Project:	Personal Tutoring Service (PTS)
	CSE 5325 – Fall 2023
	Project Management
Module:	Project Scope & Feasibility
Deliverable:	Scope & Feasibility Document

Version: [1.0]   **Date:** [9/24/2023]

Prepared by: Keerthana Pyata

Uta Id: 1002029148

TABLE OF CONTENTS

1. Introduction and Executive Summary

There has never been a greater need for easily accessible and effective educational tools in the fast-paced, digitally connected world of today. The ability to connect with the suitable tutor or tutee is important, whether you're a student seeking further academic support or a teacher ready to share your knowledge. In order to make it simple for people to find tutoring services or advertise their tutoring services, we've designed and implemented a dynamic website and a related Android application.

We want to close the gap between students and instructors by offering a complete, user-friendly, and highly responsive platform, making education more available and customizable for everyone. The goal of this project is to build a dynamic online community where students may interact with knowledgeable mentors to advance their academic careers and where skilled instructors can connect with enthusiastic students to pass on their knowledge and passion.

Our main goal is to build a solid and user-friendly platform that can accommodate all of the different needs of our consumers. This website and Android app will act as your portal to a world of learning opportunities, whether you're a student looking for aid in programming languages, mathematics, French, piano, tennis or any other subject. Our commitment to education goes beyond simply providing these connections to ensuring the safety, dependability, and quality of the educational experiences shared within our online community.

We are going to explore the key components, functions, and technologies needed for both the website and Android application as we begin on the task to build a successful platform. We will also talk on the challenges that are involved in creating a system that's so constantly changing and related. We are eager to fulfill this vision and extend worldwide access to high-quality education with help and cooperation.

2. Objectives

2.1 BUSINESS OBJECTIVES

The following are the list of business objectives:

Objective 1: Registration: Setup your personal information such as name, phone number, e-mail id, password, address, etc.

Objective 2: Login & Authentication: This is mandatory step for all tutors and all clients that will be using a tutor. However, a user is not required to log in or have a login ID until they require to hire a tutor, then they must register and log in.

Objective 3: Tutoring categories: The App includes at least the following 5 tutoring categories: Programming languages, Math, French, Piano, and Tennis even additional categories are optional which can be added based on the requirements. The system should allow adding new tutoring categories without the need for any programming need.

Objective 4: Being a Tutor: Offer your service as a tutor (i.e. specialty area, price, location, travel within x miles, etc.)

Objective 5: Hire a Tutor: Allows to hire a tutor with respect to the specialty area, price, location required, etc.

Objective 6: Search: It is similar to search engine which allows the clients and tutors to search with the keywords and give the results.

Objective 7: Payments: Makes the transaction securely with different payment options for the clients to pay a tutors or receive the payments.

Objective 8: App Monitoring: The owner of the app must keep an eye on the students and tutors to prevent any unlawful or unethical activities (such the student and tutor organize a private bypass of the app to stop earning the required 20%). Should keep eye on ongoing negative feedback or events, and if there is any it could result in the end of a partnership with any tutor and/or prevent a current client from using the tutoring service app in the future.

Objective 9: Communication: The basic details like email, contact number or text messaging will be provided for tutor, client and app owner communication.

2.2 SYSTEM OBJECTIVES

The following are the list of system objectives for the application:

Objective 1: This application is supported by both web based as well as mobile

Objective 2: Google Search will be integrated into the system for search

Objective 3: The server can simultaneously run 800 users at the moment where the idea of concurrency can be used for both operating system and database system.

Objective 4: For the front page which is the home pages and other pages where the user can see will be employed by HTML and CSS.

Objective 5: To retrieve and display data to user we use Javascript.

Objective 6: The only person with the ability to check the data regarding the database would be admin where they will be having different credentials apart from clients and tutors.

Objective 7: The application's back end makes use of MySQL Workbench Database to store and retrieve data for the user to see.

Objective 8: The website's android app has similar functionalities as that of web based counterpart.

Objective 9: We will be using eclipse software for constructing the program which will be written in Java language and therefore it enables efficient development of application's website.

