced practitioners, documentation writers and users involved in java database management and scheduling events.

1.5. Additional Information

The rest of the SRS examines the specifications of the Swimming Pool Management Software in detail. Section 2 of the SRS presents the general factors that affect the management software and its requirements, such as user characteristics and project constraints. Section 3 outlines the detailed, specific functional, performance, system and other related requirements of the Swimming Pool Management Software. Supporting information about appendices is provided in Section 3.

1.6. Contact information

The members involved in making this document and assigned for the project are:

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1.7. References

- [1] IEEE Software Engineering Standards Committee, “IEEE Std 830-1998, IEEE Recommended Practice for Software Requirements Specifications”, October 20, 1998.
- [2] Java Database Connectivity (JDBC) documentation, for managing data from a central MySQL server, <http://docs.oracle.com/javase/7/docs/technotes/guides/jdbc/>.
- [3] Java Apache FTPClient documentation, for file handling between server and local application <https://commons.apache.org/proper/commons-net/apidocs/org/apache/commons/net/ftp/FTPClient.html>.

2. Overall Description

2.1. Product perspective

This system will consist of three parts: one database, one ftp client and one web portal. The web portal will be used to access the various functions of the software and database is used to manage all the information. The manager, committee members, members, course-coordinators and other users will all have to go to the web portal to access their desired functions and the software will update the system database accordingly. Since this is a data-centric product it will need somewhere to store the data. For that, a database will be used. The web portal will communicate with the database, however in slightly different ways. And to transfer the files, like medical certificates, of members between the local system and server an ftp client is necessary. All of the database communication and ftp transfers will go over the Internet.

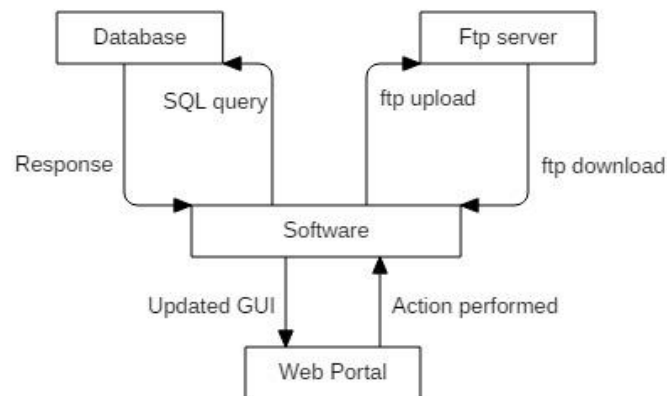


Figure 1: Block Diagram

2.2. Product functions

By accessing the web portal, users can perform respective functions. It can be used to do the following activities:

- Apply for membership
- Book Swimming Pool slots
- Enroll in swimming courses
- Participate in swimming competitions
- Pay Pool Fees
- View Pool Time Table
- Administer the Pool by adding courses, competitions and slots
- Rescheduling Pool activities

- Making posts among Pool members via a public forum
- Notify about changes in Pool Time Table
- Give reminders to registered users for Pool activities

2.3. User classes and characteristics

There are six types of users that interact with the system: non-members, members, committee-members, course- coordinators, Event Manager and the Pool manager. Each of these six types of users has different use of the system so each of them has their own requirements.

- A non-member can access the web portal to view Notices and competitions, apply for membership, enroll in courses, participate in swimming competition and buy tickets to a competition.
- A member can access the web portal to view Pool Calendar, cancel his/her membership, enroll in courses, participate in swimming competition, choose pool slots, book pool for activities, and make posts in the forum as well as view notices and public posts made in the forum.
- A committee member can access the web portal to view Pool Calendar, propose to add/remove/reschedule courses, swimming competitions, pool slots and view both public/private posts from the public forum, put up notices or comment in the forum.
- A course-coordinator can access the web portal to view Pool Calendar, add/remove/reschedule classes of his/her swimming course, view both public/private posts from the public forum, put up notices or comment in the forum.
- An Event Manager has all the powers of a committee member. In addition he can also decide the format of the competition.
- The manager can approve/disprove proposals of a committee member. In addition, he can approve/disapprove requests for membership, course enrollment and participation in competition.

2.4. Operating environment

This software operates on a MySQL server and FTP server. For the user application to work these servers must be running all the time.

2.5. User environment

This software requires working internet connection and Java Runtime Environment to work properly on any possible Operating System.

2.6. Design/implementation constraints

- The Internet connection is a constraint for the application. Since the application fetches data from the database over the Internet, it is crucial that there is an Internet connection for the application to function.
- The software will be constrained by the capacity of the database. Since the database is shared with applications it may be forced to queue incoming requests and there for increase the time it takes to fetch data.

- In terms of implementation, it is mostly done on Java platform.
- Java should be the language preferred in case of updating the software.
- Java Virtual Machine must be present to use this software and access its functions.
- Java Development Kit must be present to do modifications in the software.

2.7. Assumptions and dependencies

Assumption from problem definition is that Manager, Event Managers are all pool committee members and whatever proposals accepted by the committee are under taken by the Manager, So the committee members can only propose for courses and timings of the swimming pool slots and organizing events, and when the committee agrees with the proposal Manager takes the action.

One assumption about the product is that it will always be used on computers that have enough performance. If the computer does not have enough hardware resources available for the application, for example the users might have allocated them with other applications, there may be scenarios where the application does not work as intended or even at all. Another assumption is that the internet connection is available to the user at all times during application runs.

3. External Interface Requirements

3.1. User interfaces

Anyone who opens the portal, can see a welcome page containing notices and Events that will take place in coming days. There will be options to login, to apply for membership and Participation in courses, and to buy tickets for Events.

3.1.1. Non-member

Anon-member opens the portal to the swimming pool .He can apply for membership and courses and also can buy tickets for events from the welcome page itself.

3.1.2. Member

A member opens the portal to the swimming pool. He has to login using his ID and password to open the member's page. He will have the option to view Pool Time Table, enroll in a swimming course, book Pool slots, book Pool for activities, pay fees, open forum to make post/view, posts and to cancel his/her membership. To participate in a competition, or to buy competition tickets he can do it from welcome page itself.

