**Functionality Specification Report**

1. **Introduction**

1.1 **Objective**

The Functional Requirements Specification for our group’s website details the functions that the website will be able to perform. The listed requirements will provide a general idea of how each requirement will be used to design the website systems. This will also include rules for testing and validating these requirements. The requirements will cover what each item must do and vaguely describe how they will operate.

1.2 **Scope**

The scope applies to the functionality of the Faculty/Advisor app would include: allowing students to get in touch with professors, tutors, or other students, allowing students to get in touch with other students to create study groups, allowing students to find scholarship opportunities and apply for them, focusing on readability and accessibility and allowing users to review tutors or professors. [1]

1.3 **Assumptions**

The development of this product will be completed with React and Django frameworks, on devices that have access to them. [2]

1. **Requirement Description**

2.1 **User**

2.1.1 **Interface Requirements**

Each created account will become assigned to a specific user.

* Username field accepts character data entry.
* Password field accepts varchar data entry.
* First name field accepts character data entry.
* Last name field accepts character data entry.
* Email field accepts character data entry.
* Study group ID field accepts numeric data.
* Phone field accepts numeric data entry.
* Role field accepts choice fields (“ADMIN”, “STUDENT”, “PROFESSOR”, “TUTOR”) entry.

2.1.2 **Business Requirements**

* Selected fields cannot be empty when updating data entry fields.

2.1.3 **Security Requirements**

Members of the user group have the ability to do the following:

* Login to their respective account
* Edit their profile information.
* View list of all Users, their role, and public contact information

2.2 **Admin**

2.2.1 **Interface Requirements**

Admin is an extension of User and all User related data applies.

2.2.2 **Business Requirements**

* When an ADMIN is creating an account, username, password, first name, last name, and role must be specified.
* When an ADMIN clicks “Create Account” will then check the required data and create the account with the given details.
* The website must contain at least 1 Admin account.

2.2.3 **Security Requirements**

Members of the Admin group have the ability to do the following:

* Create user accounts (including role designation)
* Edit user accounts (including role designation)
* Delete user accounts

2.3 **Professor**

2.3.1 **Interface Requirements**

Professor is an extension of User and all User related data applies.

* Appointment times field accepts dateTime objects past the current date presented as a calendar option.
* Class Subject field accepts list of character data entry.
* Rating field accepts numeric data.

2.3.2 **Business Requirements**

* Fields such as subject data entry cannot be empty.
* Appointment times cannot be before the current date.
* Rating field must be a number between 0 and 100.

2.3.3 **Security Requirements**

Members of the Professor group have the ability to do the following:

* Share scholarships on the scholarship portal
* Set their appointment times.
* Create and edit the list of classes they teach
* View their rating

2.4 **Tutor**

2.4.1 **Interface Requirements**

Tutor is an extension of User and all User related data applies.

* Appointment times field accepts dateTime objects past the current date presented as a calendar option.
* Class Subject field accepts list of character data entry.
* Rating field accepts numeric data entry.

2.4.2 **Business Requirements**

* Fields such as subject data entry cannot be empty.
* Appointment times cannot be before the current date.
* Rating field must be a number between 0 and 100.

2.4.3 **Security Requirements**

Members of the Tutor group have the ability to do the following:

* Set their appointment times.
* Create and edit the list of classes they tutor for
* View their rating
* Join courses

2.5 **Student**

2.5.1 **Interface Requirements**

Student is an extension of User and all User related data applies.

* Role field accepts choice fields (“LEADER”, “MEMBER”) in regards to study groups.
* Study groups field accepts study group objects.

2.5.2 **Business Requirements**

* Study groups must contain a valid ID number.
* When creating study guides they must not have empty fields.

2.5.3 **Security Requirements**

Members of the Student group have the ability to do the following:

* Create study groups
* Join study groups
* Create appointments with professors or tutors
* Rate professors and tutors
* View and apply for scholarships via links
* View their courses

2.6 **Group Member**

2.6.1 **Interface Requirements**

Group Member is an extension of Student and all Student data applies

2.6.2 **Business Requirements**

Requirements for Group Member references Study Group Business Requirements

2.6.3 **Security Requirements**

* Create and upload study guides and other class materials to their study group
* Chat with members of their study groups

2.7 **Group Leader**

2.7.1 **Interface Requirements**

Group Leader is an extension of Group Member and all Group Member data applies

2.7.2 **Business Requirements**

Requirements for Group Leader references Study Group Business Requirements

2.7.3 **Security Requirements**

Members of the Group Leader group have the ability to do the following:

* Choose study group accessibility
* Name and rename the study group
* Invite students to the study group
* Kick members from the study group

2.8 **Study Group**

Students have the ability to create study groups.

