

"Digital Electoral System for University Governance"

Software Requirements Specification (SRS)

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1. INTRODUCTION

This section provides an overview of the entire SRS.

1.1. Purpose

a) This Software Requirements Specification (SRS) aims to define the functional and non-functional requirements for developing a Digital Electoral System for University Governance. It outlines the system's features, functionalities, constraints, and performance expectations, serving as a development, testing, and deployment guide.

b) The intended audience for this SRS includes:

- University administrators such as Deans and Election Chairs are involved in managing university-level elections.
- Candidates participating in the nomination process.
- Voters who will use the online voting platform.

1.2. Scope

a) The software product to be produced is the "Digital Electoral System for University Governance."

b) The software will:

- Facilitate candidate registration and nomination processes for university-level elections.
- Provide a secure online voting platform for eligible voters during specified election periods.
- Ensure user authentication, confidentiality, and anonymity of votes.
- Generate real-time election results and notifications for users.

The software will not:

- Conduct offline voting or manage physical ballots.
- Handle non-electoral tasks unrelated to the university governance system.

c) The Digital Electoral System aims to:

- Simplify the registration and voting processes for university elections.

- Increase participation and engagement among students, faculty, and administrators.
- Ensure the integrity, security, and transparency of the electoral system.
- Streamline election management tasks for administrators, reducing manual effort and errors.
- Reduce the costs required for the arrangements of an election.

1.3. Definitions, Acronyms, Abbreviations

- SRS: Software Requirements Specification - The description of a particular product, program, or set of programs that perform a set of functions in a target environment.
- DBMS: Database Management System - Software for managing databases and handling data operations.
- GUI/UI: (Graphical) User Interface - The visual interface through which users interact with software.
- DESUG: Digital Electoral System for University Governance.

1.4. References

The following documents are referenced in this SRS:

- ***Students' Union Election Notification***
 - Date: November 01, 2023
 - Published by: Students' Union Election Commission
2023 - 2024, University of Hyderabad
- ***Lyngdoh Committee Rules***
 - Date: May 23, 2006
 - Published by: Ministry of Human Resource
Development,
Department of Secondary and Higher Education,
Government of India
- ***IEEE Recommended Practice for Software Requirements Specifications***
 - Date: October 20, 1998
 - Published by: Software Engineering Standards
Committee of the IEEE Computer Society

1.5. Overall Description

a) The rest of the Software Requirements Specification (SRS) contains detailed information about the Digital Electoral System for University Governance. It includes sections on the overall description of the system, specific requirements, and supporting information.

b) The SRS is organized into the following main sections:

- Introduction: Provides an overview of the entire SRS, including the purpose, intended audience, scope, and definitions.
- Overall Description: Describes the product perspective, functions, user characteristics, constraints, assumptions, and dependencies.
- Specific Requirements: Details interface requirements, functional requirements, performance requirements, database requirements, design constraints, and system attributes.
- Supporting Information: This may include appendices, additional documents, or supplementary information related to the Digital Electoral System.

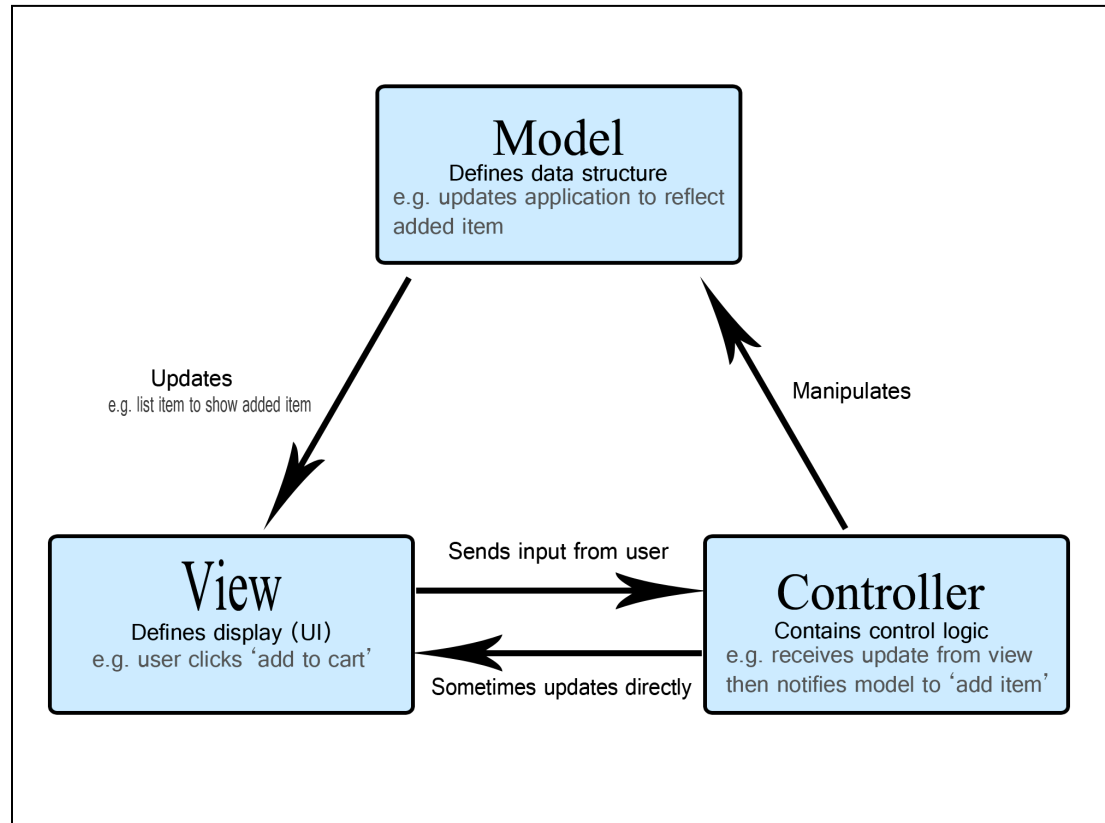
2. OVERALL DESCRIPTION

This section of the SRS describes the general factors that affect the product and its requirements. This section does not state specific requirements. Instead, it provides a background for those requirements, which are defined in detail in Section 3 of the SRS, and makes them easier to understand.

2.1. Product Perspective

The Digital Electoral System for University Governance is designed to operate as an independent and self-contained software product. It is not a component of a larger system but serves as a standalone solution specifically tailored for managing university-level elections.

The abstract architecture of the system:



([Source](#))

2.2. Product Functions

The Digital Electoral System for University Governance encompasses several major functions that contribute to its overall operation and

utility. These functions are summarized below in a way that is easily understandable to stakeholders and readers of the document:

- **Login** - Users log in securely using their university credentials to access the system.
- **Cast Vote** - Eligible voters can securely cast their votes online during specified election periods.
- **View Results** - Users can view real-time election results once voting is complete.
- **File Nomination** - Candidates register for elections and undergo approval processes by proposers, seconders, deans, and the election chair.
- **Manage User Roles** - The election chair can delegate work and manage user roles with varying privileges.
- **Add/Remove Election** - The election chair creates and manages elections, defining eligibility criteria and voting periods.
- **Generate Results** - Real-time results are generated and made available after the voting process is finished.

2.3. User Characteristics

The intended users of the Digital Electoral System for University Governance possess certain general characteristics that influence the design and functionality of the software. These characteristics include:

1. **Educational Level:** Users range from university students to faculty members and administrators. They have varying levels of educational attainment, from undergraduate to postgraduate degrees.
2. **Experience:** Users may have diverse levels of experience with technology and electoral processes. Some users may be familiar with online voting systems, while others may require more guidance and support.
3. **Technical Expertise:** Users' technical expertise varies, from basic computer literacy to advanced knowledge of software

applications. The system is designed to accommodate users with varying technical abilities.

2.4. User Constraints

The development of the Digital Electoral System for University Governance is subject to various constraints that shape the design and implementation of the software. These constraints include:

- a) Regulatory Policies: Compliance with university electoral policies, data protection regulations, and privacy laws.
- b) Hardware Limitations: Adherence to hardware specifications and compatibility with standard computing devices (e.g., desktops, laptops, mobile devices).
- c) Interfaces to Other Applications: Integration with university databases for user authentication and academic record verification.
- d) Parallel Operation: Ensuring the system can handle concurrent user interactions and voting processes during peak periods without performance degradation.
- e) Audit Functions: Implementing audit trails and logs to track system activities, user interactions, and voting events for accountability and transparency.
- f) Control Functions: Implementing access controls, user roles, and permissions to manage and secure system functionalities.
- g) Higher-Order Language Requirements: Utilizing programming languages and frameworks suitable for developing secure and scalable web-based applications.

h) Signal Handshake Protocols: Implementing reliable communication protocols (e.g., HTTPS, SSL/TLS) for secure data transmission and user interactions.

i) Reliability Requirements: Ensuring the system operates reliably without frequent downtime or disruptions during critical election periods.

j) Criticality of the Application: Recognizing the importance of the electoral system's integrity, security, and accuracy in university governance processes.

k) Safety and Security Considerations: Implementing robust security measures to protect user data, prevent unauthorized access, and ensure the confidentiality and anonymity of votes.

2.5. Assumptions & Dependencies

The development and functionality, of the Digital Electoral System for University Governance, are influenced by various assumptions and dependencies. These factors, while not design constraints, can impact the requirements stated in the SRS.

2.6. Apportioning Requirements

Certain requirements of the Digital Electoral System for University Governance may be deferred or delayed until future versions of the system. These requirements, while important, may not be critical for the initial release or may require additional development time or resources.

- Casting Vote
- Generating Results
- Managing multiple elections for various purposes
- Enhanced Security Features
- Accessibility Improvements
- Real-time Monitoring and Reporting

3. SPECIFIC REQUIREMENTS

This section of the SRS contains all of the software requirements to a level of detail sufficient to enable designers to design a system to satisfy those requirements, and testers to test that the system satisfies those requirements.

3.1. Interface Requirements

3.1.1. User Interface

[see Appendix-I]

3.1.2. Hardware Interface

-

3.1.3. Software Interface

- HTML
- tailwindcss
- JavaScript
- JSP and Java Servlets
- MySQL DBMS
- JDBC for MySQL database connection.

3.1.4. Communication Interface

- Internet
- Email

3.2. Functional Requirements

3.2.1. Use Case Model

[see Appendix-II]

3.2.2. Use Case Specifications

[see Appendix-III]

3.2.3. Activity Diagram

[see Appendix-IV]

3.2.4. Analysis Classes

[see Appendix-V]

3.3. Performance Requirements

100s of requests per second (information based on Tomcat server specification)

3.4. Logical Database Requirements

Relational Database Management System(RDBMS) - MySQL
MySQL Database Connector - JDBC

3.5. Design Constraints

The guidelines/standards in the following documents have to be followed:

- Students Union Notification, UoH ([Source](#))
- Lyngdoh Committee Rules, Govt. of India ([Source](#))

3.6. Software System Attributes

3.6.1. Reliability

The system must have high reliability, particularly at the time of elections.

Testing must be done to check the reliability of the system.

3.6.2. Availability

Backup servers and databases must be used to ensure system availability and reduce downtime.

3.6.3. Security

Hashed passwords must be used to ensure they are not revealed in the network.

Encryption techniques or blockchain technologies must be used in recording votes to make them securely recorded and tamper-proof.

3.6.4. Maintainability

Modularity needs to be followed in the design and development process so that the addition of a new feature or the updation of an existing feature would be easy.

3.6.5. Portability

The application can be deployed on the cloud which can be accessed by a huge audience.

Also could be sold to other institutions/organizations or could be given to them by implementing various subscription plans.

