TECHNICAL DOCUMENT

Android Application

GTACampuS

Godly T.Alias

Department of Computer Science & Engineering

National Institute of Technology, Calicut

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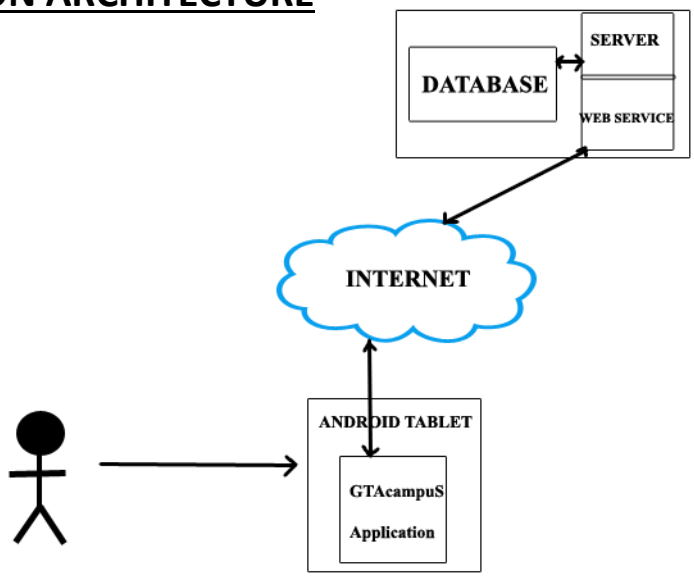
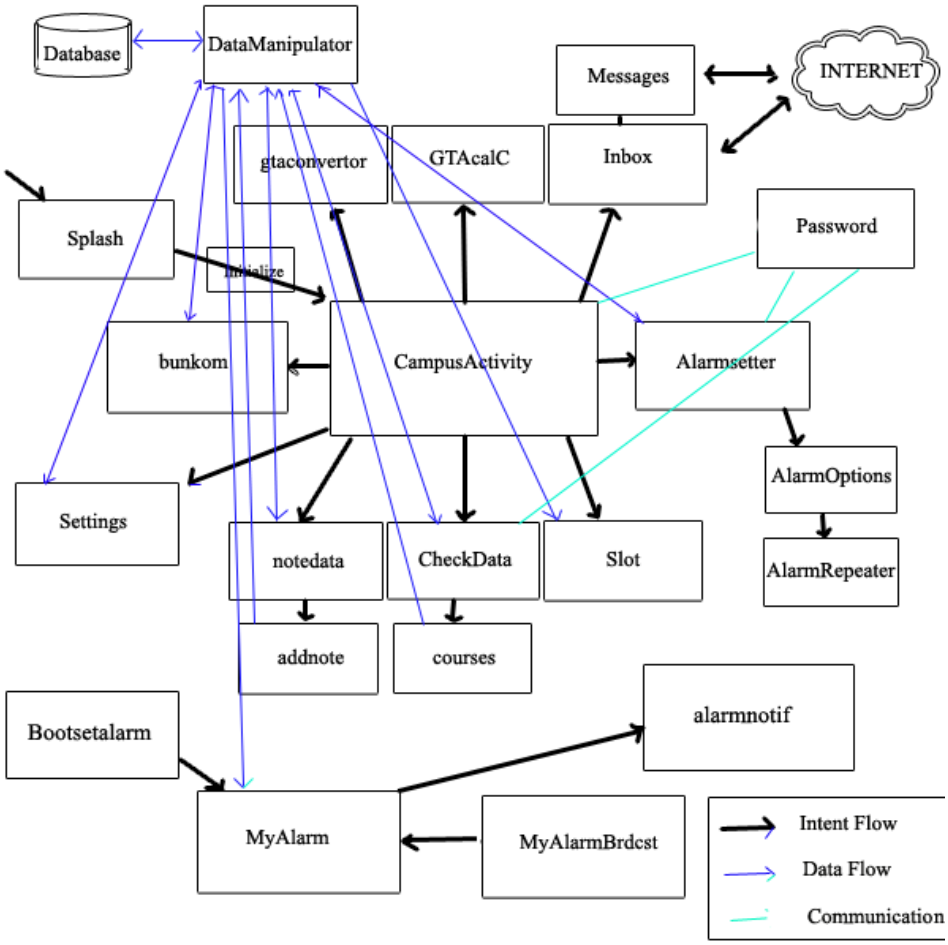
1.1 APPLICATION ARCHITECTURE



