STAKEHOLDERS list:

Direct Stakeholders:
- Club Members
- Club Leaders / Administrators (students)
- Students (Potential Members / Visitors)
- System Administrators (IT Staff)

Indirect Stakeholders:
- University Management / Faculty Advisors
- University IT Department
- Student Government/Committee

User stories:

General
- Like anyone, I want to be able to log in so that I can access the website.
- Like anyone, I want to browse a list of clubs and upcoming activities so that I can view clubs and upcoming activities.

Student
- As a student, I want to enroll in a club so that I can participate in club activities.
- As a student, I want to create a new club so that I can start a new activity with other students.

Club member
- As a club member, I want to unenroll from a club so that I can be free.
- As a student, I want to share my experience from being in a club by writing them a comment/review so that I can express my ideas.
- As a club member, I want to receive notifications about important updates so that I stay informed about my clubs.

Club vice-presidents (+ Club leader)
- As a club vice-president, I want to see, accept and reject pending enrolment requests so that I can easily manage my club.
- As a club vice-president, I want to be able to kick out club members so that I can help to manage my club.
- As a vice-president, I want to create new event proposals so that our club can organize activities.

Club leader
- As a club leader, I want to approve new event posts before they are published so that our club's page remains accurate and professional.

- As a club leader, I want to set the maximum number of club members so that people can see how many seats are available.
- As a club leader, I want to promote club members to vice-president and vice-versa so that I can easily manage my club.
- As a club leader, I want to have the possibility to change the description of the course so that I can show the important information.
- As a club leader, I want to delete my club so that I can close it when it becomes inactive.
- As a club leader, I want to have the possibility to pass the leadership to one vice president so that I will leave my club in good hands.

Requirements:

Functional:
– – Authentication & access – –
FR 1 - LOGIN
– – Basic user interactions – –
FR 2 - BROWSING
FR 3 - NOTIFICATION SERVICE
– – Membership lifecycle – –
FR 4 - ENROLL REQUEST
FR 5 - ACCEPT/REJECT ENROLLMENT REQUESTS
FR 6 - UNENROLL
– – Club content management (event and coments) – –
FR 7 - COMMENTS
FR 8 - ACCEPT/REJECT NEW EVENT POSTS (before being published)
FR 9 - CREATE NEW EVENT POST REQUEST
– – Club administration (only CL/VP) – –
FR 10 - MANAGE CM PERMISSIONS AND ROLES
FR 11 - SET MAX NUM OF MEMBERS
FR 12 - MODIFY CLUB DESCRIPTION
FR 13 - DELETING A CLUB
– – CLub creation – –
FR 14 - CREATE A CLUB

- **FR 1 - LOGIN**
  Requirement: The system shall authenticate users based on valid credentials.
  Description: In the login page the user has the input areas where he can put his credential and then with a button can start the automatic credential check designed for login. If the check goes well the user sees the home page. If not an error message will be displayed.
  Acceptance Criteria:
    - The system shall always display the login page first if the user is not authenticated yet (i.e. hasn't a valid session or never had one).
    - The system shall not display the login page if the user has a valid session on going.
    - The system shall not allow an unlogged user to access the other web pages of the site.
    - The system shall display an error message if the credentials are wrong and clean the credentials in order to be ready to take others.
    - The system shall create a session if the credentials are corrected.

  Traceability: *NFR:1-2-3-7, US: general*
  Priority: Must have

- **FR 2 - BROWSING**
  Requirement: The system shall allow authenticated users to browse a list of clubs and upcoming events.
  Description: Authenticated users can explore available clubs, search them by name, filtering by status (full/ not full), ordering them by name or members (asc/desc) and also see all the upcoming events of all clubs.
  Acceptance Criteria:
    - The system shall display the list of the available clubs with basic details.
    - The system shall display the list of the upcoming event with basic details.
    - The system shall allow users to filter the clubs in the list by availability or ordering them by name/members (asc-desc).
    - The system shall allow users to search a club by name.
    - Unauthenticated users attempting to access browsing pages shall be redirected to the login page.

  Traceability: *NFR:1-4-5, US: general*
  Priority: MUST HAVE - view of the list of the clubs
  　　　　　 SHOULD HAVE - filtering

- **FR 3 - NOTIFICATION SERVICE**
  Requirement: The system shall send notifications to the club members regarding events and modified roles or expulsion.
  Description: Each event or modification related to the user role triggers a notification to the user that can be seen into the designated area on the user's interface
  Acceptance Criteria:
    - The system shall send a notification each time there is a new or incoming event related to the user's clubs.
    - The system shall send a notification each time there is a change related to the user role or membership.
    - The user shall be able to view notifications in a designated area.