3.1.3. Course-Coordinator

A Course-Coordinator opens the portal to the swimming pool. He has to login using his ID and password to open the coordinator's page. He has the option to view Pool Time Table, set class timings/cancel classes/reschedule classes/arrange extra classes for his respective course, make post/view posts/put up notices/address complaints about his course

3.1.4. Committee Member

A Committee member opens the portal to the swimming pool. He has to login using his ID and password to open the committee member's page. He has the option to view Pool Time Table, propose for courses and events in the discussions, make posts/view posts/put up notices/address posts, setup/reschedule/cancel Pool slots/swimming courses/swimming competitions and to cancel his/her membership.

3.1.5. Events Manager

An Event manager opens the portal to the swimming pool. He has to login using his ID and password to open the event manager's page. He has the same options as that of a committee member. In addition he has the options to manage his respective event.

3.1.6. Manager

A manager opens the portal to the swimming pool. He has to login using his ID and password to open the manager's page. He has the same options as that of a committee member. In addition he has the options to approve proposals from committee members/requests for membership/request for course enrollment/request for participation in competition and to modify the membership form.

3.2. Hardware interfaces

- Hardware: Personal Computer/Laptop
- Operating System: Windows XP or more, Linux, Mac OS X, or Solaris SPARC

3.3. Software interfaces

The application downloads data like discussion forms from the FTP server so that whenever the software is run again the whole data need not be downloaded again.

3.4. Communication protocols and interfaces

Internet Connection Either LAN connection or Wi-Fi connection. The application communicates with the database in order to get the information. The communication between the database and the web portal consists of operation concerning both reading and modifying the data. And it also communicates to the FTP server to upload and download the verification certificates.