1.2 CLASS DIAGRAM



SOFTWARE REQUIREMENTS SPECIFICATION

Android Application GTAcampuS

VERSION 1.0

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NITC

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Revision History

- No revisions -

1. Introduction

1.1 Purpose

The Software Requirements Specifications (SRS) will provide a detailed description of the requirements for the android application GTAcampuS developed for Aakash Tablets. The SRS will allow for a complete understanding of what is to be expected of the GTAcampuS to be constructed. The clean understanding of the GTAcampuS application and its functionality will allow for the correct application to be developed for the end user and will be used for the development of the future stages of the project, if any. The SRS will provide the foundation of the project. From this SRS, the GTAcampuS application can be designed, constructed and finally tested. The software engineers will use the SRS to fully understand the expectations of this GTAcampuS application. This application is open source and software engineers can develop the code for making the application to meet more expectations.

1.2 Document Conventions

SRS	-	Software Requirements Specification
app	-	Application
Subjective satisfaction	-	The overall satisfaction of the application
End users	-	The people who will be actually using the application
GTA	-	Godly T.Alias

1.3 Intended Audience and Reading Suggestions

The SRS is organized into two main sections. The first is The Overall Description and the second is the Specific Requirements. The Overall Description will describe the requirements from a general high level perspective. The Specific Requirements section will describe in detail the requirements of the app.

1.4 Product Scope

The Android application product which is being developed is a GTAcampuS application which will assist the students a lot during their campus life. GTAcampuS itself contains many tools which will be helpful for students. It contains tools like alerts, convertor, calculator, notes, timetable view and a bunk-o-meter. The application will alert students before the class hour in advance to the start time of the class with options to ‘snooze’, ‘bunk’ and ‘on-the-way’ option. Students can dismiss the alarm with any of these options. The application will keep the statistics of the student course wise.

The objective of this application is to make easy student life, so that he will get alerts of the courses so that he won’t miss any classes and also to keep the statistics of bunks with the date. This application also has tools to convert values, do calculations and to save short notes. The application should be user appropriate, easy to use, provide easy recovery of errors and have an overall end user high subjective satisfaction.

2. Overall Description

The main end – users of this application will be students. Each application will be installed in an android device and will be with a master password which makes the statistical data of the application secure. Students can add notes, do calculations, conversions, and also on alerting they can make bunks. Later these statistical data can be retrieved at any time by the end-user.

2.1 Product Perspective

This application is developed for Aakash tablets for students to make their day – to – day life comfortable.

2.2 Product Functions

- Get course details from user and create a time-table view with the time provided for each course by the user.
- Make alerts before each class times and get input from the user whether he is going to class, bunking the class or he want to snooze.
- Display the count and dates in which the user did the bunk.
- Gets notes from the user and save it in database.
- Retrieve the notes that are saved by the user.
- Convertor which converts values from one unit to other.
- Calculator tool which does calculations including GCD and LCM
- Get new alert inputs from the user.
- Make alerts to the user on the time set by user.

2.3 User Classes and Characteristics

Mainly this application will be used by students to get alerts about their classes, to keep the statistics of the classes they bunked, to do conversions and calculations, to store notes and to check the timetable.

Educational level of application	–	Medium
Experience of application	–	None
Technical Expertise	–	Little

2.4 Operating Environment

This software will work on Android operating system. Hardware Requirements needed are at least 128MB RAM, 1 GHz processor and need 10MB of disk space. The minimum API level required to install the application is 8. Use devices with screens of size more than 7” for getting a better view of the user interface of the app.

2.5 Design and Implementation Constraints

The audio and visual alerts are deferred at this time because of the low importance of it at this time and due to time constraints.

2.6 User Documentation

Read the README.txt file before working with this software. A complete tutorial of the TCC software will be available in the website. You can also contact us for any help/queries or complaints. The complete source code of this application is hosted in github. You can modify and re-distribute the application.

2.7 Assumptions and Dependencies

The application won't save the logs of the user activities done. The application won't create a backup of its database unless user runs the backup process of application through the backup option in application menu. Application wants the user to set the master password on initializing the application and to never forget it. The no: of hours in each day and the class timings are also to be entered on the first time you open the application.

3. External Interface Requirements

This section contains all the software requirements at a level of detail, that when combined with the system context diagram, use cases, and use case descriptions, is sufficient to enable designers to design a system to satisfy those requirements, and testers to test that the app satisfies those requirements.

