Software Requirement Specification

For

E-Provost

Version:1.1

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SRS for Electronic Provost

1. Introduction

1.1 Purpose

Almost 60% students of every university stays in varsity hall.When they face any problem,they have to write down their problem in a diary kept in the provost room. When provost visits the varsity hall, he checks the written problem in the diary and takes necessary steps which takes a very long time.

To solve this problem we are building a website which will provide hall students to post their problems online so that hall provost can take steps as soon as possible.

1.2 Document Convention

This document follows MLA Format. Bold faced text has been used to emphasize section and subsection headings. Highlighting is to point out words in the glossary and italicized text is used to label and recognize diagrams.

- ➢ E-provost : Electronic provost,name of the system.
- ➢ SRS: Software Requirement Specification.

1.3 Reading Suggestion

`This is a prototype for an online based system that will serve to solve a basic problem of hall students. Some recommended topic for readers:

- **Developers:** Product feature, User characteristics, Operating environment, System features.
- **Designers:** Project scope, User characteristics, System features, External interface requirements.
- **Domain:** Product perspective, Product features, User characteristics, System features,

● **Students/Public:** Project scope, Product features, System features.

1.4 Project Scope

Goal of **E-Provost** is to inform the hall related problem to hall provost more easily and precisely . **E-Provost** is an online based system, based on relational database and the data shared by it's users.

1.5 References

For more information visit:

- **https://sust.edu/iict**
- **https://en.wikipedia.org/wiki/Software_requirements_specification**

2.Overall Description

2.1 Product Perspective

E-Provost is an online system which will provide students with necessary facility and information.

- Dashboard: E-Provost will have a dashboard which will contain all problems posted by the students.
- Information: The system will contain all the information of Provost. It will also contain the information of all the executive members of the hall.
- Feedback: The system will provide students and provost to reply against any post.

2.2 Product Features

E-Provost will provide the following features:

- Create id
  - ❏ Create account
  - ❏ Log in
  - ❏ Account Recovery

- Basic Information of students
  - ❏ Name
  - ❏ Department
  - ❏ Registration
  - ❏ Email
  - ❏ Hall name

- Basic Information of teachers
  - ❏ Name

- ❏ Department
- ❏ E-mail

- Dashboard

It will contain all the problems proposed by the students. Problems will be categorized.

- ❏ Emergency
- ❏ Personal
- ❏ General

- Comments and Reply
  - ❏ Provost and student both will have access to comment against any post.

- Notifications
  - ❏ Both student and teacher will get notification to each other post.

2.3 User Classes & Characteristics

Provost	i.Create id ii.Edit profile iii.Access problem vi.Post notice v.Give feedback,comment,reply vi.Suspend user vii.Delete user
Student	i.Create Id ii.Edit Profile iii.Post Problem vi.View post,notice,comments v.Give feedback or comment

2.4 Operating Environment

- **Operating System:** Windows, Linux , macOS, iOS and Android.
- **Database:** Oracle Database and Google Cloud.
- **Platform:** Java, Python, laravel framework, PHP, Javascript and Github.

2.5 Hardware Requirement

- Android version 4.4 KITKAT (minimum, android user's)
- 2GB ram
- 1.2 GHz processor
- Intel i5Q 2400
- Windows 7/8/8.1/10

2.6 Design and Implementation Constraints

This system will provide a dashboard with posted problems of hall students.So, it has to be user friendly and store the data of its users efficiently.The system has to be simple and fast.

3. External Interface Requirements

3.1 User Interface :

- **Log-In Page: E-Provost** will generate it's log-in page as it's user will click the login button from the toolbar.
    - **Create Account:** A new user has to create an account by giving user's name, SUST mail account, password, gender, date of birth,blood group,mobile number and hall id. A confirmation mail will be sent by the system to verify the **E-Provost** account.
    - **Log-In:** User needs to give his SUST mail account and password to log inside the system.
    - **Account Recovery:** If a user forgets the password or somehow wants to recover his account ,a new password will be sent to his SUST mail account for Log-In.
- **Dashboard:** Dashboard is the homepage of the system. It will be automatically generated based on most recent post.User can filter his newsfeed as he wants.
- **Profile:** A user can update his profile as he wanted.He can also see his post, response of his shared post.
- **Toolbar:**
    - **Info:** Here a user can see of hall Provost and other administrative persons profile.
    - **Notice:** Current notice will be uploaded from provost account.
    - **Notifications:** A user will be notified emergency post, Provost reply on his post.

