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FACULTY OF INFORMATICS & DESIGN

Diploma in Information & Communication Technology

Project 3: PRT362S

Term 1: Group submission

Group TM3

Sean Joel Bailey, 230645682, 3D

Siyambuka Mbali, 230594646, 3G

Lisakhanya Mpahla ,230126669 , 3H

Olwethu Nene, 230277845, 3H

Alunge Gwangqa, 222843608, 3E

Zamani Madonsela,222447322,3F

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1. Communication

Communication Methods used

During the early stages of the project we established a whatsapp group to facilitate quick and easy communication with every member in the group. This group promotes transparency among members as each member can view messages on the group. The whatsapp group is used to establish meeting times, dates and meeting agendas. The group is used to send links to collaborative documents, primarily google and word documents. Using this whatsapp group as our primary form of communication is still a viable and working communication method.

As the project progressed we decided to have a meeting on the whatsapp group chat. During this meeting we choose our artifact and roles. During the meeting we decided to switch to a whatsapp video call for future meetings as using a whatsapp group chat has many failures such as: slow communication, lack of structure, more potential for distractions and overall lack of professionalism. The whatsapp group chat for meetings method was tried, but was ultimately decided that the communication method is unviable.

For the next meeting we used a whatsapp group video call. This communication method was better than a group chat, members could speak to each other, which made understanding their points or objections much easier. However, we were limited by being unable to share any screens or documents. Statement is false. Some members had technical issues with their phone and did not have the option to send a text message. Members could also be easily distracted since they were using their phones for the video call. This communication has been decided to be not working, as there are better alternatives such as microsoft teams.

In the most recent meeting Microsoft teams was utilized. We were able to send messages during the meeting if need be, there were no technical issues as members were able to use their laptops or pc's and not be limited to their phone. Members could communicate freely, and every member had their camera on which increased the transparency and reduced distractions. Members could show their screens and documents. This method is working and efficient, we will be using Microsoft teams for our meetings in the foreseeable future.

Communication Per Member

Sean Joel Bailey communicates well. He leads meetings and encourages clear communication from each member. He ensures that each member understands what needs to be done and that issues are solved as efficiently as possible.

Alunge Gwangqa communicates well. He proposes ideas and ensures that meetings stay on topic. He gives constant updates on the project.

Zamani Mcondisi Director Madonsela communicates well. He always gives a unique viewpoint on topics. He ensures that every member has a chance to speak and voice their opinion.

Siyambuka Mbali communicates well. He discusses technical and ui components mainly. His communication is clear and timely.

Lisakhanya Mpahla communicates well. He communicates mainly on documentation and the project timeline. He ensures that meetings do not run overtime.

Olwethu Nene communicates well. She is the scribe of the group and creates and proposes meeting agendas. She ensures that meetings stay in the agenda topic and keeps the group moving to the next agenda point. She communicates in a clear fashion if she has a point to make.

Meeting Minutes

First meeting

Location: WhatsApp group chat

Date: 17/02/2025

Time: 16:30

Members present:

- Sean Joel Bailey
- Siyambuka Mbali
- Lisakhanya Mpahla
- Olwethu Nene
- Alunge Gwangqa
- Zamani Madonsela

Meeting items:

1. The leader was chosen as Sean Bailey and it was agreed the role would rotate each term
2. Meeting format was chosen as the Project 3 WhatsApp group, with the Microsoft team being used in the future as the project becomes more complex.
3. Each group member contributed two project ideas. The project was chosen as a university tutoring program.
4. Roles were chosen as follows:
 - Olwethu nene: Secretary and documentation
 - Sean Bailey: Leader, Coding and database design
 - Siyambuka mbali: UI design
 - Lisakhanya mpahla: Quality Assurance and Coding
 - Zamani Madonsela: documentation and coding
 - Alunge Gwangqa: documentation, ui design and coding
5. A Google document was created in which all members could collaborate.

