ABSTRACT

The academic world of the present day is quite dynamic, and students are likely to struggle with their ability to follow a regular study routine, plan the effective study time, and assess their knowledge of the study resources. To fix these problems, a proposed solution will be Study Mate, which is an AI-driven mobile app that will serve as a personal study assistant. The system uses the principles of artificial intelligence and adaptive learning to provide individual quizzes, custom-made study plans, and automatically monitor academic progress.

Study Mate is focused on the basic functionality of an AI quiz generator that uses a custom Natural Language Processing (NLP) model to interpret study resources that are inputted by the users and creates questions regarding the topic user gives. According to the results of the quiz, an adaptive study planner modifies the learning schedule, working on the weak points and better using the study time. Moreover, the app also includes automated goal tracking and intelligent reminders, allowing users to track their progress and be motivated without having to work on it manually.

The suggested architecture includes a cross-platform frontend based on Flutter, a backend API management system based on Spring boot, and a custom NLP model with the use of Firebase Cloud Messaging (FCM): notifications. This combination is the guarantee of the smooth user experience, effective data analysis, and smart learning support. In the end, Study Mate will contribute to improved learning results and serve the purpose of assisting students in achieving self-discipline and lifelong learning improvement by a personalized, data-driven, and interactive learning experience.