
Software Requirements Specification

for

LNMIIT STUDENT ADMISSION PORTAL

Version 1.0 approved

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Table of Contents

Table of Contents	ii
Revision History	ii
1. Introduction.....	1
1.1 Purpose.....	1
1.2 Document Conventions.....	1
1.3 Intended Audience and Reading Suggestions	1
1.4 Product Scope	1
1.5 References.....	1
2. Overall Description	2
2.1 Product Perspective.....	2
2.2 Product Functions	3
2.3 User Classes and Characteristics	4
2.4 Operating Environment.....	4
2.5 Design and Implementation Constraints	4
2.6 User Documentation	4
2.7 Assumptions and Dependencies	4
3. External Interface Requirements	5
3.1 User Interfaces	5
3.2 Hardware Interfaces	6
3.3 Software Interfaces	6
3.4 Communications Interfaces	6
4. System Features	6
4.1 Chose mode and Signup using the Application Portal.....	6
4.2 Upload and Edit details using the Registration Portal	7
4.3 Edit and verify details using the Admission Portal.....	9
5. Other Nonfunctional Requirements	10
5.1 Performance Requirements	10
5.2 Safety Requirements	11
5.3 Security Requirements	11
5.4 Software Quality Attributes	11
5.5 Business Rules	11
6. Other Requirements	11
Appendix A: Glossary	12
Appendix B: Analysis Models	12
Appendix C: To Be Determined List.....	12

Revision History

Name	Date	Reason For Changes	Version

1. Introduction

1.1 Purpose

This software package is developed from scratch exclusively for The LNM Institute of Information Technology, Jaipur to,

- Allow the applicants to fill their applications easily and view the status at any time.
- Enable the admission department to alter details regarding the admission process swiftly.

1.2 Document Conventions

The following document conventions are followed in preparing the SRS

- SRS – Software Requirement Specification

1.3 Intended Audience and Reading Suggestions

This document is created for,

- The instructors of the course 'Software Engineering' for their review and monitoring the progress of the project.
- The software development team for their use in analyzing the requirements.
- Alternatively, the reader may also only read section 3 and 4 for thorough understanding.

1.4 Product Scope

The scope of the to be developed 'LNMIIT STUDENT ADMISSION PORTAL' software package is:

- i. To replace the existing Student Admissions Software with a more secure and user-friendly interface.
- ii. To enable the admission department to change parameters such as programs offered and number of seats offered, etc.
- iii. Automatic verification of the documents uploaded by the applicants.
- iv. Real-time updates about application status.

1.5 References

The following references have been used in preparing this SRS:

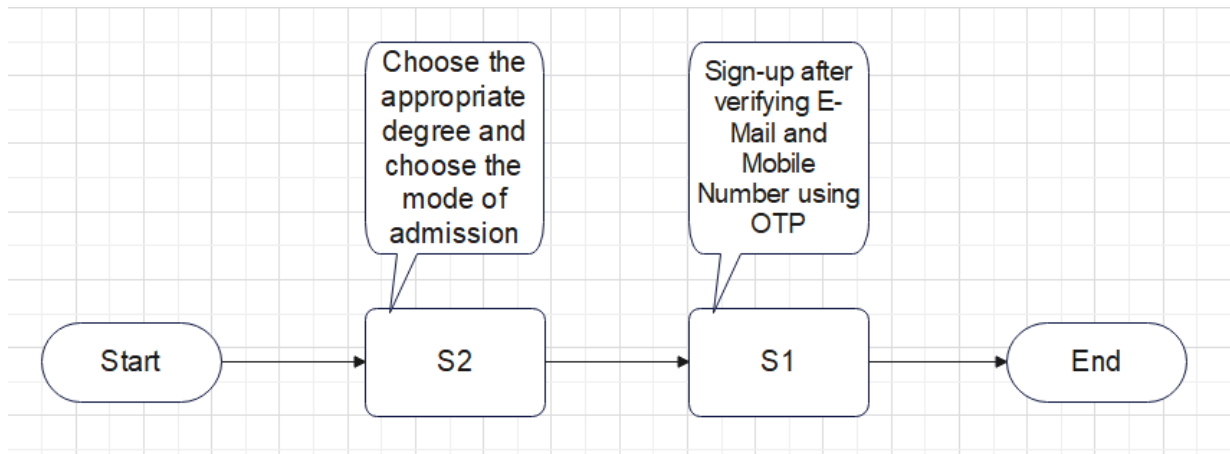
- The SRS template sent by Prof. Vikas Bajpai and Prof. Shweta Saharan.

