Software Requirements Specification for

Knitnet

(A Society management system)

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Knitnet

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1. Introduction

1.1 Purpose

This document describes the software requirements for Society Management System. It's intended to aid the software's developer, designer, and maintainer.

1.2 Project Scope

The function of the **Society Management System** is to enable student-led societies to manage their intra-society tasks and finances and make calendar keeping and communication among the members easy.

2. Overall Description

2.1 Product Perspective

The society management system will store all the data, and different people will be able to access a specific part of that data based on their status. Some actors can add, remove, or alter events or tasks, while others can only see them on their portal. All the people in the society will be able to see the constitution of the society, and upcoming events (in an event calendar), have an option to request a meeting with HR, and send each other emails.

2.2 Product Features

Society management system would be expected to provide an effective task management system. Society Management System would be a web portal whereby users could log in and use the system's functionality accordingly. It will allow users to communicate with each other through emails, add new tasks and events to the calendar and see society's financial situation. EC and Directors will be able to add or remove new events or tasks that will be shown to the members of respective departments. EC will be able to add or remove Directors. Directors will be able to add or remove members of their departments. Treasurer and Finance and Legal Department's directors will have access to the information related to the finances and sponsors. They will be able to make a budget out of the available funds and communicate with the sponsors. Directors of Design and Social Media Management departments will have access to the official social media pages of the society. HR Department Director will have access to the

contact information of all the members of the society and will be given an official email to send and receive emails. Directors of Events and Outreach and all other departments will be able to make changes to their respective department's portals. Patrons will able to see and interact with events that they need to approve on their portal.

2.3 User Characteristics

- ### Executive Council

Executive Council (EC) is at the top of the hierarchy. It comprises over President, Vice president, General Secretaries, and Treasurer. They make critical decisions and oversee all the events happening in society. They have the authority to make changes in the portals of all the members of society.

- ### Director

A Director manages a department in society, leads its members, and is answerable to EC. Directors can make changes to their respective department's portal. Each department's directors have access to a different type of data. They can make use of various functionalities based on the role they play in society.

- ### Assistant Director

Assistant directors come under the director position and they are equally crucial in managing a society. Assistant directors are responsible for fulfilling duties delegated by directors like working existing and new ideas. Assistant directors would have the privilege of viewing different types of data and they can only write to data at the discretion of the directors.

- ### Member

Each department in society has a certain number of members. They carry out duties given by the directors. Members can access the limited data, and they cannot add/remove/alter any event.

- ### Patrons

Patrons approve of the constitution and events of the society. Their portal shows all the events they need to approve

- ### Sponsors

Companies or entities that sponsor the events. They'll be able to see the event's details.

2.4 Operating Environment

Django with MySQL and bootstrap will be used. Client-side operating systems can be Windows or Linux. Client can use Chrome, internet explorer, or Firefox as a Browser. Server side OS will be Windows.

2.5 Design and Implementation Constraints

All the users must have an internet connection. They also must have a valid email address.

2.6 User Documentation

No such documents as of yet.

2.7 Assumptions and Dependencies

All users must have a single account and they must have a valid email address.

3. System Requirements

The functional requirements for this system are subdivided into 4 - Executive Council Functional Requirements, Directorial Functional Requirements, Member Functional Requirements, and Patron Functional Requirements.

3.1. Functional Requirements

i.   Executive Council Functional Requirements

Requirement 1
➔ **Description**: The executive council will have access to all departments headed by directors of the society, overseeing their work. The system will allow the Executive Council to log into the society portal with primary privileged access.
➔ **Input**: Specific user username and password.
➔ **Processing**: information authentication.
➔ **Output**: Access to database and highest information clearance.

Requirement 2
➔ **Description**: the executive council can access and oversee any directors who work under them and their departments
➔ Input: Directors ID
➔ **Processing**: checking what director owns this ID and retrieving their department's information from the database
➔ **Output**: the director and their corresponding department's information. This effect cascades since the Executive Council is at the top of the hierarchy. Council's access to departments will allow access to directors, members, and patrons involved in a specific department.

Requirement 3
➔ **Description**: council will be able to mail directors informing them about new society rules and terms or general feedback.
➔ **Input**: either all director IDs or specified director IDs.
➔ **Processing**: send emails to all mentioned directors by retrieval of their emails from the database.
➔ **Output**: email confirmation.

Requirement 4
➔ **Description**: council needs to be able to add new directors.
➔ **Input**: all required information.
➔ **Processing**: checks to confirm suitability and adds them to their database along with their specific department.
➔ **Output**: confirmation with the new director's ID.

ii. Directorial Functional Requirements

Requirement 1
➔ **Description**: The directors will have access to their department's information. The system will allow the Directors to log into the society portal with secondary privileged access.
➔ **Input**: Specific user username and password.
➔ **Processing**: Information authentication.
➔ **Output**: Access to database and secondary information clearance.