4. Functional Requirements

4.1. Use Case Diagrams

4.1.1. Non-Member class

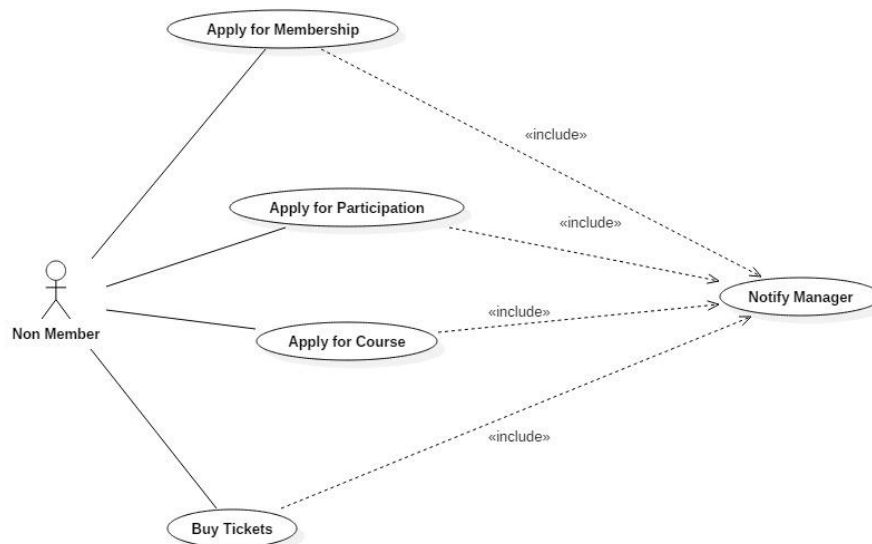


Figure 2: Use Case Non-Member

4.1.2. Member class

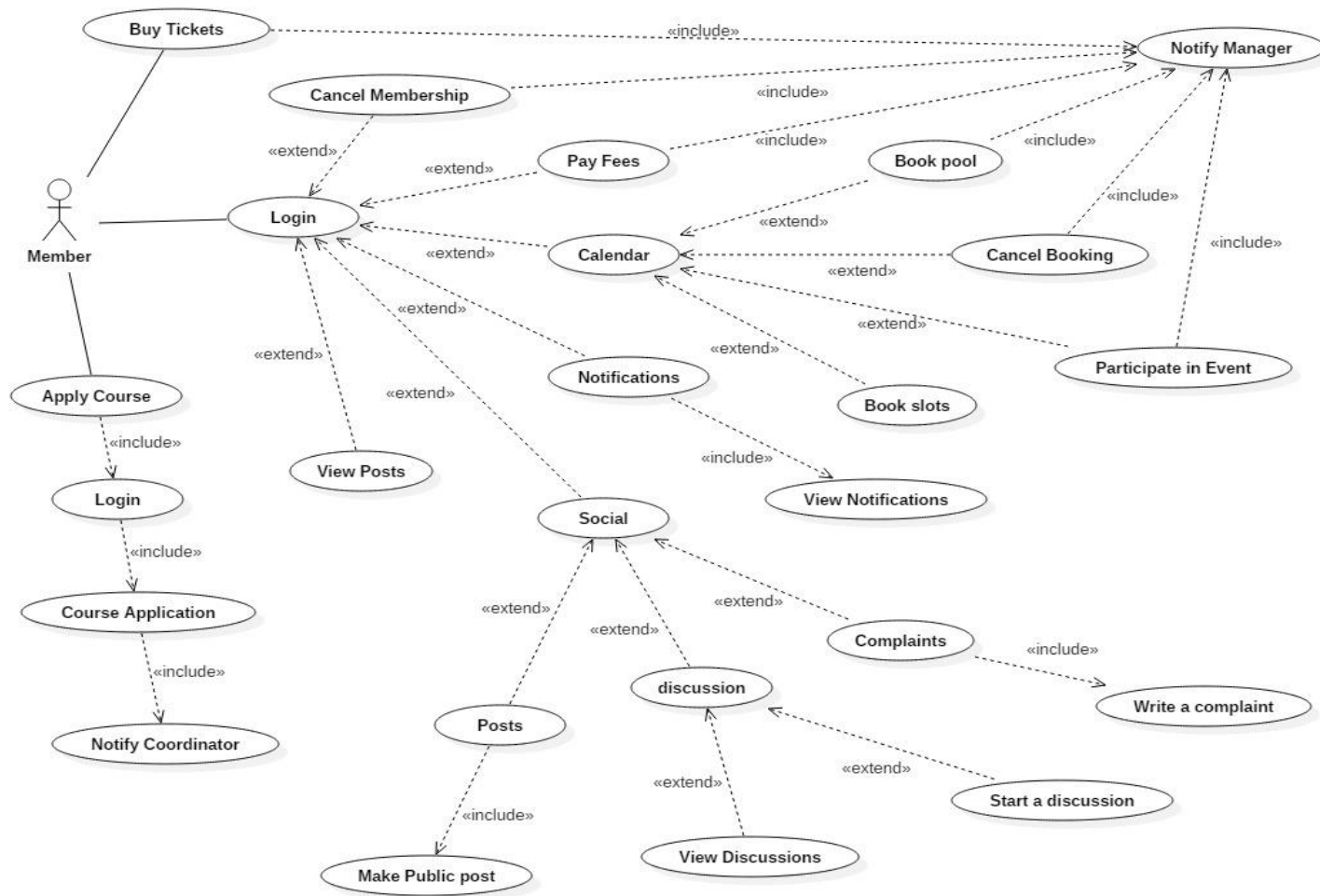


Figure 3: Use Case Member

4.1.3. Course Coordinator class

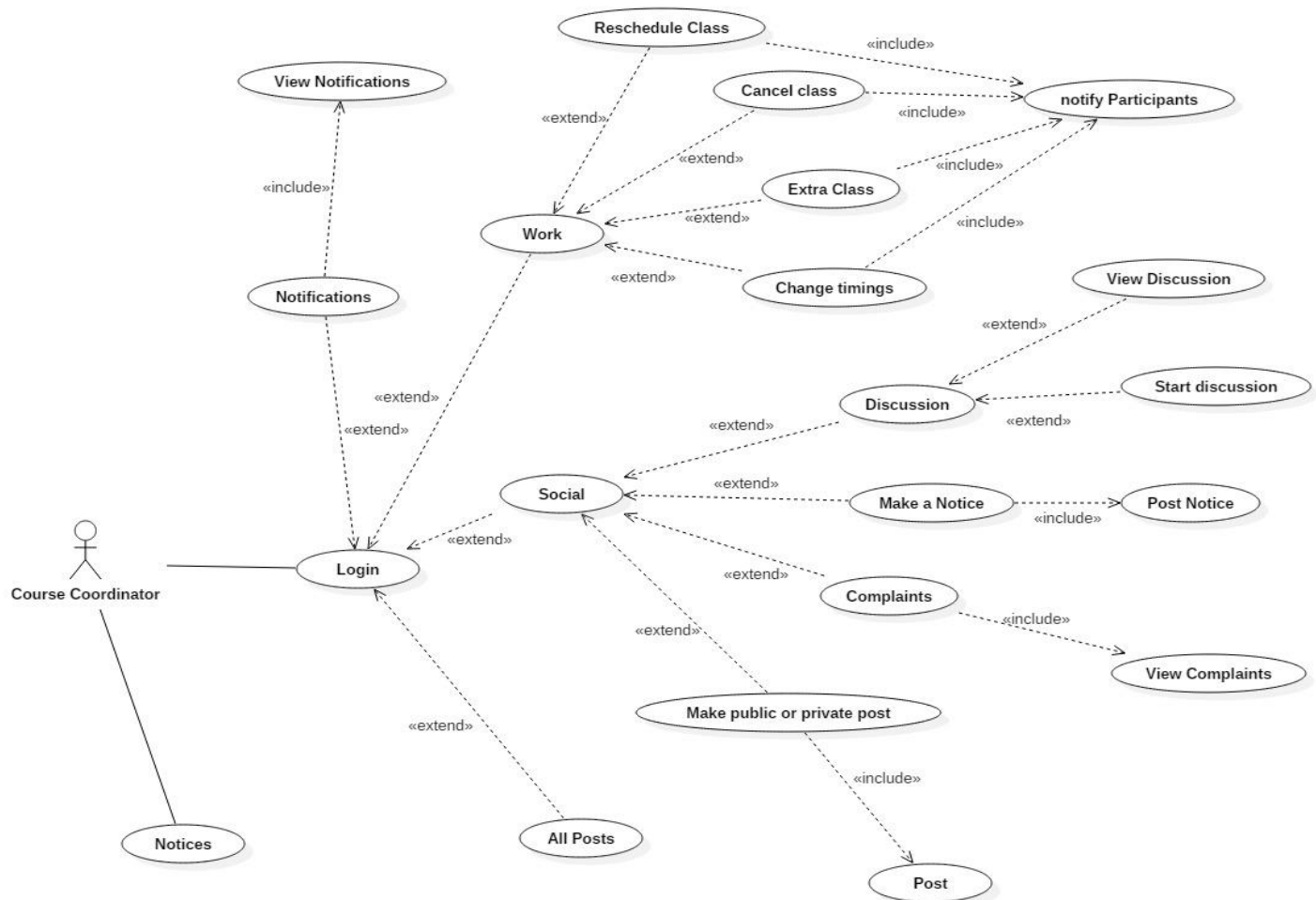


Figure 4: Use Case Course Coordinator

4.1.4. Committee Member and Event Manager

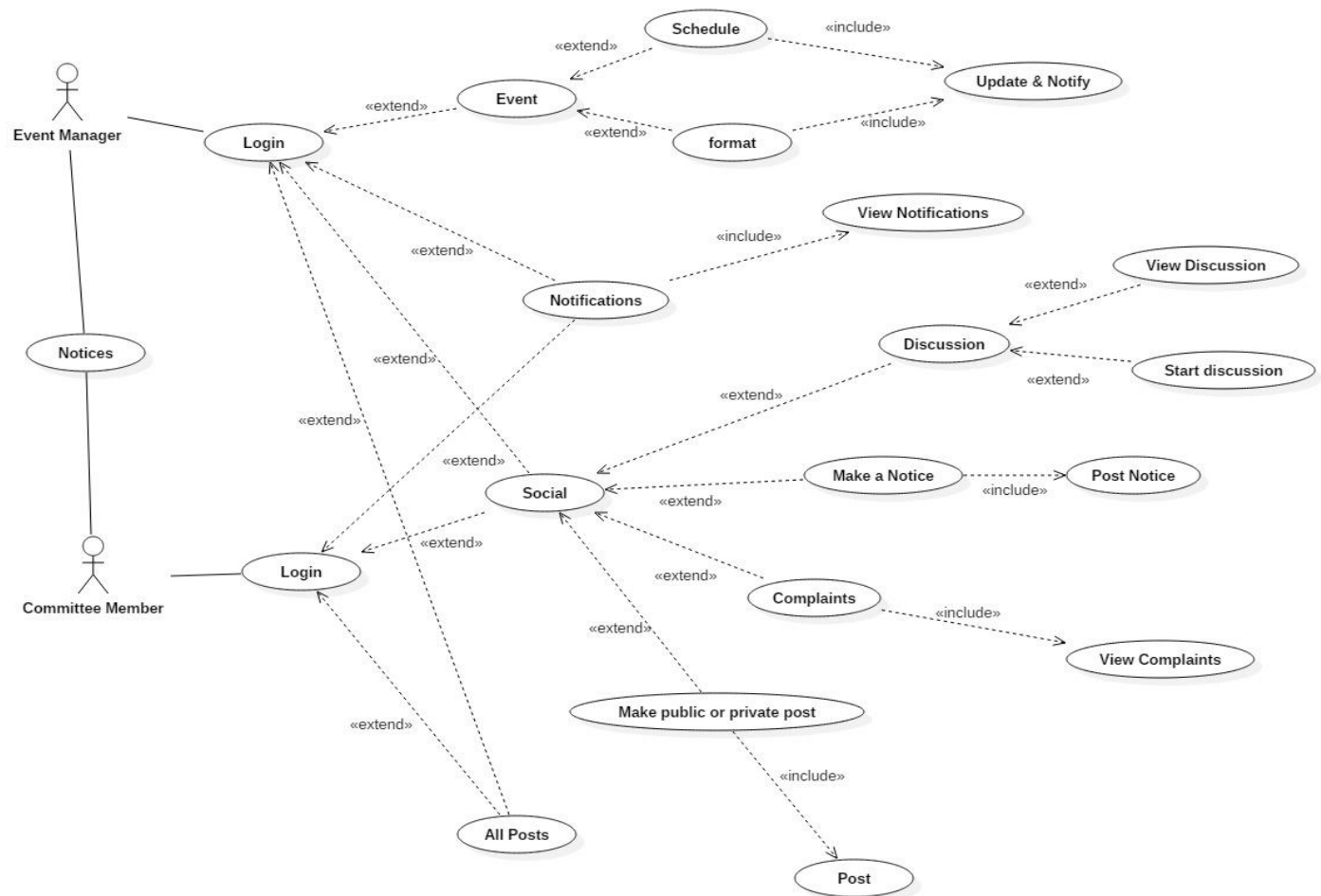


Figure 5: User Case Committee Member and Event Manager

4.1.5. Pool Manager

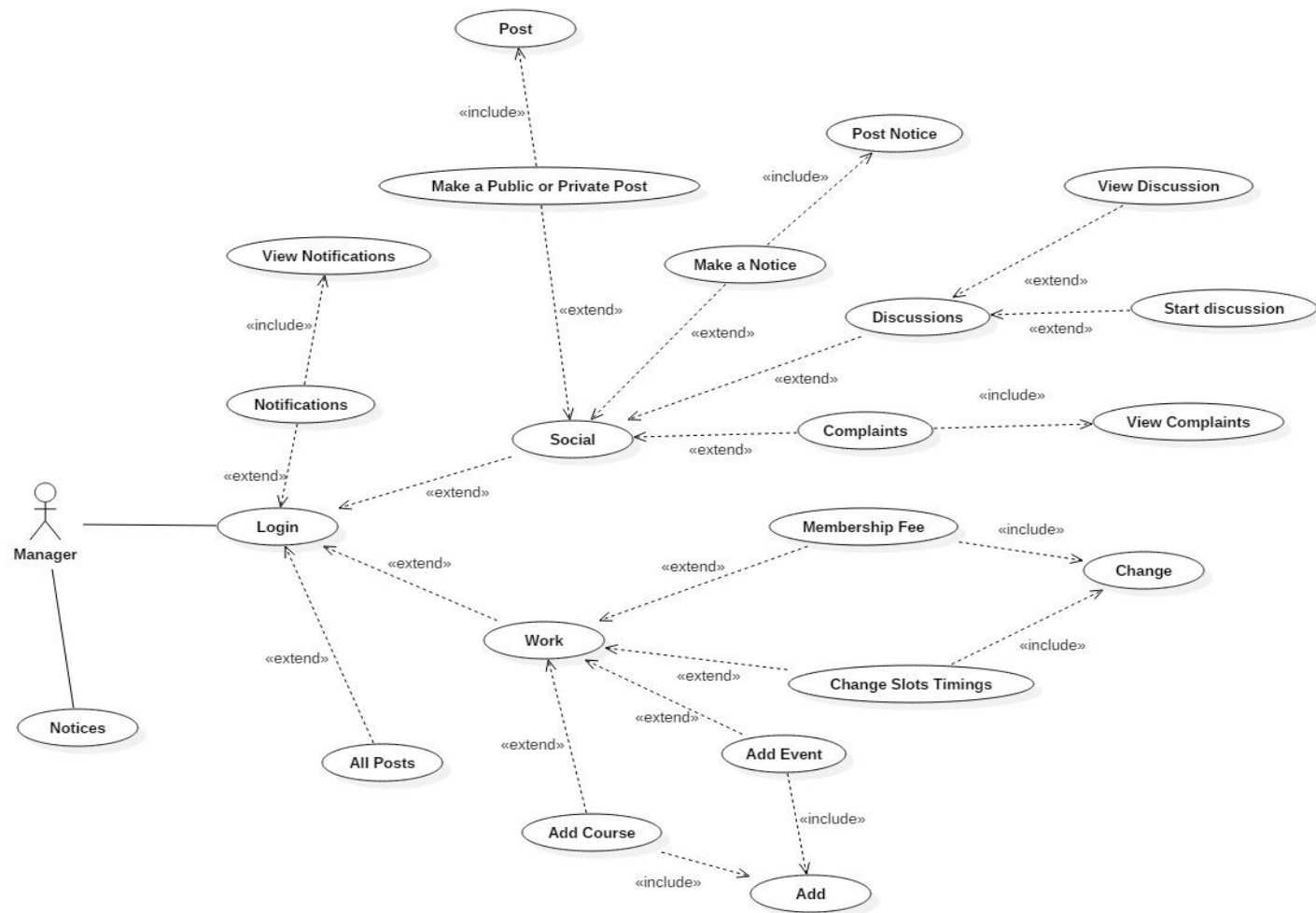


Figure 6: Use Case diagram Manager

4.2. Specific Requirements

4.2.1. User Class Non-Member

- Apply for membership:
 - Input:

A person desiring to be a member of the pool will apply for membership providing details like name, date of birth, address, phone number, photo, medical certificate etc.,..
 - Output:

The applicant gets his computer generated member id and is notified about his fees.
 - Process:

The manager verifies the details provided by him and approves/disapproves his application. If it is approved, then the applicant becomes a member and gets his member id. The SPMS database adds the member id to the member list of the swimming pool.
- Enroll in Course:
 - Input:

A person desiring to enroll in any swimming course will open the SPSM Application to see the list of courses and may apply for enrollment in a course providing details like name, date of birth, address, phone number, photo, medical certificate.
 - Output:

The applicant gets his computer generated course enrollment id.
 - Process:

The manager verifies the details provided by him and approves/disapproves his application. If it is approved, then the applicant is enrolled and course enrollment id. The SPMS database adds the enrollment id to the enrollment list of the course applied for.
- Participate in Competition:
 - Input:

A person desiring to take part in any swimming competition will open the SPSM Application to see the list of competition and may apply for a competition providing details like name, date of birth, address, phone number, photo, medical certificate. He can provide his course id if he has taken part in any course.
 - Output:

The applicant is notified about the participation fees and gets his computer generated participation id. If the applicant has a course enrollment id, then he/she does not need to pay participation fees.
 - Process:

The manager verifies the details provided by him and approves/disapproves his application. If it is approved, then the applicant is enrolled and participation id. The SPMS database adds the participation id to the participation list of the participation applied for.

- Spectate Competition:
 - Input:

A person desiring to spectate any competition opens the SPMS Application and buys tickets providing the number of tickets to be bought.
 - Output:

The person is given tickets of unique id on payment of required ticket prices.
 - Process:

Number of available tickets are checked via a computerized procedure and are given to the buyer if tickets are available and tickets prices are paid.

4.2.2. User Class Member

- Book Pool for Party:
 - Input:

A member desiring to book the pool for party or any other event must visit the SPMS Application and enter the date and time duration for the party.
 - Output:

If the booking is successful, then that date and time will be reserved in pool calendar with the applicant's member id and no classes can be held on that date during that time. The applicant gets a unique booking id.
 - Process:

Computerized checking is made if the booking can be granted to the applying member and if it is granted then a booking is made with that member id and the pool calendar is modified and all other pool activities on that day are cancelled and all stake holders are notified via email.
- Cancel a Booking:
 - Input:

A member desiring to cancel a booking must go to the SPMS Application and enter his unique booking id.
 - Output:

The booking is cancelled and the pool calendar is modified as required.
 - Process:

The calendarium again removes the booking from the pool calendar and redeems the previously cancelled events due to the booking and all stake holders are notified via email.
- Enroll in Course:
 - Input:

A member desiring to enroll in any swimming course will open the SPSM Application to see the list of courses and may apply for enrollment in a course providing his/her member id.
 - Output:

The applicant gets his computer generated course enrollment id.
 - Process:

The manager views his history from the database and approves/disapproves his/her application. If it is approved, then the member is enrolled and course enrollment id. The SPMS database adds the member id to the enrollment list of the course applied for.

- Participate in Competition:
 - Input:

A member desiring to take part in any swimming competition will open the SPSM Application to see the list of competition and may apply for a competition providing his member id.
 - Output:

If his/her application is approved, then he/she gets a unique participation id.
 - Process:

The manager verifies the details provided by him and approves/disapproves his application. If it is approved, then the SPMS database adds member id to the participation list of the competition applied for and generates a unique participation id.
- Book Pool Slots:
 - Input:

A member desiring to book a pool slot must go to the SPSM Application and view the pool calendar and give suitable slots accordingly.
 - Output:

If his/her request is approved, then he/she gets access to that particular slot or else request is made to choose available slots.
 - Process:

The Calendarium checks whether the required slot is full or not and thus approves/disapproves of the request accordingly. Also a member can have a maximum of 5 hours allotted to him/her per week. If it is approved, then the Calendarium updates the SPMS database and the relevant slot information accordingly.
- Pay Membership fee:
 - Input:

A member desiring to pay the pool fees must login to the SPMS Application and then upload the transaction receipt for verification.
 - Output:

If verification is success the membership status will be updated else reason for will be notified.
 - Process:

The SPMS database is updated accordingly.
- Cancel Membership:
 - Input:

A member desiring to cancel his/her membership must login to the SPSM Application and click on the cancel membership option after entering his/her member id and attach a document stating his/her reason for cancellation of membership.
 - Output:

The member id is made invalid, thus cancelling his/her membership.
 - Process:

The SPMS database is updated accordingly, removing his/her member id from the database and any swimming course/ pool slot/ pool event he/she had registered for. The manager is notified about the reason of cancellation.

