

Software Requirements Specification

Version 1.0



Category: Mobile Application

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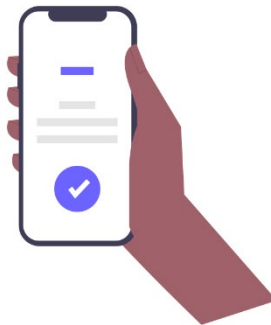
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1.1

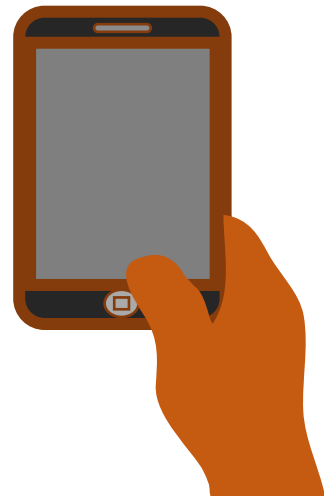
Background and Need for the Mobile App

Education is a primary necessity and for Parents/Guardians to be updated about their wards, progress is even more important. Students who fail in exams might not reveal their marks to their Parents/Guardians because of fear. Teachers too are overloaded with work, because of which it becomes difficult to remember each child's academic progress. Also, students too must be kept aware about their score progress and marks required for passing External Exams. A mobile application to track and update all these is a solution.



1.2 Proposed Solution

SMART Study is a proposed comprehensive mobile application that can be used by students, teachers, and parents/guardians. The proposed mobile application SMART Study will allow various types of users to register and if they are students, they can track the academic progress, access study material through links, receive updates on revision classes, and so on. Students can view and monitor their scores and performance. Teachers can update scores and extra classes information and add resources. With just a click, parents/guardians can keep track of their wards' performance. You are required to develop this solution.



1.3

Purpose of the Document

The purpose of this document is to present a detailed description on SMART Study.

This document:

- Presents purpose and features of the app
- Explains interfaces of the app
- Describes what the app will do
- Lists the constraints under which it must operate



Who Can Use this Document?

Stakeholders and developers of the mobile application.

Broad View of the mobile application



1.4 Scope of Project

This software system will be a Mobile Application to be used by students, teachers, and parents/guardians. The mobile application will be designed to keep a track of academic progress and provide users a platform where they can be updated with information they require.



1.5 Functional Requirements

The app will be designed as a set of forms/pages, Navigation, and Fragments with menus representing choice of activities to be performed.



Following are the functional requirements of the mobile app:



Home Page: It will display an attractive visual and menus for various operations, including basic functionality such as Registration and Login. After users are logged in, they will be able to access user-specific menus. For example, menus displayed to students will be different from those displayed to Teachers.



Register:

It will allow new users to get registered with SMART STUDY mobile application. Users can be one of three types: Students, Teachers, or Parent/Guardian. Registration will begin with selection of new user name and password using which in future they will log in to the SMART STUDY mobile application. Registration details can include existing email id, full name, address, age (in case of student), and so on.

Appropriate error-checking must be done on the fields of the form to ensure correct data. For example, email id can be checked to see if it is of appropriate format. (Hint: Use client-side validation).

Upon successful registration, an email should be sent to the user welcoming the user to the application.



Login: It will allow successfully registered users to get logged in to SMART STUDY and access various features of the mobile app through menus. After a user has logged in, the user name should be displayed at the top right corner.

Sign Out: Using this, logged in users can log out from the app.

Feedback and Contact Us: These menu options have common functionality for all category of users regardless of whether they are students, teachers, or parents/guardians.



Feedback menu option should enable users to provide their feedback about this app through a feedback form.

Contact Us menu option should enable users to contact the creators of the app. An email id can be displayed here for contact information.



Other menus will be different depending upon the type of users:

- **For Students**




Marks that they have scored in internal tests conducted by teachers will be displayed in a table. Academic Progress menu option will display the gradual progress in various tests across the year in the form of table data or graphical elements such as progress bars. Study Resources menu option should display a table containing links to external sites, Videos, and additional textbooks. Revision Classes menu option should display information pertaining to extra classes for revision purposes. Date and time of these classes can be displayed here. Optionally, there can also be options to receive these information through email. Helplines will display list of phone numbers that students can call in case they require general assistance.




