UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA
Faculty of Engineering, Built Environment and
Information Technology

SRS Document - Tutor Me
Authors: CapsOn

1. Introduction:

1.1 Purpose of Product

The Tutor Me project is an idea that aims to provide a platform where students that need help academically can easily find a tutor that can help them with specific modules. This project will be useful especially now that the covid-19 pandemic has made it much difficult to have face-to-face conversations, ask for help with their studies from fellow students, and interact with lecturers for additional assistance. As with the rest of the world, every matter related to students is moving towards being digital and virtual.

1.2 Scope Of Product

This project focuses on providing a platform to ease the process of:

- Registering as a Tutor that can tutor certain modules for a price,
- Registering as a Tutee that needs a tutor for certain modules,
- Allowing the tutor to select the modules he/she tutors for a fee,
- Allowing the tutee to choose which subject(s) they need help with from certain tutors,
- One-on-one chat functionality between Tutees and Tutors,

- Group chat creation for students requiring assistance with the same modules or subjects,
- Sending and receiving notifications when Tutor is found
- Video calling functionality in-app to allow students to virtually meet
- After implementing these core functionalities of this project, we would start looking at additional functionalities like filtering tutors by gender to enable students to choose someone that they are comfortable with. We would also look into implementing a dark mode of the app for users that prefer it over light mode. The project will be implemented as a cross platform mobile app for Android and iOS.

2. **User Characteristics**

The different users that will be using the system are the following:

- Tutor - This group of users will be able to login/ register as a Tutor (A student at the university that wants to teach and/or mentor other students specific modules). They will also be able to register the modules that they are willing to tutor for at the university and mention their price. They do this by filling in a form that asks for their student number, Name, Surname, Module, mark obtained for the module and price/hr. They should be able to see the list of tutees that they are responsible for. They should be an option to chat to them, video call them, start a group chat. Tutors will also be able to search and filter out available tutees. Tutors will be able to update their profiles in terms of uploading relevant documents and or profile images as well as other text related information(Name , age etc).

- Tutee - This group of users are students who are enrolled in an Institution and require a mentor or tutor in specific subjects/modules. This group will be able to login/register, upload relevant documents/ submit relevant information for validation. They will then be able to scout for potential tutors, by looking at the tutors attributes, such as their age, gender and transcript/module marks, rating and price. They will be able to request tutoring from the chosen tutor candidates and interact further with the tutor in the form of chat messages and or video calling. Tutees will **not** be able to communicate further with the tutor if the request was rejected. Tutees will be able to filter their search of Tutors based on their age and/or gender.

- Admin - This group of users are able to do maintenance on the application. For example, They can remove users that misbehave or break the code of conduct. They will also be able to download and review documents uploaded by tutors.

A student can both be a tutor and a tutee but will need to register twice for different roles. This is to allow for security within the system. Certain things can only be seen by certain users.

Use Cases Diagram:
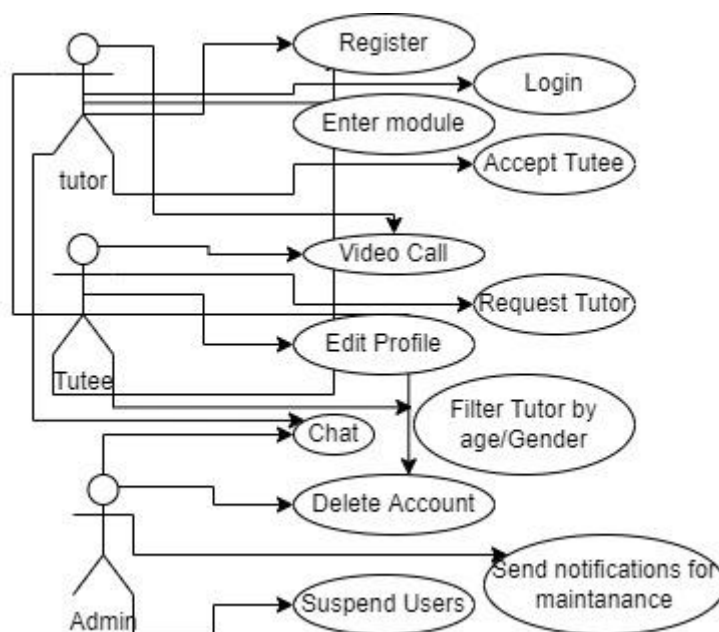
3. **Functional Requirements**

➔ **FR1** - The system will allow tutors to register and login students who want to be tutors or tutees. A user who wants to be both a tutor and tutee will need to register twice.

➔ **FR2** - The system will allow tutees to request for tutoring from tutors.

➔ **FR3** - The system will allow tutors to accept or reject tutee requests .

➔ **FR4** - The system will allow tutors and tutees who are linked to communicate via chat messages and or video calling functionalities.