- **Post in Portal:**
 - **Input:**

A member can enter the SPMS portal with his/her member id and go to the suggestion page and post complaints, suggestions or discussions regarding the pool. He can make the post public or private.
 - **Output:**

A post is made with his name on the SPMS portal.
 - **Process:**

A public post can be viewed by anyone whereas a private post can be viewed by only pool committee members and course coordinators.
- **View Posts in Portal:**
 - **Input:**

A member can enter the SPMS portal with his/her member id and view public posts in portal and give comments in reply to a post which again can be made public or private.
 - **Output:**

A post is made with his name on the SPMS portal, if he/she makes a comment.
 - **Process:**

A public post can be viewed by anyone whereas a private post can be viewed by only pool committee members and course coordinators.

4.2.3. User Class Committee Member

- **Propose addition of Pool slot**
 - **Input:**

A Pool Committee member can enter the SPMS portal with his/her unique id and start a private discussion to add a slot to be added with its timings and details like whether it is meant for all members or only ladies or children etc...
 - **Output:**

When the committee members agree a new slot id is generated and appears on the pool calendar and all members are notified about the new slot and its details as well.
 - **Process:**

The Manager checks if the slot timings are pre-occupied or not and if available, then he adds the slot to the pool calendar. The SPMS database generates a new slot id and is updated accordingly.
- **Propose removal Pool slot**
 - **Input:**

A Pool Committee member can enter the SPMS portal with his/her unique id and start a private discussion for the slot to be removed.
 - **Output:**

When the committee agrees the Pool calendar is modified and all members registered for that slot are notified.
 - **Process:**

The Manager frees the pool calendar from the slot reservation. The SPMS database deletes the slot and retrieves information about the members registered to notify them about slot cancellation via email.

- Propose reschedule Pool slot:
 - Input:

A Pool Committee member can enter the SPMS portal with his/her unique id and start a private discussion for the slot id to be rescheduled with its new timings and details like whether it is meant for all members or only ladies or children etc...
 - Output:

When the committee agrees the Pool calendar is modified and all members registered for that slot are notified.
 - Process:

The Manager checks if the new slot timings are pre-occupied or not and if available, then it modifies the pool calendar. The SPMS database is updated accordingly.

- Propose Swimming Course:
 - Input:

A Pool Committee member can enter the SPMS portal with his/her unique id and start a private discussion for the course to be added with its timings and course coordinator id.
 - Output:

On the agreement of the committee a new course id is generated and appears on the pool calendar and all members are notified about the new slot and its details as well.
 - Process:

The Manager checks if the course timings are pre-occupied or not and if available, then it modifies the pool calendar. The SPMS database generates a new course id and is updated accordingly.

- Propose removal Swimming Course:
 - Input:

A Pool Committee member can enter the SPMS portal with his/her unique id and start a private discussion for the course id to be removed.
 - Output:

On the agreement of the committee the Pool calendar is modified and all members registered for that slot are notified.
 - Process:

The Manager frees the pool calendar from the course reservation. The SPMS database deletes the course and retrieves information about the persons registered to notify them about slot cancellation via email.

- Propose rescheduling Swimming Course:
 - Input:

A Pool Committee member can enter the SPMS portal with his/her unique id and start a private discussion for the slot id to be rescheduled with its new timings.
 - Output:

When the committee agrees, the Pool calendar is modified and all members registered for that slot are notified.
 - Process:

The Manager checks if the new course timings are pre-occupied or not and if available, then it modifies the pool calendar. The SPMS database is updated accordingly.

- Propose Swimming Competitions:
 - Input:

A Pool Committee member can enter the SPMS portal with his/her unique id and start a private discussion for the competition to be added with its timings and details.
 - Output:

On the committee agreement a new competition id is generated and appears on the pool calendar and pool Application and all members are notified about the new competition and its details as well.
 - Process:

The Manager checks if the competition timings are pre-occupied or not and if available, then it modifies the pool calendar. The SPMS database generates a new competition id and is updated accordingly.
- Put Notice in Portal:
 - Input:

A member can enter the SPMS portal with his/her Pool Committee member id put notice regarding pool matters.
 - Output:

A notice is put upon the SPMS Application.
 - Process:

The notice is made visible to everyone visiting the Application.
- View Posts in Portal:
 - Input:

A member can enter the SPMS portal with his/her Pool Committee member id and view public/private posts in portal.
 - Output:

He/she can view the post.
 - Process:

The post can be read.

4.2.4. User Class Manager

- Add Pool slot:
 - Input:

A Pool Manager can enter the SPMS portal with his/her unique id and enter the slot to be added with its timings and details like whether it is meant for all members or only ladies or children etc...
 - Output:

A new slot id is generated and appears on the pool calendar and all members are notified about the new slot and its details as well.
 - Process:

The Calendarium checks if the slot timings are pre-occupied or not and if available, then it modifies the pool calendar. The SPMS database generates a new slot id and is updated accordingly.

- Remove Pool slot:
 - Input:

A Pool Manager can enter the SPMS portal with his/her unique id and enter the slot id to be removed.
 - Output:

The Pool calendar is modified and all members registered for that slot are notified.
 - Process:

The Calendarium frees the pool calendar from the slot reservation. The SPMS database deletes the slot and retrieves information about the members registered to notify them about slot cancellation via email.

- Reschedule Pool slot:
 - Input:

A Pool Manager can enter the SPMS portal with his/her unique id and enter the slot id to be rescheduled with its new timings and details like whether it is meant for all members or only ladies or children etc...
 - Output:

The Pool calendar is modified and all members registered for that slot are notified.
 - Process:

The Calendarium checks if the new slot timings are pre-occupied or not and if available, then it modifies the pool calendar. The SPMS database is updated accordingly.

- Add Swimming Course:
 - Input:

A Pool Manager can enter the SPMS portal with his/her unique id and enter the course to be added with its timings and course coordinator id.
 - Output:

A new course id is generated and appears on the pool calendar and all members are notified about the new slot and its details as well.
 - Process:

The Calendarium checks if the course timings are pre-occupied or not and if available, then it modifies the pool calendar. The SPMS database generates a new course id and is updated accordingly.

