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# **Software Requirements Specification**

**for**

**“CanvasHub”**

**Version 1.0 approved**

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**SSP-Proiect-IS**

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## Revision History

Name	Date	Reason For Changes	Version

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# 1. Introduction

## 1.1 Purpose

The purpose of this document is to define the system requirements for a Web page that manages the activities of an art club for enthusiasts. This will show the purpose and features of the system, the interfaces of the system, what the system will do, the constraints under which it must operate and how the system will react with the users.

## 1.2 Product Scope

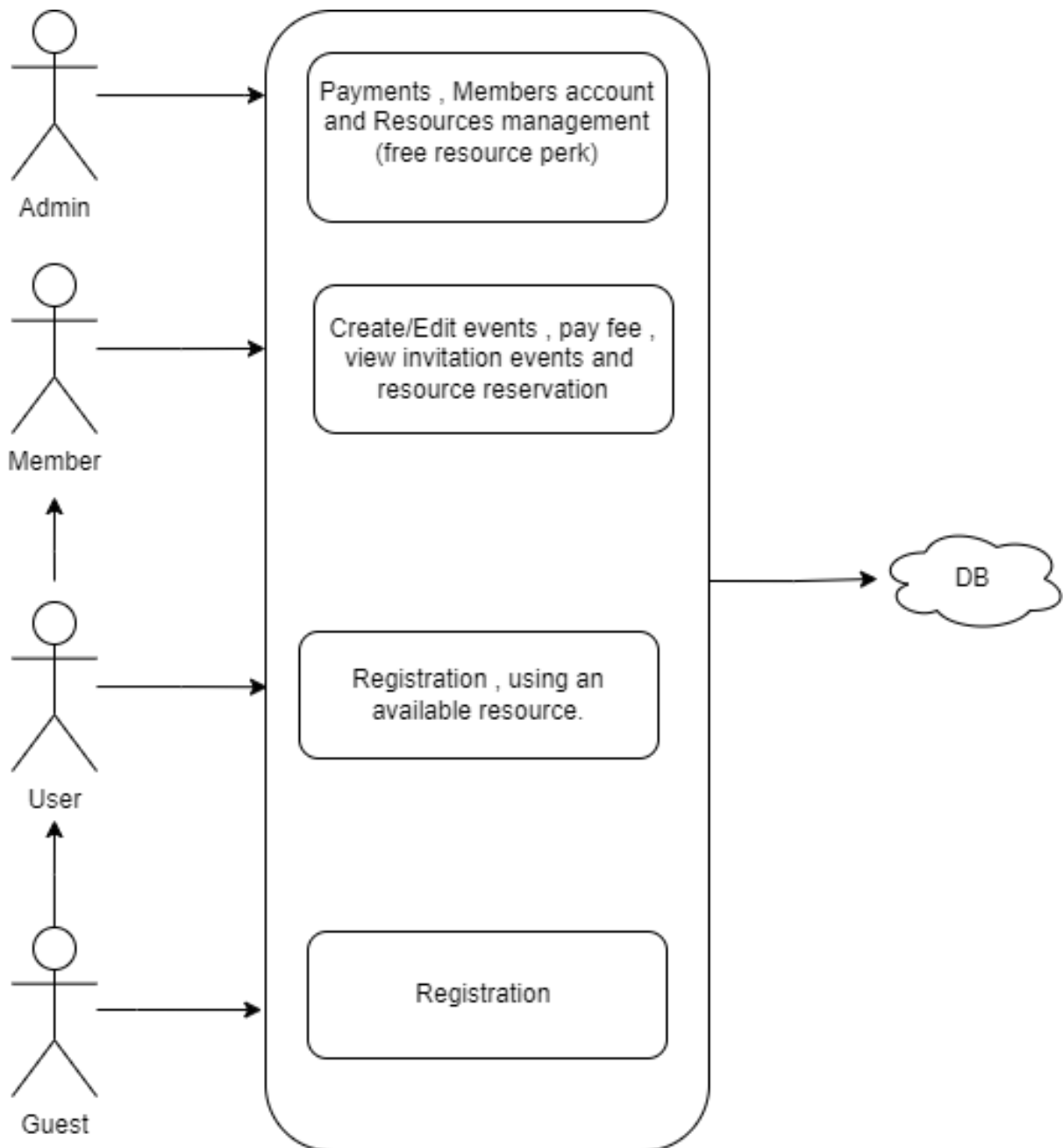
This software system will be a web application for a local art club. This system will be designed to ease the administrators' management activities and also help the club's members to easily set up conferences & art exhibitions. This system is designed to allow an administrator to add new places where the club's members can perform meetings and exhibitions, manage the users' payments and accounts. The system also contains a relational database containing a list of conference rooms, art galleries and user data.