2.8.1 **Interface Requirements**

* ID field accepts numeric data entry.
* Name field accepts character data entry.
* Leader field accepts User data entry.
* Members field accepts a list of User data entries.
* Files field accepts file data entry.
* Chat field accepts character data entry.
* Accessibility accepts choice fields (“Invite Only”, “Open”)

2.8.2 **Business Requirements**

When creating a study group, Name, Accessibility, and Leader must be specified.

* Leader data entry must contain a valid user.
* Invalid users cannot be invited to a study group.
* Leaders can remove users from a study group.
* Members can leave study groups but not remove others.

2.8.3 **Security Requirements**

All security requirements regarding Study Groups are listed in the Group Member (2.6) and Group Leader (2.7) sections.

2.9 **Scholarships**

Any Professor or Admin has the ability to add to the scholarship portal.

2.9.1 **Interface Requirements**

* Name field accepts character data entry.
* Donor field accepts character data entry.
* Links field accepts varchar data entry.

2.9.2 **Business Requirements**

* All listed scholarships must be valid scholarships.
* If a scholarship exists the link field cannot be empty.
* If the current date is after the scholarship deadline, the scholarship is no longer valid.

2.9.3 **Security Requirements**

All security requirements regarding Scholarships are listed in the Professor (2.3) and Student (2.5) sections.

2.10 **Meeting**

2.10.1 **Interface Requirements**

* Meeting ID field accepts numeric data entry.
* Meeting Start Time accepts dateTime field data entry.
* Meeting End Time accepts dateTime field data entry.
* Users In Meeting accept User models stored in Array field data entry.
* Meeting description accepts varchar data entry.

2.10.2 **Business Requirements**

* Date and Time must be valid i.e must be after or on current date
* Users in meeting must be valid users.

2.10.3 **Security Requirements**

All security requirements regarding Meeting are listed in the Professor (2.3), Tutor (2.4), and Student (2.5) sections where Students set appointments with Professors or Tutors according to their available appointment times..

2.11 **Course**

2.11.1 **Interface Requirements**

* Course ID field accepts a numeric entry on creation.
* Course Subject field accepts a char data entry.
* Course Description field accepts a char data entry.
* Course Admin field accepts a list of User entries.
* Course Members field accepts a list of Users data entries.
* Course Material field accepts a list of Material Items.

2.11.2 **Business Requirements**

* Course subject, Descriptions, and Admin cannot be null
* Course Admin must contain a valid user.
* Course Members must be a list containing all valid users.

2.11.3 **Security Requirements**

All security requirements regarding Course are listed in the Professor (2.3), Tutor (2.4), and Student (2.5) sections where Professors create a Course and its respective fields, Tutors list what Course they tutor for and can upload course material, and Students can view what Course they are in.

1. **Screens**

3.1 **Login**

The login page will be the first page presented to anyone trying to access the application. The page will include a button which will direct the user to the Create Account page where they can register using their email.

* Create Account

The create account page will allow users without an existing account to register using their school email and personal info.

3.2 **Home**

The home screen will be a page accessible to all account types. The home screen for different account types will vary depending on what type it is. For example, professors will have the ability to create classes from their home screen while students and tutors will not have that ability.

* Profile

The profile page will show the user their personal info. It will include a button which will direct them to the Edit Account page in the case that it needs to be updated.

* + Edit Account

The edit account page will allow users to update/change any of the data fields associated with their personal info. This does not include editing study groups or anything about the classes related to them.

* Meetings

The meetings page will display information pertaining to upcoming meetings on the user’s calendar. This page will also allow students to search for a specific tutor or professor and view their available meeting times. A possible extension would be adding the ability to view past meetings.

* Study Groups

The study groups page will be split into two halves. One half will be for the user to see what public and private groups they are currently in. The other will allow users to search public groups or join private ones with a code.

3.3 **Scholarships**

The scholarships page will be formatted similar to a forum where postings are listed but all posts will forward the user to external sites where more specific information will be available. Basic information such as the name, donor, and amount of the scholarship will be available for each listing. There will be a search functionality to aid students in narrowing down their options when browsing through the scholarships.

Works Cited

[1] User Requirements Specification Report: [URS - Google Docs](https://docs.google.com/document/d/1k1S_6DUMfY4H4CQznVIF5NBBOWY6X4Lcro76qqv8mRk/edit)

[2] Technology Survey: [Technology Survey - Google Docs](https://docs.google.com/document/d/1sEeDSp3B6jUzIIyQiundq4sfyvrK5znHZy_XaBHmpyo/edit)