Second meeting

Location: WhatsApp group video call

Date: 2025/03/02

Time: 17:00

Members present:

- Sean Joel Bailey
- Siyambuka Mbali
- Olwethu Nene
- Alunge Gwangqa
- Zamani Madonsela

Members Absent:

- Lisakhanya Mpahla

Agenda items:

1. All members agreed to divide term 1 deliverable as follows:
 - Communication- Sean
 - Task Allocation- Alunge
 - Group organization- Zamani
 - Problem Identification- Olwethu
 - Technology and Scope- Siyambuka(Technology) & Lisa(Scope)
2. Team members have agreed on doing research on the database that will be used for the project.
3. Team members agreed on using HTML, CSS and Javascript languages for the website
4. Siyambuka volunteered on making a design using figma
5. Members brainstormed additional requirements for the project
6. Team members agreed on requirements and ranked requirements based on
 - a. Rank each requirement on a scale of 1 to 5:
 - 1 – Essential (critical to project success)
 - 2 – High Priority (strongly needed)
 - 3 – Medium Priority (beneficial but not critical)
 - 4 – Low Priority (nice to have)
 - 5 – Optional (non-essential features)
7. The date for the next meeting was set

Third meeting

Location: Microsoft Teams

Date: 10/03/2025

Time: 16:30

Members present:

- Sean Joel Bailey
- Siyambuka Mbali
- Lisakhanya Mpahla
- Olwethu Nene
- Alunge Gwangqa
- Zamani Madonsela

Meeting items:

1. Each member recited over previous work that had been done.
2. Members agreed to begin doing preliminary coding of the UI.

2. Tasks

Sean Joel Bailey

Sean has been tasked with designing and coding the database. He has been tasked with creating the diagrams for the project, such as UML and class diagrams. He is tasked with coding the backend of the project.

Sean is skilled with programming languages such as java, python, html/css. He is also proficient in MySQL. He is skillful in creating diagrams. He is skillful in version control, such as git and github.

Siyambuka Mbali

Siyambuka is tasked with creating a Figma design for the tutor app website. He is also tasked with coding the website's structure and styling using HTML and CSS.

Siyambuka is skilled with UI/UX design with Figma. He is proficient in using programming languages like Java and Python. He is also skilled with HTML, CSS, JavaScript and PHP. He is good with version control and collaboration tools like Git and GitHub.

Mpahla Lisakhanya

Lisakhanya Mpahla is tasked to ensure that the system meets the requirements, functions correctly . All the necessary non-functional and functional requirements are met .

Lisakhanya Mpahla has good skills in testing websites and also programming them using JavaScript, HTML, and CSS. The skills he has will enable him to be able to contribute to the code and create databases on the website.

Olwethu Nene

Olwethu Nene is tasked with taking minutes in meetings, updating teammates by sharing meeting minutes with the rest of the group members , tracking progress and organizing documents.

Olwethu Nene is equipped with a variety of skills that enhance the efficiency of a team. She possesses good communication skills which help ensure that all teammates are updated with decisions taken and assignments. She also possesses

time management skills which is a significant competency, as a secretary frequently monitors deadlines and ensures timely completion of tasks.

Alunge Gwangqa

Alunge Gwangqa has a task of documenting, coding, and designing within the projects, his task in the website involves both technical development & documentation management. He is responsible for writing and maintaining clean, efficient code, ensuring seamless backend and frontend integration, debugging issues, and optimizing performance.

Alunge Gwangqa has good Java skills and experience with databases, he is well-equipped to handle the development side. His skill in UX/UI design capabilities with creativity and focus on detail enables him to turn concepts into operational designs with attractive visuals.

Zamani Madonsela

Zamani Madonsela is tasked for documentation and coding in the project. His task in documentation involves reviewing the document for any mistakes, ensuring proper structuring, and making it clear and readable. In coding, he is tasked with both front-end and back-end development, ensuring that the system has a user-friendly interface and functions efficiently for students. His contributions aim to enhance both the usability and professionalism of the project.

Zamani brings experience in HTML, CSS, and Java, which enables him to develop a well-structured interface while ensuring seamless backend functionality. His technical skills contribute to both the design and functionality of the system.

Provisional timeframe

The documentation for the first deliverable has been completed, while coding is still in progress. The team is currently finalizing the documentation to ensure that the coding aligns with the structured plan and each group member's assigned tasks.

Timeframe for learning new skills

The process of learning new skills is expected to take approximately 2-3 weeks, as there will be improvements in coding practices and the introduction of new languages. This includes gaining proficiency in MySQL for effective database management.

