Indian Institute of Information Technology, Vadodara

Software Engineering

IT - 304

Team - 04 (DeepBench)

Software Requirement Specification

Team Members

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1 Introduction

1.1 Purpose

The Purpose of the Software Requirements Specification is to provide the technical, functional and non functional features, required to develop an Android Mobile Application and to collect and analyze all assorted ideas that have come up to define the system, its requirements with respect to consumers. Also, we shall predict and sort out how we hope this product will be used in order to gain a better understanding of the project, outline concepts that may be developed later, and document ideas that are being considered, but may be discarded as the product develops. The entire application is designed to provide user flexibility for finding the shortest and/or time saving path. In short, the purpose of this SRS document is to provide a detailed overview of our software product, its parameters and goals. This document describes the project's target audience and its user interface, hardware and software requirements. It defines how our client, team and audience see the product and its functionality. Nonetheless, it helps any designer and developer to assist in software delivery lifecycle (SDLC) processes.

1.2 Scope

Smartphones have really eased up the lives of individuals just because of the reason the facilities they provide in real time and usage of android applications have drastically increased just because of the various APIs and plug-ins they supports. However, the scope of this project is to develop an application for students of IIITV and nearby Institutes on Android Mobile operating System. Thus, the idea is to create a dynamic Application using the Android Platform , which will be an easy medium of connecting the student from nearby Institutes.

1.3 Intended Audience

This document is dedicated to let the reader know about the targets and requirements specified initiating from the description and leading to the requirements gathered from the client side. The document is targeted as a reading for the students of the IIITV and other nearby Institutes so as to have an idea about the requirements gathered for the entire application development process.

1.4 References

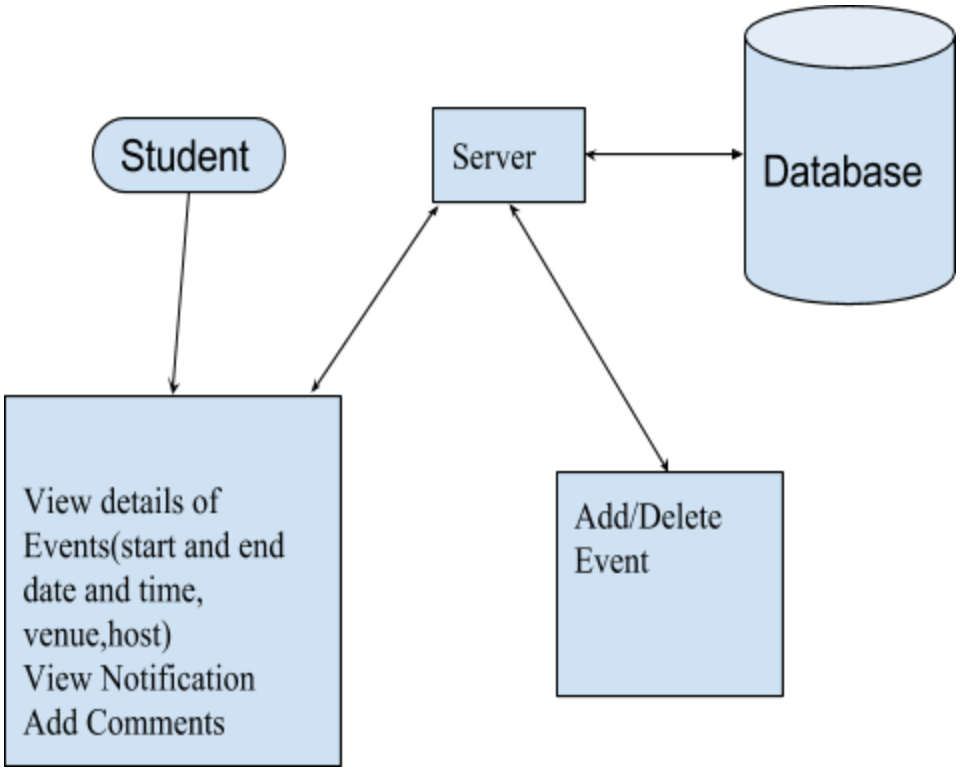
- IEEE Software Requirements Specification Template-AGH
- http://www.cse.msu.edu/cse870/IEEEXplore-SRS-template.pdf
- http://developer.android.com/
- https://source.android.com/compatibility/