Requirement 2
➔ **Description**: can access any member's information and make changes to it upon request/view it.
➔ **Input**: Member ID.
➔ **Processing**: retrieval of members' info, or in the case of changes, retrieval and updating of their info.
➔ **Output**: members most updated information.

Requirement 3
→ **Description**: Can hold social events based on members' and patrons' preferences.
→ **Input**: event description
→ **Processing**: will mail this event description to members and patrons (by retrieving their emails from their database) and record their responses in a preferences column in their department database.
→ **Output**: the aggregate of the response, i.e. whether this specific event is approved by most of the answers and add it to the social calendar of their department.

Requirement 4
→ **Description**: directors need to be able to add new members.
→ **Input**: all required information.
→ **Processing**: checks to confirm suitability and adds them to their database.
→ **Output**: confirmation with the new member's ID.

iii.   Member Functional Requirements

Requirement 1
→ **Description**: The members will access society rules and regulations, their information, and the social calendar and communication with society directors through email. The system will allow the members to log into the society portal to access these.
→ **Input**: Specific user username and password.
→ **Processing**: Information authentication.
→ **Output**: will view their account information, social calendar and society regulations and emails to directors. It will also show their inbox, including messages to add new social events to the calendar.

Requirement 2
→ **Description**: the members can update their information after approval from the director.
→ **Input**: Specify what information needs to be changed.
→ **Processing**: will automatically mail any available director to update this information.
→ **Output**: will receive a pending approval message and an email when it gets approved.

Requirement 3
→ **Description**: can apply to be a new director
→ **Input**: all required information.
→ **Processing**: Request EC mail from any director and email their information to the EC.
→ **Output**: pending approval request.

iv.   Patron Functional Requirements

Requirement 1

➔ **Description**: The patrons will access society rules and regulations, their information, and the social calendar and communication with society directors through email. The system will allow the patrons to log into the society portal to access these.

➔ **Input**: Specific user username and password.

➔ **Processing**: Information authentication.

➔ **Output**: will view their account information, social calendar and society regulations and emails to directors. It will also show their inbox, including messages to add new social events to the calendar.

Lastly, *all* members will have the **functionality to leave the society**. They do not have to wait for their approval. However, an email must be sent out to all involved parties to update their respective database.

3.2. External Interface Requirements

User Interface requirement

➔ Should be easy to use and readable. Must include features for automatic mailing, holding pages that refer to society rules and options to add new members/patrons to the database with approval from directors and new directors with approval from the EC.

➔ Can be easily integrated with a local keyboard and mouse.

Software Interface Requirement

➔ Any changes must be fully integrated with the existing software of society. Furthermore, verification of CNIC must be handled through third-party (NADRA) verification.

Hardware Interface Requirements

➔ There are a few hardware requirements - keyboard, mouse and screen usability.

4. Security Requirements

● Usernames and passwords are stored in a table where passwords are stored with encrypted honeywords for added protection.

- Authentication is required for accessing any information on members of the society. Additionally, only members of specific positions can access data on all members that exist below the user in the society's hierarchy.
- Budget allocation tables should be protected and access should only be provided to EC and budget allocators in finance department (A department should not be able to allocate itself a spending budget).

₋5. Performance Requirements

- ·Web pages would be kept light and not loaded with images so they can be loaded as quickly as possible to allow for minimal delays.
- Should be able to handle concurrent requests (about 5% of the population of society) so that the database does not get bogged down in case of recruitment drives where multiple interviewers would be accessing constantly.
- Should be able to place scheduled emails for events on time without loss.
- The product should be able to keep a log of all changes in case something needs to be reversed or changes need to be reviewed.
- The log should be maintained simultaneously with the changes being made.
- Availability and consistency should be ensured across all users

6. Use Cases

Director table:

Director of:	Use cases:

HR	- recruitment; create new entries in the existing member table. - Access, modify and delete all member data pertaining to contact, attendance in meetings and events etc. - Grant permissions to members in the HR dept to access/modify/delete the contents the director is authorized to access/modify/delete.
Marketing	- Access to contacts of HR dept and of Marketing members. - Manage social media handles. - Access credentials to society's public social media accounts. - Grant permissions to members in the Marketing dept to access/modify/delete the contents the director is authorized to access/modify/delete.
Legal	- Access to contacts of HR dept and of Legal members. - Access financial records - Access event details - Access information on any members that require scrutiny. - Remove members from member tables. - Grant permissions to members in the Legal dept to access/modify/delete the contents the director is authorized to access/modify/delete.
Finance	- Access to contacts of HR dept and of Finance members. - Access, modify and create new entries in existing finance tables. - Access and modify budgets allotted to each department. - Access spendings from society's budget. - Access information on

	sponsors and amount received from sponsors. - Grant permissions to members in the Finance dept to access/modify/delete the contents the director is authorized to access/modify/delete.