## 1.3 References

*<List any other documents or Web addresses to which this SRS refers. These may include user interface style guides, contracts, standards, system requirements specifications, use case documents, or a vision and scope document. Provide enough information so that the reader could access a copy of each reference, including title, author, version number, date, and source or location.>*

## 2. Overall Description

### 2.1 Product Perspective



## **2.2 Product Functions**

- ✦ Login
- ✦ Registration
- ✦ Logout
- ✦ Admin manages members accounts
- ✦ Admin manages payments
- ✦ Admin manages resources
- ✦ Users setting up/edit events
- ✦ Inbox page
- ✦ Reports page

## **2.3 User Classes and Characteristics**

The application consists of four groups of users, the first being represented by administrators, the second by members of the art club, the third by users and the fourth by guests/visitors.

Administrators are assigned the functions of processing each member's data, as well as managing contributions and generating reports.

Art club members and users have the functions to organize events, send invitations to other users, but also have the ability to view received invitations for certain events. The only difference between the two categories is that the members pay a monthly subscription and the users pay for every resource for their event.

The guests can register for become users.

## **2.4 Operating Environment**

The "CanvasHub" project will require each user to have access to a web browser on their workstation computer such as Chrome, Microsoft Edge and so on, and to access the art club website a operating system such as Windows or macOS is necessary.

- The application can be run on a wide range of hardware platforms, including personal computers, laptops, tablets and mobile devices.
- Recommended minimum hardware specifications include a minimum of X GHz processor, X GB of RAM, and X MB of available disk space.
- The software can run on various operating systems, including Windows, macOS.
- For Windows, supported versions include Windows 7 and later.
- For macOS, supported versions include macOS 10.13 and later.
- The app requires an internet connection to access online services and update data.
- Application performance may be affected by the speed and stability of your Internet connection.
- For optimal operation, it is recommended to regularly update the operating system and other software components used by the application.

## 2.5 Design and Implementation Constraints

Creating an efficient, responsive and easy-to-navigate interface is quite difficult, as many constraints such as slow Internet browsers, security considerations, hardware limitations must be taken into account. "CanvasHub" is desired to be fast, responsive and easy to use, so features must be designed and implemented as efficiently as possible. For the user to understand and navigate the site easily, the frontend will be made with HTML, CSS and JavaScript.

Developers must comply with data protection regulations and corporate policies on privacy and information security.

The application must run efficiently on hardware platforms with minimum specifications.

## 2.6 User Documentation

N/A

## 2.7 Assumptions and Dependencies

In the development of the "CanvasHub" platform, accessibility and functionality are optimal on an operating system such as a computer whose browsing browsers are somewhat up-to-date. (Chrome, Opera, Microsoft Edge). If the browser is an older one and the internet is slow, then the system will not behave as it should.

Changes in legal regulations or customer organization policies, such as new security or data protection requirements, may require adjustments or updates to club requirements and functionality.

# 3. External Interface Requirements

## 3.1 User Interfaces

The layout should be as follows:

The header which displays:

- the logo
- the currently logged user
- the "Logout" and "Manage Account" menu
- a navigation bar with the title of the pages
- Inbox
- The body, which displays:
  - Managing resources(admin):
    - Search bar for resource
    - List for all resources:
      - Delete resource option
    - Add resource button
  - Managing members(admin):
    - Search bar for username
    - List for all users:
      - User profile picture and username
      - User description