3.2 Hardware Interface:

To browse all pages require a browser with proper internet connection.

3.3 Software Interface :

- Teachers and students database store all information in table formation.
- Laravel framework will serve the information more precisely in a manner structure.
- Windows operating system will serve the best user friendly interface.

3.4 Communication Interface :

This system will use HTML5 with common functionality, so that application will support in all web browsers.

4.System Features

Main features of the system are given below:

4.1 System features elicitation

System will contain two types of user.They are:

- ❏ Student
- ❏ Provost

4.1.1 Required Features:

- ❏ Create Id and log in account both by the students and provost
- ❏ Students will have access to create a post
- ❏ A dashboard where all the posts will be displayed
- ❏ A noticeboard will contain all the notices by the provost
- ❏ All the user will get access to comment against any post
- ❏ Required notifications will be sent to the respective users
- ❏ Provost will be provided access to suspend a student account

4.1.2 Required Information:

- ❏ All the information of the student while creating an id
- ❏ Information of the provost

4.2 High-level Features Overview

4.2.1 Functional Decomposition of the System

All the functional decomposition of the system are viewed here. Basically, the system features are displayed here in a decompositional way.

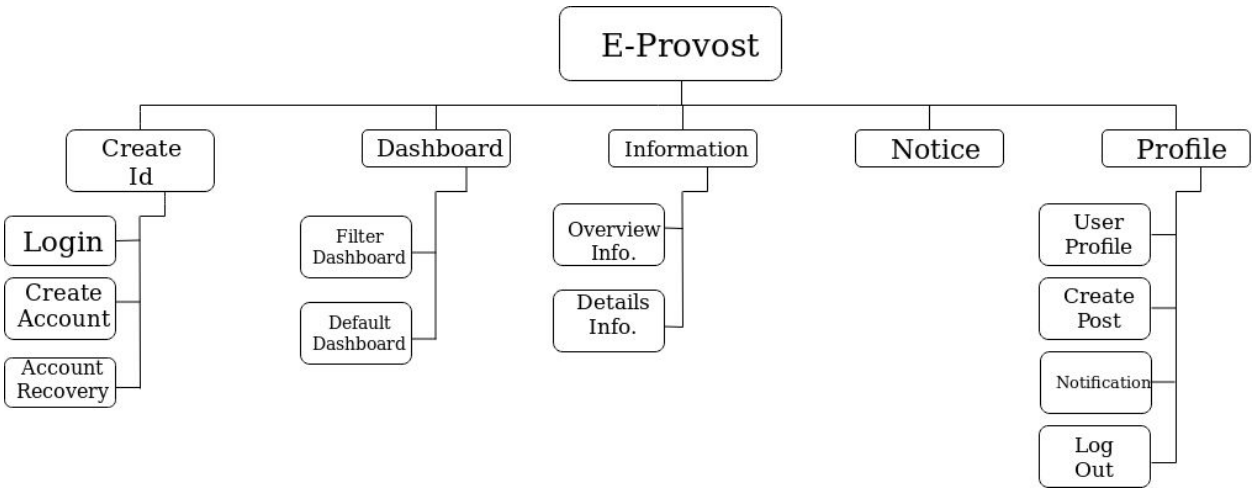

Figure (4.2.1) : Functional Decomposition of system features

4.2.2 System Log-In :

A new user can create an account by his SUST mail and the user can log-in to the system. An admin can suspend or delete user account.

