Project Title: ClockWork

Team Members:

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Client: Dr. David Luginbuhl CSE Professor & Faculty Advisor

Progress of Current Milestone:

Task	Completion %	Anthony	Christian	Peter	Pierson	To do
1. Compare and select Technical Tools	100%	10%	10%	40%	40%	
2. Mobile Demos	100%	0%	0%	0%	100%	
3. Kotlin R&D	100%	25%	25%	25%	25%	
4. Compare and select Collaboration Tools	100%	40%	40%	10%	10%	
5. Requirement Document	100%	0%	50%	50%	0%	Adjust as project evolves
6. Design Document	100%	0%	0%	0%	100%	Adjust as project vision is refined
7. Test Plan	100%	100%	0%	0%	0%	Adjust as project evolves

Discussion of Current Milestone Tasks:

Task 1: The research for technical tools was necessary for us to come to a decision with what platforms and softwares we would end up utilizing for our finished product. In this instance, we've gone ahead and settled on two softwares for us to use: Android Studio and Xcode. Xcode is proprietary software and functions pretty well for the iOS ecosystem, meanwhile there exists alternatives to Android Studio, moreso geared towards multi-platform development. Due to our focus strictly on development for mobile apps, Android Studio offers us the widest range of tools for just that.

Task 2: Mobile demos were constructed utilizing both Jetpack Compose for Android and SwiftUI for iOS. Prototypes of what may look like a finished project were made simply as a testing ground to explore the intricacies of developing a user interface on both platforms.

Task 3: Time was spent to learn Kotlin in order to familiarize ourselves with not only the basis for a backend but to hold an understanding of the frontend. The goal of this task was to determine if Kotlin development would be feasible for this project. Anything from here will be a further expansion of a current understanding.

Task 4: The team discussed various methods to use for communication and ultimately settled on Discord among team members and Microsoft Teams for communication with Dr. Luginbuhl. These were chosen for their ease of use and the team's prior experience with the programs. GitHub projects was chosen as the collaborative project management tool and GitHub as the collaborative code repository. A shared Google Drive folder was set up to host all of the non-code artifacts during their composition.

Task 5: The scope of the system and its functions were elaborated and specified in the requirements document. We expect this document to grow as the project evolves and as holes in our understanding become evident and are addressed. For instance, we have not settled on a specific solution to providing estimates for hypothetical tasks based on user history and task parameters as well as the strategy for guiding users to improved time estimation skills. These are tasks for Milestone 2.

Task 6: Design documentation was created as per the assignment specifications. Containing information regarding the architecture of the product and the various user interfaces. This document will be refined as architecture and implementation details are solidified.

Task 7: The test plan document was created to list various use cases of the application and describe how a user should come about a specific scenario. The document then provides a description of the expected outcome of a user performing an action and any alternative paths that may branch from it. Test cases will be made more specific as architecture and implementation details are solidified.

Discussion of Contribution:

Anthony: I primarily created the fundamental outline of our testing document and populated it with various current use cases for the tool. I plan on continuing to add more test cases as the project is further developed and we consider more uses for the application. Moreover, I also focused on finding and setting up the tools we will mainly use for communications and did some research on Kotlin to aid in the future development of the app.

Christian: I wrote the introductory sections of the requirements document, specifying the ultimate purpose for the project, briefly detailing what the system is going to do, and listing the technical terms used. Additionally, I wrote the overall description of the project, and this contains the system's features, a description of the user our system is geared toward, and any current assumptions we have about the project.

Peter: I elaborated on the requirements and the scope of the system from what was initially described in the project plan and composed the "Specific Requirements" and "Definitions" sections of the Requirements write up. I also directed the other project documents, although I was not responsible for the content of the Testing and Design documents. Additionally, I investigated and organized collaboration infrastructure including the Google Drive and project management board on GitHub.

Pierson: I spearheaded the initial prototyping and research regarding mobile application interface development utilizing previous experience to transfer my existing knowledge into proper design utilizing Jetpack Compose and SwiftUI. I also wrote the initial Design Document.