- Menu dropdown for modifying current role/state
- Event page:
  - Create event menu:
    - Create event form
    - Create event button
  - Your events list:
    - Edit event menu:
      - Edit event form
      - Modify event
  - All events list:
    - Event name
    - Event description
    - Event creator
- Define payment(admin):
  - Box with current subscription
  - Edit button/Submit button
  - “Reason for modification” text box (only after edit button is pressed)
  - Budget
  - Go to Payment Reports
- Reports(admin):
  - Interactive report box for each type:
    - Generate report button
    - Report description
    - Type of report
- Inbox:
  - List of messages
  - If the messages are in bold, they are unread
- The footer, which displays
  - Contact
  - Copyright

## 3.2 Hardware Interfaces

N/A

## 3.3 Software Interfaces

*<Describe the connections between this product and other specific software components (name and version), including databases, operating systems, tools, libraries, and integrated commercial components. Identify the data items or messages coming into the system and going out and describe the purpose of each. Describe the services needed and the nature of communications. Refer to documents that describe detailed application programming interface protocols. Identify data that will be shared across software components. If the data sharing mechanism must be implemented in a specific way (for example, use of a global data area in a multitasking operating system), specify this as an implementation constraint.>*

## 3.4 Communications Interfaces

HTTP will be the communication protocol that “CanvasHub” will use.



## **4. System Features**

### **4.1 Account Login**

#### **4.1.1 Description and Priority**

The “Login” page has high priority because it helps users access their accounts.

#### **4.1.2 Stimulus:**

- ☞ Enter Username
- ☞ Enter Password
- ☞ Check the “Remember me” option (optional)
- ☞ Click “Login” button

#### **4.1.3 Functional Requirements**

- ✦ The system shall allow a registered user to log-in to their account.
- ✦ The system shall require a username and password from the user.
- ✦ The system will verify the username and password, and the user will be considered “logged-in”.
- ✦ The system will allow the user to remain logged in through the "Remember me " option.
- ✦ The system will allow the unregistered person to create an account through the "Register" option.
- ✦ The system will allow the user to change the password through the "Forgot Password" option.

### **4.2 Account Registration**

#### **4.2.1 Description and Priority**

The “Sign-up” page has high priority because it helps users create their accounts.

#### **4.2.2 Stimulus:**

- ☞ Enter First Name
- ☞ Enter Last Name
- ☞ Enter Username
- ☞ Enter Email
- ☞ Enter Password
- ☞ Enter Confirm Password
- ☞ Click “ Submit ” button

### 4.2.3 Functional Requirements

- ✦ The system shall allow a non-registered user to create a secure account.
- ✦ The system shall require the following information from the user:
  1. First Name (max 30 chars)
  2. Last Name (max 20 chars)
  3. Username (max 30 chars)
  4. Email (has to be a valid mail, <user>@<domain>)
  5. Password
  6. Confirm Password
- ✦ The system will send a confirmation e-mail.

All fields are mandatory and are to be written in the text boxes offered by the registration interface.

## 4.3 Account Logout

### 4.3.1 Description and Priority

The “Logout” page has medium priority because it helps users to logout from their accounts.

### 4.3.2 Stimulus:

- ☞ Click “Logout” option.

### 4.3.3 Functional Requirements

- ✦ The system shall allow a registered user to logout from their account.
- ✦ The system shall require a user to be logged-in for the button to appear and work.

## 4.4 Admin add members/admins

### 4.4.1 Description and Priority

Administrators have the power to promote a registered person from user to member. This feature has high priority.

### 4.4.2 Stimulus:

- ☞ Go to Users page
- ☞ Select a user
- ☞ Click “Make Member”/”Make Admin” button

### 4.4.3 Functional Requirements

- ✦ The system shall allow a logged-in admin to add new member accounts and new admin.
- ✦ The system shall allow only an admin to add another admin.
- ✦ The system will update an user role after the respective button is pressed.

- ✦ The system will sent an e-mail and inbox message to the user in question.

## 4.5 Admin edit members

### 4.5.1 Description and Priority

Administrators have the power to edit a member's account (username/privileges/account activity). This feature has medium priority.

### 4.5.2 Stimulus:

- ☞ Go to Members page
- ☞ Select a member
- ☞ Click "Edit Member Information" button

### 4.5.3 Functional Requirements:

- ✦ The system shall allow a logged-in admin to edit a registered member.
- ✦ The system shall display all the information regarding that member with the possibility of modifying data such as username, privileges, account activity(ban).
- ✦ After those modifications the system shall inform the respective member that his information/details have been modified.
- ✦ The system shall require the username of the account that is to be modified so the process can start.

