COURSE NAME: ANDROID APPLICATION DEVELOPMENT WITH KOTLIN

PROJECT TITLE: PRODUCTIVITY APPLICATION

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References of previous works or websites visited/books referred for analysis about the project, solution previous findings etc.

APPENDIX

A. Source Codex

Attach the code for the solution built.

1. INTRODUCTION

1.1 OVERVIEW

It's essential for both personal and professional success in today's fast-paced world to manage time effectively and remain productive. The widely used to-do list applications and Francesco Cirillo's well-known time management technique, the Pomodoro Technique, have become effective resources for people who want to increase their productivity and concentration. In this project, the Pomodoro Technique's effectiveness and a to-do list app's practicality will be combined into a single, integrated Android application.

Using the Pomodoro Technique, work is divided into "Pomodoro," which are 25 minutes segments of time that are short and focused, and then there are pauses. People may keep focus and efficiently fend off distractions with the help of this methodical strategy. For organizing chores, establishing priorities, and monitoring progress, to-do list apps are a need.

Proposed application combines these two features to give customers a complete time management option that maximizes effectiveness and productivity.

1.2 PURPOSE

This proposed project aims to develop a user-friendly, feature-rich Android application that serves as a resource for people looking for a time management and task organization solution. Our programme strives to provide users with a seamless and comprehensive experience by integrating the Pomodoro timer and to-do list capabilities, assisting users in maintaining concentration on their work and more quickly achieving their objectives. The project's primary goals are listed below:

1. Develop a user-friendly Pomodoro timer with customizable work and break durations to suit individual preferences and work styles.
2. Design a simple and visually appealing to-do list interface that allows users to create, update, and manage tasks with ease.
3. Ensure seamless integration between the Pomodoro timer and to-do list functionalities, enabling users to switch between the two modes effortlessly.

Through this project, we aim to empower users with a powerful time management tool that helps them make the most of their time, reduce procrastination, and enhance productivity in both personal and professional endeavours. The integrated Pomodoro and to-do list app will be a valuable asset for students, professionals, and anyone looking to optimize their daily workflow and achieve their objectives effectively.

2. LITERATURE SURVEY

2.1 EXISTING PROBLEM

Numerous tools and methods are already in use in the fields of time management and task organization. Some restrictions and difficulties do, however, still exist, and our suggested approach can alleviate them.

The absence of integration with a thorough to-do list functionality is one of the main problems with the current Pomodoro timer apps. Numerous Pomodoro apps disregard the requirement for task management and organization in favour of a timer-only emphasis. On the other hand, standalone to-do list apps frequently don't come with timers or don't integrate with Pomodoro methods in a fluid way. Users' productivity and cognitive load are decreased as a result of having to actively manage their time and tasks or switch between several programmes as a result of this disconnect.
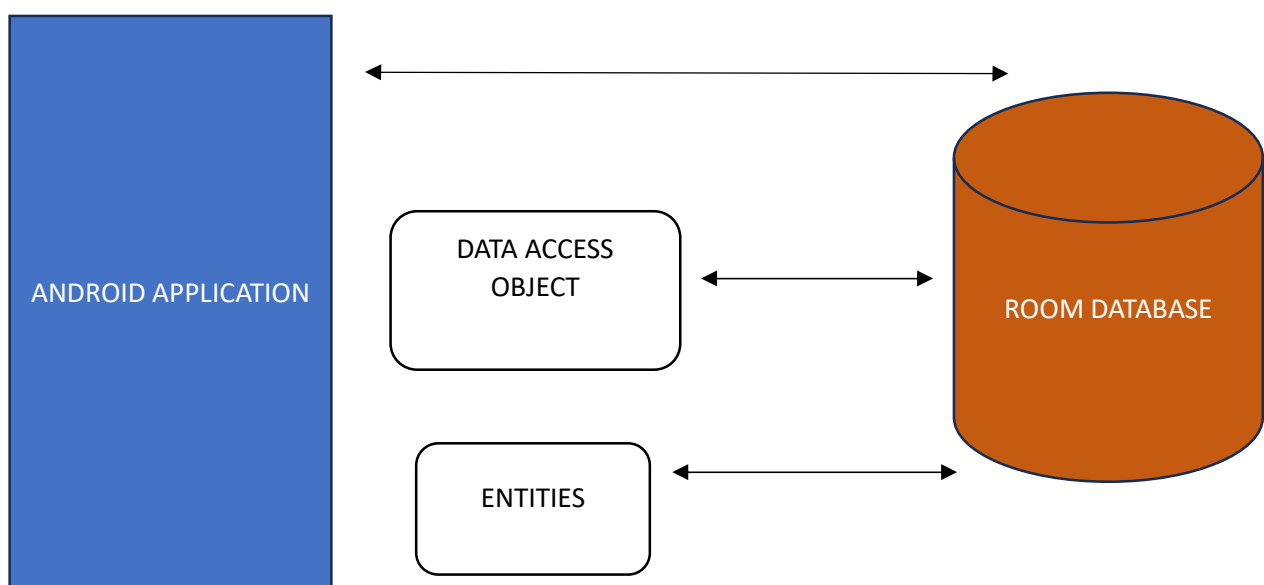
In addition, several current programmes might only allow for a little amount of customisation, which would force users to set preset times for their breaks and workdays. The flexibility and adaptability of the time management process may be hampered by this limitation because it may not correspond to individual preferences or working methods.

