Software Requirements Specification

for

JU CSE Online Notice Board

Version 1.0

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1. Introduction

1.1 Purpose

The purpose of this Software Requirements Specification (SRS) document is to provide a detailed description of the functionalities of the 'JU CSE Online Notice Board' system. This document will cover each of the system's intended features, as well as offer a preliminary glimpse of the software application's User Interface (UI). The document will also cover hardware, software, and various other technical dependencies.

1.2 Document Conventions

This document features some terminology which readers may be unfamiliar with. See Appendix A (Glossary) for a list of these terms and their definitions.

1.3 Intended Audience and Reading Suggestions

This document is intended for all individuals participating in and/or supervising the 'JU CSE Online Notice Board' project. Readers interested in a brief overview of the product should focus on the rest of Part 1 (Introduction), as well as Part 2 of the document (Overall Description), which provide a brief overview of each aspect of the project as a whole.

Readers who wish to explore the features of 'JU CSE Online Notice Board' in more detail should read on to Part 3 (System Features), which expands upon the information laid out in the main overview. Part 4 (External Interface Requirements) offers further technical details, including information on the user interface as well as the hardware and software platforms on which the application will run. Readers interested in the non-technical aspects of the project should read Part 5, which covers performance, safety, security, and various other attributes that will be important to users.

Readers who have not found the information they are looking for should check Part 8 (Other Requirements), which includes any additional information which does not fit logically into the other sections.

1.4 Product Scope

The 'JU CSE Online Notice Board' system is composed of two main components: a client-side application which will run on any internet enabled device, and a server-side application which will support and interact with various client-side features. The system is designed to facilitate the process of publishing all notices issued by the department and making the notices available to the stakeholders in an easy way.

1.5 References

[1] IEEE Software Engineering Standards Committee, "IEEE Std 830-1998, IEEE Recommended Practice for Software Requirements Specifications", October 20, 1998.

[2] Davis M A, "Just Enough Requirements Management: Where Software Development Meets Marketing", New York, Dorset House Publishing, 2005.

[3] Karlsson J, "A Cost-Value Approach for Prioritizing Requirements", Norges Teknisk-Naturvitenskapelige Uni. 1997

2. Overall Description

2.1 Product Perspective

The 'JU CSE Online Notice Board' is a new addition in the CSE department which is accessible from any internet enabled device.

While the 'JU CSE Online Notice Board' web application is the main focus of the project, there is also a server-side component which will be responsible for database and synchronization services. The scope of the project encompasses both server- and client-side functionalities, so both aspects are covered in detail within this document.

2.2 Product Functions

The following list offers a brief outline and description of the main features and functionalities of the 'JU CSE Online Notice Board' system. The features are split into two major categories: admin features and user features. Admin features are available to the admin of this website, whereas user features are the functionalities user will have from the system.

Admin Features:

- Login
- View Notice
- Download Notice
- Sort Notice
- View Result
- Generate Result
- Sort Result
- Download Result
- Delete Result
- Create Notice
- Modify Notice
- Delete Notice
- Feedback

User features

- Login
- View Notice
- Download Notice
- Sort Notice
- View Result
- Sort Result
- Download Result
- Feedback

2.3 User Classes and Characteristics

There are two types of users that interact with the system: users of the web application and administrators. Each of these two types of users has different use of the system so each of them has their own requirements.

The web application users can only use the application to find and download notice. This means that the user have to be able to search for notice, recognize it and download it. In order for the users to get a relevant search result there are multiple criteria the users can specify and all results matches all of those.

The administrators also only interact with the web portal. They are managing the overall system so there is no incorrect information within it. The administrator can manage the information for each notice as well as the options for both the web application users and the admins.

2.4 Operating Environment

The main component of the 'JU Online Notice Board' project is the web application. The application is not resource- or graphics-intensive, so there are no practical hardware constraints. The app will rely on several functionalities built into Application Programming Interface (API), so ensuring appropriate usage of the API will be a major concern. Beyond that, the application is a self-contained unit and will not rely on any other software components.

The application will, however, frequently interact with the online server, a virtual dedicated server hosted by GoDaddy.com. The server operates on a Linux CentOS platform with 1GB of
RAM and 15GB of allocated storage space. The 'JU Online Notice Board' database will be stored on the server using MySQL and will be interfaced with a wrapper written in PHP 5.

2.5 Design and Implementation Constraints

The primary design constraint is to make a simple platform. Since the application is designated for different types of users, simplification of the interface will be a challenge.

Creating a user interface which is both effective and easily navigable will pose a difficult challenge. Other constraints such as processing power are also worth considering. 'JU Online Notice Board' is meant to be quick and responsive, even when dealing with large groups and transactions, so each feature must be designed and implemented with efficiency in mind.

2.6 User Documentation

The primary goal of ‘JU Online Notice Board’ is to *facilitate* the process of managing and publishing notices.

Consequently, the application will be designed to be as simple to use as possible. Nonetheless, users may still require some supplementary information about each component of the ‘JU Online Notice Board’ system. The application will contain two features that offer this: the ‘JU Online Notice Board’ Tutorial and the Help menu.

The Help menu is a collection of topics covering each of the application’s menus, features, etc.

At any time, the user can navigate to the Help menu and select any of these topics to obtain more information.

The ‘JU Online Notice Board’ Tutorial takes all of these topics and condenses them into a single, step-by-step demonstration that the user can access immediately after installing the application. This tutorial is meant to quickly and effectively teach new users the “ins and outs” of the application.