Task Matrix for Next Milestone:

Task	Anthony	Christian	Peter	Pierson
1. Design Task Session List UI	25%	25%	25%	25%
2. Implement Task Session List UI in Swift	0%	0%	0%	100%
3. Implement Task Session List UI in Kotlin	30%	30%	30%	10%
4. Design Task Session Timer UI	25%	25%	25%	25%
5. Implement Task Session Timer UI in Swift	0%	0%	0%	100%
6. Implement Task Session Timer UI in Kotlin	30%	30%	30%	10%
7. Design (Initial) Task Session Completion UI	25%	25%	25%	25%

8. Implement (Initial) Task Session Completion UI in Swift	0%	0%	0%	100%
9. Implement (Initial) Task Session Completion UI in Kotlin	30%	30%	30%	10%
10. Implement Session Data Serialization and Persistence in Kotlin	30%	30%	30%	10%
11. Implement Session Timer in Kotlin	30%	30%	30%	10%
12. Explore how the app interprets user data to make estimations and tracks progress	40%	20%	20%	20%
13. Explore how the app treats user estimations	40%	20%	20%	20%

Discussion of Next Milestone Tasks:

Task 1: Models depicting the Task Session List page will be created so that the design of this part of the UI will be unified between the iOS and Android apps.

Task 2: The iOS UI for the Task Session List page will be implemented using Swift. This will be done by Pierson because he is equipped with the hardware to develop, test, and deploy to iOS.

Task 3: The Android UI for the Task Session List page will be implemented using Kotlin.

Task 4: Models depicting the Task Session Timer page will be created so that the design of this part of the UI will be unified between the iOS and Android apps.

Task 5:The iOS UI for the Task Session Timer page will be implemented using Swift. This will be done by Pierson because he is equipped with the hardware to develop, test, and deploy to iOS. Although the intention is to develop the backend of the Android app first then port it to iOS once it has matured, most likely this task will involve some level of implementation of the iOS backend independent of the Android app.

Task 6: The Android UI for the Task Session Timer page will be implemented using Kotlin.

Task 7: Models depicting the Task Session Completion page will be created so that the design of this part of the UI will be unified between the iOS and Android apps. Elements of this page concern how the app provides feedback to the user which is a question that is being explored during this milestone. Therefore, those elements will not be present unless progress that effort proceeds farther than anticipated.

Task 8: The iOS UI for the Task Session Completion page will be implemented using Swift. This will be done by Pierson because he is equipped with the hardware to develop, test, and deploy to iOS.

Task 9: The Android UI for the Task Session Completion page will be implemented using Kotlin.

Task 10: The backend components for the Android app that handle saving task session data such as timer progress, the session name, the session color, etc will be implemented using Kotlin. This will involve investigation into persistent local data storage solutions.

Task 11: The backend components for the Android app that provide the task session timer functionality will be implemented in Kotlin. This version of the session timer will most likely only include the ability to start, pause, unpause, and stop. Regardless, considerations have to be made to support timeline events in future iterations.

Task 12: One of the major goals of the system is to make estimates for hypothetical tasks. The first step is to investigate and determine which methods will be employed to achieve this.

Task 13: One of the major goals of the system is to give feedback to the user about their time estimations. We must determine the app's philosophy regarding user accuracy such as in what manner it provides feedback, what are the thresholds for good or bad estimations, how do we gauge user improvement, etc.

Meeting Dates with Client During Current Milestone:

- Meeting 1: Feb 7, 2025
- Meeting 2: Feb 21, 2025

Client Feedback on Each Task of Current Milestone:

- see Faculty Advisor Feedback below

Meeting Dates with Faculty Advisor During Current Milestone:

- Meeting 1: Feb 7, 2025
- Meeting 2: Feb 21, 2025

Faculty Advisor Feedback on Each Task of Current Milestone:

- Task 1 – Compare and select technical tools: based on your decision (which I approve) to focus on mobile apps, your approach seems reasonable. No other feedback
- Task 2 – Mobile Demos: Based on our discussions, your mobile mock-ups and UI prototype are good

- Task 3 – Kotlin R&D: No specific feedback here. You are progressing as one would expect.
- Task 4 – Compare and select collaboration tools: All collaboration tools are excellent choices, especially GitHub and Microsoft Teams. Google Drive is a good choice for a student project.
- Task 5 – Requirements document: You have captured the essence of what I was envisioning for this project and have even gone beyond that. Thinking through how this app will be used made you consider some features that I had not even thought about. For example, I was wondering how we could account for a user forgetting to hit the stop or pause button, but you added a feature to allow a user to adjust this after the fact. As you noted, this is not a cheat, since there is no competitive aspect to this app. If a user is trying to improve his or her time estimation, they will likely make honest edits.
- Task 6 – Design Document: I may be mistaken, but it looks like you added some detail to the architecture diagram; something we discussed. I'm good with the refinement.
- Task 7 – Test Document: As we discussed, the test document at the moment is just use cases, which can certainly be used for testing. A more industrial-strength project would eventually have an actual test script that could be used, or at least a way to collect statistics on uses in an alpha or beta test. This is fine for now.

Faculty Advisor Signature: ______________________________ Date: ________