ClockWork: Time Estimation

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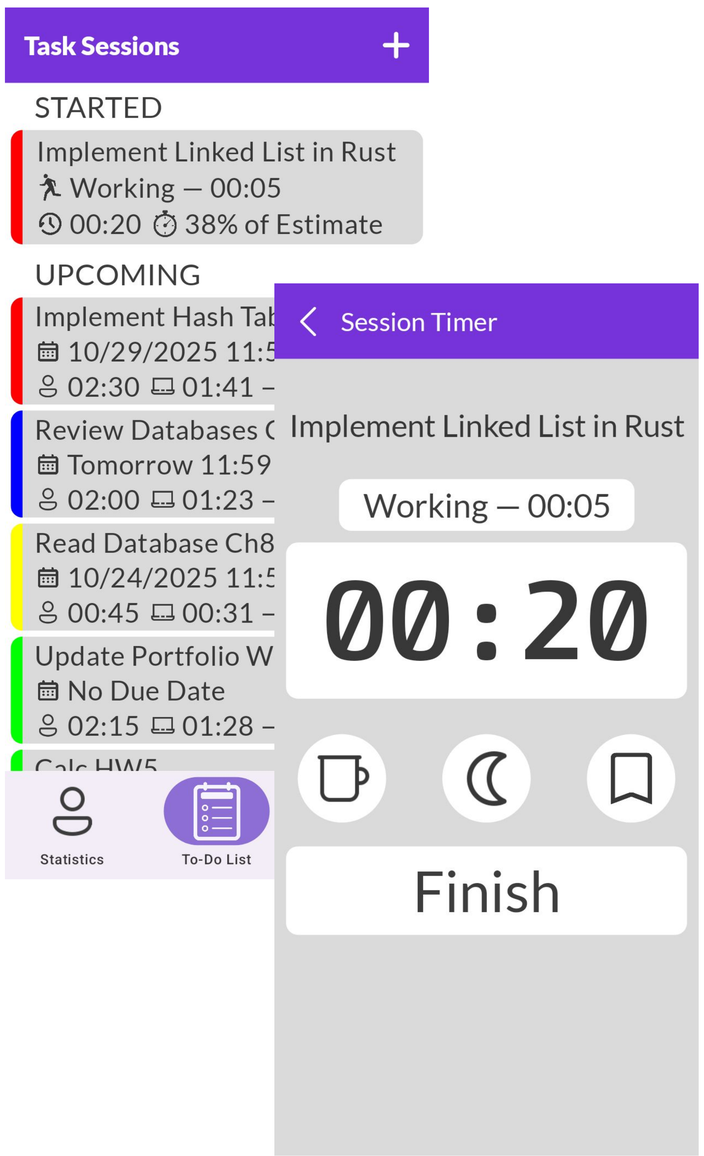
Motivation

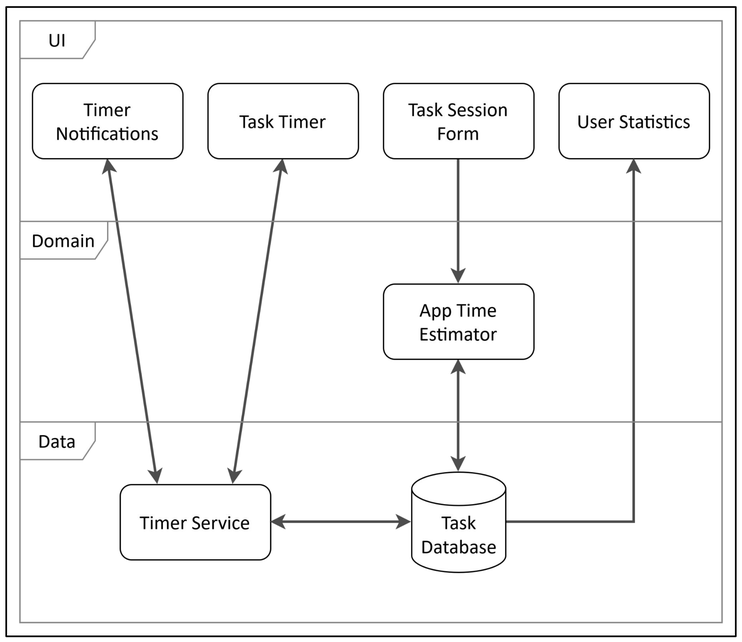
Students have difficulty estimating how much time they need to complete assignments. In general, people underestimate the time it takes them to complete tasks. Our goal is to make a convenient tool that students can use to improve their time estimation ability.



Abstract

ClockWork aims to improve a user's time estimation abilities by allowing the user to create, organize, and time tasks. Users create *sessions* of a task and are prompted to estimate it's duration. Users can then begin the session, work through it, and complete it where they are shown their performance and accuracy. **ClockWork** also enables the user to view their estimation statistics to evaluate their improvement over time. With enough data, **ClockWork** will begin to provide its own estimate based of historical error.

System Architecture



Tools Used

- **Database:** Jetpack Room
- **Frontend:** Jetpack Compose
- **Language:** Kotlin
- **Collaboration:** Google Suite, Github, Discord, Planka
- **Algorithms:** Gower's Similarity, weighted mean, weighted standard deviation
- **Data Visualization:** ehsannarmani/Compose Charts

Limitations

- Considerable user commitment required and routine changes
- Using the app requires deliberate user interaction which distracts from completing tasks

Future Improvements

- Implement more task scheduling features like a calendar view and collision warnings
- Improvements to the app's estimation algorithm
- Implementation for more devices like smartwatches