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Software Requirements Specification

for

CodeCell Platform

Version 1.0 approved

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1.   Introduction

1.1   Purpose

The purpose of this document is to provide a detailed explanation of the working, requirements, and creation of CodeCell platform. This document focuses on the main objective of the platform, the features, and the services involved. The hardware and software requirements of the platform are explained in this document.

1.2   Document Conventions

Convention	Description
CodeCell	Coding community
Platform	The integration of android app and website created for CodeCell

1.3   Intended Audience and Reading Suggestions

CodeCell creates a platform for college students and anyone, who is interested in coding and related activities, to share their projects, participate in competitions, and technologies with other students. Forums on CodeCell revolve around discussion of technologies, projects and coding problem statements. Project Mentors also have access to these discussions and can plan project schedule with their groups. This platform is great for students who want to build their resume and increase their knowledge on various computer domains, as well as mentors who want to schedule their project meets and consult students on a subject.

1.4   Product Scope

CodeCell provides a platform for coding enthusiasts to share their knowledge and projects with each other. The platform consists of a website and an android application.

Users can post their questions on forums, create any technology related threads on forums, plan their projects, link their Git (github) with their profile to share their projects/codes with other users and consult with their mentors.

The timetable of labs in college (when they are free to use) and the softwares available on the computers in those labs are provided to students of that college, so that they can use these resources for projects.

Mentors/College faculty can share their experience, consult students, provide suggestions to projects and plan their schedule with their groups.

1.5 References

1.Andrew Arnt and Shlomo Zilberstein, Learning to Perform Moderation in Online Forums, Department of Computer Science University of Massachusetts Amherst, MA 01003

2. Overall Description

2.1 Product Perspective

This platform comes under online discussion forums, schedule planning and knowledge sharing categories. Users (students and mentors) are able to plan their project schedules, set meets with mentors, get to know the on-going coding/project competitions, share their knowledge with other users.
These services are greatly helpful for college students who want to build their resume and their knowledge on various domains of computer studies.
For students who want to use computer resources from college labs, the platform provides the schedule and list of softwares in the labs.

2.2 Product Functions

Forums:
Forums being the back of any discussion on the platform we need regulation over the content to the app rich in information.For the above the following attributes are added in over to make the bifurcation easier.
● Star rating
● Content type
● Initiator reputation
● Language suggested

Website:
● Profile:The user will be provided with a user profile which will hold the details such as joining year,profile pic,languages learned.
● Lab schedule:Full lab schedule with push notification on changes
● Resources:Faculty inventory details,department library details
● Coding competitions:Notification tab for competition details

Android application:
● Forum access
● Whatsapp group access that admin provides
● Push notifications
● Resource/lab search

2.3 User Classes and Characteristics

- **Student:**
  Basic user who can view notifications, form group for projects, suggest forum topics to admin, use search for labs.
- **Mentor:**
  Faculty member who can be a mentor/counsellor to a group, plan schedule with their project groups.
- **Admin:**
  Admin can add, update or delete notifications and forum topics. It is the admin's duty to regulate forums and check for spam, and inappropriate comments and topics.

2.4 Operating Environment

For hosting the website, a linux-based server is used. This server has an Oracle database for storing website and android application data.
An android application is provided to the users, where they will be able to check lab schedule and any notifications on current events. Android Studio is used to develop this application.