Objective 10: To provide the backdrop and styling components for the website we will be handling the CSS in separate files where the same will be used for the Android application also.

Objective 11: Apache Tomcat 9.0 will be utilized as web server.

Objective 12: Before releasing the application will be tested to ensure that every feature, buttons, links are error free and accurate both in web application and android application.

Objective 13: For examine of back end testing we will be using Puppeter Web Driver so that it runs the potential test case combination, monitor button clicks, redirection of the links etc.

Objective 14: The APK file for the Android application can be exported using Eclipse which further used to install software on Android mobile phones.

3   Project Feasibility, Risks and Metrics

Project feasibility and metrics are summarized below:

3.1 PROJECT FEASIBILITY CONCERNS

While considering the feasibility of developing an Android application to help individuals find tutoring services or offer their services as tutors, it's important to assess various factors to determine if the project is fundamental. Here are some feasibility concerns and considerations:

Technical Feasibility:

- Evaluate whether the team has necessary expertise in Android app development. If not, needed to consider to hire or outsourcing development to experience professional.

- Assess the availability and suitability of the technology stack required for the app, including programming languages, frameworks and tools.

- Determine integration challenges where there are any complex integration required such as payment gateways, third party APIs or messaging systems.

Market Feasibility:

- Conduct thorough market research to understand the demand for tutoring services and competitive landscape in target region.

- Need to consider strategies and costs associated with acquiring users both for tutors and tutees and assess whether there is a sufficient large and accessible market.

- Analyze pricing models and determine whether users are willing to pay for the services offered through the app.

Financial Feasibility:

- A detailed budget plan will be created that includes development costs, marketing expenses, operational costs and expected revenue. Need to ensure that project is financially viable.

- Estimation of revenue should be based on user acquisition rates, model pricing and transaction volumes. Assess when app is likely to become profitable and touch break-even point.

Security and Privacy Feasibility:

- Assess the feasibility of implementing robust data security and privacy measures including encryption, user data protection and compliance with data protection laws.

User experience and Design Feasibility

- Whether the app's user interface and user experience can be designed perfectly to meet user expectation and needs.

- The user testing and feedback should be planned to collect which helps to improve app's design and functionality.

Operation Feasibility

- Need to evaluate whether the app can scale to adjust the growing user base and increase on demand for tutoring services.

- The ongoing operationall cost, server cost, client support, marketing and maintanence will be estimated.

User Engagement Feasibility

- Consider the strategies for user engagement and retention as these shows affect on long term success for the app.

Competitive Analysis

- Identify and assess the unique features and advantages of the app will offer better version compared to existing tutoring platform.

3.2 PROJECT RISKS

In order to ensure a successful end, it is important to identify, evaluate, and manage all of the project risks that come with developing an Android application for a tutoring business. Following are a few typical project-related risks for this kind of application:

Market Saturation Risk

Risk: The market may already be saturated with tutoring service apps, making it challenging to gain a significant user base.

Mitigation: Need to conduct thorough market research to identify more opportunities or unique features that can differentiate the app from others.

Technical Challenges

Risk: Complex issues such as compatibility problems with Android version, device fragmentation, security vulnerability can impact development timelines and user experience.

Mitigation: Should maintain a strong technical team with experience in Android app development. Regularly update the app to address compatibility and security issues.

User Acquisition Difficulty

Risk: Attracting both tutors and tutees to platform can be challenging especially in the early stages of the app.

Mitigation: Comprehensive marketing strategy should be developed which includes advertising, social media campaigns, referrals and partnerships with education institutions

Quality Control and User Trust

Risk: Maintaining high quality tutors and sessions is essential for user satisfaction and trust. Low quality tutors can harm the platforms reputation.

Mitigation: Implement a stringent tutor verification process, user rating and revies and mechanism for addressing user complaints or disputes.

Data Security and Privacy Concerns

Risk: Breaching of data, unauthorized accessor any privacy violations can lead to significant legal actions and reputational risks.

Mitigation: Invest in immerse data security measures, adhere to data protection regulations and conduct regular security audits. Clear communication about data handling and privacy practices should be done with users.