## 4.6 Create event Page

### 4.6.1 Description and Priority

Any registered user can create an event by allocate resources. This feature has high priority.

### 4.6.2 Stimulus:

- ☞ Access "Create Event" page.
- ☞ Select resources.
- ☞ Write event description.
- ☞ Click "Create Event" button.

### 4.6.3 Functional Requirements:

- ✦ The system shall allow a logged-in user to create an event by selecting necessary resources.
- ✦ The system can determine the role of the logged-in person and charge them accordingly.
- ✦ The system shall allow a logged-in user to see the hole budget and spendings for the event in question.

- ✦ The system shall require the user to write a brief description about the event.
- ✦ The system shall require a name for the event.
- ✦ The system shall require the creator of the event to invite other users by writing their name in a search-bar and press the “Invite” button.

## 4.7 Admin define payment

### 4.7.1 Description and Priority

Administrators have the power to set the subscription’s amount for members. This feature has low priority.

### 4.7.2 Stimulus:

- ☞ Access “Payment” page.
- ☞ Enter the desired amount.
- ☞ Press “Set amount” button.

### 4.7.3 Functional Requirements:

- ✦ The system shall allow a logged-in admin to set the amount for the monthly subscription.
- ✦ The system shall allow a logged-in admin to modify the amount for the monthly subscription.
- ✦ The system shall require the admin to state the reason for changing the amount of the subscription.

## 4.8 Manage Resource Page

### 4.8.1 Description and Priority

Administrators have the power to add/remove any resource in the database. This feature has medium priority

### 4.8.2 Stimulus:

- ☞ Access “Manage Resource” page.
- ☞ Select resource.
  - Remove resource.
- ☞ Add resource.
  - Resource Name
  - Resource type
  - Resource ID

### 4.8.3 Functional Requirements:

- ✦ The system shall allow a logged-in admin to add/remove a resource.
- ✦ For adding a new resource the system shall require the name, type and ID it.

- ✦ The system shall require the admin to press the remove button from the drop-down menu of the desired resource.

## 4.9 System generate reports

### 4.9.1 Description and Priority

The “Reports” page can generate 3 types of reports available to administrators. This feature has medium priority.

### 4.9.2 Stimulus:

- ☞ Access “Reports” page
- ☞ Select the type of report
- ☞ Click “Generate report” button
- ☞ (Optional) Download report

### 4.9.3 Functional Requirements:

- ✦ The system shall allow a logged-in admin to generate a report.
- ✦ The admin will be able to select between four types of reports:
  - Payments report
  - Profit report
  - Resource availability report
  - Resource calendar report
- ✦ Each type of report will display the corresponding data:
  - The payments report will display the members and the total amount to pay per month.
  - The profit reports will display all the incomes and costs and also a total that has been earned during a month.
  - The resource calendar report will display the room/lights/chairs ID, its type and its entire schedule.
  - The resource availability report will display period of time (input) and the resources that are available.

## 4.10 User edit event

### 4.10.1 Description and Priority

Any registered user can modify an event created by them. This feature has low priority.

### 4.10.2 Stimulus:

- ☞ Access the event page created by the user
- ☞ Click “Edit event” button
- ☞ Modify the event
- ☞ Press “Done” button

### 4.10.3 Functional Requirements:

- ✦ The system shall allow the event creator to modify the content and reupload the new one.
- ✦ The system shall require a reason for changing the event using a textbox.

- ✦ The system will sent a notification to the invited users with the new modifications.

## 4.11 Inbox page

### 4.11.1 Description and Priority

All users are able to receive messages and notifications in inbox to help them stay up-to-date with the community. This feature has a high priority.

### 4.11.2 Stimulus:

- ☞ Press “Inbox” icon-button
- ☞ Verify your messages/notifications

### 4.11.3 Functional Requirements

- ✦ The system shall allow a logged-in user to access their inbox.
- ✦ The system will mark messages/notifications as read after selection
- ✦ The system will show next to the icon the number of messages/notifications marked as unread.
- ✦ The system will show the inbox button only to users who are logged-in.
- ✦ The system shall allow an user to accept or deny an invitation to an event from the inbox message

## 4.12 Event Page

### 4.12.1 Description and Priority

All users can see and interact with the events published. This feature has medium priority.