2. Overall Description

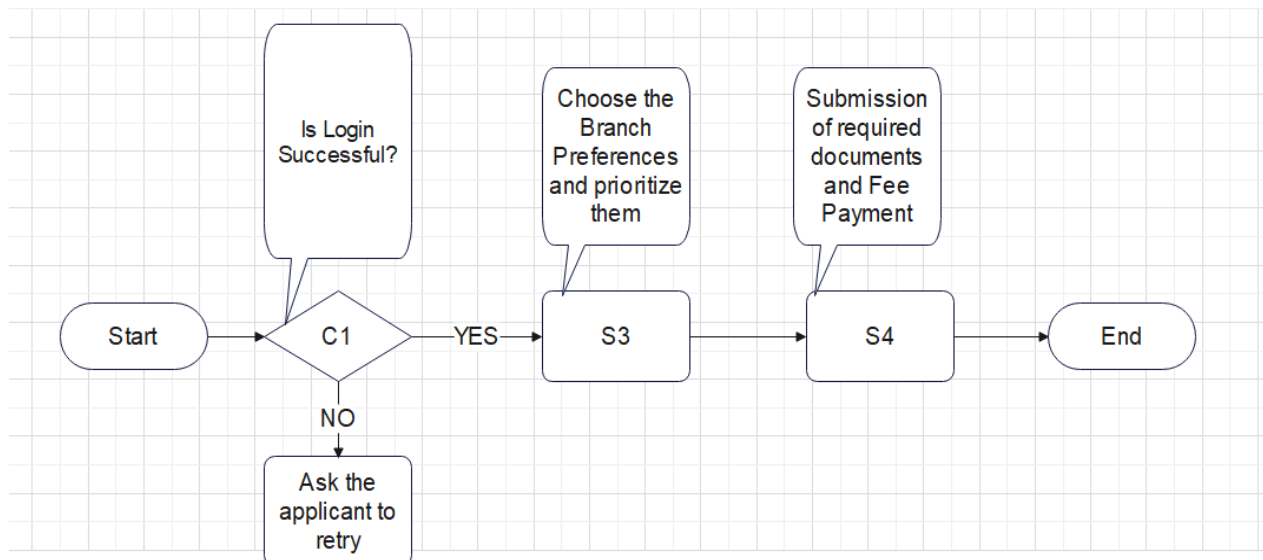
2.1 Product Perspective

This Product is a replacement for the existing Student Admissions Software.
Major Components using diagrams –