Member and Patrons table

Members of:	Use cases:
HR	- Access to contact of the HR director. - Submit application for promotion. - Request for permissions to access/modify/delete content from the HR director.
Marketing	- Access to contact of HR dept and the Marketing director. - Submit application for promotion. - Request for permissions to access/modify/delete content from the Marketing director.
Legal	- Access to contact of HR dept and the Legal director. - Submit application for promotion. - Request for permissions to access/modify/delete content from the Legal director.
Finance	- Access to contact of HR dept and the Finance directors. - Submit application for promotion. - Request for permissions to access/modify/delete content from the Finance director.
Patrons	- Access to contact of the HR

	dept. - Access information on upcoming events including budget allocated for the event, capacity, and any attendees in or out of society. - Access to emails for event managers. - Access and modify all event related information.

Use Cases

Use Cases

Use Case ID:	1
Use Case Name	Recruit
Created By	Knitnet
Date Created	October 24, 2022
Actors	Director HR
Description	Create new entries in the existing Member relation.
Precondition	New member application form comes in. User is logged in.
Postcondition	Member is added.
Normal Flow	Choose the option to add a new member in the database. Fill in the required fields regarding the new member's information.
Alternative Flow	None.
Exceptions	Candidate does not pass the crieteria for society membership.
Includes	User authentication.
Priority	High.
Frequency of use	Once a year during recruitment phase for each newly appointed member.
Special Requirements	Should be able to cancel the recruit request midway.
Assumptions	User is HR and the added member is part of society.
Notes and issues	None

Use Case ID:	2
Use Case Name	Update
Created By	Knitnet
Date Created	October 24, 2022
Actors	Director HR, Director Legal

Description	Modify and delete the existing information pertaining to members of the society.
Precondition	Update in member information (such as change of emails) or a member needing removal.
Postcondition	User is logged in.
Normal Flow	Choose the option to update member info from the member database. Update the required fields
Alternative Flow	none
Exceptions	none
Includes	Verify existence of member in the member table. User authentication.
Priority	high
Frequency of use	Approx once a month.
Special Requirements	none
Assumptions	none
Notes and issues	none

Use Case ID:	3
Use Case Name	View information
Created By	Knitnet
Date Created	October 24, 2022
Actors	Director Marketing, Director Legal, Director Finance
Description	Directors would be able to view contacts of HR and their own department or information in database relevant to the department.
Precondition	Director wanting to access contact information of HR and member information of the members of their respective departments.
Postcondition	View of the information
Normal Flow	directors can click on drop down menus pertaining to contacts of HR and members of their department
Alternative Flow	none
Exceptions	none

Includes	User authentication.
Priority	High
Frequency of use	depends
Special Requirements	none
Assumptions	member database is already created
Notes and issues	none

Use Case ID:	4
Use Case Name	Permit
Created By	Knitnet
Date Created	October 24, 2022
Actors	Director HR, Director Legal, Director Marketing, Director Finance
Description	Grant permissions to members in the respective department to access/modify/delete the contents the director is authorized to access/modify/delete.
Precondition	User is logged in. User has members working below them in the society's hierarchy to whom tasks can be delegated and permissions can be granted.
Postcondition	The member is granted permission to use use case(s) normally only authorized for Directors.
Normal Flow	Select a member or members to grant permissions, and select a subset of director's own permissions to extend to members.
Alternative Flow	None.
Exceptions	None.
Includes	User authentication. Verification of member existence. Verification that the permission granted has the permission to use the option in question themselves. Verification that the member is in the department of the user.
Priority	High.
Frequency of use	Daily.
Special Requirements	Granted permissions can be reversed by deselection.

Assumptions	None.
Notes and issues	None.

Use Case ID:	5
Use Case Name	Edit financial records
Created By	Knitnet
Date Created	October 24, 2022
Actors	Director Finance
Description	Access, modify and create new entries in existing finance tables. Access and modify budgets allotted to each department. Access spendings from society's budget. Access information on sponsors and amount received from sponsors.
Precondition	User is logged in.
Postcondition	Financial tables are updated to reflect recent and correct information.
Normal Flow	Access the record and edit the relevant fields.
Alternative Flow	None.
Exceptions	None.
Includes	User authentication. Verify that all department's budgets add up to total budget.
Priority	High.
Frequency of use	Weekly.
Special Requirements	None.
Assumptions	The society is of a nature that money is used for activities and events.
Notes and issues	None.