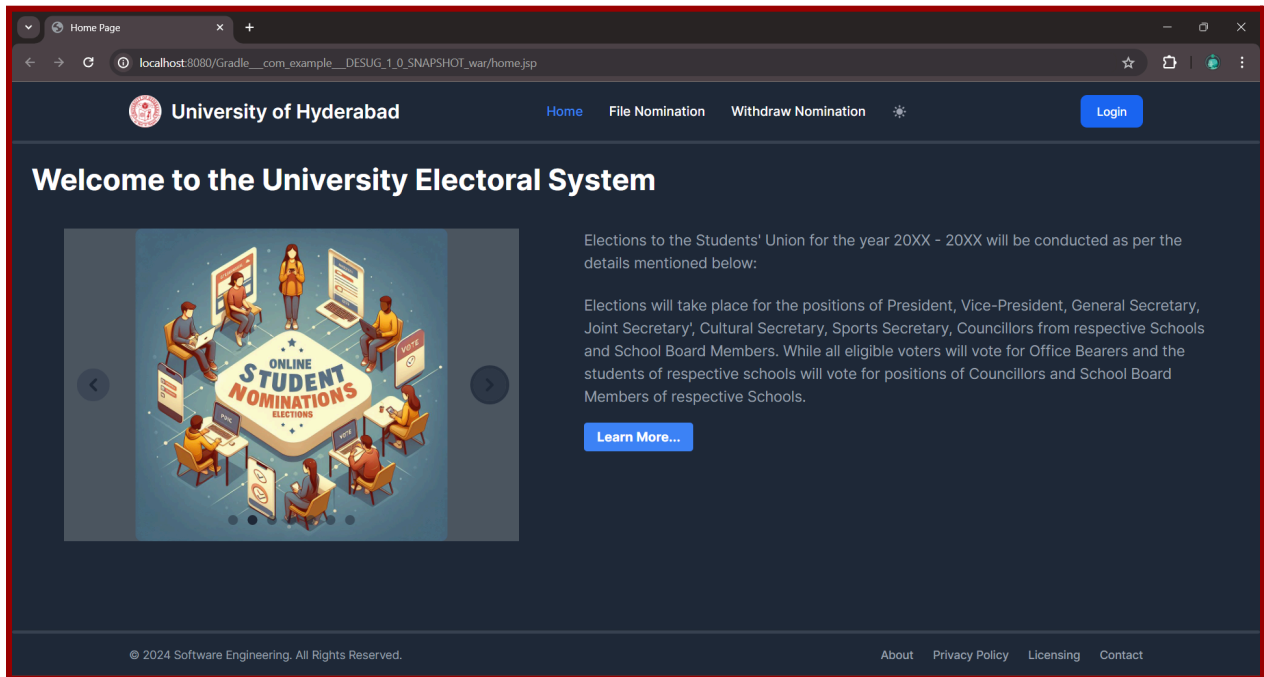
4. SUPPORTING INFORMATION

The supporting information includes the following:

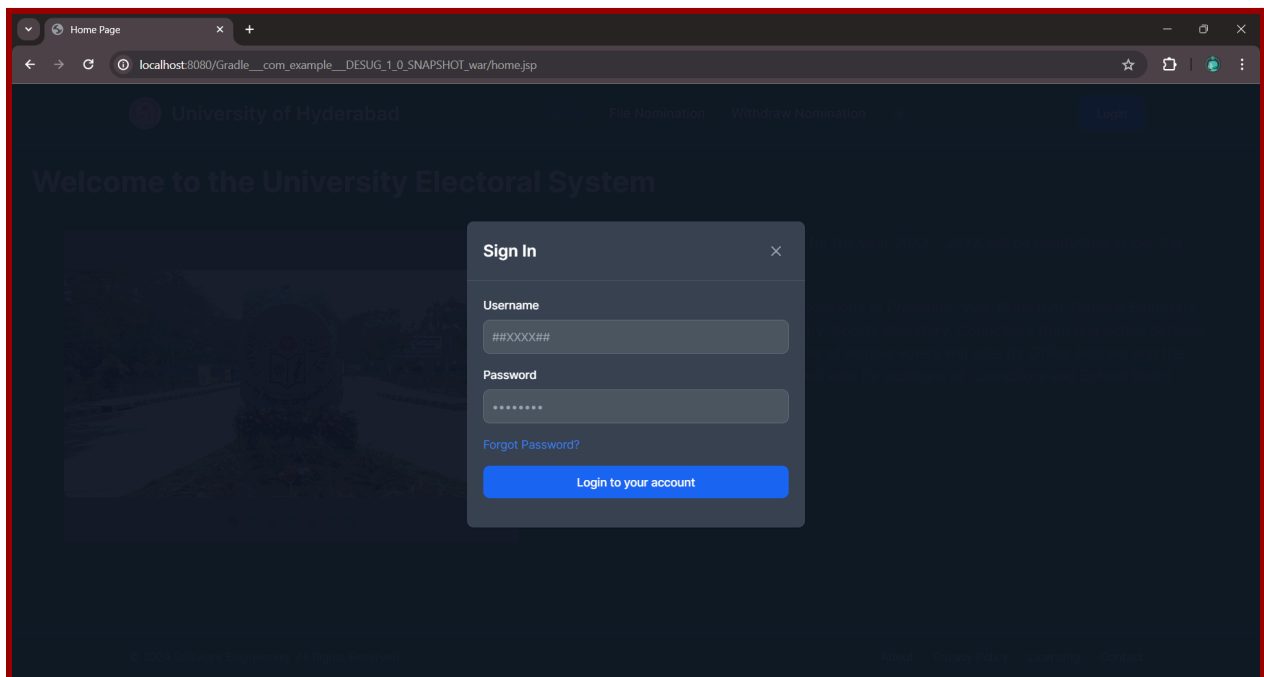
- a. Table of contents [see the beginning of this document]
- b. Appendixes [see from the next page]

Appendix-I: User Interfaces

→ General Interfaces



HomePage



Login

Change Password

Current Password

New Password

Confirm New Password

Change Password

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Change Password

Forgot Password

Registration Number

New Password

Confirm Password

Verification Code

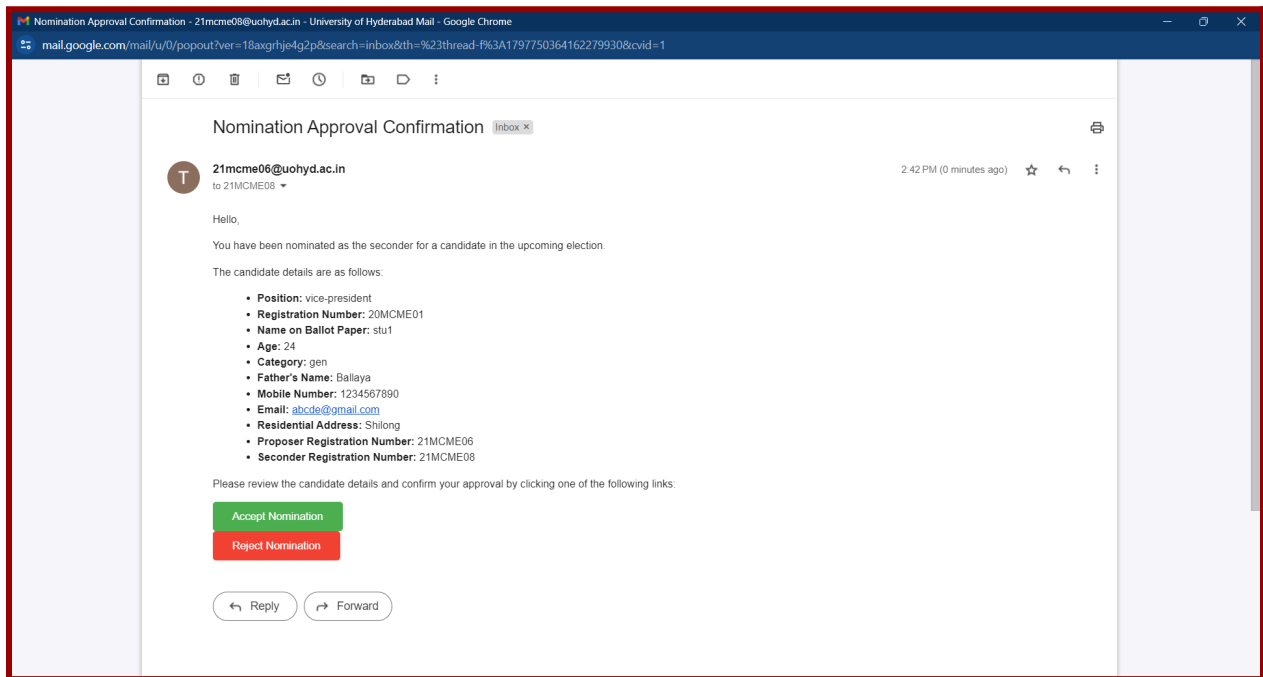
Get Code

Submit

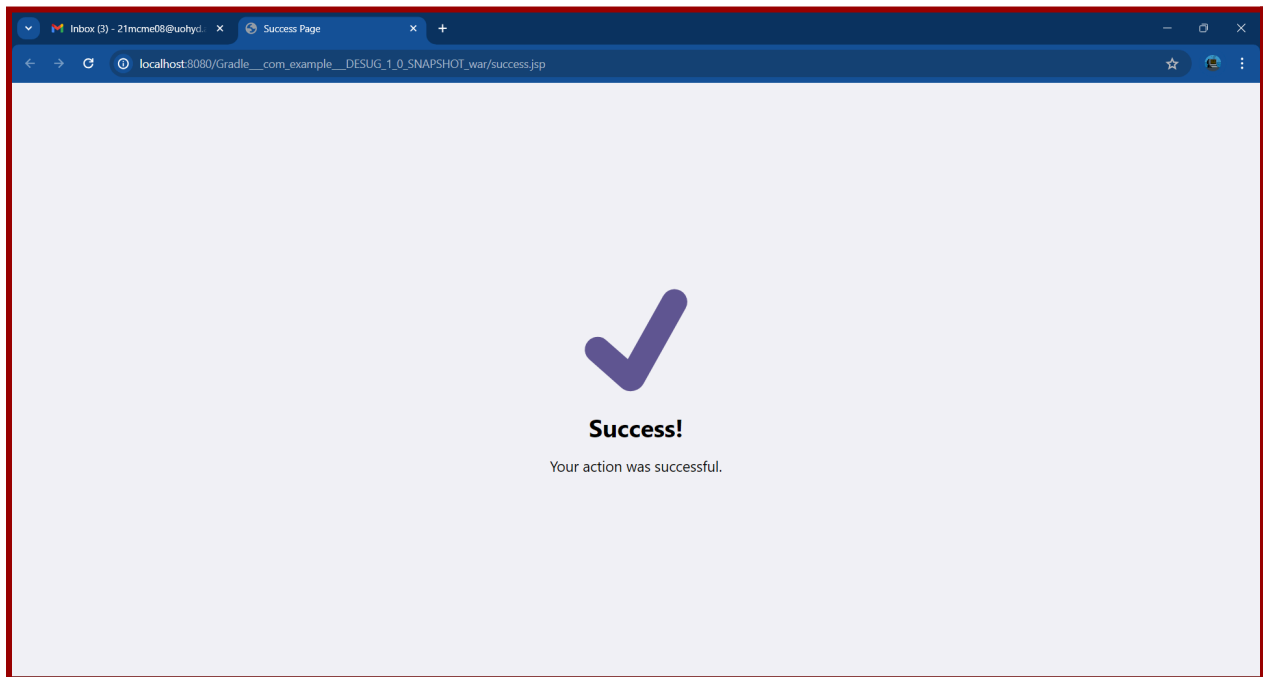
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Forgot Password