1.) Creation of New Application Account

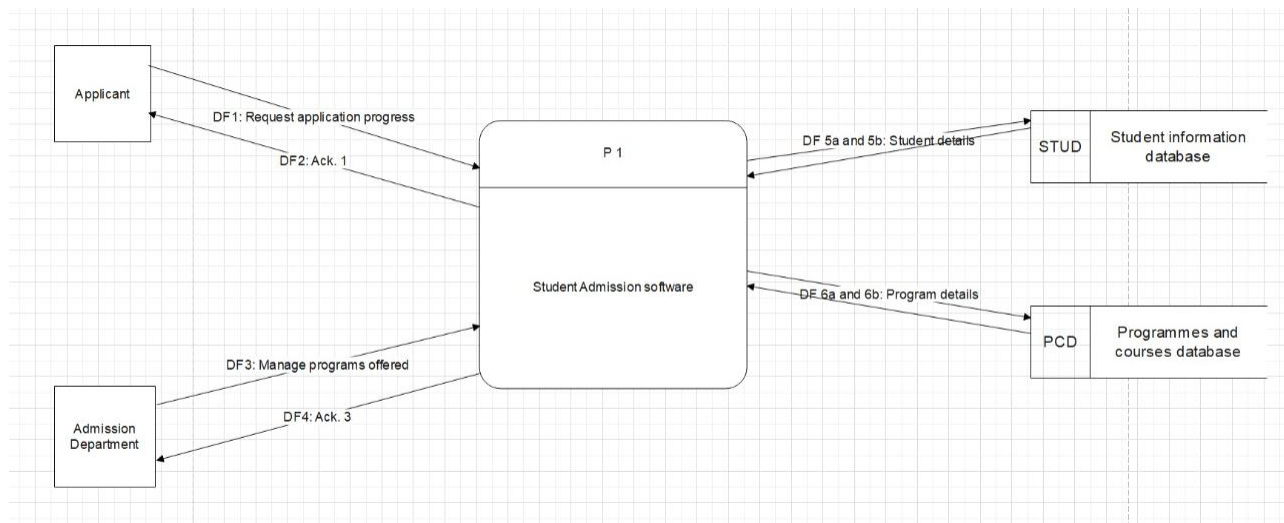


2.) Status of the Registration



2.2 Product Functions

- For Administration of LNMIIT
 - Programs offered and seats allocated/offered
 - Fee Structure
 - Important Dates
- For Applicants of LNMIIT
 - Facility to go through their application progress
 - Facility to view their details and change a few of them



2.3 User Classes and Characteristics

Following are the User Classes that will be using this Product –

- 1.) A student who will be using the Registration Portal for applying for LNMIIT
- 2.) A Student who will be using the Application Portal for tracking progress of his/her application for LNMIIT
- 3.) The Administration will use the Administration Portal for verification and making important updates.

2.4 Operating Environment

Client Side			
	Processor	Ram	Disk Space
Internet Explorer	1 gigahertz (GHz) or faster with support for PAE, NX, and SSE2	1 gigabyte (GB) (32-bit) or 2 GB (64-bit)	16 GB (32-bit) or 20 GB (64-bit)
Server Side (For 5 Concurrent Users)			
Windows Server 2008 R2 (64-bit)	2 x Intel Core 2 (2.66 GHz, 128K cache)	4GB	10 GB

2.5 Design and Implementation Constraints

Some of the design and implementation constraints identified are listed below:

1. Student shall not be allowed to register for UG and PG courses simultaneously.
2. Student shall pay the fees either using the online/digital payment system or using online RTGS/NEFT payment system.
3. The software is limited to HTTP/HTTPS protocols.
4. The number of concurrent users is TBD (to be decided).

2.6 User Documentation

- 1.) This software package will come with a user's manual in the form of readings and video tutorials.
- 2.) The manual will help the customer to get well versed with the interfaces, design, and other important details regarding the software.

2.7 Assumptions and Dependencies

The following assumptions are made –

- 1.) Payment gateway component provided by a trusted and secure company will be used for handling payments on the website. If a payment fails, then our product will not be responsible.
- 2.) API provided by official government website for will be used for verification of important documents uploaded by the applicant.
- 3.) The user shall have a machine that fulfills the minimum requirements stated in 2.4

3. External Interface Requirements

3.1 User Interfaces

1) Login Interface:

- a) A student can Sign-up through his/her Email-id or Phone no. to start the application process.
- b) After login, Student will be directed to the initial application process page where he/she is required to fill all the mandatory details and pay the application fee.
- c) After successful fee payment, the student is now registered in the admission process and a new registration id and password will be provided to the user for future login purpose.
- d) The 'HELP' button will provide user proper documentation to smoothly continue with the application process. Users can also provide feedback through this process.

2) Applicant Interface:

- a) Application id and password is used for login.
- b) User can see his/her Personal Academic and Financial details through their respective button.
- c) Live Admission status will provide user his/her current allotted seat (if any) and the waiting list for the higher preference branch.
- d) Payment options will link directly to safe payment Gateway, Once the required fee is paid user can generate Fee receipt through 'GENERATE FEE RECEIPT' option.
- e) Once the user confirms the payment, he/she will not be able to revert the payment. To make refund, they shall follow the refund policy.
- f) The 'HELP' button will provide user proper documentation and contact options of the admission department to smoothly continue with the application process. Users can also provide feedback which will be sent to Administration.

3) Administration Interface:

- a) This portal/interface shall only be visible to those who have access to it. The access will be done to provided user id and password.
- b) The user shall verify themselves through an authentication process before making any changes(add/edit) to the Admission Portal.
- c) Administrator will be provided with GUI's which can be used to add/edit important details regarding Admission process like Deadlines, Fee structure, edit window opening and closing.

- d) All the feedback and help requests will be visible to the administrator under 'Feedback and Help request' option.
- e) All the required document verification will be done through API's provided by the development team. Administrator can use it to verify any number of applicant details at once.