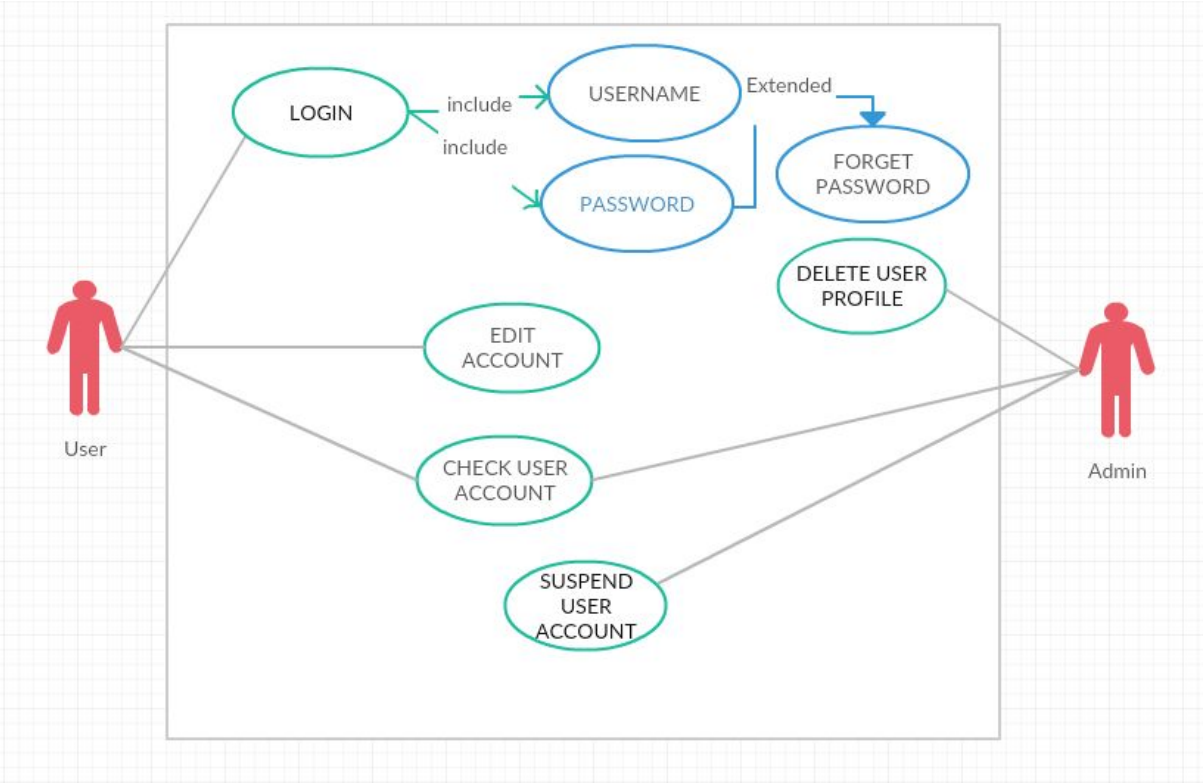

Figure (4.2.2) : Use-case diagram of system log-in.

4.2.3 Use case diagram

Use case diagram shows a graphical overview of the system. Here two classes are identified. All the functions of the classes are displayed. The diagram also shows accessibility on the features of the system .