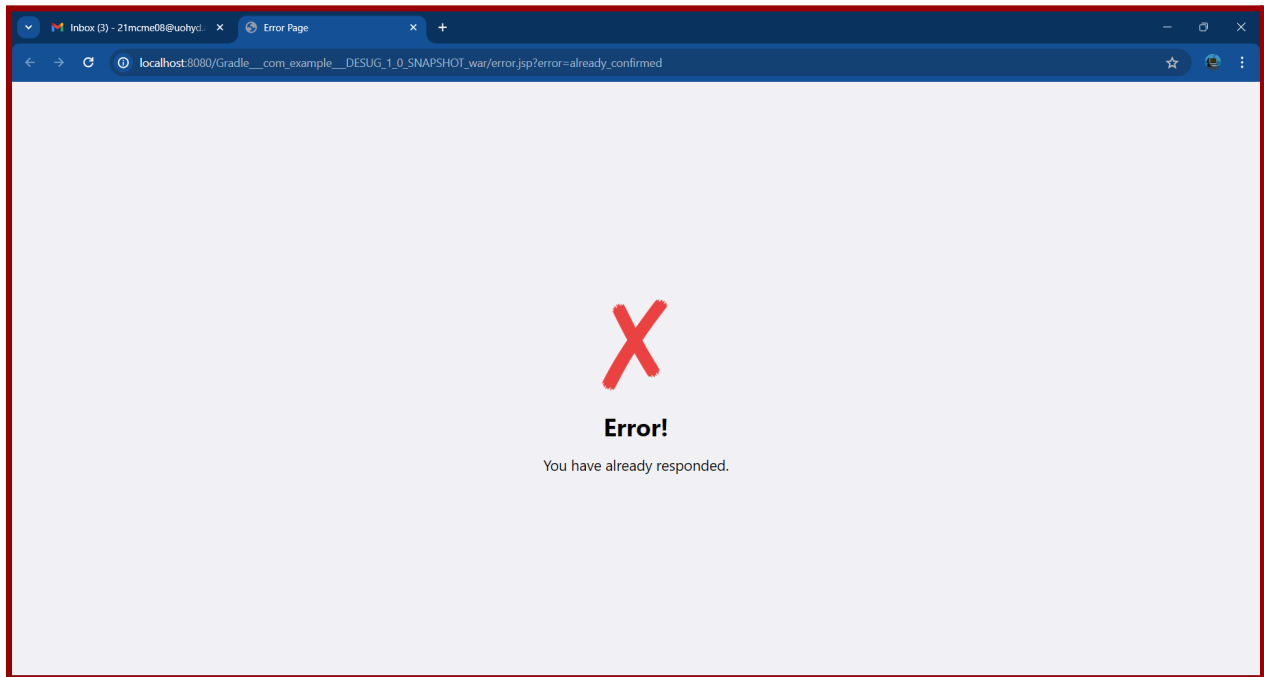
→ Automated Mails



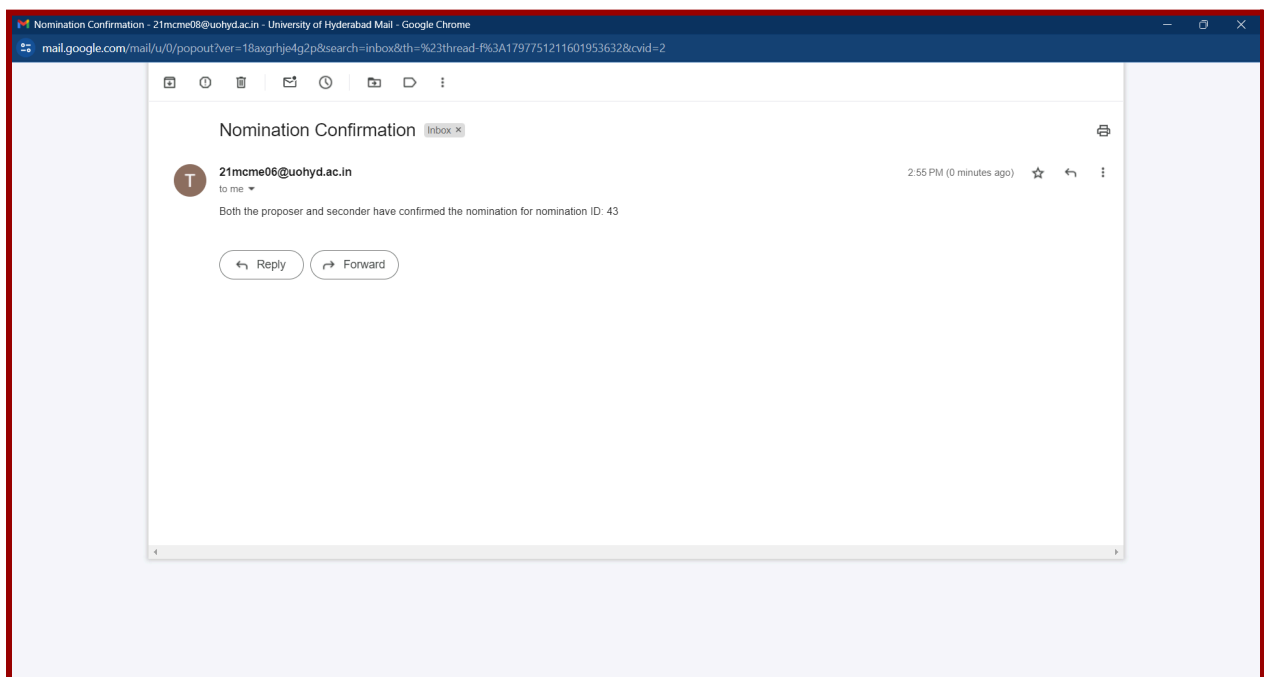
Mail to Proposer/Seconder



Accepted/Rejected by Proposer/Seconder

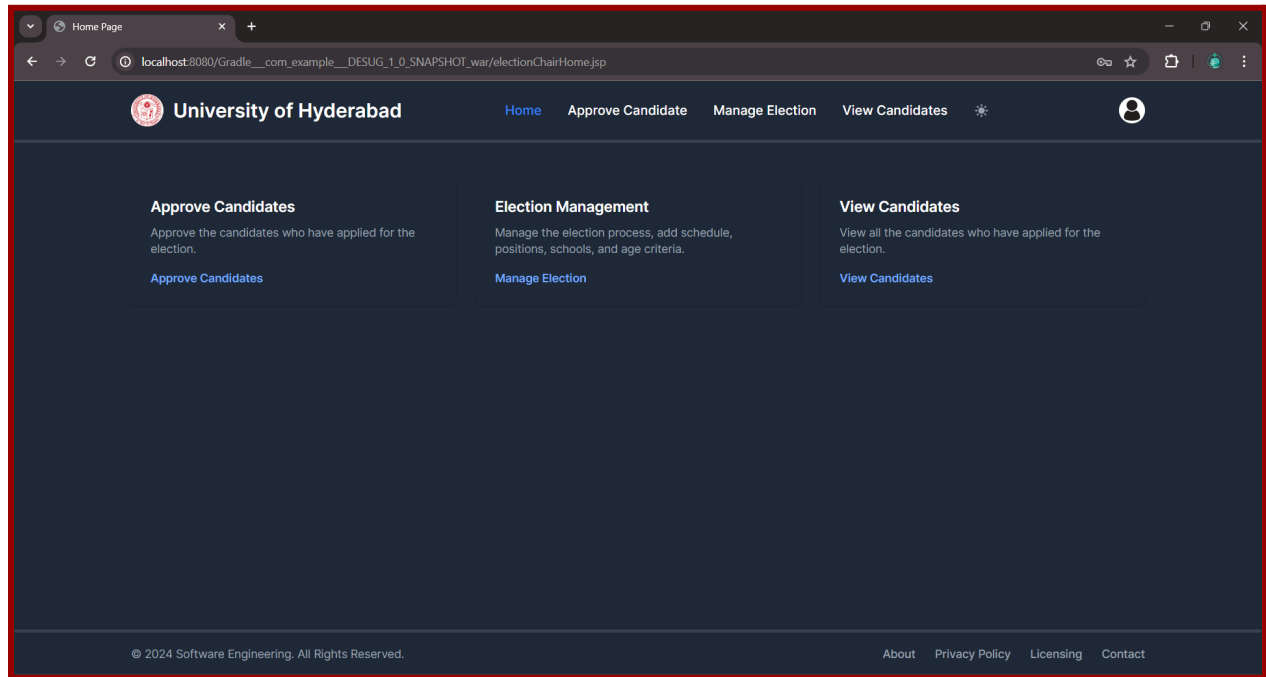


Error in Acceptance/Rejection

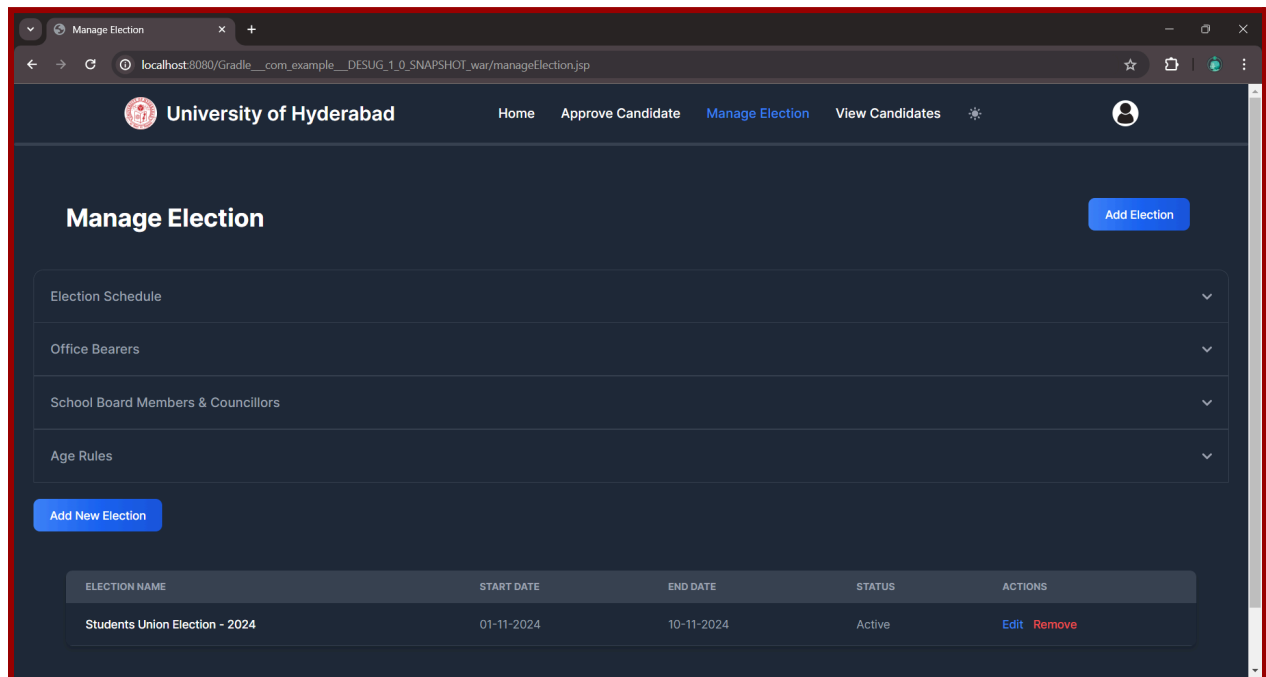


Mail to Dean

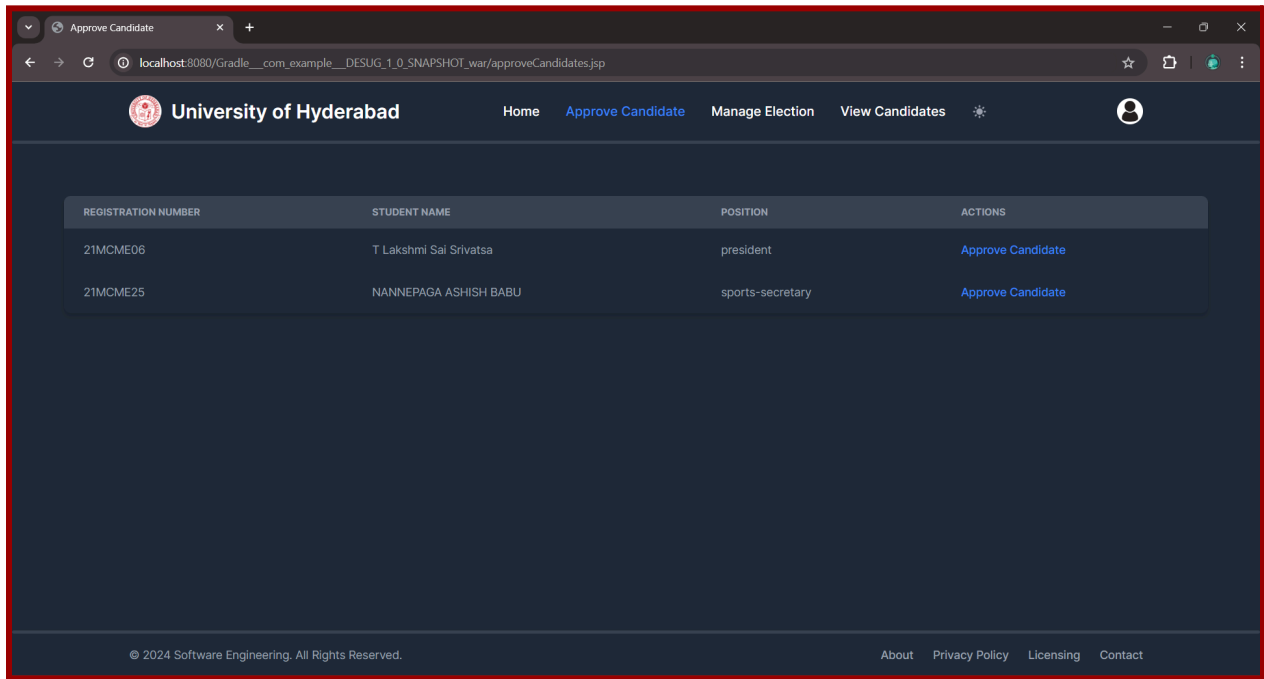
→ Election Chair Interfaces



Election Chair's HomePage



Manage Election



List of Candidates to be Approved

DOCUMENT NAME	FILE LINK	ACCEPT/REJECT
Candidate's Category Certificate		<input type="radio"/> Accept <input type="radio"/> Reject
Seconder's Semester Card		<input type="radio"/> Accept <input type="radio"/> Reject
Candidate's DoB Proof		<input type="radio"/> Accept <input type="radio"/> Reject
Proposer's Semester Card		<input type="radio"/> Accept <input type="radio"/> Reject
Candidate's Certificate of Attendance & Academic Record		<input type="radio"/> Accept <input type="radio"/> Reject
Candidate's Semester Card		<input type="radio"/> Accept <input type="radio"/> Reject

☐ I hereby confirm my declaration against each document provided by the Student.

Comment

Write your comments here...

Approve Candidate Form

CANDIDATE NAME	REGISTRATION NUMBER	POSITION	STATUS	CATEGORY	DEPARTMENT	SUBJECT	COURSE
KOTTHAGATTU MEHER SAI	21MCME07	president	Rejected by Proposer or Seconder	gen	SCIS	CS	IMTECH
stu1	21MCME01	cultural-secretary	Dean Rejected	gen	SCIS	CS	IMTECH
stu2	21MCME02	general-secretary	Rejected by Proposer or Seconder	gen	SCIS	CS	IMTECH
stu3	21MCME03	cultural-secretary	Rejected by Proposer or Seconder	gen	SCIS	CS	IMTECH
stu4	21MCME04	cultural-secretary	EC Rejected	obc	SCIS	CS	IMTECH
T LAKSHMI SAI SRIVATSA	21MCME06	president	Dean Approved	gen	SCIS	CS	IMTECH
Ritik Kumar Seth	21MCME15	president	EC Rejected	gen	SCIS	CS	IMTECH
stu16	21MCME16	general-secretary	EC Accepted	obc	SCIS	CS	IMTECH
T Bharath Simha Reddy	21MCME05	sports-secretary	Nomination Withdrawn	gen	SCIS	CS	IMTECH
stu12	21MCME12	general-secretary	File Nomination Form Submitted	obc	SCIS	CS	IMTECH
NANNEPAGA ASHISH BABU	21MCME25	sports-secretary	Dean Approved	sc	SCIS	CS	IMTECH

All Candidates List with their Status

→ Dean Interfaces

University of Hyderabad

[Home](#) [Certify Candidate](#)

Certify Candidate
 Certify a candidate with the attendance and academic record.
[Certify Candidate](#)

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Dean's HomePage

REGISTRATION NUMBER	STUDENT NAME	POSITION	ACTIONS
20MCME01	stu1	vice-president	Certify Candidate
20MCME02	stu2	vice-president	Certify Candidate

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List of Candidates to be Certified

View Candidate's Certificate of Attendance & Academic Record ☐ I hereby certify that the uploaded certificate is valid.

Certify Candidate

Name:

Registration Number:

Programme of Study:

Subject:

Semester:

FOR INTEGRATED/PG & MPIL STUDENTS

Is she/he a registered student?
☒ Yes ☐ No

Does the student have 75% attendance in the current semester as on [date]?
☒ Yes ☐ No

The student's academic arrears/backlogs are as per the University norms?