➔ **FR5** - The system will allow users(Tutees,Tutors) to edit their profiles, this includes uploading their profile pictures , adding a short description about themselves.

- ➜ **FR6 -** The system will allow users to connect to each other by sending request to each other.

- ➜ **FR7** - The system will allow users use video capturing as another form of communicating

- ➜ **FR8** - The system will allow users to upload their confidential information such as transcript and Id documents for validation

- ➜ **FR9** - The system should be able to allow for a one-one chat functionality between tutees and tutors.

- ➜ **FR10** - The system should be able to allow for a group chat functionality between tutees and tutors.

- ➜ **FR11** - The system should be able to allow for video call functionality between tutees and tutors.

- ➜ **FR12** - The system should be able to allow for many connections to take place at the same time.

- ➜ **FR13** - The system should allow tutees to be grouped by a module that they have a tutor in common.

- ➜ **FR14** - The system should allow tutees to rate tutors.

- ➜ **FR15** - The System should allow Tutees to search for tutees and filter them based on their name, age, gender, module and rating.

- ➜ **FR16** - The system Should allow Tutors to accept or deny Tutee Requests

- ➜ **FR17** - The system should allow users to edit their profiles.

- ➜ **FR18** - The system should allow users to select their Modules, Institution, year level and Course.

- ➜ **FR18** - The system should allow users to make a new password using an OTP to their email if they forgot it.

- ➜ **FR19** - The system should allow users to chat in during a video call session.

4. Class Diagram

Powered By: Visual Paradigm Community Edition
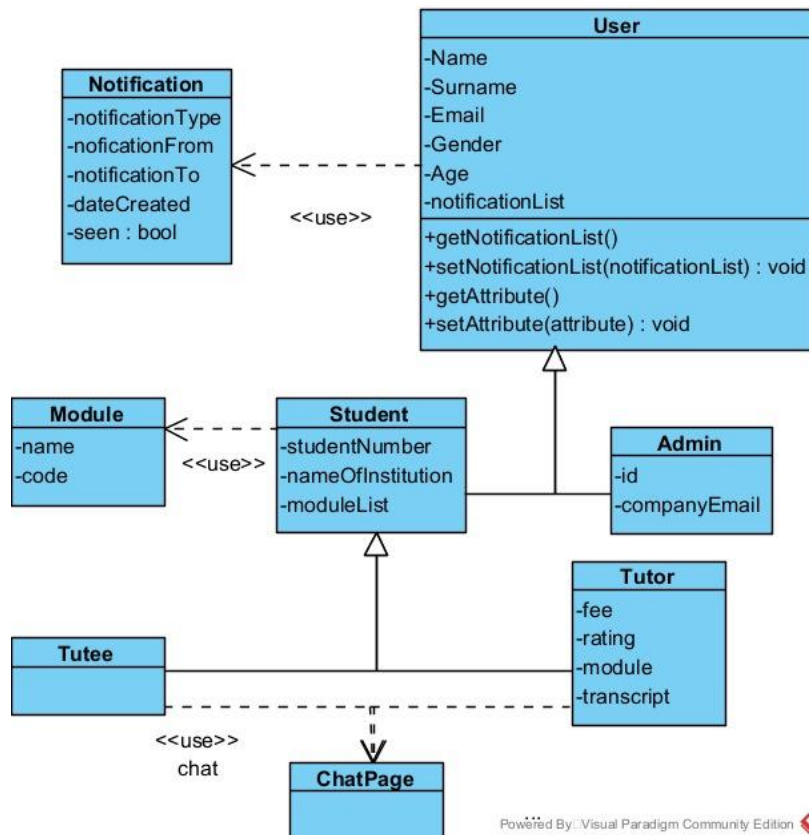
5. Quality Requirements

➔ The Tutor_Me app must be able to process and store multiple requests over the whole system.

➔ The Tutor_Me app must be able to handle these multiple requests simultaneously.

➔ The Tutor_Me app should be able to keep everyone's private data confidential

➔ A scalable database management system, as the system, will be dealing with a large number of users.

➔ The Tutor_Me app shall be receiving a large number of requests daily. To which have to be processed and stored in the database, in a matter of seconds.

➔ The Tutor_Me app will be sending notifications to students within seconds.

➔ The database should be normalised to prevent redundant data and improve performance.