### 4.12.2 Stimulus:

- ☞ Access the Event Page from the navigation bar.

### 4.12.3 Functional Requirements

- ✦ The system shall allow the users to view all the events published on the site.
- ✦ The system shall allow users to join the event if there are any places left.
- ✦ The users can leave a review and rate their experience after the event is finished.
- ✦ The system will keep the finished events for one week.

## **5. Other Nonfunctional Requirements**

### **5.1 Performance Requirements**

Regarding the performance requirements of the "CanvasHub" website, they are highly dependent on the strength of the Internet connection as well as the user's hardware components. The site can have the best performance, but as long as the user does not have the minimum necessary resources, it will not perform according to what it is capable of doing.

The user authentication process (login) must take place in a maximum of 2 seconds.

The system must support at least 100 concurrent users without significant performance degradation.

Creating or editing events should have a response time of less than 3 seconds.

Processing resource reservations should not exceed 5 seconds.

Generating financial reports should not take more than 5 seconds.

The system must be available 99.9% of the time, except during scheduled maintenance periods.

### **5.2 Safety Requirements**

Security requirements for "CanvasHub" include ensuring the security and privacy of user data, preventing harmful activities, complying with data protection regulations and providing user safety guidelines.

The application must encrypt sensitive user data such as authentication information and payments.

User authentication must prevent unauthorized access to functionality or sensitive data.

The system should prevent unauthorized users from performing critical actions such as editing member data.

### **5.3 Security Requirements**

Security requirements for "CanvasHub" include data encryption, user authentication, activity monitoring, compliance with data protection regulations and performing periodic security audits.

- ★ Sensitive data must be protected against unauthorized access or interception by third parties.
  - Actions: Implement robust encryption algorithms and security protocols to ensure privacy of user data.
- ★ Users must be authenticated through a secure process.

- Actions: Implement a secure authentication system to validate user identity and prevent unauthorized access.
- ★ Systems must be secured against exploitation and unauthorized access.
  - Actions: Implement protection mechanisms, such as validation and filtering of input data, to prevent cyber attacks and ensure data integrity.
- 
- ★ Personal data must be collected, processed and stored in accordance with legal and ethical requirements.
  - Actions: Review and update privacy policies and procedures to comply with data protection regulations.

## 5.4 Software Quality Attributes

The application must be adaptable so that it can be easily modified or expanded to respond to changes in booking requirements or user feedback. We can verify this by the number of changes made and the time it takes to implement changes requested by users or development teams.

The application must produce correct results and perform according to user specifications and expectations, i.e. the percentage of errors reported by users must be less than X% in a given time period.

## 5.5 Business Rules

- Only authenticated users can access the app's features.
- Administrators have extended privileges to manage members, events, and resources.
- Regular users have limited access and can perform specific actions such as creating and editing events.
- Administrators have the right to add, edit and delete members from the database.
- Only logged in members can make dues payments.
- Only authenticated users can reserve resources for events.
- Resources can only be reserved if they are not already occupied during the specified period.
- Administrators have the privilege to generate reports on amounts due from members, monthly income and expenses, resource availability and booking calendar.
- Members can reserve resources for free, under certain specific conditions set out in the rules of use.
- Non-member users can reserve resources for a fixed fee.
- Administrators can reserve resources at any time, free of charge, if they are available.

