Project Description:

Stubby the Study Buddy, is a simple android application created by **Team MALEKA** with the idea of assisting students who are unable to properly pace themselves amidst these online classes and provide improved features from other similar applications. The application's intended task is to help keep track of the student's day-to-day accomplishments in their online classes to both motivate them and help them stay on pace. The intended users for the application are the population of online college and senior high school students. In addition, the application allows students from the same campus to study together online or join group study sessions to promote collaboration and peer-to-peer learning during remote classes.

Requirements Summary:

MINIMUM REQUIREMENTS	**Processor Cores: Single Core** **OS: Android 4.4 (KitKat)** **RAM: 2 GB**
RECOMMENDED REQUIREMENTS	**Processor Cores: Quad Core** **OS: Android 8.0 (Oreo)** **RAM: 4 GB**
OTHER REQUIREMENTS	**Permissions: Notifications and Storage** **Internet Connection: Required for online study sessions**

Table 1. System Requirements

To cater to low-end android models, the application will have at most a minimum of 1 Core, 2 GB worth of RAM, and Android version 4.4 or KitKat as its OS. The app itself is not at all demanding, hence our team has settled on lower requirement specs. However, an internet connection is necessary to access real-time features such as the virtual study sessions, where students can connect and study together through the app.

Overview:

The sudden shift to remote learning caused by the pandemic presented a number of challenges for students, including difficulties in maintaining consistent study habits and a lack of collaborative learning opportunities. In response, *Team MALEKA* developed **Stubby the Study Buddy**, an Android-based mobile application designed to support the academic productivity of online college and senior high school students.

The application's primary function is to help users manage and monitor their daily academic accomplishments, acting both as a motivator and a tracking tool. In addition to individual productivity features, Stubby emphasizes virtual collaboration by allowing users from the same campus to engage in real-time group study sessions. These collaborative features aim to simulate in-person learning environments and foster peer support during online classes.

To ensure accessibility, the application was designed with low-end Android device compatibility in mind. This is reflected in its minimal system requirements, which allow it to run on devices with as little as 1 processor core, 2 GB RAM, and Android 4.4 (KitKat). However, key features such as online study sessions require an internet connection, which is acknowledged as a potential limitation, especially in areas with unreliable connectivity.

Due to the limitations of remote work and lack of access to physical labs, the evaluation and testing of the prototype were conducted entirely online using platforms like Microsoft Teams and Discord. Despite these constraints, comprehensive usability testing methods were employed to ensure the prototype's effectiveness and user-friendliness.

Evaluation Techniques:

Technique	Description
Usability Specifications	This technique involves assigning specific tasks to participants to evaluate how user-friendly the prototype is in a real-world scenario. Tasks were carefully designed to reflect the core functions of the app, such as navigating the main menu, creating folders or files, and completing quizzes. The time it takes for

	participants to complete each task is recorded, helping the team identify areas that require improvement in terms of user interaction and task flow.
Heuristics Evaluation	This is a structured review of the app's user interface, based on standard usability principles known as heuristics. The team analyzed the prototype according to key criteria like consistency, feedback, error prevention, and aesthetic design. This method helps highlight potential design flaws or inconsistencies from an expert standpoint, even without end-user input.
Participant Survey and Feedback	After completing the usability tasks, participants were asked to answer a survey consisting of both quantitative and qualitative questions. The quantitative portion uses a 5-point Likert scale to measure satisfaction, ease of use, and performance of features. The qualitative portion allows participants to share open-ended feedback regarding what they liked, disliked, or found confusing. This approach provides well-rounded insights and minimizes potential designer bias in interpreting the results.

Data Presentation:

To evaluate the usability and performance of Stubby the Study Buddy, the team conducted several assessments, summarized in both qualitative and quantitative forms. Three key techniques were used: Usability Specifications, Heuristics Evaluation, and Participant Survey & Feedback.

Usability Specifications

Participants were assigned typical tasks within the prototype environment, such as:

- Navigating through the main menu

- Creating folders and organizing files

- Completing quizzes within the app

The team recorded the completion time and observed navigation paths to assess ease of use. Results showed that most users completed basic tasks successfully and quickly, but certain functionalities like renaming files or navigating between folders posed challenges for some participants.

TASK	SUCCESS RATE	AVG COMPLETION TIME
Navigating Main Menu	100%	12 seconds
Creating a Folder	95%	18 seconds
Completing a Quiz	85%	42 seconds
Renaming a File	60%	55 seconds

Heuristics Evaluation:

A heuristic evaluation was conducted based on Nielsen's 10 usability principles. The analysis revealed both strengths and areas needing improvement:

Heuristic	Evaluation Summary
Consistency & Standards	Mostly consistent interface; minor issues in navigation
Feedback	Adequate feedback when performing tasks
Error Prevention	Lacked proper prompts during some actions
Aesthetic & Minimalist Design	Clean layout, though some screens appeared cluttered

These findings helped the team prioritize interface refinements and guided design iterations for the future prototype version.

Critique and Summary:

What were the advantages and disadvantages of your evaluation?

• The advantages of doing this evaluation were that the team was able to gather much-needed information and data that are essential to the prototype. It was also easier to contact participants for the online test evaluation, which was successful, and provide them with the necessary links using social media. However, the downside of all this is that there was not enough physical contact or laboratory work that could potentially collect more data for the prototype. Moreover, with the constant issues with the internet here in the Philippines, the team has often found themselves waiting before a participant can fully be contactable since internet speed factors in how well the team can observe the interactions. Essentially a slower net meant that it would be more difficult to assess the prototype on screen.

What would you have done differently knowing what you know now (both design-wise and evaluation-wise)? Given more resources, what could you have done that would have produced significantly more insightful evaluation results (again, whether this is an improved prototype or a different evaluation path).

• Given more time, the team would have thought of two separate evaluations, one for the proposal prototype and another for the revised prototype. This would potentially provide the prototype with much-needed evaluation to be fully completed. Furthermore, with much more resources, the team thought that it would be possible to implement back-end coding to further solidify the prototype solution into a functioning application that can be submitted to the app stores worldwide. One of the main additions would be

the online study session feature that allows students from the same campus to study together virtually through the app. Furthermore, the team would have improved the prototype by adding more features such as the notifications and the online collaboration options.

Summary of the Project:

The selected benchmark tasks were necessary to see how well a user can interact with the Prototype. It would benefit the team greatly knowing which areas could be further improved. The aspects that worked in this Prototype were the CRUD system and its easy navigation, although there were some drawbacks such as the Rename Issue and the Inconsistent Navigations. The team also failed to implement online features which would have provided Participants more to do within the prototype but was cut short due to lack of time. If the team would have more time, the implementations of online features, music features, and many more would be added to give the prototype a more unique and fresher feel to it. One of the main future features is the integration of online study sessions, where users from the same school can connect and study together in real-time using the app.

The conclusions that the pair can draw from this study is that designing a prototype is difficult, it requires sufficient knowledge and background with designing interfaces as well as a clear understanding of the problem and the users that they are trying to cater to. It is with this study that the team was able to fully realize how well-versed the participants were in android UI, even though it was their first time interacting with the Prototype. Overall, the team concludes that the overall design of the Prototype was acceptable and effective enough to be considered a success.