Use Case ID:	6
Use Case Name	Contact director
Created By	Knitnet
Date Created	October 24, 2022
Actors	Members below director

Description	Access to contact of relevant director.
Precondition	User is logged in. User works below the director who's contact is to be accessed.
Postcondition	Contact information of the relevant director is displayed.
Normal Flow	Access the contact.
Alternative Flow	None.
Exceptions	None.
Includes	User authentication. Verify that user gets access to only director contact of their own department's director.
Priority	High.
Frequency of use	Weekly.
Special Requirements	None.
Assumptions	None.
Notes and issues	None.

Use Case ID:	7
Use Case Name	Contact HR
Created By	Knitnet
Date Created	October 24, 2022
Actors	Marketing members, Legal members, Finance members, Patrons
Description	Access to contact of the HR department.
Precondition	User is logged in.
Postcondition	Contact information of HR is displayed.
Normal Flow	Access the contact.
Alternative Flow	None.
Exceptions	None.
Includes	User authentication.
Priority	High.

Frequency of use	Weekly.
Special Requirements	None.
Assumptions	HR handles concerns, member experience, complaints, and disputes.
Notes and issues	None.

Use Case ID:	8
Use Case Name	Upcoming events
Created By	Knitnet
Date Created	October 25, 2022
Actors	Patrons
Description	Access information on upcoming events including budget allocated for the event, capacity, and any attendees in or out of society. Access to emails for event managers. Access and modify all event related information.
Precondition	User is logged in.
Postcondition	Modifiable event information is displayed.
Normal Flow	Log in as a Patron and access the event information.
Alternative Flow	None.
Exceptions	None.
Includes	User authentication.
Priority	High.
Frequency of use	Monthly.
Special Requirements	None.
Assumptions	None.
Notes and issues	None.

Use Case ID:	9
Use Case Name	Apply for promotion.

Created By	Knitnet
Date Created	October 25, 2022
Actors	Members.
Description	Submit application for promotion.
Precondition	User is logged in.
Postcondition	An application for promotion is submitted to higher-ups for reviewing.
Normal Flow	Log in as a member and apply for promotion, attaching any relevant documents.
Alternative Flow	None.
Exceptions	Members that can not be promoted any further. Members on probation or members that do not have any attendance for some time.
Includes	User authentication.
Priority	High.
Frequency of use	Yearly.
Special Requirements	None.
Assumptions	Member has a position above them they can be promoted to.
Notes and issues	None.

Use Case ID:	10
Use Case Name	Request for permit.
Created By	Knitnet
Date Created	October 25, 2022
Actors	Members.
Description	Request the member's department's director for a permit.
Precondition	User is logged in.
Postcondition	The relevant director is notified of the request content along with basic member information.
Normal Flow	Log in as a member working below a director and access the requesting feature.

Alternative Flow	None.
Exceptions	None.
Includes	User authentication. Verify that permissions asked for are permissions that the requested director can provide.
Priority	High.
Frequency of use	Daily.
Special Requirements	None.
Assumptions	None.
Notes and issues	None.

Use Case ID:	11
Use Case Name	Promotions
Created By	Knitnet
Date Created	october 27,2022
Actors	directors, EC
Description	Promoting directors to status of EC or members to directors
Precondition	Promotion form comes into the respective department heads
Postcondition	The specified person is promoted
Normal Flow	update the EC/Director table to add the promoted member
Alternative Flow	none
Exceptions	The nominated person is not meeting criteria or the director/EC don't consider them for promotion
Includes	user authentication
Priority	medium
Frequency of use	members can apply for promotion after being in some position of society for atleast a year
Special Requirements	EC and Directors have the power to cancel the request midway if they find the candidate is unsuitable
Assumptions	none

Notes and issues	none

Use Case ID:	12
Use Case Name	Fund events
Created By	Knitnet
Date Created	october 28, 2022
Actors	sponsors
Description	Allows access to society's bank details.
Precondition	User is logged in as sponsor.
Postcondition	finance director is notified of the transfer information is updated in the financial records.
Normal Flow	Log in as sponsor and view details and enter the amount funded along with sponsor ID (auto added).
Alternative Flow	none
Exceptions	none
Includes	User login authentication.
Priority	high.
Frequency of use	About once per sponsor per event.
Special Requirements	none
Assumptions	none
Notes and issues	none