## 6. Other Requirements

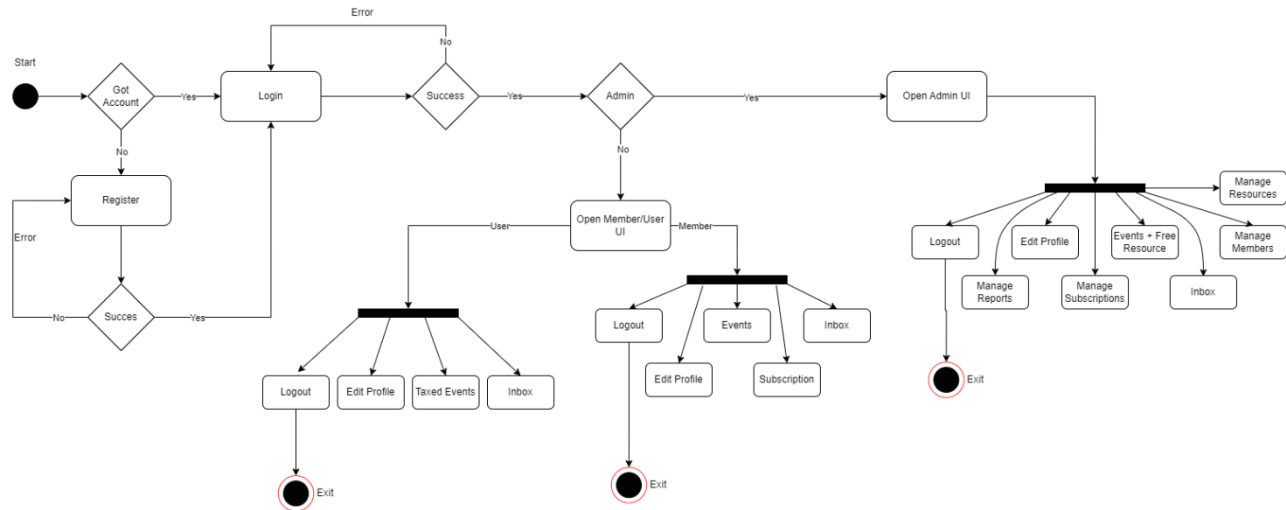
### Appendix A: Glossary

N/A

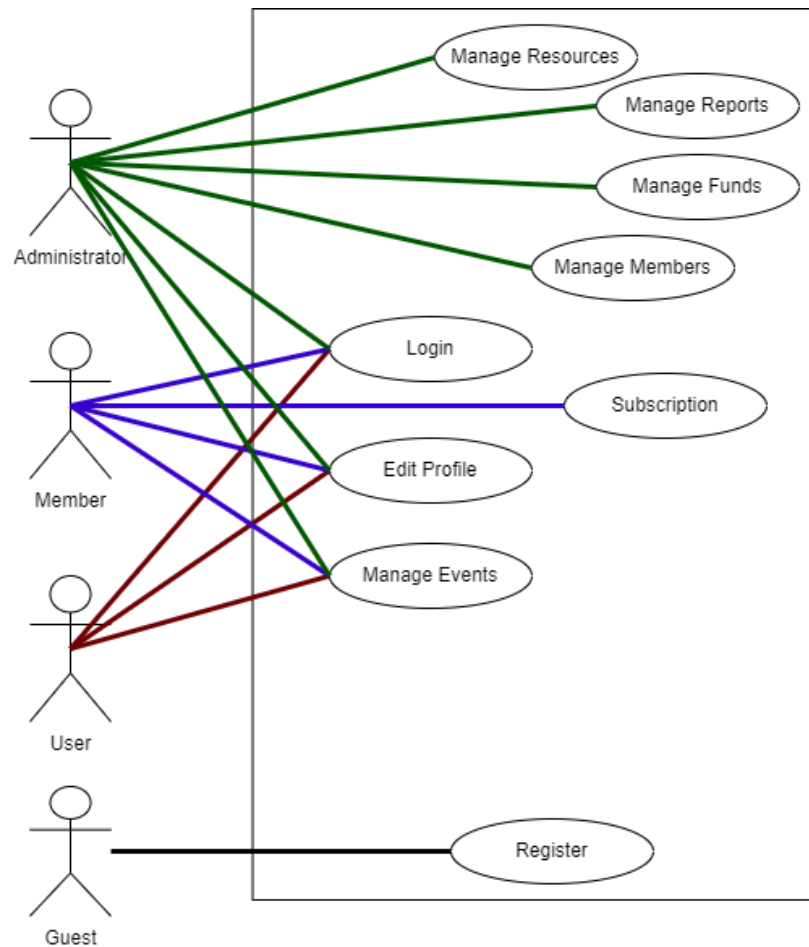


## Appendix B: Analysis Models

Data Flow Diagram:



Case Diagram:



## **Appendix C: To Be Determined List**

- **References**
- **Operating environment-details**
- **User Interfaces**
- **Software Interfaces**
- **Software Quality Attributes**