☒ Yes ☐ No

Comments if any, HoD/Dean:

Certify Candidate Form

→ Student Interfaces

The screenshot shows a web browser window with the URL `localhost:8080/Gradle___com_example___DESUG_1_0_SNAPSHOT_war/candidateRegistration.jsp`. The page header includes the University of Hyderabad logo and navigation links: Home, File Nomination, and Withdraw Nomination. A progress bar at the top shows five steps: File Nomination (checked), Upload Enclosures (checked), Proposer & Seconder Approval (checked), Dean Approval (checked), and Election Chair Approval (checked). The main section is titled "Nomination Form" and contains the following fields:

- Name of the Position:
- Registration Number:
- Name of the Candidate in BLOCK LETTERS(as displayed on the Reg./ Semester ID Card):
- Name of the Candidate to be displayed on the Ballot Paper in BLOCK LETTERS:
- Date of Birth:

Nomination Form

The screenshot shows a web browser window with the URL `localhost:8080/Gradle___com_example___DESUG_1_0_SNAPSHOT_war/candidateRegistration.jsp`. The page displays a form for the "PROPOSER'S Course & Subject" and "Name of the SECONDER". A modal window titled "UNDERTAKING BY THE CANDIDATE FILING THE NOMINATION" is open, containing the following text:

I, _____, Registration Number: _____ Course/Subject: _____ have filed my nomination for the post of _____

I hereby undertake:

1. That the Proposer & Seconder Of my nomination are full-time duly registered students Of the University.
2. That I do not have any criminal case filed against me in any police station / criminal record and have not been subjected to any disciplinary action by the University.
3. That I have 75% of attendance upto 3 October 2023 and that academic arrears if any, are as per the norms Of the university.
4. That I am not pursuing a second programme / course in this University at the same level.
5. That I will diligently follow without fail all regulations issued down

"I fully understand that I would be held responsible and my candidature and / or election to office, would be nullified for failing to follow norms laid down by the Returning Officers. The Returning Officers have the authority to cancel my candidature / nullify my election to office if any of the information furnished is found to be incorrect."

I AGREE TO THE TERMS AND CONDITIONS ☐

Undertaking Form

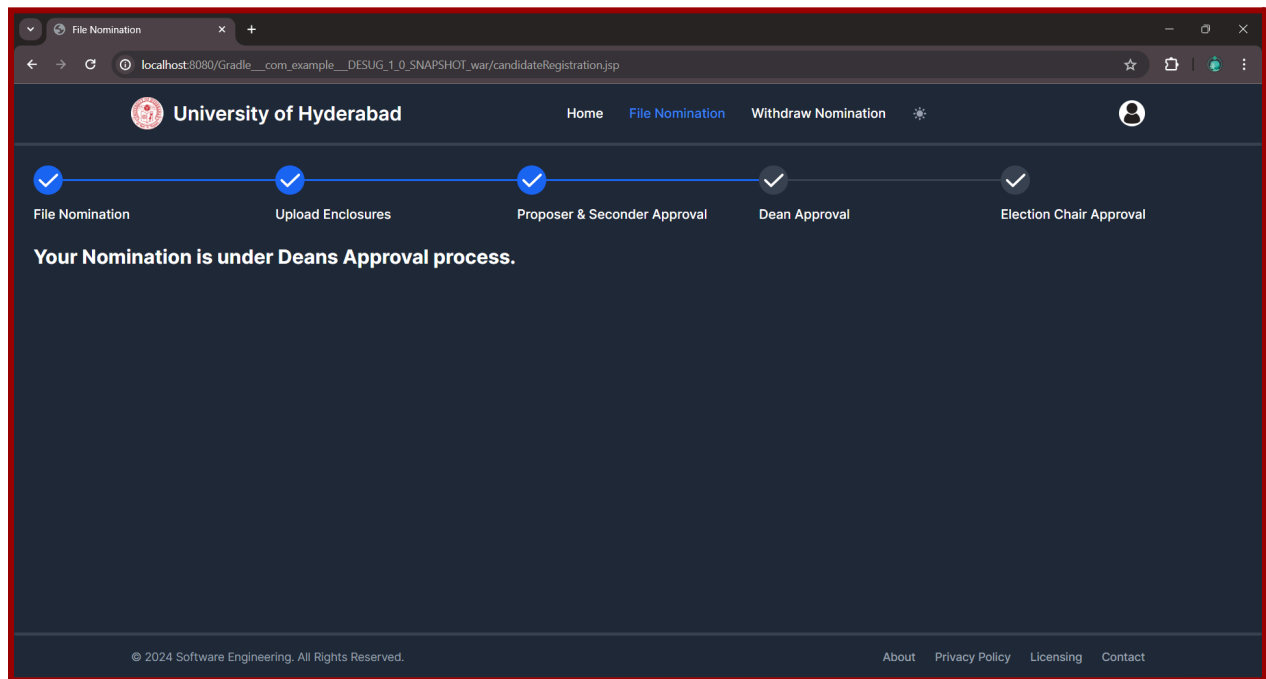
The screenshot shows a web browser window with the URL `localhost:8080/Gradle___com_example___DESUG_1_0_SNAPSHOT_war/candidateRegistration.jsp`. The page header includes the University of Hyderabad logo and navigation links: Home, File Nomination, and Withdraw Nomination. A progress bar at the top indicates the current step is 'Upload Enclosures', with previous steps 'File Nomination' and 'Proposer & Seconder Approval' also marked as complete. The main section is titled 'Enclosures' and instructs the user to 'Upload the following documents:'. There are four upload sections, each with a 'Choose File' button and a 'No file chosen' status:

- Upload Candidate Semester Registration Card
- Upload Proposer Semester Registration Card
- Upload Seconder Semester Registration Card
- Upload Proof for Date of Birth

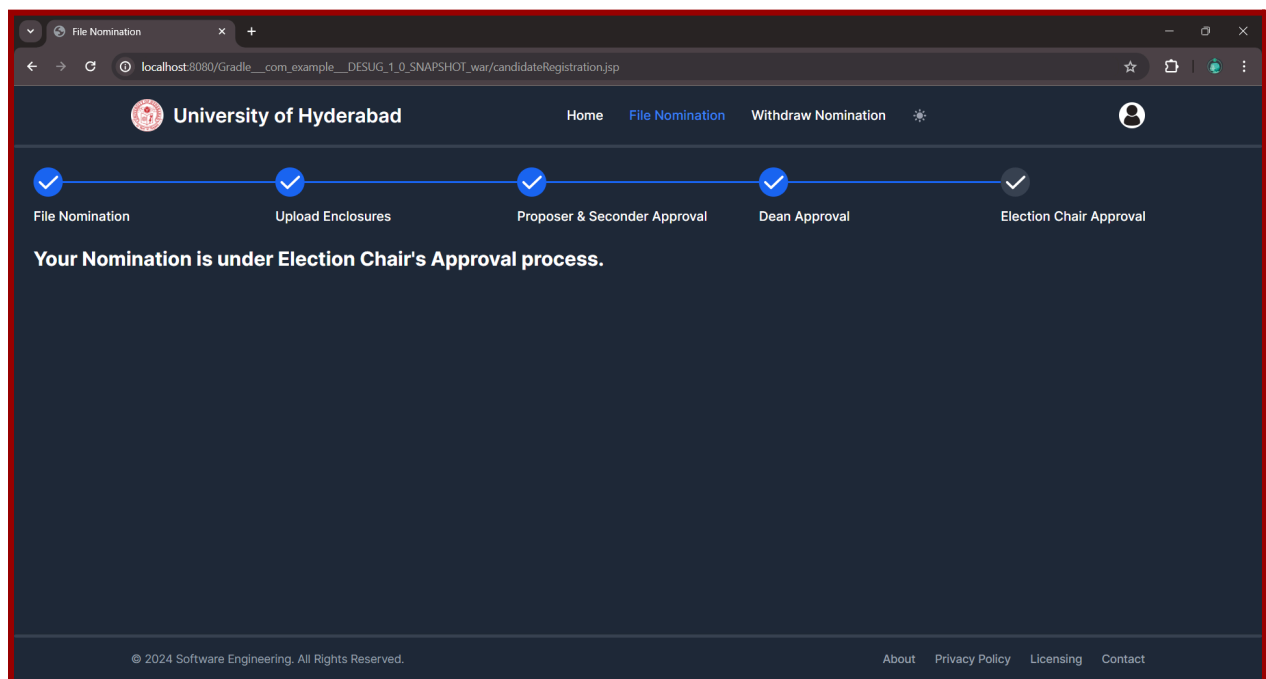
Enclosures Form

The screenshot shows the same web browser window, but the progress bar now indicates that 'Upload Enclosures' is complete, and the current step is 'Proposer & Seconder Approval'. The main section displays the message: 'Your Nomination needs to be approved by the Proposer and the Seconder.' The footer of the page contains the copyright notice '© 2024 Software Engineering. All Rights Reserved.' and links for 'About', 'Privacy Policy', 'Licensing', and 'Contact'.