  Traceability: *NFR: 2-7, US: club member*
  Priority: OPTIONAL

- **FR 4 - ENROLL REQUEST**
  Requirement: The system shall allow an authenticated student to make an enrollment request.
  Description: An authenticated student has the possibility to browse the club list and choose to make an enrollment request in a particular one, except if there are no available seats.
  Acceptance Criteria:
    - The system shall allow a student to make an enrollment request in a club only if there is at least one seat available.
    - The system shall inform the user if the club is full.
    - The system shall allow enrollment requests only to authenticated users.
    - The system shall display current remaining seats.

  Traceability: *NFR:2-6-7, Student US*
  Priority: MUST HAVE

- **FR 5 - ACCEPT/REJECT ENROLLMENT REQUEST**
  Requirement: The system shall allow CL and VP to see a list of the pending enrollment requests list and accept/reject them. Once accepted/rejected a notification is sent to the student.
  Description: As a CL or VP while browsing in your club you should be able to have a designated area where you can see all the pending enrollment requests and have the possibility to accept/reject them with a relative button.
  Acceptance Criteria:
    - The system shall allow only CL and VP to accept/deny any enrollment request.
    - The system shall allow only CL and VP to see the pending enrollment requests.
    - The system shall notify the student upon the outcome of the request.

  Traceability: *NFR:3-6-7, Club Leader US and Vice-President US*
  Priority: MUST HAVE

- **FR 6 - UNENROLL**
  Requirement: The system shall allow a CM/VP to unenroll from the club where they're inside.
  Description: The users can enroll from a club unless they are CL because In order to do that they have to delete the whole club or promote someone else to CL and then unenroll.
  Acceptance Criteria:
    - The system shall send a notification to the CL if any of the CM unenroll.
    - The system shall prevent unenrollment if the user is CL and no transfer/delete action is in progress.
    - The system shall allow CM and VP to unenroll from a club.
    - The system shall not allow CL to unenroll from a club.

  Traceability: *NFR:2-6-7, CM/VP/CL US*
  Priority: MUST

- **FR 7 - COMMENTS**
  Requirement: The system shall allow Club Members (CM) or ex CM to write reviews and comments of the clubs.
  Description: CM or exCM have a specific space where they can write comments and reviews of a club, but they have to be or have been a member of that club.
  Acceptance Criteria:

- The system shall allow CM or exCM to write comments and reviews in a specific area.
- The system shall allow CM or exCM to put an evaluation related to the comment, in terms of stars (1 to 5 star review per comment).
- The system shall allow comments and reviews only to authenticated CM or exCM.
- The system shall inform the user that commenting is not permitted if they were never a member of the club.

Traceability: *NFR:5-6, Club Member/student US*
Priority: OPTIONAL

- **FR 8 - ACCEPT/REJECT NEW EVENT POSTS (before being published)**
Requirement: The system shall allow the CL to accept or reject new event posts before they are published.
Description: While browsing a club its CL can see a list of the request for new event posts. He can decide to accept or deny them.
Acceptance Criteria:
    - The system shall allow only the authenticated CL of that club to accept/reject the requests.
    - The system shall wait for the approval of the club leader before publishing any event post.

Traceability: *NFR:3-6-7, CL US*
Priority: SHOULD HAVE

- **FR 9 - CREATE NEW EVENT POST REQUEST**
Requirement: The system shall allow the VP to create new event posts and automatically send the request to accept/reject it to the CL.
Description: The VPs are able to create event for the club and fill them up with all the information required like date-time-description with always a reference to their club
Acceptance Criteria:
    - The system shall allow VPs of that club to make the event.
    - The system shall automatically send the request to the CL of that club in order to be approved or rejected.
    - The system shall save the event in draft state before approval.
    - Event draft must not be visible to regular members before approval.

Traceability: *NFR:2-3-7, VP US*
Priority: MUST HAVE

- **FR 10 - MANAGE CM PERMISSIONS AND ROLES**
  Requirement:
    - The system shall allow the CL to promote or downgrade a CM/VP to one of these roles CM/VP or new CL.
    - The system shall allow a CL to expel a VP.
    - The system shall allow a CL or a VP to expel a CM.
    - The system shall show an error message if a CL tries to demote himself.