3.2 Hardware Interfaces

1. This Website works on Windows/IOS/Linux desktops, Mobiles and Tablets. No other hardware is required.
2. Screen resolution of at least 800 X 600 is required for proper and complete viewing of screens. Higher resolution will be accepted.

3.3 Software Interfaces

Following are the software used for the Student Admission Portal:

1. This Website works smoothly on any Operating system.
2. To save the Applicant Records, we have chosen PostgreSQL database.
3. Front end: React, Tailwind, AntD
4. Back End: NodeJS, ExpressJS
5. Deployment: Heroku

3.4 Communications Interfaces

The Users shall have the following functionalities:

1. A valid E-mail id or Phone no. through which the initial communication will take place.
2. Users on Internet will be using HTTP/HTTPS Protocol.
3. This website supports all types of Web Browsers.

4. System Features

The following system features are listed according to the type of Uses –

4.1 Choose mode and signup using the Applicant Portal

4.1.1 Description and Priority

This feature should facilitate the student to,

- 1.) Choose Degree and Mode of application.
- 2.) Signup using email and mobile verification.

4.1.2 Stimulus/Response Sequences

SR. NO.	USER ACTIONS	SYSTEM RESPONSES
1	Select the Degree and Mode	Software will display the details according to the Degree and Mode selected by the user
2	Enter E-Mail and Mobile Number	Software will verify using OTP and then display the initial application page

4.1.3 Functional Requirements

REQ-1: The user shall choose Degree and Mode before doing signup.

4.2 Upload and Edit Details using the Registration Portal

4.2.1 Description and Priority

This feature should facilitate the applicant to,

- 1.) Upload his/her Personal Details, Academic Details and Financial Details.
- 2.) Pay his/her application fees.
- 3.) View his/her Personal Details, Academic Details and Financial Details.
- 4.) Edit his/her Email-Id, Phone Number, Residential Address,
- 5.) Edit his/her Academic Details in the time frame approved by the Administration.
- 6.) Hold the current allotted seat by paying the required fees before deadline.
- 7.) Drop the current held seat and initiate the refund process.

4.2.2 Stimulus/Response Sequences

SR. NO.	USER ACTIONS	SYSTEM RESPONSES
1	The Applicant accesses the Portal through the Internet	Software will display the following options: a) User Id b) Password
2	The Applicant logs in using the assigned Application Id and Password	Software will validate the details and show the Applicant Portal's Initial Screen
3	Upload Personal Details	Software will show a self-verification message and then shows the next page after saving the entered details
4	Upload Academic Details	Software will show a self-verification message and then shows the next page after saving the entered details
5	Upload Financial Details	Software will provide an Application Id and Password after payment verification, and generation of Fee Receipt
6	Pay application fees	Software will show the amount to be paid and a payment link. After successful payment, the applicant will have a registration id.
7	The Applicant can choose the 'Personal Details' option	Software will fetch the Personal Details from the database and show them to the Applicant
8	The Applicant can choose the 'Edit Personal Details' option	Software will make the fields editable that are allowed by the Administrator
9	The Applicant can choose the 'Academic Details' option	Software will fetch the Academic Details from the database and show them to the Applicant
10	The Applicant can choose the 'Edit Academic Details' option	Software will verify the edit window and then make the fields editable that are allowed by the Administrator. If the edit window is closed, then it can request to the Administrator.
11	The Applicant can choose the 'Current Allocation Status' option	Software will show the current allocated seat and waiting list for higher priority preference (if any). If no seat is allocated, then it shows the waiting list for the lowest priority preference
12	The Applicant can choose the 'Hold Current Allotted Seat' option	Software will show the amount to be paid and generate a payment link, to hold the current seat
13	The Applicant can Pay the Fees through the Payment Link	Software will verify the payment. Once verified, the seat will be allocated to the applicant and update the waiting list accordingly
14	The Applicant can choose the 'Drop Seat' option	Software will ask the Applicant for Application Id and Password. After verification, the software will remove the Applicant from the Application process and update the waiting list accordingly. Refund process will also be initiated.

4.2.3 Functional Requirements

In addition to 4.1.3,

REQ-1: The Details filled in incorrect format should not be accepted and the use must be prompted to re-fill them.

REQ-2: Compulsory Details are marked with “*” and shall be filled by the user.

REQ-3: The Applicant shall not be able to edit details after the deadline specified by the Administrator.

REQ-4: The Payment Gateway, provided, shall be safe and secure, and in case of failure refund shall be made immediately.