In this project, all key data shown on mobile screens/pages such as the marks, academic progress, revision class information, and so on will come from relevant database tables and will not be hardcoded.


• **For Teachers:**



Teachers can update marks that students have scored in internal tests conducted. This can be done through a form. These marks must be updated in the database tables and will reflect on the Student page.



Academic Progress menu option will enable teachers to update the gradual progress in various tests across the year. The data for this can be accepted via a form. This data also must be stored in database tables.



Add Study Resources menu option should enable teachers to add links to external sites, and additional textbooks. Revision Classes Updation option should accept date and times for extra classes for revision purposes. All of these data will go into database tables.

• **For Parents/Guardians:**

They can view marks and academic progress of their wards. Helplines will display list of phone numbers that parents/guardians can call in case they require general assistance. Marks and other details of wards can also be sent via email to parents when they click an option 'Send me by Email'.



Note: Boilerplate or readymade HTML template can be used, provided it is only for design aspect and not for implementing application functionality.

1.6 Non-Functional Requirements

There are several non-functional requirements that should be fulfilled by the system.

These include:

- **Safe to use:** The system should not result in any malicious downloads or unnecessary file downloads.
- **Accessible:** The system should have clear and legible fonts, user-interface elements, and navigation elements.
- **User-friendly:** The system should be easy to navigate with clear menus and other elements and easy to understand.
- **Operability:** The system should operate in a reliably efficient manner.
- **Performance:** The system should demonstrate high value of performance through speed and throughput. In simple terms, the system should be fast to load and page redirection should be smooth.
- **Security:** The system should implement adequate security measures such as authentication. For example, only registered users can access certain features.
- **Capacity:** The system should support large number of users.
- **Availability:** The system should be available 24/7 with minimum down time.
- **Compatibility:** The system should be compatible with latest browsers.

These are the bare minimum expectations from the project. Once the functional and non-functional requirements are fulfilled, you can use your own creativity and imagination to add more features.

1.7 Interface Requirements

Hardware

- Intel Core i5 Processor or higher
- 8 GB RAM or above
- Color SVGA
- 500 GB Hard Disk space
- Mouse
- Keyboard
- Android Supported Smartphone

Software

Technologies to be used:

1. **Technology:** Android (Java)
2. **IDE:** Android Studio
3. **Database:** SQLite or Firebase

Database Design

Data Dictionary: Users, Student Data, Teacher Data, Extra Classes, Resources, Parent Details, Score Details, and so on

Based on the given specifications, you will define suitable entities, attributes for these entities, and identify relationships between the entities.

For example, some entities along with their attributes can be identified as follows:

| User: |
|---------------|
| 1. User ID |
| 2. First Name |
| 3. Last Name |
| 4. Email ID |
| 5. Contact |
| 7. Password |
| 8. Category |

| Score Details: |
|----------------------|
| 1. Auto-generated ID |
| 2. TestID |
| 3. Description |
| 4. Date |
| 5. Score Received |

| Student Data: |
|--------------------|
| 1. UserID |
| 2. Class |
| 3. Enrollment Date |

Similarly, you will define relationships between entities and methods representing activities on the entities.

Note: These are just examples, you do not have to adhere to these structures and can design your own table structure with more or less columns.

1.8

Project Deliverables

You will design and build the project and submit it along with a complete project report that includes:

- Problem Definition
- Design specifications
- Diagrams such as flowcharts for various activities, Data Flow Diagrams, and so on
- Database Design
- Source Code
- Test Data Used in the Project
- Project Installation Instructions (if any)

Documentation is considered as a very important part of the project. Ensure that documentation is complete and comprehensive. The consolidated project will be submitted as a zip file with a ReadMe.doc file listing assumptions (if any) made at your end and SQL scripts files (.sql) containing database and table definitions. To understand the flow and usage of SMART Study Mobile Application, you will have to include the relevant information in a user guidelines document.

Over and above the given specifications, you can apply your creativity and logic to improve the mobile app.

~~~End of document~~~