Study App Development

Sakura High School

Kuda Tomoya, Watanabe Masaya

Ⅰ.Research background and purpose

We thought that managing learning on your own device leads to greater efficiency, because information devices became popular.

Ⅱ. Development environment

Android studio 2024.1.1

Main code: Kotlin

Version Management: Git/GitHub

Debug Device: Galaxy S22, Pixel XL (visual terminal)

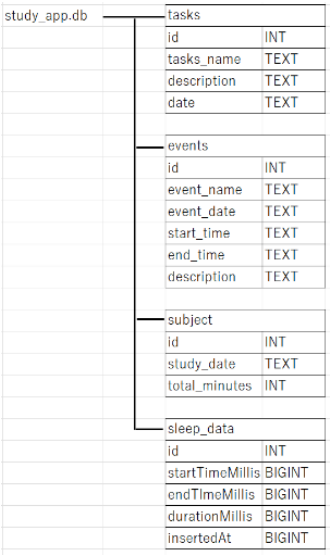
Ⅲ. App Components

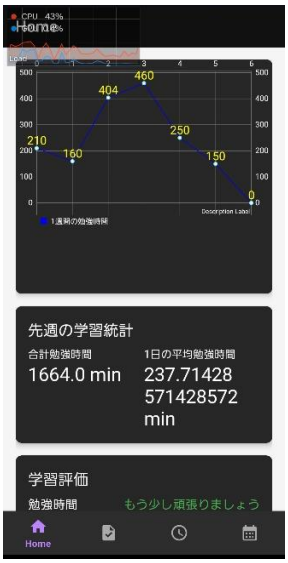
Components	explanation
MainActivity	Acts as the central hub controlling the app and enabling quick access to each fragment.
HomeFragment	Analyzes the user's study circumstances and displays results using charts and graphs.
ScheduleFragment	Allows users to manage schedules with features like a calendar and time slots.
StudyTimeFragment	Receive study time (from users) and saves the data.
ToDoListFragment	Helps users manage tasks through a checklist interface.

The application has reference values (constant numbers) to analyze users study circumstance. The application evaluates whether it is greater than or less than that value.

Ⅳ. Database

We use SQLite database. "study_app.db" has tables (tasks, events, study time, sleep data). There are methods for app Activity to operate CRUD easily.





Ⅴ. Utilize Sleep API

We can analyze user's sleep data by calling Sleep API. There are three steps. First, Permission request. We need agreement of users to use Sleep API. Second, API registration and display UI. Applications register API when it receives permission and design UI based on sleep data. Third, unsubscribe process.

Ⅵ. Prospectus for the future

We plan to improve convenience from technologies. We will input our schedule by images authentication, and users can customize the template for the "To do list ".

Ⅶ. Improvement notifications and UI

We will develop a notification system for users not to miss the studying information. We aim for good UI design for users to operate this application.

References

https://developer.android.com/courses?hl=ja
https://www.udacity.com/enrollment/ud9012,
https://www.javadrive.jp/android/#google_vignette
https://developer.android.com/codelabs/android-sleep-api?hl=ja