2.7 Assumptions and Dependencies

One assumption about the product is that it will always be used on devices that have enough performance. If the device does not have enough hardware resources available for the application, for example the users might have allocated them with other applications, there may be scenarios where the application does not work as intended or even at all.

Another assumption is that the users will try to find only relevant information in this website. If they try to find any irrelevant information then the web application will fail to provide it as it do not fall within the scope of the product.

3. External Interface Requirements

3.1 User Interfaces

The system will start with a login page to identify the user level and the features will be available accordingly. If the user is not registered yet than a registration window will pop up. The user has to provide necessary information to be registered.

The application will have easily accessible buttons for all major activities of the software. Key features and recent events will be highlighted to attract user attention.

New Notices will always be highlighted and marked so that the user can find them easily.

3.2 Hardware Interfaces

The system will interact with the hardware resources of the system on which it is running. While any system will support the core software, a device with push messaging facility is recommended for Windows or Android app.

3.3 Software Interfaces

This web application has to display the notices according to the importance as well as search for the keywords provided by the user. The communication between the database and the web portal consists of operation concerning both reading and modifying the data, while the communication between the database and the mobile application consists of only reading operations.

3.4 Communications Interfaces

The communication between the different parts of the system is important since they depend on each other. However, in what way the communication is achieved is not important for the system and is therefore handled by the underlying operating systems for both the mobile application and the web portal.

4. System Features

The following list offers a brief outline and description of the main features and functionalities of the 'JU CSE Online Notice Board' system. The features are split into two major categories: admin features and user features. Admin features are available to the admin of this website, whereas user features are the functionalities user will have from the system.

4.1 Log in

4.1.1 Description and Priority

The user or admin will have to log in to the system to have services from the system. The login functionality is required to authenticate that the information are not going to the wrong hand.

4.1.2 Stimulus/Response Sequences

Step 1: User must click the 'Login' button

Step 2: Then the user will provide valid username and password provided from the department

Step 3: User will hit enter

4.1.3 Functional Requirements

The website must ensure that the user's information is encrypted and safely stored.

4.2 View Notice

4.2.1 Description and Priority

The main purpose of the online notice board is to publish notices and it available to the stakeholders. So this feature is very much important.

4.1.2 Stimulus/Response Sequences

Step 1: User may find the notices in the home page of the website

Step 2: User write the search word in the search box

Step 3: User hit the search button

4.1.3 Functional Requirements

The website must provide reliable search results for the keywords provided in the search field.

4.3 Download Notice

4.2.1 Description and Priority

The main purpose of the online notice board is to publish notices and it available to the stakeholders. So this feature is very much important.

4.1.2 Stimulus/Response Sequences

Step 1: User may find the notices in the home page of the website

Step 2: User write the search word in the search box

Step 3: User hit the search button

Step 4: User can hit the download button from the upper right corner of the screen

4.1.3 Functional Requirements

The website must provide reliable search results for the keywords provided in the search field.

4.4 Sort Notice

4.2.1 Description and Priority

User can sort the notice board according to different parameters like date, size, importance etc.

4.1.2 Stimulus/Response Sequences

Step 1: User click the Sort Notice dropdown

Step 2: User then select category rom the dropdown menu

4.1.3 Functional Requirements

The website must sort the results according to the parameter provided.

4.5 View Result

4.2.1 Description and Priority

Students will be able to view their exam results in the notice board by logging in to the system and provided roll no and other necessary information.

4.1.2 Stimulus/Response Sequences

Step 1: User click the View Result button

Step 2: User fill the small form with semester, exam name and exam roll no

Step 3: User hit the submit button.

4.1.3 Functional Requirements

The website must accurately process the request and provide the accurate result as the importance of the result is much.

5. Other Nonfunctional Requirements

5.1 Performance Requirements

Performance should not be an issue because all of our server queries involve small pieces of data. Changing screens will require very little computation and thus will occur very quickly.
Server updates should only take a few seconds as long as the phone can maintain a steady signal. The cost-division algorithms used by in application will be highly efficient, taking only a fraction of a second to compute.

5.2 Safety Requirements

'JU Online Notice Board' will not affect data stored outside of its servers nor will it affect any other applications installed on the user's phone or pc. It cannot cause any damage to the device or its internal components. The only potential safety concern associated with this application applies to virtually all device apps: 'JU Online Notice Board' should not be used while operating a vehicle or in any other situation where the user's attention must be focused elsewhere.

5.3 Security Requirements

This application assumes that only the user or whoever he/she allows will have access to his/her account. With that being said, only a Google email address is required to verify the identity of the user upon opening the website. Since it is password protected, there is login method to authenticate the user's identity. This could only pose a thread if a user loose the password and the password is in the wrong hand.

5.4 Software Quality Attributes

The graphical user interface of ‘JU Online Notice Board’ is to be designed with usability as the first priority. The web site will be presented and organized in a manner that is both visually appealing and easy for the user to navigate. There will be feedbacks and visual cues such as notifications to inform users of updates and pop-ups to provide users with instructions.

To ensure reliability and correctness, there will be zero tolerance for errors in the algorithm that is used to provide notice based on priority. To maintain flexibility and adaptability, the app will take into account situations in which a user loses internet connection or for whatever reason cannot establish a connection with the server. These users will still be able to use the application, but any query or submission will be cached until the connection is restored.

With ‘JU Online Notice Board’ being ported solely for web base platform, this web application has the advantage of being accessible from whenever and wherever. Overall, the app balances both the ease of use and the ease of learning. The layout and UI of the app will be simple enough that users will take no time to learn its features and navigate through it with little difficulty.