Competition:

Risk: Competitors may quickly replicate app's features or offer similar services to increase the competition.

Mitigation: Continuously innovate and enhance app's features and user experience. Focus on building a strong brand and loyal user base with the users.

Financial stability

Risk: Insufficient revenue generation or high cost for operations can threaten the financial stability of the project.

Mitigation: Manage expenses carefully, conduct regular financial assessments and explore different ways for cost reduction while optimizing revenue streams.

3.3 PROJECT METRICS

Whenever there is release of the app to customers there is specified threshold on quality over which delivery of app is unacceptable. Such thresholds and their descriptions are listed below:

Maeasurement	Description	Acceptable Threshold Level
Percentage of Feedbacks	The percentage of customers evaluating or commenting indicating about the program	>=80%
Severity 1 defects on SLOC	The no. of critical level 1 issues found for every 100 lines of code	Not more than 5 defects
Severity 2 defects on SLOC	Defects of medium priority of level 2 found per 1000 lines of code	Not more than 10 defects
Severity 3 defects on SLOC	Defects low priority of level 3 flaw for every 1000 lines of code	Not more than 15 defects
Percentage of server breakdown	The no. of times server break-down has happened every month	Not more than twice a month
Number of users using system	The quantity of similar users of the website or application	Not more than 1000
Percentage of Profit	The percentage or portion of profits of business which will be made as a result of successful finishing of project	Not less than 75%

By chance, if the metrics is exceed the pre-determined values, the performance of our company is poor and web application will ultimately suffer.

4   Project Scope and Process Model

The Android application for tutoring services' boundaries, goals, and deliverables are described in the project scope. It outlines what the project will and won't contain. The Android app's project scope is as follows:

In-Scope:

User Registration and Authentication:

- User registration and login function works with email and social media integration.

User Profiles:

- User can create and manage detailed profiles, including personal information, education skills, availability and preference.

Tutor Search and Matching:

- Robust search and matching feature that connects tutors and tutees based on their preferences, subject experience, location and availability.

Messaging and Communication:

- Real time messaging system for users to communicate will be provided with schedule sessions and coordinate tutoring activities.

Scheduling and Booking:

- A scheduling system that allows users to set up tutoring sessions with specific time slots and receive notifications.

Payment Integration:

- Secure payment gateway integration for processing payment related activities to tutoring services.

User Rating and Reviews:

- A rating and review system using sentimental analysis enables users to provide the feedback on tutors and tutoring sessions.

User Support and Help Center:

- Support features, FAQ's and tutorials to assist users with inquiries or issues.

Out of Scope:

Full Web Application Development:

- This scope is limited to Android application. A separate web application may be developed in future.

Offline Mode:

- While the app may have limited offline capabilities, but full offline functionality is not the scoop.

Advanced AI- Based Matching:

- Complex Ai matching algorithm are not in scope for early release.

4.1 PROJECT PROCESS MODEL

Process Model for Project Execution

It is essential to choose the right process model for your project. Here is an illustration of a process model appropriate for creating the Android coaching app:

Agile Development Model:

For software development projects that demand adaptability and continual improvement, the agile model works effectively. Agile provides the following benefits because of the dynamic nature of the app industry and changing customer requirements.

- Iterative Development: To enable continuous development and regular releases of new features, the project is broken up into small stories or sprints.

- Frequent Feedback: Throughout the project, users and team members submit feedback, allowing for immediate changes.

- Collaborative Teams: To provide an extensive approach to development, cross-functional teams with developers, designers, testers, and business analysts work closely together.

- Adaptability: Agile allows adjustments to requirements and goals, taking into consideration of changing customer needs and market trends.

- Customer Centric: Delivering value to the client with each iteration is a major focus of agile.

Key Phases of Agile

- Planning: Create a feature backlog and prioritize it based on user needs after defining the project's goals.

- Planning: Plan and commit to a set of features for each session.

- Development: Build and test the features in the sprint.

- Review: Demonstrate the completed features to stakeholders and gather reviews.

- Retrospective: Reflect on the sprints and identify the areas for improvement and adjust the development process accordingly.