4.3 Edit and Verify Details Using Administrator Portal

4.3.1 Description and Priority

The software package should facilitate the administrative staff to:

- 1) View and Verify applicant details.
- 2) Maintain and update course and specialization details.
- 3) Add or update important details regarding seats in each program.
- 4) Update Fee Structure and Event Details of Admission Process for each program.

4.2.2 Stimulus/Response Sequences

SR. NO.	USER ACTIONS	SYSTEM RESPONSES
1	The Administrator accesses the Portal through the Internet	Software will display the following options: a) User Id b) Password
2	The Administrator logs in using the assigned Application Id and Password	Software will validate the details and show the Administrator Portal's Initial Screen
3	The Administrator can choose the 'Verify Applicant Details' option	Software will validate the Applicant Details using API from "apisetu.gov" and show whether the details are valid or not
4	The Administrator can choose the 'Prompt Students with incorrect details' option	Software will send an email to the applicants whose application details are filled incorrectly
5	The Administrator removes the invalid applications once the correction window closes	Software deletes the data of Applicants whose details were incorrectly filled and who did not take any action before the correction window closed.
6	The Administrator can choose the option 'Open Edit Window' option	Software allows the students to edit their details that shall be validated after the edit window closes.

7	The Administrator can choose the 'Update Fee Structure' option	Software will ask the program for which the Fee Structure is to be updated and then it will allow the Administrator to make changes. After this, updated fee structure will be displayed on the Program page.
8	The Administrator can choose the 'Update Event Deadlines' option	Software will allow the Administrator to update the deadlines. After this, updated deadlines will be displayed on the website.
9	The Administrator can choose the 'Update Number of Seats'	Software will ask the program for which the seats are to be updated and then it will allow the Administrator to make changes. After this, updated Number of Seats will be displayed on the Program page.
10	The Administrator can choose the 'Add/Update Eligibility Criteria'	Software will ask the program for which the Eligibility Criteria is to be updated and then it will allow the Administrator to make changes. After this, updated Eligibility Criteria will be displayed on the Program page.
11	The Administrator can choose the 'Add/Update Scholarships'	Software will ask the program for which the Scholarship is to be updated/added and then it will allow the Administrator to make changes. After this, updated/added Scholarship will be displayed on the Program page.

4.3.3 Functional Requirements

REQ-1: Every Update or Delete operation shall be done after authorization of the user.

5. Other Nonfunctional Requirements

5.1 Performance Requirements

Some of the identified Performance requirements are:

1. The database shall be able to store records for a minimum of 10,000 applicants.
2. The software shall support concurrent users.
3. The waiting list for higher priority preferences shall be updated in Real time.
4. The Applicants data shall be easy to recover in case of a data loss.

5.2 Safety Requirements

Some of the identified Safety Requirements are:

- 1) Extended validation (EV) SSL certificate shall be used for high level of safety for online fee transactions.
- 2) Fee receipt shall be generated immediately after verification of fee payment.

5.3 Security Requirements

Some of the Security Requirements to prevent malicious activities are:

- 1) The generated application id and password shall not be predictable.
- 2) Fee transactions shall be done using secure channels.
- 3) Communication needs to be restricted when the software is authenticating the user (i.e., using HTTPS)

5.4 Software Quality Attributes

- 1) ADAPTABILITY: The software shall be able to adapt itself to the constant updating environment such as web browsers, operating systems etc.
- 2) AVAILABILITY: The software shall be available for the users 99% of the time.
- 3) USABILITY: A logical interface is essential to an easy-to-use system, speeding up common tasks.

5.5 Business Rules

Here is the list of the Business Rules that need to be followed,

- 1.) Administrator shall be allowed to make changes only after the actions are approved by the higher authority of the college.
- 2.) Applicant shall not be allowed to edit details after the deadline but can request for the same.

6. Other Requirements

- Database shall have some free columns for future use and expansion purposes.

Appendix A: Glossary

Mode of Admission: DASA, Direct, Lateral, Regular are the various methods/programs through which a person can take admission in LNMIIT.

Degree: UG students can acquire the B. Tech degree whereas PG students can acquire M. Tech/M. S/M.Sc./Ph.D.

Appendix B: Analysis Models

ATTACHED SEPARATELY

Appendix C: To Be Determined List

TBD-1: In section 2.5, number of concurrent users is TBD (to be determined).