2.2 PROPOSED SOLUTION

Our proposed solution combines the functionalities of a Pomodoro timer and a to-do list app in an integrated Android application. With a user-friendly interface, users can seamlessly manage tasks. The Pomodoro timer intelligently links to the to-do list. By merging the power of the Pomodoro technique with the convenience of a to-do list, our solution streamlines workflow, improves focus, and enhances productivity. The integrated approach eliminates the need for multiple apps, providing a comprehensive and tailored time management tool in a single application.

3. THEORITICAL ANALYSIS

3.1 BLOCK DIAGRAM

3.2 HARDWARE/SOFTWARE REQUIREMENTS
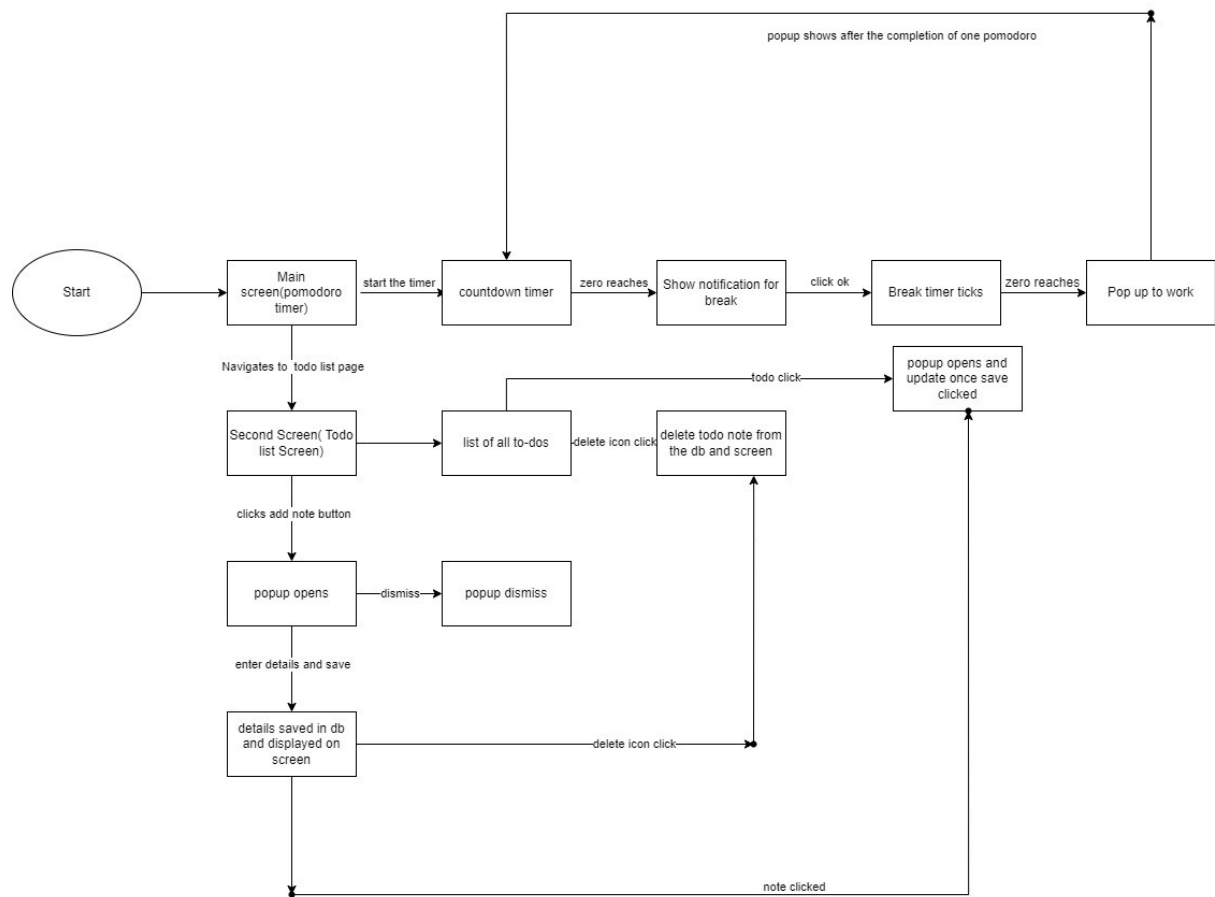
Hardware Requirements:

Computer: Any modern computer capable of running the required software.