- https://firebase.google.com/

2 Overall Description

2.1 Application Perspective

The application shall allow users (Host, Secretary of Clubs and Committee) to maintain their own login account and access the features incorporated in application. Logging in with their account will provide the users to access the registration process for different types of events.



2.2 Operating Environment

2.2.1 Development - Windows 7 or above/Mac OS X/Linux

2.2.2 Deployment - Android Mobile Operating System for application deployment.

2.3 User Classes and Characteristics

Primary User - It defines the student who is going to be informed about events to be held in and outside the college affairs.

The Developer - The role of the developer is to maintain the software. It is assumed that the user is adapt to API programming, XML, JAVA and Socket programming.

2.4 Dependencies

The application which we are going to build uses the android platform. However, the entire android application development process requires the knowledge of creating layouts through XML files and the corresponding functionality through JAVA programming. The application also requires the knowledge of establishing connection between the server and the clients, which can be achieved through socket-programming . Thus, creating network connections and deploying it for every user of the application is difficult task to conduct for the amount of total time allotted for the whole application development process.

2.5 Design and Implementation Constraints

The entire application development constraints our team in terms of the experience and the limited knowledge about creating connections between the JAVA codes XML layouts and the network connections to be established between the client and the server. Moreover, hardware-software synchronization is also necessary. The software should support the hardware capabilities and vice-versa.

2.6 User Documentation

There will be user guide(Help documentation) within the app. Clicking on the help button will lead the user to the respective help screen. A user manual is to be designed for the user which will guide the user through the concerned problem

3 Functional Requirements

3.1 User Interfaces

1. The Application should be user friendly. It should not be overpopulated with unnecessary icons and information.
2. The interface should guide the user to respective screens so that the user does not feel lost in the middle of using the app.
3. If an event occurs, the user should be guided with a message dialog box displaying either the event is successful or an error has occurred.
4. The user shall be able to categorize the notifications he receives and should be able to manage those specifically.
5. Every interface should guide the user either to the home page or it should provides help option to filter out his/her query or problems.

3.2 Hardware Interfaces

This will be an Android phone application, and as such will be designed to interface with the hardware present on the Android phone. In theory the application will be able to run by other devices that can emulate the Android.

3.3 Software Interface

This software application will be connecting remotely to a SQLite database that is to be already set up for the server and the client. The operating system the software runs on is the Android operating system which comes with a software framework that will be utilized, including many prepackaged components to do things like create menus, event handling buttons, and other common functions expected of a mobile device. The only communication will be between the phone and the server housing the database, which will be sending queries or updates and receiving the information back.

4 System Features

4.1 Login/Register

Actor: Students

Description: New students have to register by filling registration form. Student can login to the software with the help of a unique login id and a password. It's is a high priority action, because the user has to login to the software to use its features, and only the right combination of the login-id and password will let them use the software.

Stimulus/Response Sequences :(login)

INPUT : Email ID and Password.

OUTPUT : Displays message if email id and password does not match otherwise enter into the home page.

PROCESS : Match the email id and password from the database.

Stimulus/Response Sequences :(Registration)

INPUT : User Credential (Name, email ID ,password ,college name.)

OUTPUT : Displays error message (invalid email id) if email is found invalid, otherwise display successfully registration done.

PROCESS : Send Email verification mail for verifying email id ,if it is done then data is entered into database.

Functional Requirements

Security : Security is a primary concern for the user while logging in with his/her account. The login must be secure and relevant.