- Remove Swimming Course:
 - Input:

A Pool Manager can enter the SPMS portal with his/her unique id and enter the course id to be removed.
 - Output:

The Pool calendar is modified and all members registered for that slot are notified.
 - Process:

The Calendarium frees the pool calendar from the course reservation. The SPMS database deletes the course and retrieves information about the persons registered to notify them about slot cancellation via email.

- Reschedule Swimming Course:
 - Input:

A Pool Manager can enter the SPMS portal with his/her unique id and enter the slot id to be rescheduled with its new timings.
 - Output:

The Pool calendar is modified and all members registered for that slot are notified.
 - Process:

The Calendarium checks if the new course timings are pre-occupied or not and if available, then it modifies the pool calendar. The SPMS database is updated accordingly.
- Arrange for Swimming Competitions:
 - Input:

A Pool Manager can enter the SPMS portal with his/her unique id and enter the competition to be added with its timings and details.
 - Output:

A new competition id is generated and appears on the pool calendar and pool Application and all members are notified about the new competition and its details as well.
 - Process:

The Calendarium checks if the competition timings are pre-occupied or not and if available, then it modifies the pool calendar. The SPMS database generates a new competition id and is updated accordingly.
- Put Notice in Portal:
 - Input:

Manager can enter the SPMS portal with his/her Pool Committee member id put notice regarding pool matters.
 - Output:

A notice is put upon the SPMS Application.
 - Process:

The notice is made visible to everyone visiting the Application.
- View Posts in Portal:
 - Input:

Manager can enter the SPMS portal with his/her Pool Committee member id and view public/private posts in portal.
 - Output:

He/she can view the post.
 - Process:

The post can be read.
- Modify Membership form:
 - Input:

The Manager will enter the SPMS Application with his unique id and go to the change membership form option, and make the required changes.
 - Output:

The membership form is modified.
 - Process:

The membership form is changed.

- Approve Membership:
 - Input:

The Manager will enter the SPMS Application with his unique id and view the documents of a person who has applied for membership like medical certificate and approve/disapprove.
 - Output:

If the manger approves the applicant gets a unique member id.
 - Process:

On approval, the manager informs the SPMS database that generates a unique member id and adds it to the database with the details of its applicant. The membership id is sent to the applicant via email.

4.2.5. User class Course Coordinator

- Propose addition of Pool slot
 - Input:

A Pool Committee member can enter the SPMS portal with his/her unique id and start a private discussion to add a slot to be added with its timings and details like whether it is meant for all members or only ladies or children etc...
 - Output:

When the committee members agree a new slot id is generated and appears on the pool calendar and all members are notified about the new slot and its details as well.
 - Process:

The Manager checks if the slot timings are pre-occupied or not and if available, then he adds the slot to the pool calendar. The SPMS database generates a new slot id and is updated accordingly.
- Propose removal Pool slot
 - Input:

A Pool Committee member can enter the SPMS portal with his/her unique id and start a private discussion for the slot to be removed.
 - Output:

When the committee agrees the Pool calendar is modified and all members registered for that slot are notified.
 - Process:

The Manager frees the pool calendar from the slot reservation. The SPMS database deletes the slot and retrieves information about the members registered to notify them about slot cancellation via email.

- Propose reschedule Pool slot:
 - Input:

A Pool Committee member can enter the SPMS portal with his/her unique id and start a private discussion for the slot id to be rescheduled with its new timings and details like whether it is meant for all members or only ladies or children etc...
 - Output:

When the committee agrees the Pool calendar is modified and all members registered for that slot are notified.
 - Process:

The Manager checks if the new slot timings are pre-occupied or not and if available, then it modifies the pool calendar. The SPMS database is updated accordingly.

- Propose Swimming Course:
 - Input:

A Pool Committee member can enter the SPMS portal with his/her unique id and start a private discussion for the course to be added with its timings and course coordinator id.
 - Output:

On the agreement of the committee a new course id is generated and appears on the pool calendar and all members are notified about the new slot and its details as well.
 - Process:

The Manager checks if the course timings are pre-occupied or not and if available, then it modifies the pool calendar. The SPMS database generates a new course id and is updated accordingly.

- Propose removal Swimming Course:
 - Input:

A Pool Committee member can enter the SPMS portal with his/her unique id and start a private discussion for the course id to be removed.
 - Output:

On the agreement of the committee the Pool calendar is modified and all members registered for that slot are notified.
 - Process:

The Manager frees the pool calendar from the course reservation. The SPMS database deletes the course and retrieves information about the persons registered to notify them about slot cancellation via email.

- Propose rescheduling Swimming Course:
 - Input:

A Pool Committee member can enter the SPMS portal with his/her unique id and start a private discussion for the slot id to be rescheduled with its new timings.
 - Output:

When the committee agrees, the Pool calendar is modified and all members registered for that slot are notified.
 - Process:

The Manager checks if the new course timings are pre-occupied or not and if available, then it modifies the pool calendar. The SPMS database is updated accordingly.

- Propose Swimming Competitions:
 - Input:

A Pool Committee member can enter the SPMS portal with his/her unique id and start a private discussion for the competition to be added with its timings and details.
 - Output:

On the committee agreement a new competition id is generated and appears on the pool calendar and pool Application and all members are notified about the new competition and its details as well.
 - Process:

The Manager checks if the competition timings are pre-occupied or not and if available, then it modifies the pool calendar. The SPMS database generates a new competition id and is updated accordingly.
- Put Notice in Portal:
 - Input:

A member can enter the SPMS portal with his/her Pool Committee member id put notice regarding pool matters.
 - Output:

A notice is put upon the SPMS Application.
 - Process:

The notice is made visible to everyone visiting the Application.
- View Posts in Portal:
 - Input:

A member can enter the SPMS portal with his/her Pool Committee member id and view public/private posts in portal.
 - Output:

He/she can view the post.
 - Process:

The post can be read.
- Select Class timings:
 - Input:

The course coordinator can enter the SPMS portal with his/her unique id and enter the course timings.
 - Output:

The course timings appear on the pool calendar and all members are notified about the new slot and its details as well.
 - Process:

The Calendarium checks if the course timings are pre-occupied or not and if available, then it modifies the pool calendar. The SPMS database is updated accordingly.