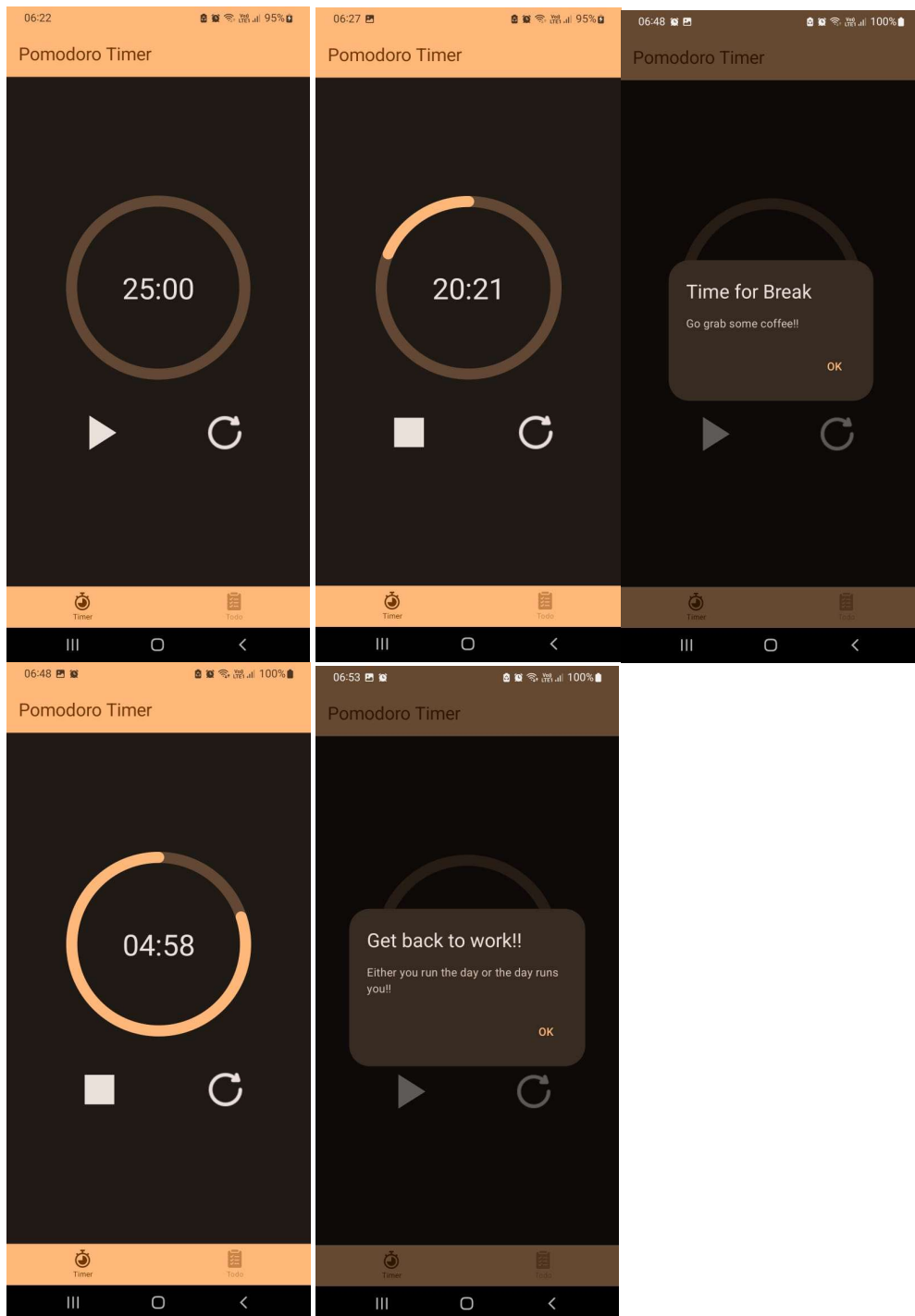Operating System: Windows, macOS, or Linux
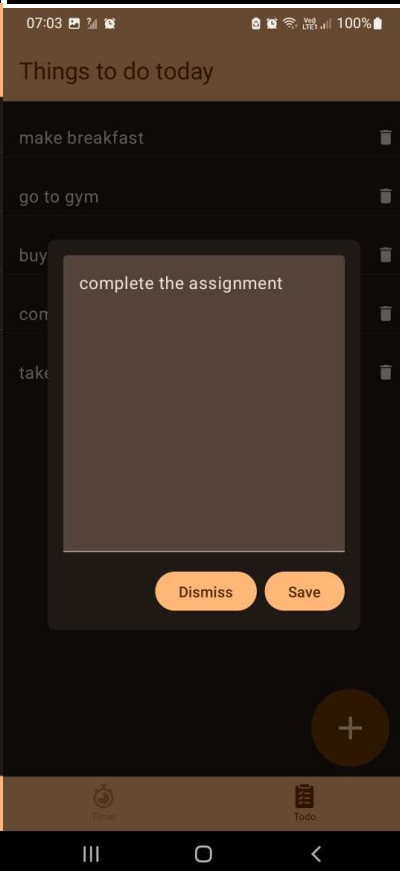