- Repeat: Continue with subsequent sprints by adding new features or refining existing one.

Using an Agile model allows for the incremental development of the Android tutoring application, ensuring that it remains responsive to user feedback and adaptable to changing requirements.

4.2 Project Context

A high-level diagram of the proposed approach/components (any format is acceptable, google "*context diagram sample*" to see different formats)
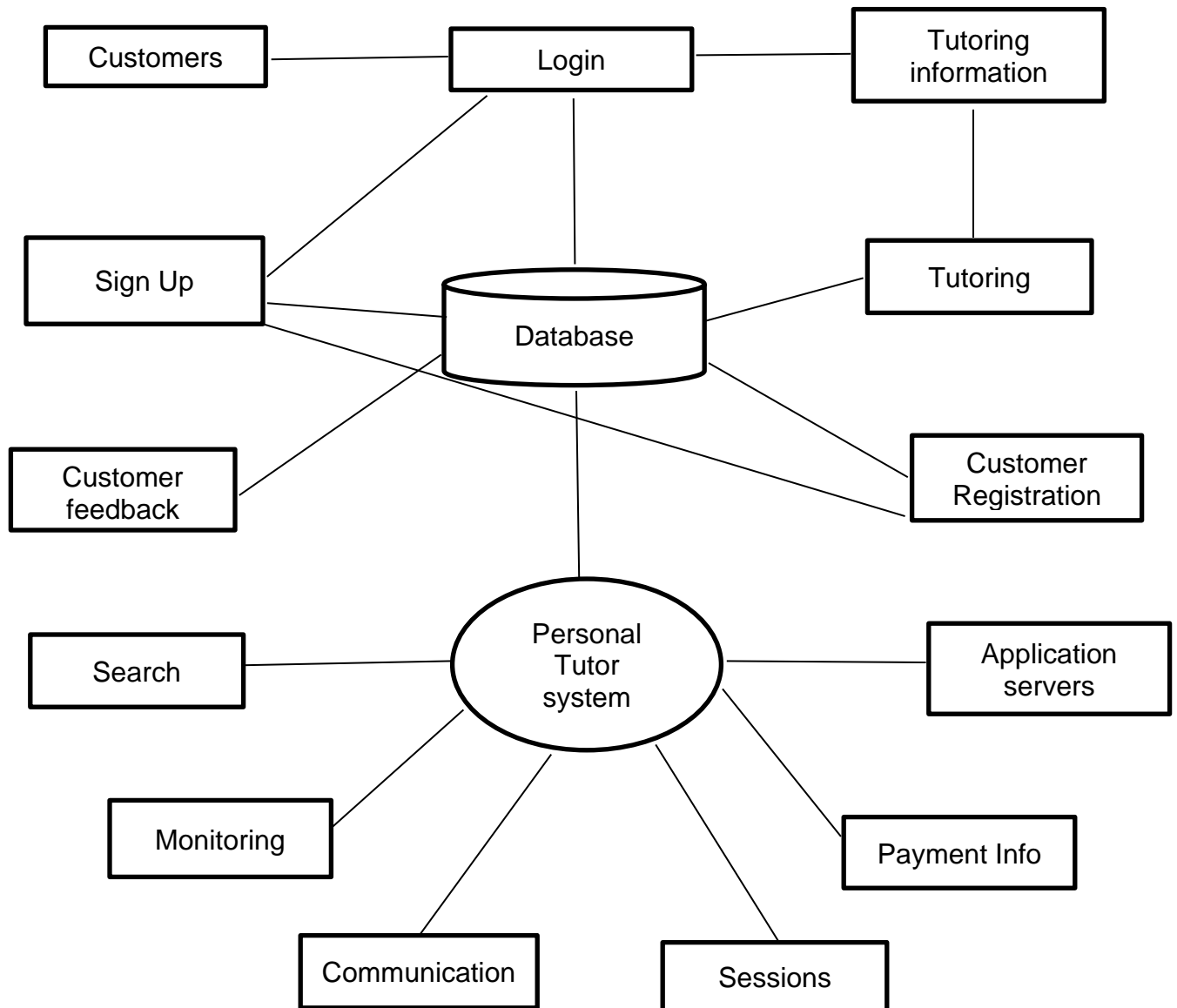
5. Assumptions and Constraint

Any project, including the creation of an Android application for tutoring services, must take assumptions and constraints into account. They aid in the understanding of the project's operating environment and constraints by project stakeholders. For the Android tutoring application project, consider in mind the following major presumptions and restrictions.

