**BSc Project Screening Form: Guidelines**

**Part 1 – Project Proposal**

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| **Student Name** | Resh Dewan Rai | |
| **Student Number** | 2325678 | |
| **Degree Pathway** | BSc (Hons) Software Engineering | |
| **Supervisor Name** | Pawan Kc | |
| **Title of Project** | Study Mate – AI-Powered Personal Study Assistant | |
| **Abstract of the project** | In the modern educational environment, most of the learners, myself included, cannot afford a steady and stable studying process and determine the aspects they should pay attention to. To address this issue, I am designing Study Mate, an AI-powered mobile app that will serve as a virtual study assistant. The app allows the students to study in a more effective way because it allows making quizzes of their notes with the help of a custom NLP model and to change the study schedules with references to the results of quizzes. This flexible methodology will make the learners devote more time to bettering their weak areas. It also has study mate which has automatic goal tracking which updates with progress without the need of being manually entered and intelligent reminders to keep students on track and motivated. The app is created based on Flutter to achieve the cross-platform experience, Spring Boot to manage the backend, and custom NLP model to implement AI (Lopez, 2020) (Zhang, 2022). Study Mate is more efficient in learning by integrating adaptive learning, intelligent planning, and automation to formulate smarter and self-directed learning habits in students. | |
| **Project deliverables** | * Android and iOS mobile application. * Generation of AI quizzes based on user critique of the study notes. * Quiz based adaptive study planner. * This is automated goal tracking and visualization of progress. * Intelligent study reminder and schedules. * The user analytics dashboard with performance and improvement trends. * Project Documentation * Final project report | |
| **Description of your artefact** | * The artefact is an AI-driven mobile app that helps students to manage their studying process in an intelligent way. Study Mate unlike other regular planners also tracks the study progress automatically, schedule learning time depending on the performance of the user, and produces quizzes based on NLP. It is an intelligent tutor, which reduces the amount of manual labour and maximizes the learning (Romero, 2020).   Aim:   * To create an AI-powered mobile platform that helps students to study effectively based on adaptive learning, intelligent creation of quiz, and automatic monitoring of their progress.   Objectives:   * Build an AI quiz generator on a self-written NLP model. * Create an adaptive study planner using results of quiz. * Allow automatic goal recording and progressing to be done automatically. * List of features that the artefact will include   Added Value   * Removes manual tracking - the AI automatically handles schedules of the studies. * Delivers individual learning recommendations to every student. * Promotes accountability, motivation and consistency. * Combines adaptive learning, analytics and notifications. (Holmes, 2019)   Features   * AI Quiz Generator: Assists students in the assessment of knowledge in real-time by creating quizzes based on the study materials uploaded on the application and implemented through NLP. * Adaptive Study Planner: Enhances the efficiency of studies: It will automatically change the schedules according to quiz scores and areas of weakness. * Full Automated Progress Tracking: Eliminates human interaction as AI helps to track the done or missed study assignments. * Goal Tracking System: Maintains focus of learners as goals are automatically updated as milestones are reached in their study plan. * Smart Reminders and Notifications: Increases consistency and motivation, sending personalized alerts about tasks to be done and those that were missed. * Performance Analytics Dashboard: Helps in self-improvement that illustrates the progress, strengths, and areas that require more attention. * Cross-Platform Use: Means it is convenient and accessible, as it does not make smooth learning easier with both Android and iOS. | |
| **Risk Analysis** | * Creating an NLP model that can help with the in-quiz generation. (Zou, 2022; Riza, 2023) * Application of adaptive scheduling algorithm. * Providing the smooth coordination of the frontend and the backend. * The intelligent automation should be designed in such a way that the user does not get tired of using the system or get confused. | |
| **How does your project relate to your degree course and build upon the units/knowledge you have studied/acquired** | * The project can be related to the modules learned in Software engineering, artificial intelligence, mobile app development, and database systems. It uses coursework theoretical knowledge to design an actual AI-based learning solution, including OOP, API, and AI architecture/model and mobile UX/UI. | |
| **Resources required in developing the artefact** | * **Software:** Flutter, Android Studio, IntelliJ IDEA, Postman, Firebase, Spring Boot. * **Hardware:** Laptop/PC with Android emulator or test device. | |
| **Have you completed & submitted your ethics form?** | YES | NO |
| **If the project is a development of previous work by yourself or others, give details below. Failing to declare such previous work here may be treated as an academic offence** | | |

**Supervisor Signature:**

**After the proposal has been signed off by both the supervisor and course coordinator scan the proposal and upload on BREO with signatures. Projects that follow proposals that have not been approved may be cancelled and there will be no compensation for any time lost**

**Part 2 – List of relevant resources**

**Fill in this section after your project proposal has been approved by your supervisor. Use Harvard referencing (see https://lrweb.beds.ac.uk/a-guide-to-referencing). Modify the list below as appropriate. This list is part of Assignment 1 and will be submitted with the Project Proposal.**

Holmes, W. B. M. &. F., 2019. *Artificial Intelligence in Education: Promises and Implications for Teaching and Learning. Center for Curriculum Redesign..* s.l.:s.n.

Lin, C.-C. C. H.-L. &. T. C.-C., 2023. Artificial intelligence in intelligent tutoring systems: A comprehensive review..

Lopez, L. E., 2020. *Simplifying paragraph-level question generation via transformer models.,* s.l.: s.n.

Riza, L. S. H. T. &. R. F., 2023. Automatic generation of short-answer questions for reading comprehension..

Romero, C. &. V. S., 2020. Educational data mining and learning analytics: An updated survey..

Zhang, C. &. W. J., 2022. *Transformer pipeline for generating question–answer pairs.,* s.l.: s.n.

Zou, B., 2022. *Automatic true/false question generation for educational assessment..* s.l., s.n.