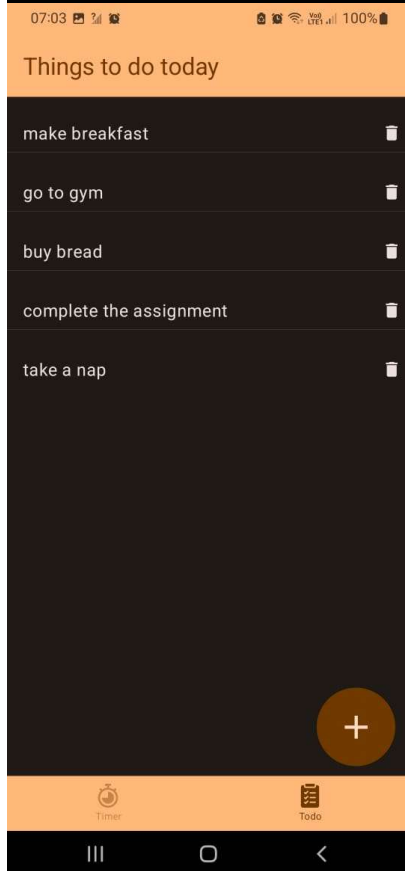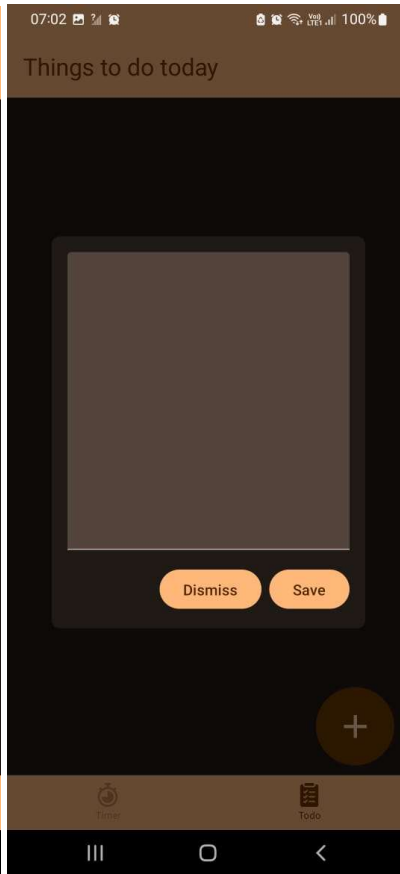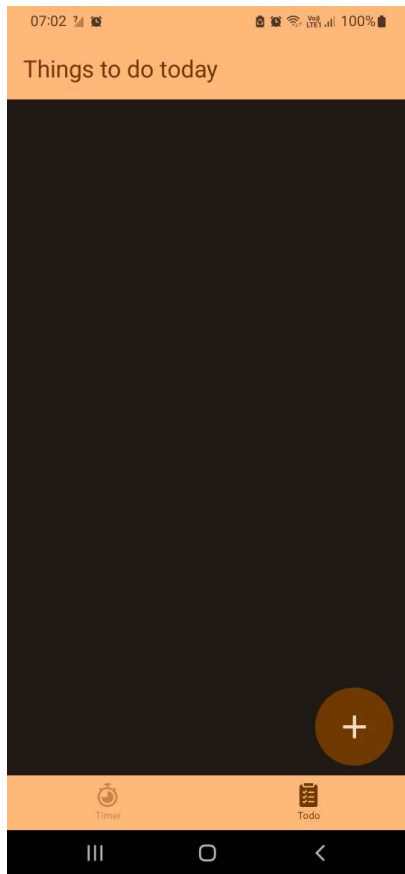
Software Requirements:

- Integrated Development Environment (IDE): Android Studio is the recommended IDE for Android app development. You can download it from the official Android Studio website (https://developer.android.com/studio).
- Java Development Kit (JDK): Install the latest version of JDK, preferably JDK 11 or later, which is compatible with Android development.
- Android SDK: Android Studio comes bundled with the Android SDK, but you need to make sure it is up to date. The SDK Manager in Android Studio allows you to manage and install SDK components.
- Jetpack Compose: Jetpack Compose is a modern Android UI toolkit. You'll need to set up Jetpack Compose in your project. Make sure you have the necessary dependencies and plugins in your build.gradle file.
- Room Database: Room is an Android library that provides an abstraction layer over SQLite. Add the necessary dependencies and plugins in your build.gradle file to use Room database in your project.
- Additional Dependencies:
- You might want to consider using additional libraries for handling Pomodoro timers and managing your Todo list. Some popular libraries for these purposes are:
- CountDownTimer: These classes can be used to implement the Pomodoro timer functionality..

4. FLOWCHART

Start → Main screen(pomodoro timer) → start the timer → countdown timer → zero reaches → Show notification for break → click ok → Break timer ticks → zero reaches → Pop up to work

popup shows after the completion of one pomodoro

Navigates to todo list page

Second Screen(Todo list Screen) → list of all to-dos → delete icon click → delete todo note from the db and screen

todo click → popup opens and update once save clicked

clicks add note button

popup opens → dismiss → popup dismiss

enter details and save

details saved in db and displayed on screen → delete icon click

note clicked

5. RESULT

Screen 1 & 2 (top row):

Things to do today

Screen 2 dialog:
Dismiss   Save

Timer   Todo

Screen 3 & 4 (bottom row):