Credentials : Login credentials are required at the server side so as to check for the concerned user.

Hardware- Software Requirements : The Android platform must be used on a software basis and application must support the version of the OS where it is being deployed.

4.2 Post/create events (Edit)

Actor: Students

Description: Students can post their events, which includes necessary details such as event name,description of event, start time , total duration, minimum no. of participants required, host name, venue of event.

It also includes option for:

any editing/changes after event is posted(time,venue).

Stimulus/Response Sequences:

INPUT : Event name, Description of event, start time , total duration, minimum no. of participants required, venue of event.

OUTPUT : If all requirements are completely filled , then display successfully done else display error (requirements not filled).

4.3 Participate in Event.

Actor: Students.

Description: The login students would have option to participate in the events by clicking interested button. They can even backout their name from any event again by clicking interested button.

Stimulus/Response Sequences:

INPUT : event post

OUTPUT : Increases the count of participants on one time click. Again clicking will decrease the count.

Process: The details of interested student will be inserted into database. Any modification in interested students list will be automatically updated in database.

4.4 Discussion on Event (for any queries)

Actor: Students.

Description: The login students will have option to comment on the post and if required they can even edit or delete the comment.

Stimulus/Response Sequences:

INPUT : Comment (text form)

OUTPUT : Comment will be displayed or deleted.

Process: Comments will be inserted into database. On clicking delete option comment will be deleted from database and on clicking edit option , comments will be edited in database.

4.5 Sharing Events

Actor: Students

Description: The login students would have option to share any post through whatsapp , gmail to the users who doesn't use the application.

Stimulus/Response Sequences:

INPUT : Selecting Post, selecting any app from a list of app.

OUTPUT : Post is shared

Process: It uses the selected app api for sharing the post.

4.6 Searching any Event

Actor: Students.

Description: The login students can search any event by its event name or venue for fast access .

Stimulus/Response Sequences:

INPUT : Any keyword(Event name,Event type,location)

OUTPUT : Post related to searched keyword will be displayed. In case of no such keyword an error of search not found will occur.

Process: It search all post related to keyword from database.

4.7 Notifications

Actor: Students

Description: Events updates along with short description of information regarding the event, date and time of post, any comments, is to be shared with the user via notifications in real time. The login students will have option of directly viewing the Event Updates through notifications.

Stimulus/Response Sequences:

INPUT : Email id and password to login is required to receive the notifications.

OUTPUT : Notifications are received.

PROCESS : Tap over notifications and the contents will be displayed.

Functional Requirements:

Software Requirements: The application must support the notification APIs and the android version on the device must support the application version in order to be deployed and work efficiently.

Connection: The connection between the server and client must be reliable and efficient so as to receive the notifications in real time. Moreover, the server configuration is also an important perspective and the kind of data that is being sent by the server.

5 Non Functional Requirements

5.1 Performance Requirements

• User Satisfaction: The application is such that it stands up to the user expectations.

• Response Time: The response of all the operation is good.

• Error Handling: Response to user errors and undesired situations has been taken care of to ensure that the application operates without any uncertainty.

• User friendliness: The application is easy to learn and understand. A naive user can also use the system effectively, without any difficulties.

5.2 Reliability

The application is capable to maintain the specified level of performance. It will run on any android phone.(Version to be taken care).

5.3 Availability

The application will run 24*7 if the internet connection is available.

5.4 Safety Requirements

As such, there are no safety requirements with this application, other than any normal hazards of a mobile device. The only hazard is a user using the device when they should not be, such as while driving or moving up-down over the stairs and likewise.

5.5 Security Requirements

The software should provide a secure login to every individual user. Changing of user password is a necessary feature required by the user. Making sure that no false requests are made by the user at times of feedback/complaints which can contribute to other users' integrity. Additionally, the server side is to be regularly maintained and saved by the malicious attacks. Talking about the physical security options, the user should himself/herself take care that no other user his/her login account and perform unusual activities.