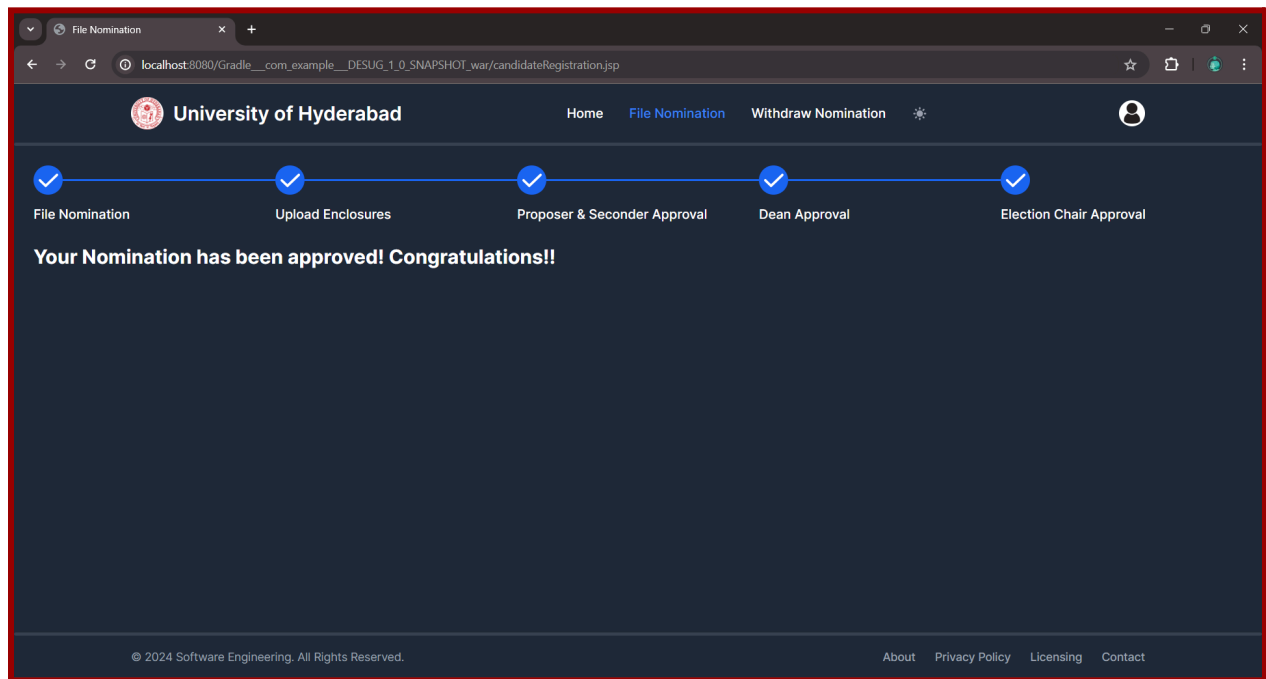
Wait for Proposer & Seconder Approval



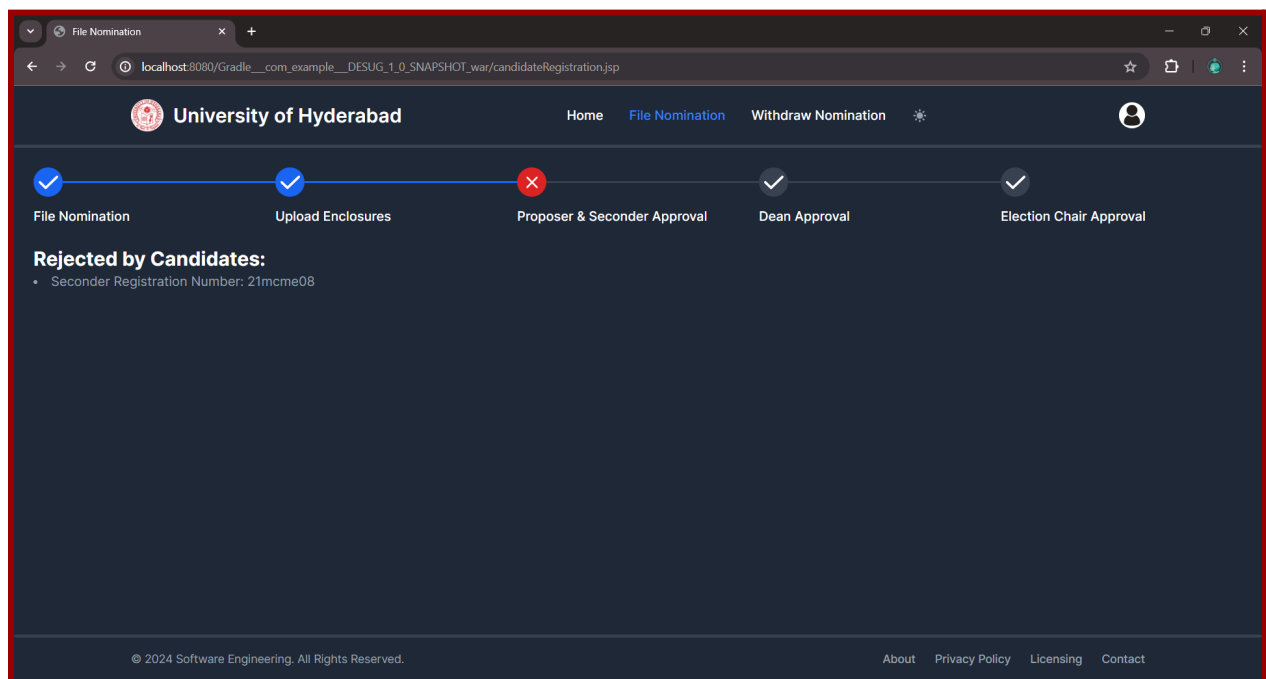
Wait for Dean's Approval



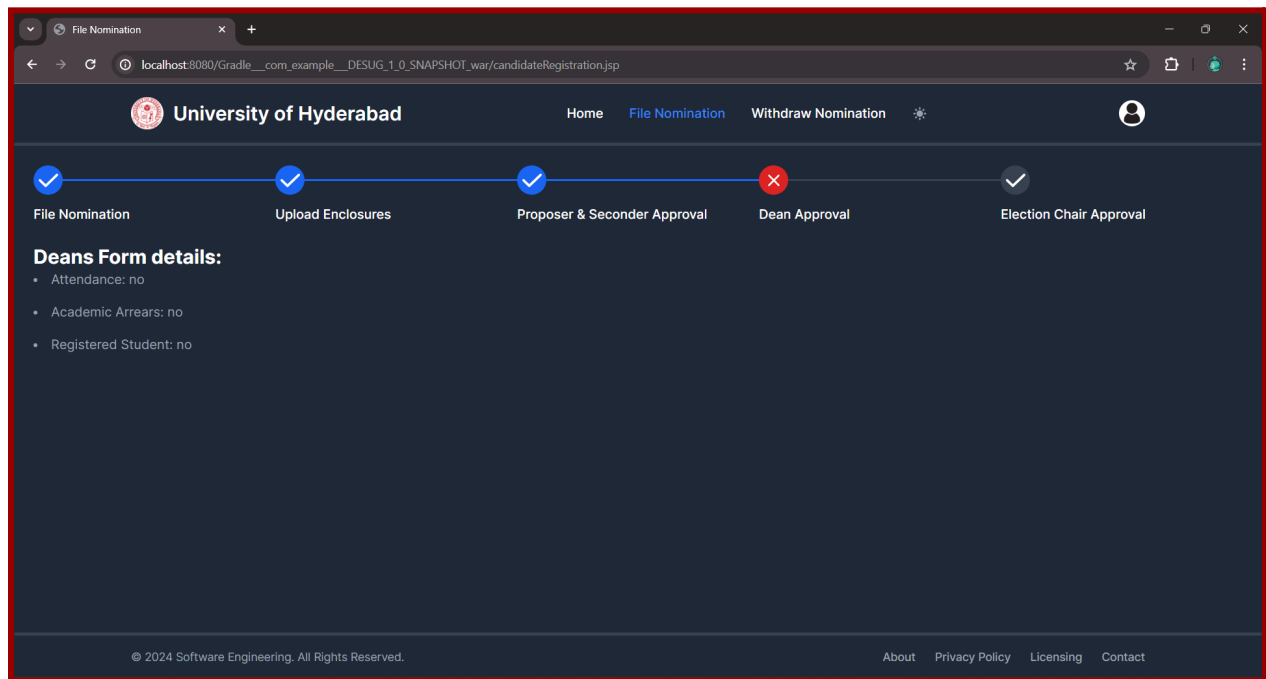
Wait for the Election Chair's Approval



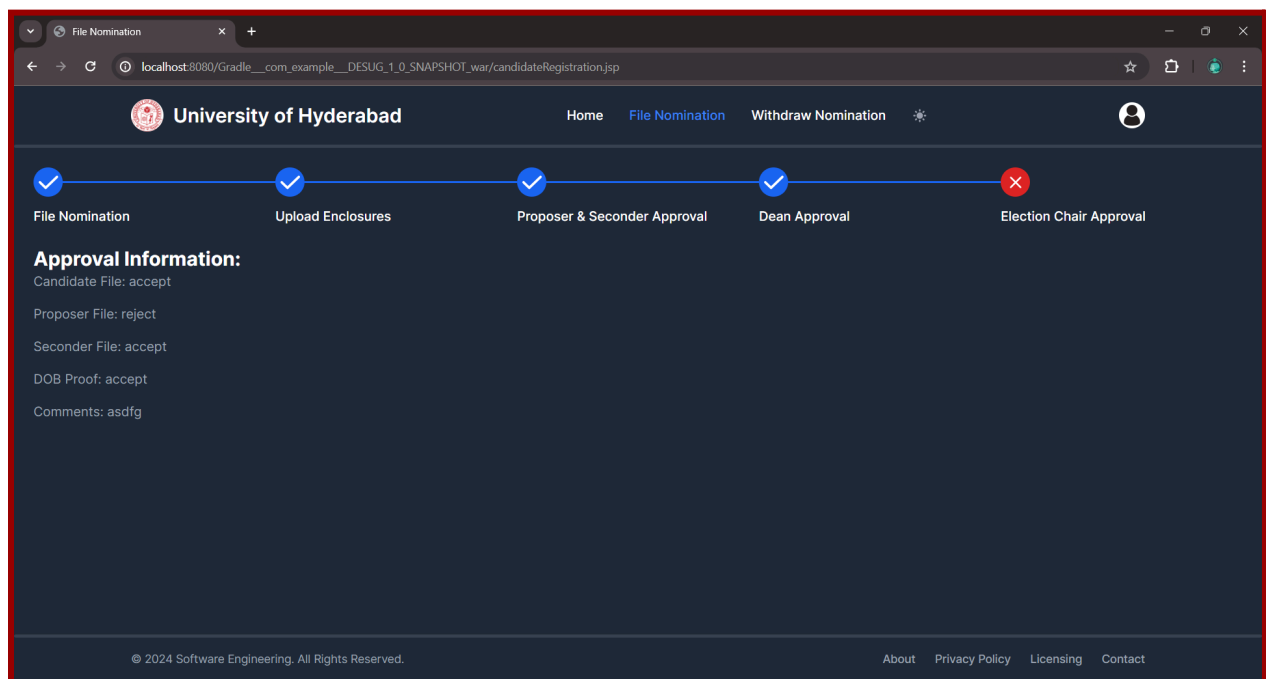
Nomination Approved



Rejection by Proposer and/or Seconder



Rejection by Dean



Rejection by Election Chair

Withdraw Nomination

University of Hyderabad

Home File Nomination Withdraw Nomination

Withdrawal of Nomination

I "stu16", Reg. No. "21MCME16", Department/School/College "SCIS", do hereby withdraw my nomination voluntarily for the Position of "general-secretary" in the Students' Union Election.

[Uploaded Semester Card](#)

[Withdraw](#)

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Nomination Withdrawal Form

Withdraw Nomination

University of Hyderabad

Home File Nomination Withdraw Nomination

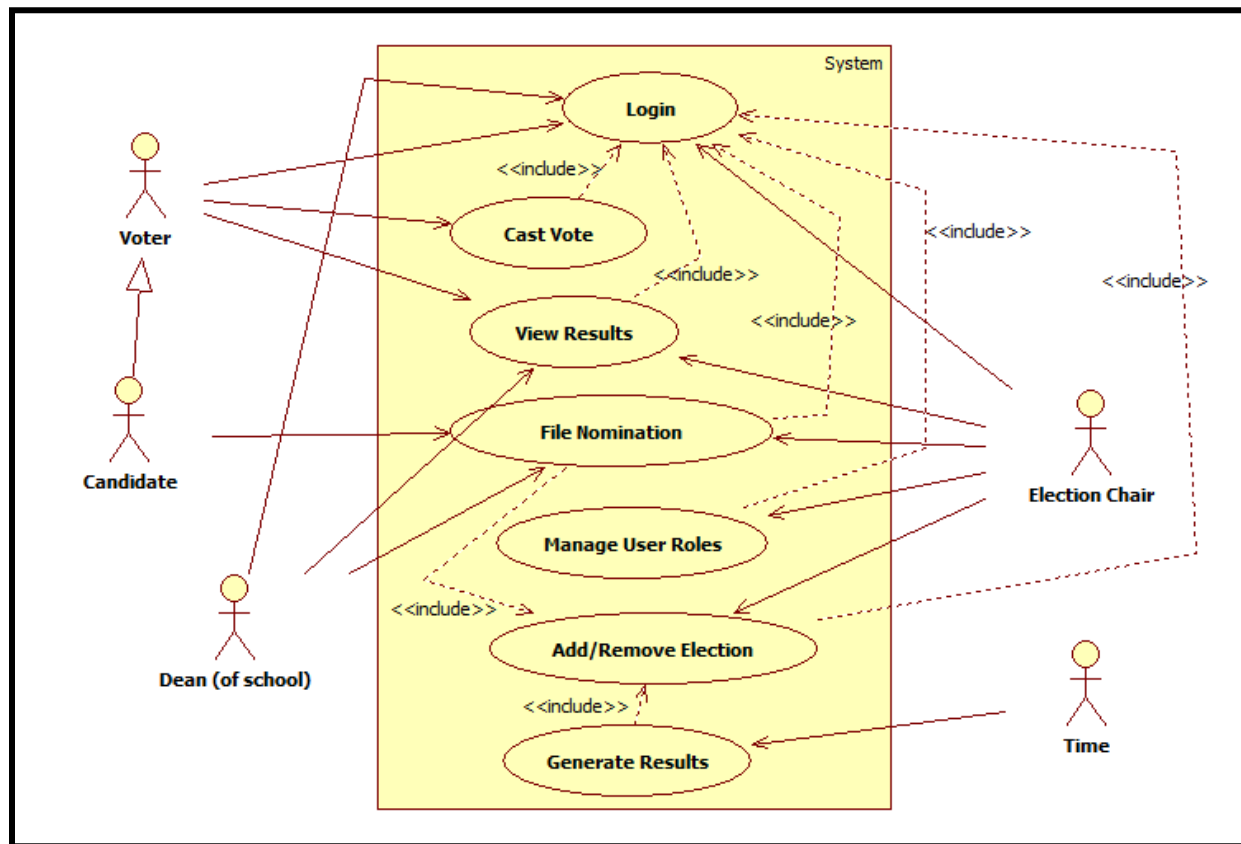
Withdrawal of Nomination

Your nomination has been withdrawn successfully.

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After the Withdrawal of the Nomination

Appendix-II: Use Case Model / Use Case Diagram



Appendix-III: Use Case Specifications

● Login:

Use Case ID:	001		
Use Case Name:	Login		
Created By:	TLS Srivatsa	Last Updated By:	A Sidhartha
Date Created:	09-02-2024	Date Last Updated:	22-03-2024

Actors:	Voter, Dean (of school), Election Chair
Description:	An actor enters their username and password to login to the system
Preconditions:	
Postconditions:	The actor gets logged in to their account
Normal Flow:	<ol style="list-style-type: none"> 1. The actor enters their username in the textbox associated with the username. 2. The actor enters their password in the textbox associated with the password. 3. The actor hits the login button. [A1][A2] 4. The actor gets logged in.
Alternative Flows:	<p>A1. The username or password is entered wrong.</p> <p style="padding-left: 20px;">A1.1. The actor gets a message with the wrong username or password and is asked to re-enter the credentials.</p> <p style="padding-left: 20px;">A1.2. If incorrect credentials are entered more than 3 times continuously, a warning message is sent to the registered mail.</p> <p>A2. The user selects the 'Forgot Password?' option.</p> <p style="padding-left: 20px;">A2.1. The actor will receive a verification code in the email that he need to use to change his/her password.</p>
Exceptions:	
Includes:	
Priority:	Medium
Frequency of Use:	Frequently
Business Rules:	
Assumptions:	All the users of the system are registered with the University for the current semester.

- Cast Vote:

Use Case ID:	002		
Use Case Name:	Cast Vote		
Created By:	A Sidhartha TLS Srivatsa	Last Updated By:	A Sidhartha TLS Srivatsa
Date Created:	09-02-2024	Date Last Updated:	20-02-2024

Actors:	Voter
Description:	The user casts their vote
Preconditions:	Login use case has to be executed successfully
Postconditions:	Casted votes are recorded with the token used
Normal Flow:	<ol style="list-style-type: none"> 1. Generate token - token is sent to registered university email. 2. Cast your vote for the respective candidate. 3. Confirm and Next [A2] (OR) Previous. 4. Repeat steps 3 to 4 through all the candidates for which the user is eligible to vote. 5. Review your choices and change them if necessary. 6. Enter the token and Submit [A1].
Alternative Flows:	A1. If the token is invalid or expired, redirect to the home page and show a warning message A2. Validation of the choices
Exceptions:	
Includes:	
Priority:	High
Frequency of Use:	Frequently
Business Rules:	
Assumptions:	

● File Nomination:

Use Case ID:	004		
Use Case Name:	File Nomination		
Created By:	A Sidhartha	Last Updated By:	A Sidhartha TLS Srivatsa
Date Created:	29-02-2024	Date Last Updated:	08-03-2024

Actors:	Candidate, Dean (of school), Election Chair
Description:	The candidate files his nomination
Preconditions:	Login use case has to be executed successfully and election has to be added successfully
Postconditions:	The candidate is added to the list of valid nominations
Normal Flow:	<ol style="list-style-type: none"> 1. The Candidate fills out the nomination form with their information along with proposer and seconder details. 2. The candidate includes his/her enclosures. 3. The candidate confirms his nomination and submits the Undertaking form. <ol style="list-style-type: none"> 3.1. The Proposer and Seconder receive notifications of their involvement in the nomination. 3.2. The confirm button is enabled for the Candidate after approval by the Proposer and Seconder.[A1] 3.3. The nomination is submitted automatically after reaching the time limit, with approval done. 4. Dean certifies the candidate with a Certificate of Attendance & Academic Record (or) approves the one enclosed by the candidate.[A2] 5. The Election Chair verifies the candidates' details and finalizes his/her candidature.[A3][A4]
Alternative Flows:	<ol style="list-style-type: none"> A1. The candidate is notified if the Proposer or Seconder does not approve their consent, and is provided to update his nomination form. A2. The candidate's Certificate of Attendance & Academic Record is forwarded to the Election Chair for approval if the Dean is not available. A3. The candidate's nomination is rejected if any of the details or documents are found invalid. A4. The Election Chair has the authority to cancel the candidature of a candidate if found violating the rules and regulations of the election process.