3. Group Organisation

Sean Joel Bailey

Has the role of being a group leader, back end developer and database designer.

As leader he is in charge of distributing tasks, leading meetings, creating an environment of inclusivity and ensuring that each member does their work efficiently and effectively. He was chosen for this role due to his prior experience with leadership in previous projects. The role of Leader will be changed every term.

Sean has chosen the role of a backend developer. As a backend developer he is tasked with writing proficient code for backend, ensuring that back end code integrates with front end code, maintaining code, testing code and ensuring that the github repository is up to date. He chose this role because he is proficient at writing back end code, specifically java or python. Sean does not plan on changing this role.

Sean has the role of designing and coding the database. In this role he must design a database that reflects the project requirements. He must code the database in MySQL and ensure that the database works. Sean chose this role due to his prior experience with MySQL, and his enjoyment for working with databases.

Siyambuka Mbali

Siyambuka has the role of UI designer and front-end developer for the tutor app. He was allocated these roles because of his prior experience in designing and developing websites and his willingness to volunteer for these responsibilities. Siyambuka has no plans to change his roles and will continue focusing on UI/UX design and front-end development for the tutor app.

Mpahla Lisakhanya

Have a role of Quality Assurance and testing and since we are all developing we will contribute to the website. My work will also include the design of being a back-end and front-end where we will use java-script ,HTML and also css. Creation of database i will also contribute since i have experience of designing a database, also as a Quality Assurance and testing i have experience of testing the code if the code works perfectly and there are no errors and it meets the expected criteria. I will make use of the apps like Expo go to make sure everything works accordingly.

Olwethu Nene

Olwethu Nene has the role of a Secretary.

As a secretary she must be sure to keep records of all events, choices and progress of the group. This role plays a crucial part in maintaining alignment across the team and ensuring that every member has the necessary information to operate efficiently and effectively. Secretary responsibilities include:

- Taking minutes in meetings- making sure to document key points, discussion and action items during meetings.
- Updating teammates- sending meeting notes so that everyone is updated.
- Tracking Progress- Documenting the completed and pending tasks
- Organizing Documents- Structuring all required documents.

Olwethu's role benefits the team in more than one way. It helps organize everyone so that work is done efficiently and properly. She makes notes of decisions taken by the team and keeps records so that things are clear and no mix-ups happen. She improves productivity by developing processes so that documentation is structured and organized while key information is easy to find.

She believes that work in any team environment requires great communication which they are working on with her team to ensure that they are all on the same page. Her role as a secretary will ensure that the team stays focused, organized and aligned with the project goals.

Alunge Gwangqa

Alunge Gwangqa has the role of documentation, coding and design

Alunge Gwangqa's role in the website involves both technical development & documentation management. He is responsible for writing and maintaining clean, efficient code, ensuring seamless backend and frontend integration, debugging issues, and optimizing performance.

Since he has good Java skills and experience with databases, he is well-equipped to handle the development side. At the same time, he is also in charge of keeping things organized by managing the project's documentation. That means making sure everything is clearly written, easy to understand, and up to date whether it's technical details, user guides, or project reports. His ability to communicate well and structured approach help make sure the team's work is both functional and well-documented.

His creativity, attention to detail, and strong understanding of design principles and user experience allows him to translate ideas into visually appealing and user-friendly layouts.

Zamani Madonsela

The role of Group Organization and Mediator has been assigned to Zamani Madonsela due to his strong communication and organizational skills. This role involves ensuring that all group members stay coordinated, tasks are properly managed, and the team works efficiently toward the project's objectives. As a mediator, Zamani is responsible for facilitating discussions, resolving any conflicts that may arise, and ensuring that communication between members remains clear and effective. Since successful teamwork depends on proper coordination, he ensures that every member understands their responsibilities and that all project updates are shared in a timely manner.

The allocation of roles within the group was based on each member's strengths and expertise. Zamani was assigned the role of Group Organizer and Mediator because of his ability to keep the team structured and maintain effective communication. Other members were assigned roles that align with their technical skills and experience, ensuring that the project benefits from each individual's expertise. Zamani plays a key role in monitoring the progress of the project, checking in with team members, and ensuring that any challenges are addressed to maintain a smooth workflow.