2.5 Design and Implementation Constraints

- Look and feel of the application and website should be user friendly.
- Lag free connection to the server.
- Effective resource management.
- Handling of multiple users simultaneously.
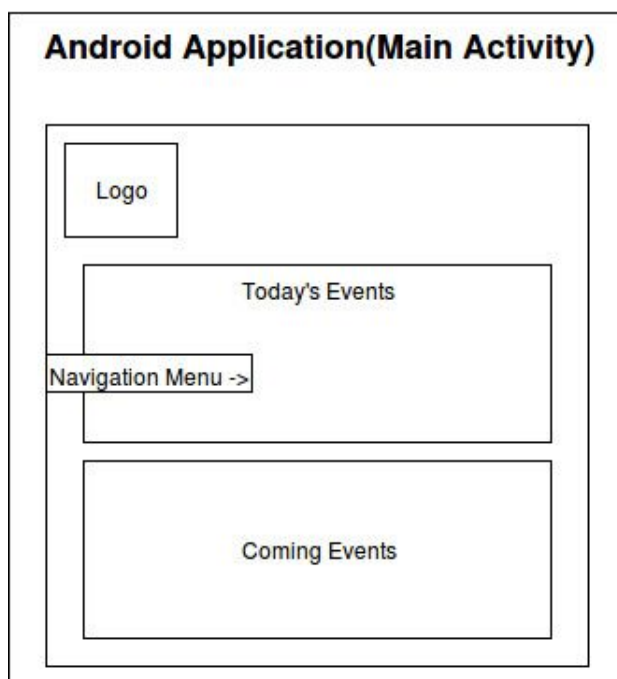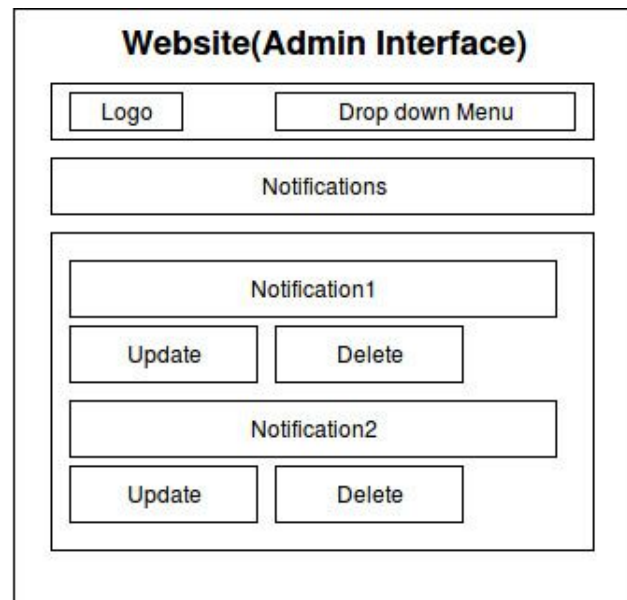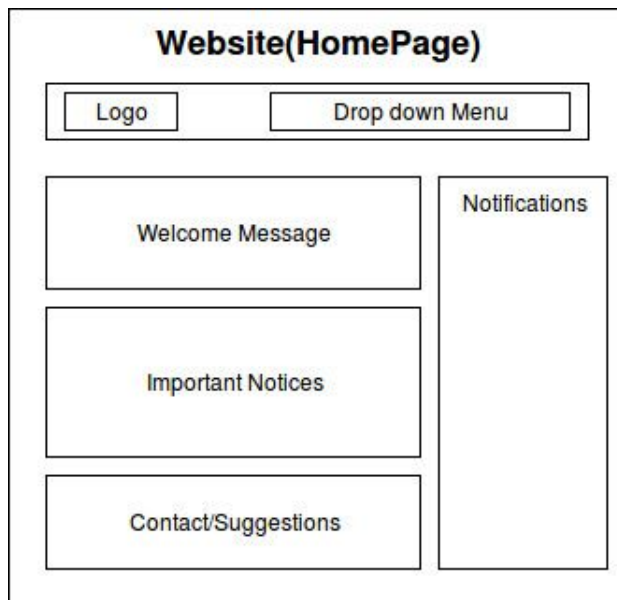- Notification updates should happen in real time.

2.6 User Documentation

- Forum rules are provided to the user that they must follow.
- An introductory guide is provided for every user.

2.7 Assumptions and Dependencies

- Server to android application dependencies are added to the android application.
- Permissions are provided in the server for authorized devices to get available data.

3. External Interface Requirements

3.1 User Interfaces

Website(HomePage)

| Logo | Drop down Menu |

Welcome Message

Important Notices

Contact/Suggestions

Notifications

Website(Admin Interface)

| Logo | Drop down Menu |

Notifications

Notification1

| Update | Delete |

Notification2

| Update | Delete |

Android Application(Main Activity)

Logo

Today's Events

Navigation Menu ->

Coming Events

3.2   Hardware Interfaces

- Linux Server(s)
- Android Device

3.3   Software Interfaces

- Website
- Android Application

3.4   Communications Interfaces

None.

4.   System Features

This part of the document focuses on mentioning the major features of the game.

4.1   Forums

4.1.1   Adding Topics

Users can suggest the admin to add a new forum discussion; Admin then decides whether the topic is appropriate to be added in the forums. This is done to reduce spam.

4.1.2   Star Points

Star points correspond to the popularity and credibility of a Forum post.

4.1.3   Functional Requirements

TBD

4.2   Suggestions

4.2.1 Suggestive Search

Users can search for their desired content on the website with the help of search feature.

5.   Other Nonfunctional Requirements

5.1   Performance Requirements

Website harbors multiple users at the same time, this must be properly handled by the server. The server must process requests with minimal latency.