5.1 ASSUMPTIONS

The following is a list of assumptions:

- Everyone who are using this application are older than 18 years.

- Ingonre any tax related problems.

- Ignore up coming problems after the project is in operation.

- Assuming that the audience has access to Android smartphones or tablets with internet connectivity.

- Assuming that the project team will adhere to data privacy laws and regulations or safeguarding the user data.

- Payments are accepted only by using credit cards by the customers.

- Each resource working on the project gives their full contribution for the project.

- Assuming that competition exist in the market and trying to differentiate it with others.

5.2 CONSTRAINTS

The following is a list of constraints:

- Our developers are not trained in Android programming

- Project schedule too short with predetermined launch date or need for rapid development may effect the scope of actual release.

- Limited financial resources which effect the ability to invest in extensive marketing campaigns.

- Development will be constrained to Android users only limiting access to Ios users.

- Ensuring high level security may require addition resources on feature development.

- Competition in tutoring services may limit pricing flexibility.

- Users may face constraints related to network connectivity impacting the real time feature of app.

- Gaining user trust may be constrained by user preference or resistance to change.

6. Project Tasks, Schedule and Cost

The tasks, schedule and cost for the project are listed below

To complete this task we have 13 weeks as the time period which is from Sept 5 2023 to Dec 5 2023.

Task	Duration (in weeks)	Work
Initiation and Planning	3 weeks	Design project objectives and conduct market research. Setup team and roles. Develop detailed project plan, define technical requirements and create budget.
Design	2 weeks	UIUX designing, prototyping, database designing, defining system architecture and finalize design elements and style.
Development	5 weeks	Developing user logins, profiles, advances tutor search and matching, UIUX enhancing, Payments system, Testing and fixing bugs, Deployment of android app to google play store and monitoring performance and user feedback.
Marketing, Documenting and Launch	2 weeks	Launching market campaign and engage with user communities. Gather feedback and analyze the behavior. Document every engagement and strategy with user implementation.
Operations and Support	1 week	Providing continuous user support and assistance. Monitoring app performance, security and privacy. Conduct regular maintenance and update features.

S. No.	Task	No. of units	Cost	Total cost
1	Project administration			
	Project Leader	1	10,000$/month	30,000$
	Resources	5	5000$/month	75,000$
2	Health Benefits(50% extra surge)			175,000$
3	Hardware			
	Severs	6	6000$	36,000$
	Monitor and desktops	6	3000$	18,000$
	Other Devices	6	1000$	6000$
4	Software			
	System Software License	6	100$	600$
	Database License	1	300$	300$
	Other security/ software license	6	75$	450$
5	Testing	6	50$	300$
6	Training			
	Backup	6		8000$
	Features development	6		6000$
7	Deployment			
	Recreating outing	6		20,000$
	Project Reverse for emergencies	1		30,000$
	Total Project Estimate			405,650$

The total project cost estimate without any profit is 405,650$. The profit margin is 50%.

The estimated project cost with profit margin is 811,300$

7. Conclusion and Recommendations

The development of an Android application to help individuals find tutoring services or offer their services as tutors is a promising aspire in this rapidly evolving education technology landscape. This project aims to build a bridge between students seeing academic support and qualified tutors by providing an efficient platform for both students and tutors.

Throughout the process of planning we have identified some critical components such as user registration, managing profiles, search, matching algorithm used to matching a tutor for tutee, messaging, payment integration and user engagement features. These elements are fundamental for creating user friendly application that addresses the need of the customers effectively.

And finally if we consider various aspects including market research, budgeting, technical requirements and support, all of them points for a successful development, launch and sustained operation of the application.

Appendices

- https://www.atlassian.com/agile
- https://www.omnicalculator.com/finance/margin