3.1 Hardware Interfaces

This app will run on Android devices. It will use the touch interface of the android devices for receiving inputs. For making alerts the app will use the device speakers and will display the outputs on the device screen.

3.2 Software Interfaces

This is the first release of this app, there is no authorized previous versions for this app. This app stores the data in its database and shall interface with any database.

3.3 User Interfaces

SCREEN NAME	DESCRIPTION
WELCOME	This screen provides options for to all the tools available in the application and will also display a digital clock and the next alert information. There is also an option available in this screen to go application settings.
ALERTS	This screen provides options to set alarms or tasks in future so that application will make alerts in the exact time.
ALERT SETTINGS	This screen consists of the list of all options of an alert that can be varied by the user. This screen provides options to save or cancel the settings or to delete the alert.
TIME TABLE	This screen shows the timings of classes of each courses in a week.
COURSES	This screen provides options to add new courses and also will list out all the currently registered courses.
ADD COURSE	In this screen there will be fields to enter the course name, course code and the name of the teacher. There will be also dropdown menus for selecting the timings of the course.
NOTES	In this screen there will be option to add new notes and also there will be a list of all the saved notes by the user. User can edit a saved note by making a long click on the note.
BUNK – O – METER	In this screen there is a list of all the registered courses and the counts of bunks made by students for each course. Students can see the details of bunks by a long click on the course.
CONVERTOR	In this screen there is a field to enter the value and to select the units from which the user need to convert and the field to which the user want to convert. On selecting the unit and on entering the value the output will be displayed.
CALCULATOR	In this screen there will be a virtual calculator with normal mathematical operations and also trigonometric functions, logarithm and also GCD/ LCM.
MESSAGES	In this screen the messages posted by the class representatives or by any of other users of this application will be listed out and also there is a button for posting new messages.

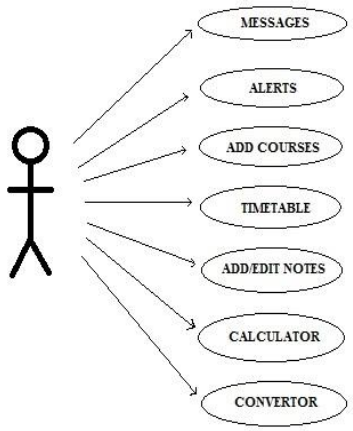
3.4 Communications Interfaces

This is a stand-alone system and so no communication interfaces are required by this application.

4. System Features

This section deals with the functional requirements for the product by system features and the major services provided by the product. Functional requirements define the actions that the system must perform.

4.1 Functional Requirements



Use case diagram

The users of this app can perform functions like add courses to the course list, set alerts, view timetable according to the class timings they entered when initializing the application and as the course details, create and edit notes, do calculations using calculator and can perform conversion operations.

5. Nonfunctional Requirements

Nonfunctional requirements define the needs in terms of performance requirements, safety requirements, Logical database requirements, security requirements, software quality attributes, design, maintainability and reliability.

5.1 Performance Requirements

Performance requirements define acceptable response times for system functionality.

The splash screen of this application will last for 3 seconds and then user will be redirected

to the home page. The backup and restore operations can also be performed in less than 3 seconds.

5.2 Safety Requirements

For avoiding unauthorized access and database changes a master password will be set on installing the application and the password is required for making changes to database and settings. User can also make backup of application database and can restore all his data from the backup file.

5.3 Logical Database Requirements

Logical database includes the retention of the following data elements,

- Course name
- Course code
- Teacher name
- Class timings
- Note title & content
- Alert name
- Alert settings and repeating options
- Bunk counts
- Bunk dates

5.4 Security Requirements

Anyone who uses this application will be able to access administrative functions only by entering the master password which was set on initializing the application.

5.7 Maintainability & Reliability

Modifications will be done to this application by anyone across the world as this application is an open source project. This application is coded in java and xml and will be supported in android operating systems with version Gingerbread or above.

6 Document Approvals

6.1 Team One Approval

Inspected By _____ Date _____

6.2 Team Two Approval

Inspected By _____ Date _____

7 Supporting Information

A user manual, a readme file is made for this application. You can also get the demo video of this application in youtube (GTAcampuS demo video - https://www.youtube.com/watch?v=FXxfec_vvOc).