- **Cancel Classes:**
 - **Input:**

The course coordinator can enter the SPMS portal with his/her unique id and enter the course id and class timings to be cancelled. Be removed.
 - **Output:**

The Pool calendar is modified and all persons registered for that course are notified via email.
 - **Process:**

The Calendarium frees the pool calendar from the course reservation. The SPMS database deletes the class timings and retrieves information about the person registered to notify them about class cancellation via email.
- **Reschedule Classes:**
 - **Input:**

The course coordinator can enter the SPMS portal with his/her unique id and enter the course id to be rescheduled with its new timings.
 - **Output:**

The Pool calendar is modified and all persons registered for that course are notified.
 - **Process:**

The Calendarium checks if the new course timings are pre-occupied or not and if available, then it modifies the pool calendar. The SPMS database is updated accordingly.
- **Take Extra Classes:**
 - **Input:**

The course coordinator can enter the SPMS portal with his/her unique id and enter the course id and the extra class timings.
 - **Output:**

The Pool calendar is modified and all persons registered for that course are notified via email.
 - **Process:**

The Calendarium checks if the extra class timings are pre-occupied or not and if available, then it modifies the pool calendar. The SPMS database is updated accordingly.

4.2.6. User class Event Manager

- **Propose addition of Pool slot:**
 - **Input:**

An Event Manager can enter the SPMS portal with his/her unique id and start a private discussion to add a slot to be added with its timings and details like whether it is meant for all members or only ladies or children etc...
 - **Output:**

When the committee members agree a new slot id is generated and appears on the pool calendar and all members are notified about the new slot and its details as well.
 - **Process:**

The Manager checks if the slot timings are pre-occupied or not and if available, then he adds the slot to the pool calendar. The SPMS database generates a new slot id and is updated accordingly.

- Propose removal Pool slot
 - Input:

An Event Manager can enter the SPMS portal with his/her unique id and start a private discussion for the slot to be removed.
 - Output:

When the committee agrees the Pool calendar is modified and all members registered for that slot are notified.
 - Process:

The Manager frees the pool calendar from the slot reservation. The SPMS database deletes the slot and retrieves information about the members registered to notify them about slot cancellation via email.

- Propose reschedule Pool slot:
 - Input:

An Event Manager can enter the SPMS portal with his/her unique id and start a private discussion for the slot id to be rescheduled with its new timings and details like whether it is meant for all members or only ladies or children etc...
 - Output:

When the committee agrees the Pool calendar is modified and all members registered for that slot are notified.
 - Process:

The Manager checks if the new slot timings are pre-occupied or not and if available, then it modifies the pool calendar. The SPMS database is updated accordingly.

- Propose Swimming Course:
 - Input:

An Event Manager can enter the SPMS portal with his/her unique id and start a private discussion for the course to be added with its timings and course coordinator id.
 - Output:

On the agreement of the committee a new course id is generated and appears on the pool calendar and all members are notified about the new slot and its details as well.
 - Process:

The Manager checks if the course timings are pre-occupied or not and if available, then it modifies the pool calendar. The SPMS database generates a new course id and is updated accordingly.

- Propose removal Swimming Course:
 - Input:

An Event Manager can enter the SPMS portal with his/her unique id and start a private discussion for the course id to be removed.
 - Output:

On the agreement of the committee the Pool calendar is modified and all members registered for that slot are notified.
 - Process:

The Manager frees the pool calendar from the course reservation. The SPMS database deletes the course and retrieves information about the persons registered to notify them about slot cancellation via email.

- Propose rescheduling Swimming Course:
 - Input:

An Event Manager can enter the SPMS portal with his/her unique id and start a private discussion for the slot id to be rescheduled with its new timings.
 - Output:

When the committee agrees, the Pool calendar is modified and all members registered for that slot are notified.
 - Process:

The Manager checks if the new course timings are pre-occupied or not and if available, then it modifies the pool calendar. The SPMS database is updated accordingly.
- Propose Swimming Competitions:
 - Input:

An Event Manager can enter the SPMS portal with his/her unique id and start a private discussion for the competition to be added with its timings and details.
 - Output:

On the committee agreement a new competition id is generated and appears on the pool calendar and pool Application and all members are notified about the new competition and its details as well.
 - Process:

The Manager checks if the competition timings are pre-occupied or not and if available, then it modifies the pool calendar. The SPMS database generates a new competition id and is updated accordingly.
- Put Notice in Portal:
 - Input:

An Event Manager can enter the SPMS portal with his/her Pool Committee member id put notice regarding pool matters.
 - Output:

A notice is put upon the SPMS Application.
 - Process:

The notice is made visible to everyone visiting the Application.
- View Posts in Portal:
 - Input:

An Event Manager can enter the SPMS portal with his/her Pool Committee member id and view public/private posts in portal.
 - Output:

He/she can view the post.
 - Process:

The post can be read.
- Format of event:
 - Input:

An Event Manager can enter the SPMS portal with his/her Pool Committee member id and set the format of the Event he is in charge of.
 - Output:

Event format is set and everyone enrolled is notified.
 - Process:

Format of the event is set in database.

5. Other Nonfunctional Requirements

5.1. Performance requirements

Any System with ability to normal process requests to database and perform computations is required for better performance. And coming MySQL server, for the performance of the software to be good, the server must be able to process a good number (nearly 100) of requests at a time.

5.2. Safety requirements

Software safety is established with error detection, like Software logic error and Support errors, and hardware errors are reported.

5.3. Security requirements

For the data to be secure, the database server must be set with password enabled users and Manager must be careful of his access. Security requirements include the server side security i.e., the server must not be publicly available and it must require authentication, for the data to be private.

5.4. Software quality attributes

The software is able to detect the internal errors in the software, and the software is OS independent. And the client/server interaction happens when there is a working internet connection without firewall.