5.2 Safety Requirements

The profile details and other information provided by the user and other data stored in database should be encrypted to protect this data.

5.3 Software Quality Attributes

The website provides a robust platform for users to check for resources and discuss relevant topics. The android application provides a quick way to check resources, notifications and forums on the go.

5.4 Business Rules

None.

6. Other Requirements

- Lab Schedule obtained from lab-incharges
- Softwares obtained from lab-incharges

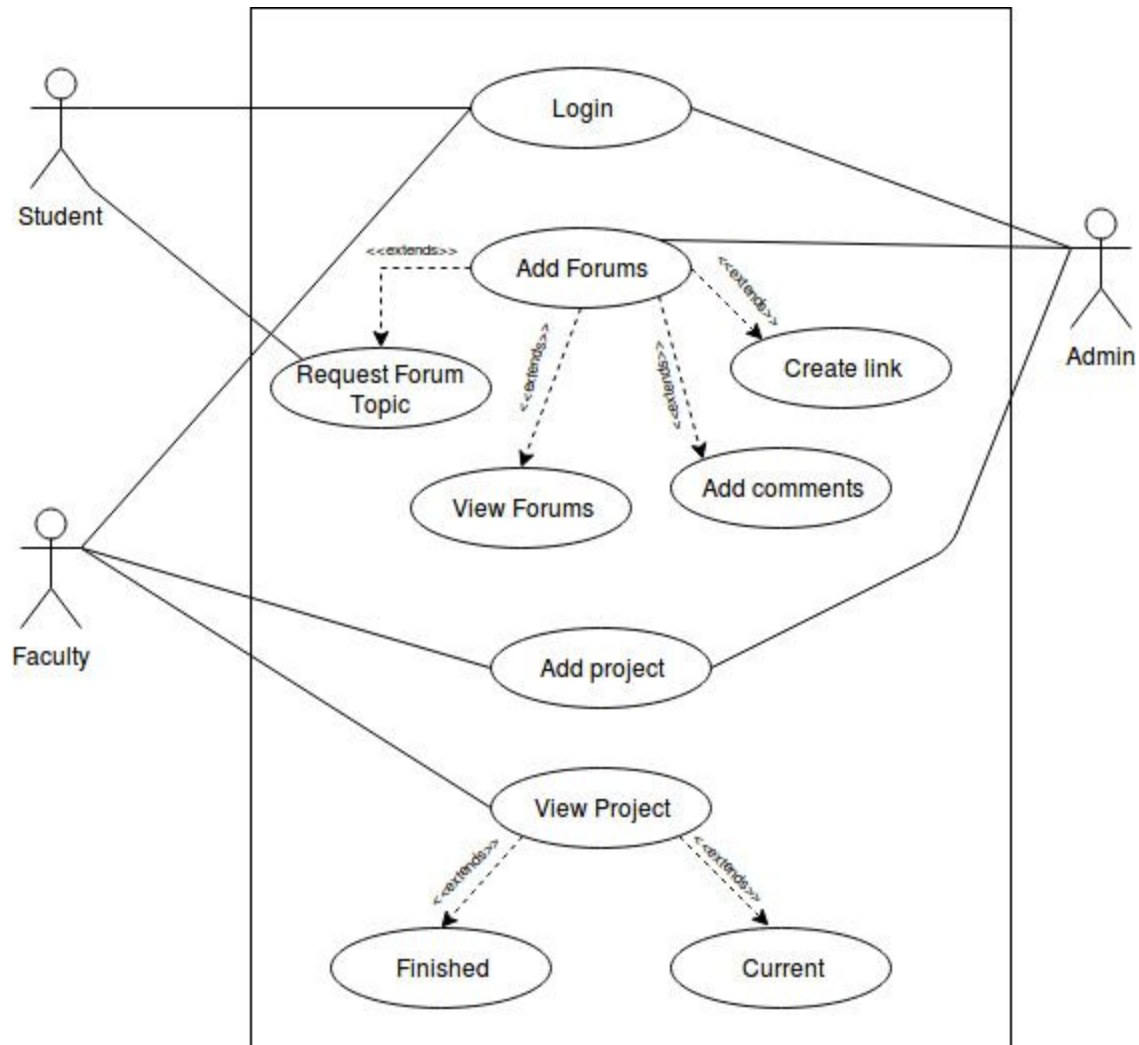# Appendix A: Glossary

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Appendix B: Analysis Models

Use case Model

Appendix C: To Be Determined List

1. *Database attributes.*