  Description: As a club leader (CL), he has the possibility to downgrade or promote CM and VPs. Both can expel a CM

  Acceptance Criteria:
    - The system shall allow a CL to promote a CM to a VP or new CL.
    - The system shall allow a CL to downgrade a VP to a CM.
    - The system shall allow a CL to expel a VP.
    - The system shall allow a CL or VP to expel a CM.
    - The system shall not allow the expulsion of the CL.
    - The system shall not allow the CL to downgrade himself.
    - The system shall allow the automatic downgrade of the CL if he promotes another CM/VP as CL.

  Traeability: *NFR:3-6-7, CL and VP US*
  Priority: MUST HAVE

- **FR 11 - SET MAX NUM OF MEMBERS**
  Requirement: The system shall allow CL to set the maximum number of club members.
  Description: While browsing inside their club, CL can set the maximum number of club members that are allowed inside the club by applying the changes in a specific area. So that they can expand it if needed.
  Acceptance Criteria:
    - The system shall allow only authenticated CL to modify this data.
    - The system shall not allow to change the dimension of the club into a number that is less than the actual number of CM.
    - The system shall allow a maximum number of CM.

  Traeability: *NFR:3-6-7, CL US*
  Priority: SHOULD HAVE

- **FR 12 - MODIFY CLUB DESCRIPTION**
  Requirement: The system shall allow a CL to modify the description of his club
  Description: To manage his club properly a CL can modify the description of the club in a designated area.
  Acceptance Criteria:
  - The system shall allow only the authenticated CL to modify the description of the club.

  Traceability: *NFR:3-5-7, CL US*
  Priority: SHOULD HAVE

- **FR 13 - DELETING A CLUB**
  Requirement: The system shall allow a CL to delete his club.
  Acceptance Criteria:
  - The system shall send a notification to any CM if the CL deletes the club.
  - The system shall allow only CL to do such action.
  - If someone other than CL (CM or VP) tries to do such an action the user will be informed that his role doesn't permit the execution of this action.
  - The system shall ask for confirmation if the leader really wants to delete the club before taking action.

  Traceability: *NFR:3-6-7, CL US*
  Priority: MUST

- **FR 14 - CREATE A CLUB**
  Requirement: The system shall allow to a student to create a new club
  Description: While browsing the web app an authenticated student can create a new club. By clicking a button will be redirected to another page with a form that has to be filled with the basic information of the club (i.e. number of CM, description, name)
  Acceptance Criteria:
  - The system shall allow authenticated users to create a new club.
  - The system shall provide a way to create the club by showing to the user the area with the form that has to be filled with the information of the club.
  - The system shall grant to the user that is creating the club the position of CL.

  Traceability: *NFR:2-4-5-7, Student US*
  Priority: MUST

- **FR 15 - ADMIN GLOBAL PRIVILEGES**
  Requirement: The system shall allow the ADMIN to perform any operation available to a Club Leader (CL) on any existing club in the system.
  Description: The ADMIN role automatically inherits all functional capabilities defined for the Club Leader role (referencing FR 5, 8, 10, 11, 12, and 13). Unlike a normal Club Leader who is restricted to their own specific club, an ADMIN can exercise these permissions on any club without needing to be a member or the appointed leader of that club.
  Acceptance Criteria:
    - The system shall allow the ADMIN to bypass club-specific ownership checks that restrict regular CLs.
    - The system shall allow the ADMIN to execute all actions defined in FR 5, 8, 10, 11, 12, and 13 on any target club.
    - The system shall allow the ADMIN to view CL-specific dashboards (enrollment requests, event drafts) for any club.
    - The system shall log any inherited action performed by an ADMIN clearly distinguishing it from a CL action.

  Traceability: NFR:3-6-7, ADMIN US
  Priority: MUST HAVE

- **FR 16 - ADMIN CLUB CREATION WITH NOMINATION**
  Requirement: The system shall allow an ADMIN to create a new club and must nominate a student (who is not currently a Club Leader) as the new CL.
  Description: While browsing the web app, an ADMIN can create a new club via a form (name, description, max members). Distinct from the student creation process (FR 14), the ADMIN must select a registered student to become the Club Leader. This student cannot be an existing CL of another club.
  Acceptance Criteria:
    - The system shall provide a form to input club details (Name, Description, Max Members).
    - The system shall require the ADMIN to select a user to be the new Club Leader.
    - The system shall validate that the selected user is not currently a Club Leader of another active club.
    - The system shall prevent the creation of the club if the selected user is already a CL.
    - The system shall create the club and automatically assign the Club Leader role to the selected student.

