# *SOFTWARE DESIGN SPECIFICATION*

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**1.0 Introduction**

This section provides an overview of the entire design document. This document describes all data, architectural, interface and component-level design for the software.

* 1. **Goals and objectives**

The Goal of this project is to provide Professor availability to Student. Student can schedule an appointment with a selected professor.

* When the professor is selected, the available time slots of the professor with be shown and user can select one time slot.
* When the student selects a time slot, if the professor is available at that time, an email will be sent to both professor and student with the appointment details.
* If the professor is not available, a text will be shown in the app saying “Time slot is taken, please select another time slot”

Professor home page will have an option to delete a particular appointment.

**1.2 Statement of scope**

Sign Up Page:

* User selects UserType from the drop down menu.
* User enters firstname, lastname, email Address, password and clicks on sign up button.

Login Page:

* User enters username and password details.
* Based on the user type, different home pages will be displayed.

Student Home Page:

* Professor details will be shown in drop down menu. Student selects one professor and the time slots will be shown. Student, selects a professor and the time slot details will be displays.
* Student select a time slot and based on the availability, either an email will be sent with the appointment details or an error message will be shown saying time slot is already booked.

Profile Page:

* Already existing details from the database will be populated and the details not in the database will be shown as N/A
* User can update the details and the details will be saved in the database.

**1.3 Software context**

Software required is Andriod Studio.

**1.4 Major constraints**

N/A

**2.0 Data design**

A description of all data structures and databases.

**2.1 Data structures**

N/A

**2.2 Database description**

Database is created in Microsoft SQL with the name proffind.

There are 5 tables in this database.

Table 1 : UserDetails(contains 13 columns):

* UserId: This is an incremental value which will be automatically incremented when a row is entered in the table.
* username: This contains the username of the user.
* firstName: This contains the first name of the user.
* lastName: This contains the last name of the user.
* Emailaddress: This contains the email address of the user.
* Password: This contains the password of the user.
* User type: This value is selected from the sign up page.
* Gender: This contains the gender of the user.
* Address: This contains the address of the user.
* Created Time: This contains the time details of when the user is created.
* Created Date: This contains the date details of when the user is created.
* Modified Time: This contains the modified time of when the user is updated. Initially, this value will be same as created time.
* Modified Date: This contains the modified date od when the user is updated. Initially, this value will be same as created date.

Table 2: ProfessorDetails (contains 3 columns):

* profId: This is an incremental value which will be automatically updated when a row is inserted.
* profName: This contains the name of the professor.
* emailAddress: This contains the email address of the professor.

Table 3: TimeSlots(contains 2 columns):

* timeId: This is an incremental value which will be automatically updated when a row is selected.
* availableTimeSlot: This contains the time slot value.

Table 4: ProfessorAvailability (contains 5 columns):

* availableId: This is an incremental value which will be automatically updated when a row is inserted.
* profId: This column referes to the profId of ProfessorDetails table.
* availableDay: This column contains the day of the week.
* timeId: This column refers to timeId of the TimeSlots table.
* isScheduled: This is a flag value which lets the application know if that particular time slot is booked or not.

Table 5: Schedule (contains 2 columns):

* userId: This contains the student userId value from the UserDetails table.
* availableId: This refers to the schedule id from the ProfessorAvailability table.

**3.0 Architectural and component-level design**

A description of the software architecture is presented.

**3.1 Architecture diagrams**

**3.2 Description for Components**

A description of major software components contained within the architecture is presented. Section 3.2.1 is repeated for each of n components.

**3.2.1 Component n description**

**3.2.1.1 Interface description**

Input, output, exceptions, etc.

**3.2.3.2 Static models**

Class diagrams, composite structure diagram, etc.

**3.2.3.3 Dynamic models**

Activity diagrams, sequential diagrams, state diagrams, etc,

**3.3 External Interface Description**

The software's interface(s) to the outside world (other software or hardware systems) are described.

**4.0 User interface design**

A description of the user interface design of the software is presented.

**4.1 Description of the user interface**

A description of user interface including screen images or prototype is presented.

Please refer to section 2.2 for description.

Sign Up page:

A picture containing text, monitor, electronics, display

Description automatically generated

A picture containing text, electronics, monitor, display

Description automatically generated

Login Page:

A picture containing text, electronics, monitor, green

Description automatically generated

Forgot Password Page:

A picture containing text, monitor, electronics, screen

Description automatically generated

Home Page for Students:

A screenshot of a phone

Description automatically generated with low confidence

A screenshot of a phone

Description automatically generated with medium confidence

Profile Page:

Graphical user interface, application

Description automatically generated

Professor Home Page:

* Not yet developed. This page will have the appointment details and the professor will be provided with a delete functionality.

**4.2 Interface design rules**

* Used Java JDK version 8.
* Used Android studio for development.
* XML is used for front end development.

**5.0 Restrictions, limitations, and constraints**

* Time slot details are hard coded but this will not impact the functionality.

**6.0 Appendices**

Presents information that supplements the design specification.

**6.1 Requirements traceability matrix**

A matrix that traces stated components and data structures to software requirements is developed.

**6.2 Implementation issues**

N/A