➔ The app should be intuitive to use so that users can focus on the tutoring than the usage of the app

6. Trace-ability Matrix

Requirement	Priority	Register	Login	Enter Module	Accept Tutee	Video Call	Accept Tutor	Edit Profile	Chat	Filter Tutor	Delete Account	Suspend Users	Send Notifications	
FR1	5	x	x											
FR2	5						x			x				
FR3	5				x									
FR4	3					x			x					
FR5	3			x				x			x			
FR6	1													
UC Priority		5	4	2	3	2	3	3	3	3	1	3	3	

7. User Stories

As a user I want to be able to upload My Id and transcript, That way I will know my peers are also valid.	As a user I want to be able to create a group with tutees who are interested in the same module, for tutoring	As a user I want to be able to see my tutor's screen or some sort of blackboard	As a user I want to be able to see tutees that are under me
As a user I want to be able to search for specific tutors by name	As a user I want t o be able to filter out the lists I have by selecting gender or age.	As a user I want to be able to rate a tutor so that other Tutees can find him/her easier.	As a user I want to be able to block or allow audio and video during a video call.
As a user I want to be able to mute or unmute my audio during a vide call.	As a User I want to be able to report or kick out misbehaving students.		

As a user, I want to communicate with other users via video calling.

As a user I want to login as a Tutor

As a user I want to login as a Tutee

As a user, I want to hire a tutor
📖 1

As a user, I want to send requests to tutors that I want to tutor me.

As a user, I want to reject or accept requests from tutee's. This is to allow me tutor students I am comfortable with.

As a user, I want to choose/select a tutor according to my preferences. Age and gender being specific. I want to be comfortable with the person teaching me.

As a user, I want to set up my profile. I want to be able to upload my profile picture and bio.
📖 1

As a user, I want to be able to customize my app. Dark/Light mode. I want to be able to use the app any time of the day.

As a user, I want to create a group chat for students requiring assistance with the same modules or subjects.

As a user, I want to select the modules I need tutoring for .
📖 1

As a user, I want to receive notifications when a tutor has accepted or rejected my request.

As a user, I want to send requests to tutors that I want to tutor me.

As a user, I want to reject or accept requests from tutee's. This is to allow me tutor students I am comfortable with.

As a user, I want to chat with other users on a one-to-one basis.

8. System Constraints

- Open-source software
- Windows/Linux/MacOS for development
- Android app must receive highest priority

9. System Design
- Cross platform mobile app for Android and iOS
- A backend to handle mobile app requests
- A database for persistent storage and access of data.
- API integration with external services

10. Technology Specifications
- Flutter/Dart for cross-platform mobile app development
- Latest stable .NET Core version for backend implementation and to cater for a microservices architecture
- Microsoft SQL Server for the database

11. Feasibility Study

The TutorMe application is required to be completed in less than a year. The main aim of this application is to provide a platform in which tutees can find tutors that attend the same institution for specific modules online. We are following a more agile methodology approach to implementing this application. The desire for quality of the feature and understanding the process is the main aim of the team.

Risks:
1. Running out of time and feature not implemented
2. Bug ridden feature implemented
3. Incoherent design for following group
4. Project Owners not agreeing with feature analysis
5. Feature is poorly designed
6. Insecure feature

Considerations:
1. Time constraint of team's other commitments with university
2. Quality constraint of expectations from project owners
3. Learning constraint of software engineering process

12.   <u>Acceptance Criteria</u>

- The system should be able to register and login a user as either a tutor or a tutee.
- The system should be able to allow tutee select gender and age preferences, to enable the application to suggest potential tutors.
- The system should be able to allow both the tutee and tutor to edit their profile's details.
- The system should be able to allow tutees to add modules that they need tutoring for.
- The system should be able to allow tutors add modules they would like to tutor other students.
- The system should be able to cater for both dark and light theme lovers.
- The system should be able to allow the tutor to start a video call inorder to teach students who need help with the same modules.
- The system should be able to allow for a one-one chat functionality between tutees and tutors.
- The system should be able to allow for a group chat functionality between tutees and tutors.
- The system should be able to allow for video call functionality between tutees and tutors.
- The system should be able to allow for many connections to take place at the same time.
- The system should allow tutees to be grouped by a module that they have a tutor in common.
- The system should allow tutees to rate tutors.
- The System should allow Tutees to search for tutees and filter them based on their name, age, gender, module and rating.
- The System should allow Tutees to request for Tutors.
- The system Should allow Tutors to accept or deny Tutee Requests
- The system should allow users to edit their profiles.

- The system should allow users to select their Modules, Institution, year level and Course.
- The system should allow users to make a new password using an OTP to their email if they forgot it.
- The system should allow users to chat in during a video call session.

13. **Architectural requirements**
(https://github.com/COS301-SE-2022/Tutor-Me/blob/develop/assets/Architectural%20Development%20v4.pdf)

14. **Service contracts**

15. **Coding Standards Document**
(https://github.com/COS301-SE-2022/Tutor-ME/blob/develop/assets/Coding%20standards%20document.pdf)

16. **User Manual**
(https://github.com/COS301-SE-2022/Tutor-Me/blob/develop/assets/User%20Manual%20TutorMe-4.pdf)

17. **Technical Installation Manual**
(https://github.com/COS301-SE-2022/Tutor-Me/blob/develop/assets/Technical%20installation%20manual%20v4.pdf)