- The system shall send a notification to the nominated student regarding their new role.

Traceability: NFR: 2-3-4-5-6-7, ADMIN US
Priority: MUST HAVE

Non-functional:
- **NFR 1**
  - ➔ Title: Performance – Page Load Time
  - ➔ Definition: The system shall load the home page, club list and event list pages fast and should be able to withstand a large amount of simultaneous users
    - ◆ Verification: Perform load testing with a representative dataset

- **NFR 2**
  - ➔ Title: User Actions
  - ➔ Definition: The system shall process login, registration, enrollment/unenrollment and join club/event actions
    - ◆ Verification: Measure response times for these actions during performance tests

- **NFR 3**
  - ➔ Title: Security – Role-Based Access Control
  - ➔ Definition: Only users with appropriate roles (e.g. club leaders, vice-presidents, system administrators) shall be able to perform protected actions such as editing club information, approving events, or changing user roles.
    - ◆ Verification: Execute test scenarios attempting protected actions with users of different roles and confirm that only authorized roles can complete them.

- **NFR 4**
  - ➔ Title: Usability – Navigation Simplicity
  - ➔ Definition: A new student user shall easily be able to reach the list of clubs and the list of upcoming events
    - ◆ Verification: Development of a simplistic but effective Front-end UI

- **NFR 5**
  - ➔ Title: Compatibility – Supported Browsers
  - ➔ Definition: The website shall function correctly on the latest versions of Google Chrome, Safari and Microsoft Edge while preserving all website features.

◆ Verification: Test all core user flows on the specified browsers and verify that there are no blocking issues or layout breakages.

● **NFR 6**
  ➔ Title: Privacy – Data Visibility
  ➔ Definition: A student's enrollment and interest data for a club shall be visible only to that club's leaders/vice-presidents and system administrators, and shall not be exposed to other regular users.
    ◆ Verification: Create test users with different roles and verify that only authorized users can view enrollment and interest details for a given student.

● **NFR 7**
  ➔ Title: Logging, Auditing & Session Timeout
  ➔ Definition: The system shall log all login attempts, password reset requests, enrollments/unenrollments and changes to user roles with a timestamp and user identifier.

     User sessions shall automatically expire after some given time requiring the user to log in again to continue using protected parts of the system.
    ◆ Verification: Trigger login attempts (successful and failed), password reset requests, enrollments/unenrollments and role changes in a test environment, then inspect the logs to confirm that corresponding entries with timestamps and user identifiers are created.

       Log in as a test user, remain inactive then attempt to perform an action; verify that the system requires re-authentication before allowing access.

Use Case specifications

UC1 – Login
Primary Actor: Any user (student, club member, vice-president, club leader)
Goal: Access the system through authentication.
Preconditions: User is not authenticated and has valid credentials.
Main Flow: User enters credentials, system validates them, and creates a session.
Alternate Flows: Invalid credentials or expired session redirect the user back to login.
Postconditions: User becomes authenticated or the attempt is logged.

UC2 – Browse Clubs & Events
Primary Actor: Any authenticated user
Goal: View the list of clubs and upcoming activities.
Preconditions: The user is logged in.
Main Flow: User opens the Clubs or Events section; the system displays lists and filtering options.
Alternate Flows: Unauthenticated users are redirected to login.
Postconditions: No changes to data; the user simply views information.

UC3 – Enroll in a Club
Primary Actor: Student
Goal: Request enrollment in a club.
Preconditions: Student is authenticated and the club has available seats.
Main Flow: Student selects a club and submits an enrollment request.
Alternate Flows: Club is full or a duplicate request exists.
Postconditions: A pending enrollment request is created.

UC4 – Manage Enrollment Requests
Primary Actor: Vice-President, Club Leader
Goal: Approve or reject club enrollment requests.
Preconditions: VP/CL is authenticated and has pending requests to review.
Main Flow: VP/CL views pending requests and accepts or rejects them.
Alternate Flows: Unauthorized users cannot perform this action.
Postconditions: Request is resolved and the student is notified.

UC5 – Club Administration
Primary Actor: Club Leader (and VP for limited actions)
Goal: Manage club structure, roles, settings, and deletion.
Preconditions: Actor has the correct role (CL or VP).
Main Flow: Admin edits description, roles, capacity, events, and club settings.
Alternate Flows: Unauthorized actions or invalid modifications are blocked.
Postconditions: Club data, memberships, or structure are updated accordingly.