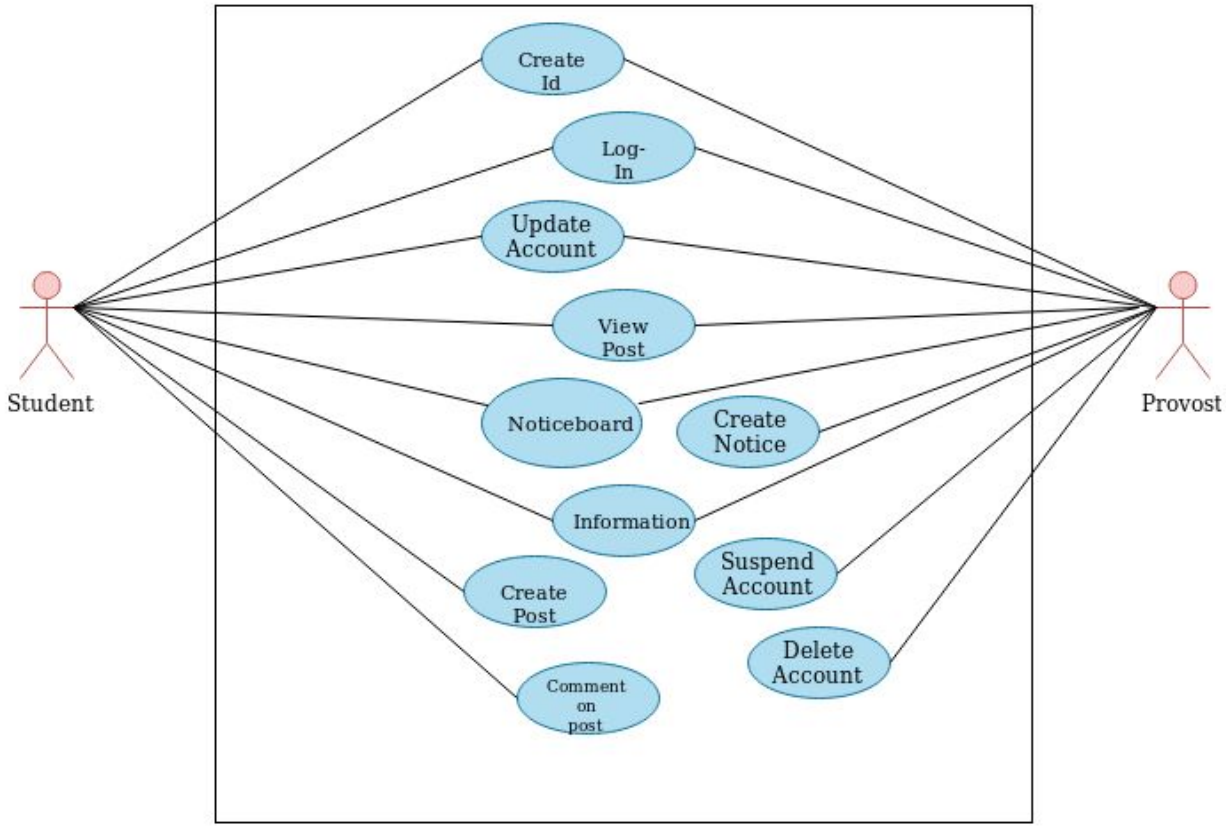

Figure (4.2.3) : Use-case diagram of system main features.

4.3 Swimlane diagram :

4.3.1 Swimlane of the System (Student and Provost interaction)

This diagram shows how a problem will be posted and how will its feedback will be given by Provost. Here also the notification method is included in the diagram.