As the project progresses, the group plans to swap roles to allow each member to acquire a different set of skills and gain experience in various aspects of the project. This approach ensures that everyone has a broader understanding of the project and can contribute more effectively. By rotating responsibilities, team members will develop versatility and a deeper appreciation for the challenges and requirements of different roles. This learning experience will not only enhance individual skills but also improve overall teamwork and adaptability within the group.

4. Problem Definition

Problem description

The existing method for locating student tutors within universities is inefficient and does not provide a centralized platform for connecting students with appropriate tutors. There is an absence of a standardized approach to guarantee that students are paired with competent tutors who have a strong academic background in the subjects they need help with. Furthermore, the lack of a proper rating system and academic verification hinders students' ability to trust the tutors they encounter. This leads to wasted time, inconsistent tutoring sessions and restricted access to academic support.

Functional Requirements

- **User Authentication** – The system must confirm the student's enrollment status prior to granting access when the student logs in their credentials.
 - Users should be able to edit their profiles to add relevant information.
- **Search System** – The system should allow students to search for tutors by their course, year of study and location.
 - Tutors must be ranked according to their grades and NQF level.
 - The tutoring should give preference to matching within the same school or faculty.
- **Tutor Profile and Rating System** – All tutors should have profiles that contain their grades, qualifications and reviews.
 - Students must be able to write reviews about tutors.
 - The system should provide an overall rating for tutors.
- **Booking and scheduling lessons** – The system should allow students to book online or in-person tutoring sessions
 - Students should be able to cancel or reschedule sessions.
 - Tutors must receive notifications for new bookings and have the option to accept or decline the booking request.

- **Session Management** - The system should provide options for both online and in person sessions

- Tutors should be able to mark sessions as complete after a tutoring lesson.

- **Payment** – System should allow users to make online payments.

- The system should provide an option where it recognizes the users card details for the next payment. Users must be given an option to accept or decline this option.

- **Data protection** – All communications and transactions must be encrypted to ensure security.

Users that will benefit from the system

- **Students** – Students who seek tutoring can easily find tutors for their courses.

- Advantages: Can effortlessly search for and connect with tutors with verified academic credentials.

- **Student tutors** – Student tutors get the opportunity to provide their tutoring experience, while gaining both experience and income.

- Advantages: Can increase their visibility among students who seek assistance.

- **Lecturers** – Lecturers can suggest this system to students who are struggling as a learning source.

- Advantages: Reduce their workload by referring struggling students to a platform full of capable tutors.

- **University administration** – Can manage the tutoring process, ensuring the maintenance of academic integrity.

- Advantages: Monitor disputes and complaints to ensure a fair resolution and uphold the university's standards.

5. Technology

Our tutor app is a web-based platform. To develop the system, we are using a combination the following technologies:

Front-End Technologies

The front-end of the website is built using HTML (HyperText Markup Language) to structure the web pages and content layout and CSS (Cascading Style Sheets) to style the website, ensuring a visually appealing and responsive design.

Back-End Technologies

The back-end will be developed using JavaScript. JavaScripts handles the business logic, data processing, and server-side functionalities of the platform.

Database Technology

The DBMS (database management system) used is MySQL. It is used to store user data, including student information, tutor information, and subject preferences.

Development Environment

The IDE (Integrated Development Environment) used is Visual Studio Code. It is used for coding and testing the website.

Version Control and Collaboration

The version control and collaboration tool used is GitHub. All project files, including front-end and back-end code, are stored in a GitHub repository. It is also used for version control and code collaboration.

Execution Platform

The website is accessible through a web browser. The database is hosted on a Node.js server.

6. Scope

The main aim of the project is to connect the students from the same university with the students that can assist them academically . This project will create better connections with different students and even connect them with qualified people who want to help students understand the course that they are doing. The platform will address inefficiencies in the current system by providing a structured approach to matching students with competent tutors based on their academic expertise and experience.

The system will have the following functions :

Standardized tutor verification process which guarantees credibility in the modules.

A rating and review system that assists students in evaluating tutors on their performance.

An easy to use program that enables students to search for tutors by subject , time, and level of expertise.

Scheduling and communication tools that enable interaction between students and tutors with no limitations.

For the implication of this project, it will uplift many people's experiences , better understanding and be familiar to real time problems. It won't be free tutoring as it will be paid for tutoring but at affordable prices.