Exceptions:	<ol style="list-style-type: none"> 1. Students who are enrolled for a second PG programme in the University are not eligible to contest. 2. Students who are in 3 semesters of M.Phil are also not eligible to contest. 3. Similarly, Ph.D. Scholars in their sixth year or extension are not eligible to contest. 4. Distance / proximate education students are not eligible to contest. 5. Re-admission / Recourse students are not eligible.
Includes:	
Priority:	High
Frequency of Use:	Frequently
Business Rules:	<ul style="list-style-type: none"> • A student who has attained the age of 17 years and who has not completed 28 years on the date of election notification is eligible to file nomination as a candidate. • The candidate can only file a single nomination. • The candidate shall not have a previous criminal record and should not have been subjected to any disciplinary action by the Proctorial Board/Disciplinary Committee of the University.
Assumptions:	<ul style="list-style-type: none"> • The dates from the Election form will be taken into account for displaying the availability of filling forms for the Students. • Academic programmes are classified as under: <ol style="list-style-type: none"> a. <u>Post-Graduate Programmes</u>: M.Sc, M.A, MCA, 5-year Masters (Integrated), Integrated M.Tech. b. <u>Research Programmes</u>: M. Tech, Ph.D, Integrated Ph.D.

- Manage User Roles:

Use Case ID:	005		
Use Case Name:	Manage User Roles		
Created By:	A Sidhartha TLS Srivatsa	Last Updated By:	A Sidhartha TLS Srivatsa
Date Created:	21-03-2024	Date Last Updated:	21-03-2024

Actors:	Election Chair
Description:	The Election Chair can manage the privileges of the users
Preconditions:	Login use case has to be executed successfully
Postconditions:	Privileges given are successfully reflected
Normal Flow:	<ol style="list-style-type: none"> 1. Select the person from the Election Chair. 2. Select the work to be delegated. 3. The person gets the privilege of performing the tasks that are assigned to him/her. 4. Notify the person regarding his task.
Alternative Flows:	
Exceptions:	
Includes:	
Priority:	Low
Frequency of Use:	Rarely
Business Rules:	
Assumptions:	

● Add/Remove Election:

Use Case ID:	006		
Use Case Name:	Add/Remove Elections		
Created By:	TLS Srivatsa A Sidhartha	Last Updated By:	A Sidhartha TLS Srivatsa
Date Created:	21-03-2024	Date Last Updated:	21-03-2024

Actors:	Election Chair
Description:	The Election Chair adds the Elections
Preconditions:	Login use case has to be executed successfully
Postconditions:	Election gets successfully added
Normal Flow:	<ol style="list-style-type: none"> 1. After logging into the system as Election Chair, adding/removing an election is provided on the home page. 2. The Actor, after the 'add election' is selected, will be redirected to a form page, where he fills out the election form. <ol style="list-style-type: none"> 2.1. In this form, the positions and number of positions with the scope of the electoral should be added and selected in the form. 2.2. The dates for the election schedule need to be filled for various events such as Filing of nominations, Withdrawal of nominations, and Submission of polling & counting Agents. 3. An option to remove will be given next to the added Election in the Election List on the home page which removes the Election and respective forms that have been registered against the election.
Alternative Flows:	
Exceptions:	
Includes:	
Priority:	High
Frequency of Use:	Occasionally
Business Rules:	<ul style="list-style-type: none"> ● A student who has attained the age of 17 years and who has not completed 28 years on the date of election notification is eligible to file nomination as a candidate. ● The candidate can only file a single nomination. ● The candidate shall not have a previous criminal record and should not have been subjected to any

	disciplinary action by the Proctorial Board/Disciplinary Committee of the University.
Assumptions:	<ul style="list-style-type: none"> Academic programmes are classified as under: <ol style="list-style-type: none"> <u>Post-Graduate Programmes</u>: M.Sc, M.A, MCA, 5-year Masters (Integrated), Integrated M.Tech. <u>Research Programmes</u>: M. Tech, Ph.D, Integrated Ph.D.

● Generate Results:

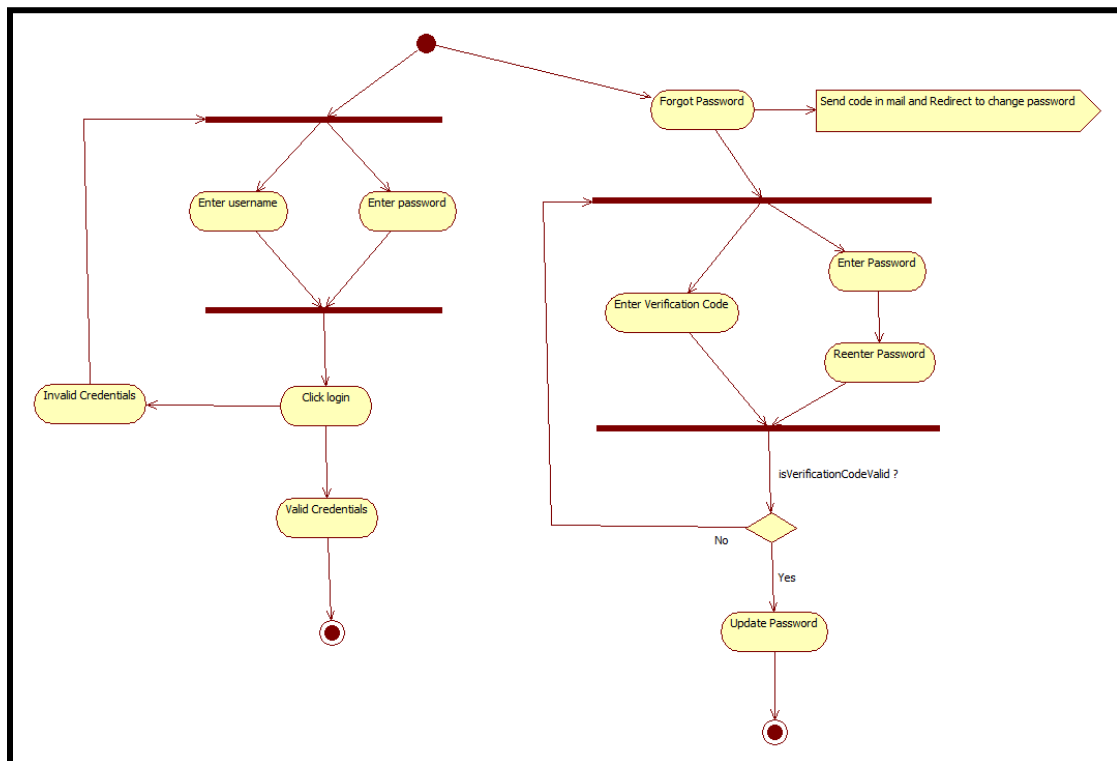
Use Case ID:	007		
Use Case Name:	Generate Results		
Created By:	A Sidhartha	Last Updated By:	A Sidhartha TLS Srivatsa
Date Created:	21-03-2024	Date Last Updated:	21-03-2024

Actors:	Time
Description:	Generate the results of the election after the Voting period ends
Preconditions:	Login and Add/Remove election use cases have to be executed successfully
Postconditions:	Results of the election are generated successfully
Normal Flow:	<ol style="list-style-type: none"> After the voting time is completed, results are automatically computed by the system. Users can view the generated results by navigating to the respective page.
Alternative Flows:	
Exceptions:	
Includes:	

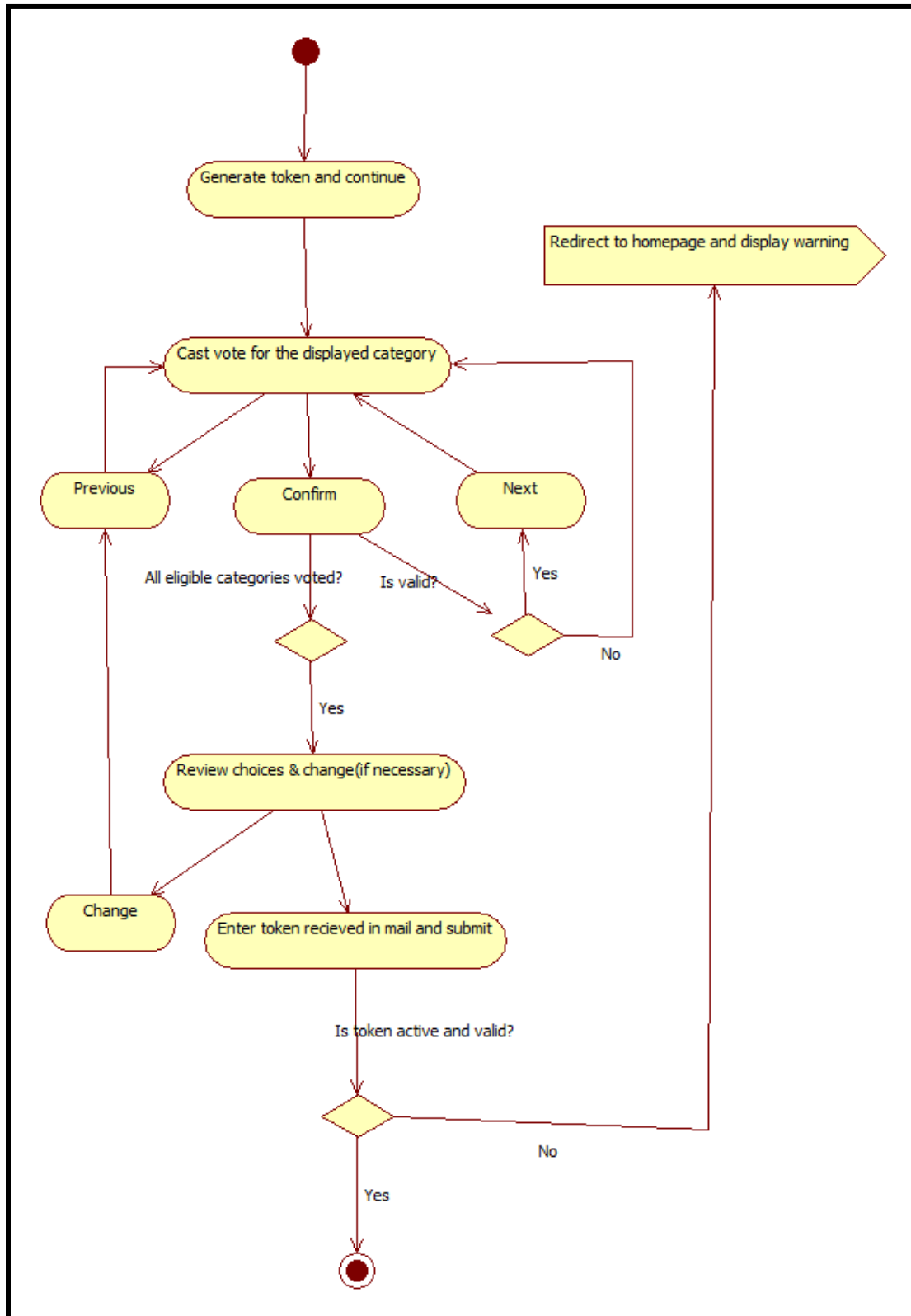
Priority:	High
Frequency of Use:	Occasionally
Business Rules:	
Assumptions:	