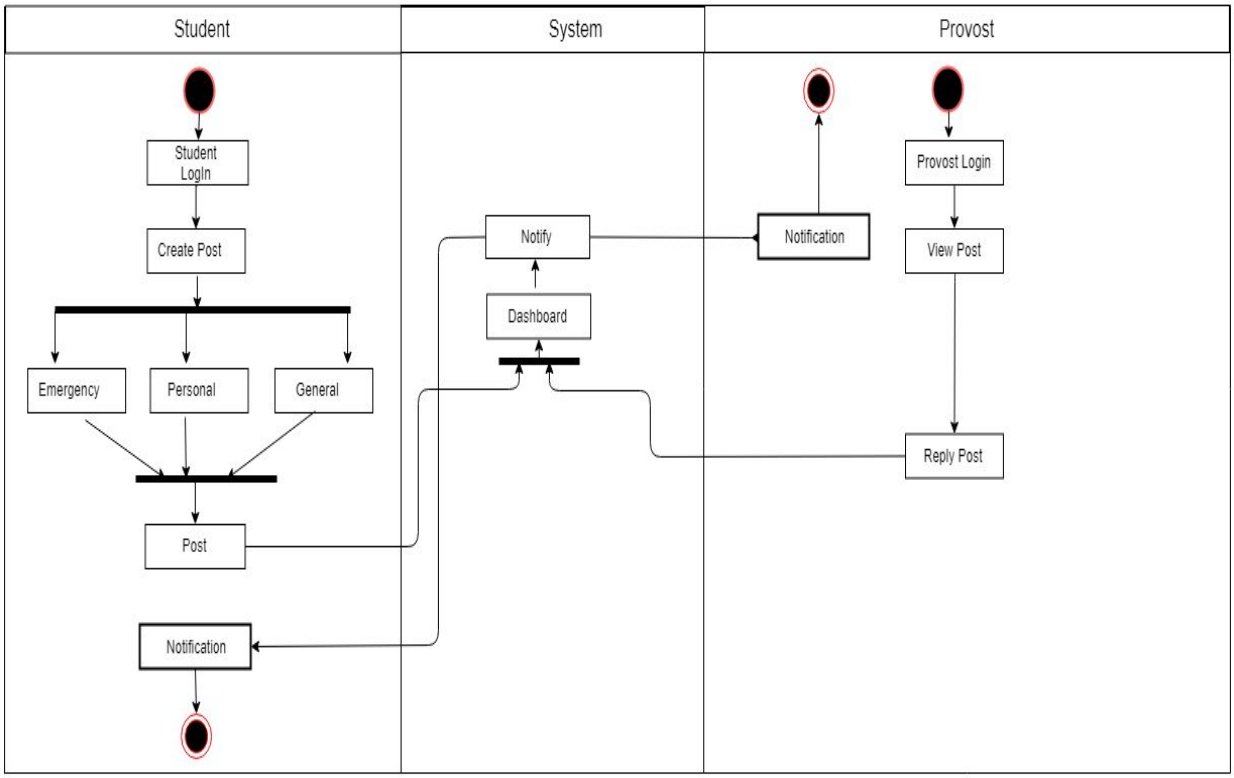

Figure (4.3.1) : Swimlane diagram for Student and Provost interaction.

5.Nonfunctional Requirements

5.1 Product Requirements

5.1.1 Usability Requirements

5.1.1.1 Graphical User Interface

The system shall provide a uniform look and feel between all the web pages.The system shall provide use of icons and toolbars.The user interface for the software shall be compatible to any browser such as Internet Explorer,Chromium, Mozilla or Netscape Navigator by which user can access to the system.

The user interface shall be implemented using any tool or software package like Java Applet, MS Front Page, EJB etc.

5.1.1.2 Accessibility

The system shall provide handicap access.The system shall provide multi language support.

5.1.2 Efficiency Requirements

5.1.2.1 Performance Requirements

The website should use as less animations and pop ups as possible to lessen the pressure on client's device.E-Provost shall be based on web and has to be run from a web server.The News Feed shall take initial load time depending on internet connection strength which also depends on the media from which the system is run.The performance shall depend upon hardware components of the client/customer.

5.1.2.2 Space Requirements

The images on the website should be compressed to lessen the memory usage.The data in the system will be stored using simple compression technique.

5.1.3 Dependability Requirements

There should be described terms and conditions page, open for everyone, so that users can depend on the system.

E-Provost should display the disclaimers, copyright & word marks etc.

5.1.4 Security

5.1.4.1 Data Transfer

The system shall use secure sockets in all transactions that include any confidential user information.

The system shall confirm all transactions with the customer's web browser.

The system shall not leave any cookies on the customer's computer containing the user's password.

The system shall not leave any cookies on the customer's computer containing any of the user's confidential information.

5.1.4.2 Data Storage

The user's web browser shall never display others password. It shall always be encoded with special characters representing typed characters.
The user's web browser shall never display an information tagged private after retrieving from the database.
The system's back-end servers shall never display a user's password. The customer's password may be reset but never shown.
The system's back-end servers shall only be accessible to authenticated administrators.
The system's back-end databases shall be encrypted.

5.2. Organizational Requirements

5.2.1 Environmental Requirements

This website should run responsively on various devices. Most of the well-known browser should support all the features of the website.

5.2.2 Operational Requirements

As the website should be used by mass people, the page elements should be as simple as possible.
Since the application must run over the internet, all the hardware shall require to connect to the internet will be hardware interface for the system. As for e.g. Modem, WAN – LAN, Ethernet Cross-Cable.

5.2.3 Development Requirements

5.2.3.1 Standard Development Tools

The system development shall be built using a standard web page tool that conforms to either IBM's CUA standards or Microsoft's GUI standards.

5.2.3.2 Web Based Product

There are no memory requirements

The computers must be equipped with web browsers such as Internet explorer.

Data must be stored in such a way that allows the client easy access to it.

Response time for loading the product should take no longer than five minutes.

A general knowledge of basic computer skills are required to use the product.

5.3. External Requirements

5.3.1 Regulatory Requirements

The website should have a well-planned Terms and Conditions Policy.

Those policy should be open to users.

5.3.2 Ethical Requirements

User should be ensured that his data will not be sold to other companies or persons.

5.3.3 Legislative Requirements

5.3.3.1 Accounting Requirements

A user account should have the privacy option, so that users can have a choice who can see which part from his/her account.

5.3.3.2 Safety Requirements

All the users' data will be safe and secure.

The website will not use user's microphone, camera or any extra computational power without his/her permission.

No user can see other users private info.