Things to do today

make breakfast
go to gym
buy bread
complete the assignment
take a nap

Timer   Todo

Screen 4 dialog:
complete the assignment

Dismiss   Save

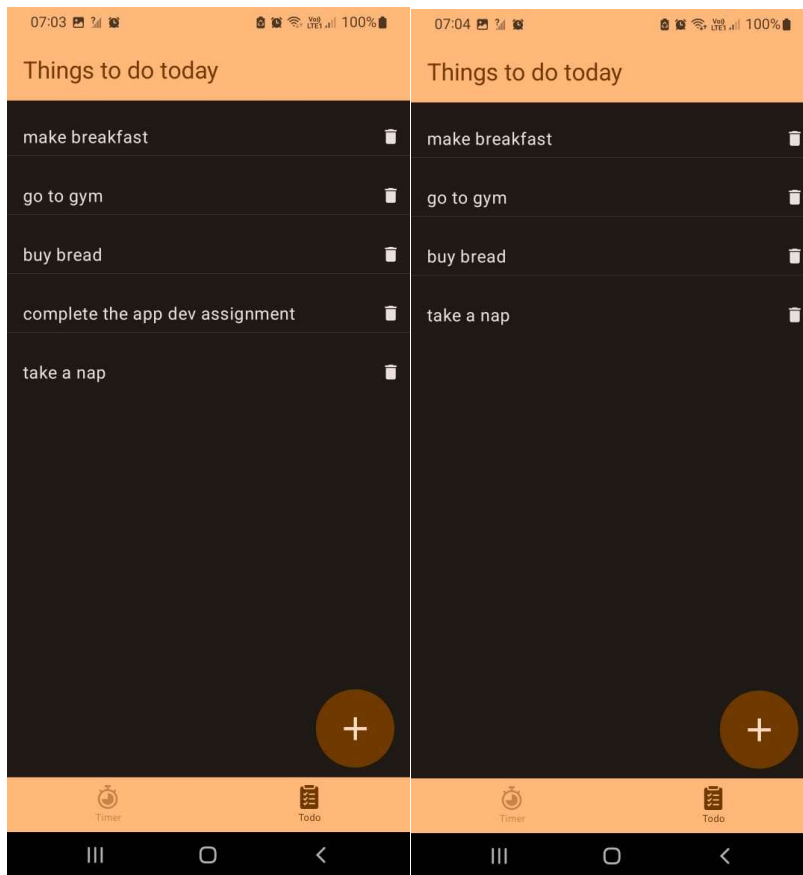## 6. ADVANTAGES & DISADVANTAGES

ADVANTAGES:

Integrated Functionality: The Pomodoro timer and to-do list app work together to provide a convenient time management solution that is seamless and integrated, obviating the need for numerous programmes.

Enhanced Productivity: The Pomodoro technique boosts concentration and productivity, while the to-do list feature aids users in efficiently organizing and prioritizing work. With the application's customizable work and break times, users can adapt the time management strategy to their individual demands and working preferences.

Streamlined Workflow: Users can switch between task-focused work periods and scheduled breaks without missing a beat within the same application, which lowers cognitive load and boosts workflow effectiveness.

DISADVANTAGES:

Learning curve: Users who are not accustomed to the Pomodoro technique may need some time to get used to the scheduled work and rest periods and modify their workflow.

Technology Dependence: As with any digital solution, relying on the application's accessibility and operation may provide difficulties if there are technical problems or device restrictions.

7. APPLICATIONS

The proposed solution can be applied in various areas, including:

Personal Productivity: Individuals seeking to improve their time management and productivity can utilize the integrated app to efficiently manage tasks, maintain focus, and enhance overall effectiveness.

Study and Work Environments: Students, professionals, and remote workers can benefit from the structured work intervals and task organization, optimizing their performance and managing deadlines effectively.

Project Management: Team members and project managers can leverage the application to allocate work intervals, track task progress, and enhance collaboration, ensuring timely project completion.

Time-sensitive Activities: Industries or professions with time-critical tasks, such as cooking, fitness training, or creative projects, can utilize the app to manage their activities within designated intervals.

8. CONCLUSION

In conclusion, our project report presented an integrated Android application that combines the functionalities of a Pomodoro timer and a to-do list app. By seamlessly merging these features, the proposed solution offers advantages such as streamlined workflow, enhanced productivity, and customization options. While there may be a learning curve and a dependence on technology, the application finds potential applications in personal productivity, study and work environments, project management, and time-sensitive activities. Overall, this project contributes to a comprehensive time management tool that empowers users to optimize their productivity and achieve their goals effectively.

9. FUTURE SCOPE

Productivity Insights and Analytics: Provide users with detailed analytics and insights about their productivity patterns. This could include statistics on completed sessions, average session durations, most productive times of day, and overall progress over time. These insights can help users identify areas for improvement and optimize their work habits.

Multi-Platform Support: Develop the Pomodoro timer application for various platforms, including desktop, web, and mobile. This would ensure that users can access and use the app across different devices and operating systems, improving its accessibility and usability.

Ability to assign time depending upon the type of task in your to-do list.

10. BIBILOGRAPHY

The following are the references made from previous applications and websites

"The Pomodoro Technique" by Francesco Cirillo: This book is the original resource that introduces the Pomodoro Technique. It provides a detailed explanation of the technique, its principles, and how to effectively use it for time management.

11. APPENDIX

Source code: https://github.com/Kiraniya/ProductivityApp