Appendix-IV: Activity Diagrams

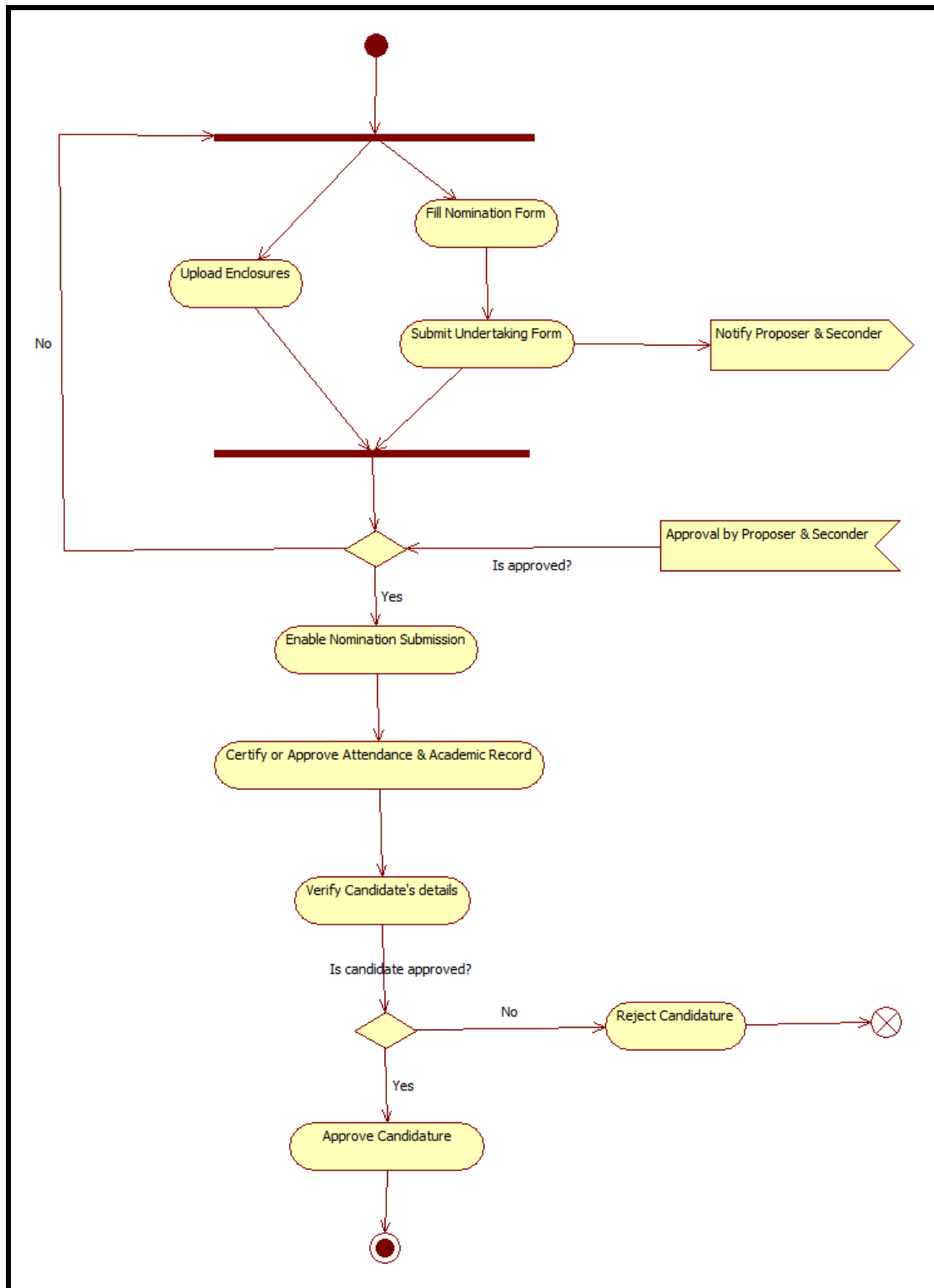
- Login:



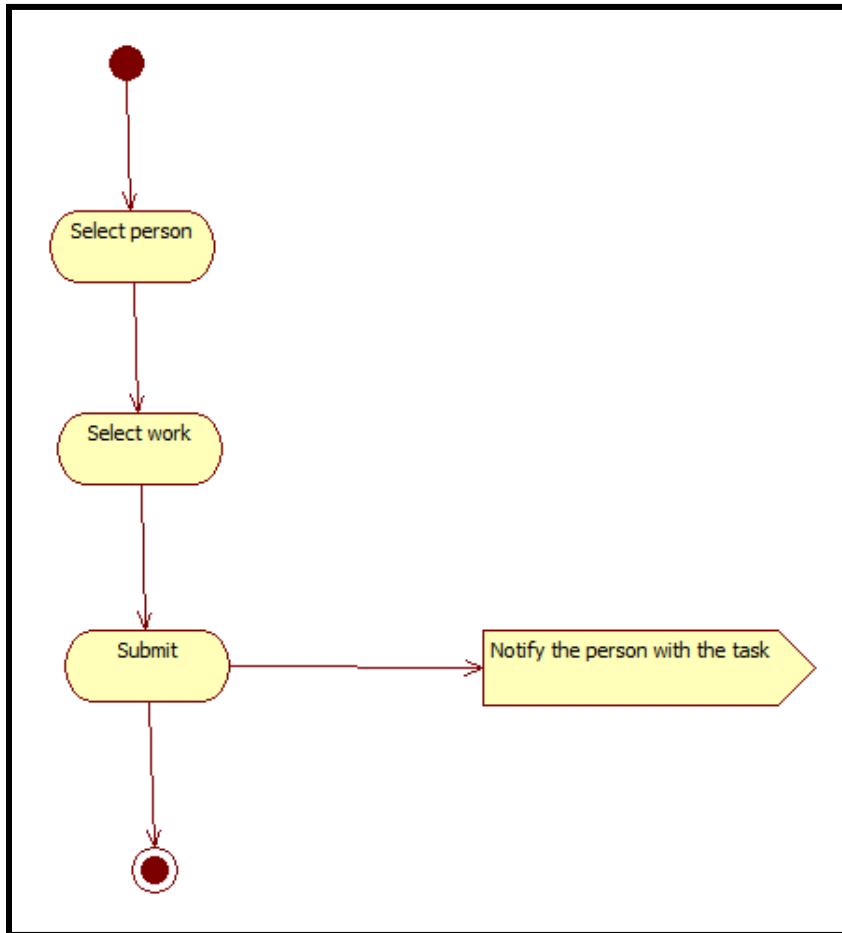
- Cast Vote:



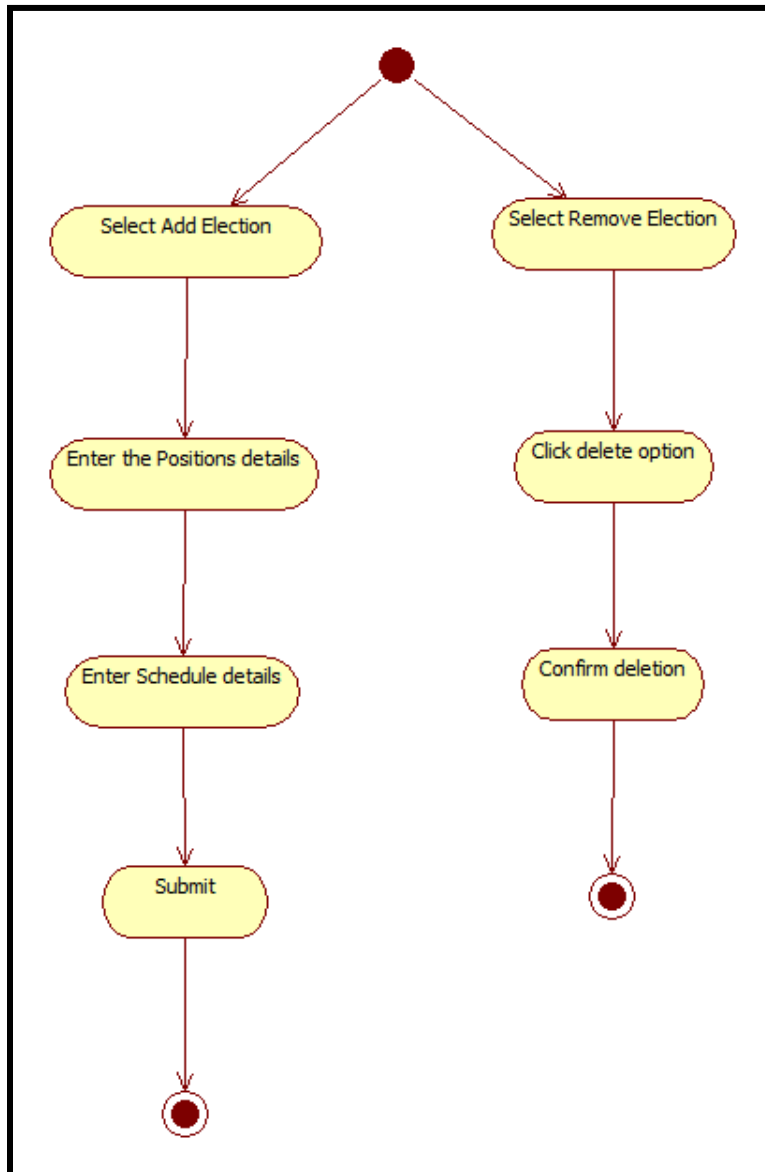
- File Nomination:



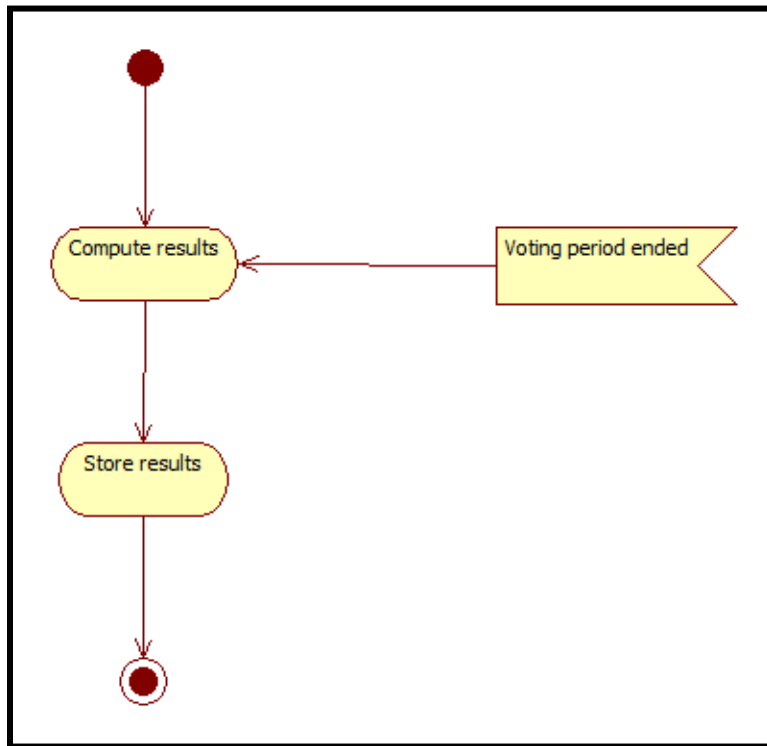
- Manage User Roles:



- Add/Remove Election:



- Generate Results:



Appendix-V: Analysis Classes

(according per the design)

- HomePage
- LoginServlet
- Login
- CandidateRegistrationPage
- SubmitNominationServlet
- Nomination
- DeansHomePage
- ElectionChairsHomePage
- DelegateWorkPage
- DelegateWorkServlet
- ManageElectionPage
- ManageElectionServlet
- CastVotePage
- CastVoteServlet
- GenerateResultServlet