

## **Sprint 1: Initial Setup**

### **1. System Overview**

Mobile EEG-based self-experiment application that analyzes short-term focus stability across location, music, and time of day to identify optimal focusing conditions.

### **2. Functional Requirements**

User Story: As a user, I want the application to process and record my EEG data, convert it into a usable format, analyze its metrics, and display its findings on an Android app.

#### **1.1 - Define Procedure for Conducting Focus Testing – Jackson**

- FR 1.1.1: Define a step-by-step procedure for how a user conducts a focus session.
- FR 1.1.2: Specify required user inputs (if any).
- FR 1.1.3: Specify how EEG data is collected during the session.
- FR 1.1.4: Define how a session is completed and saved.

Progress Summary: Completed.

#### **1.2 - Define Application Details, Structure, Permissions, and Features – Mya & Zeidan**

- FR 1.2.1: Define core application features and intended use.
- FR 1.2.2: Define application scope and explicitly state non-features.
- FR 1.2.3: Identify required Android permissions and their purpose.
- FR 1.2.4: Define high-level screen structure and navigation.

Progress Summary: Completed.

### **1.3 - Create and Complete Project Architecture – Riley**

- FR 1.3.1: Ensure documentation is detailed and in line with rubric.
- FR 1.3.2: Ensure system layers and components are clearly defined.
- FR 1.3.3: Ensure data flow between components is explained.

Progress Summary: All done and submitted. Files viewable on Canvas or in Discord in the “docs-and-resources” channel.

### **1.4 - Create Diagrams for Architecture Documentation – Riley**

- FR 1.4.1: Ensure there are 3-5 architecture diagrams.
- FR 1.4.2: Ensure the diagrams align with the written description and are easy to follow.
- FR 1.4.3: Ensure the diagrams are given short descriptions in the written documentation.

Progress Summary: All done and submitted. Files viewable on Canvas or in Discord in the “docs-and-resources” channel.

### **1.5 - Create a Repository and Initial File Structure – Jackson**

- FR 1.5.1: Create Github repository.
- FR 1.5.2: Ensure all teammates have access to add and edit files.
- FR 1.5.3: Create Initial File Structure.

Progress Summary: Completed.

### **1.6 - Configure Environment Setup: Set Up Android Studio – Mya & Zeidan**

- FR 1.6.1: Install and configure Android Studio.

- FR 1.6.2: Ensure required SDKs and dependencies are installed.
- FR 1.6.3: Verify the project builds and runs successfully.

Progress Summary: Completed.

### **1.7 - Create Skeleton Android Application – Mya & Zeidan**

- FR 1.7.1: Create a launchable Android application.
- FR 1.7.2: Implement navigation between major screens.
- FR 1.7.3: Include placeholder UI elements for future functionality.
- FR 1.7.4: Ensure application runs without crashes.

Progress Summary: Completed.

### **1.20 - Create and Complete Sprint 1 Artifacts – Riley**

- FR 1.20.1: Compile Requirements for Sprint 1 into formatted documentation.
- FR 1.20.2: Write functional requirements for each requirement, leaving space for progress summaries.
- FR 1.20.3: Verify artifact alignment with course rubric and project objectives.
- FR 1.20.4: Upload all Sprint 1 documents to Github.

Progress Summary: Compiled all Sprint 1 Requirements into the specified format of the Artifacts document. Broke each requirement down into its Functional Requirements, and gave a description for each. Uploaded to Github.

### **1.28 - Define Chronotype Classification Algorithm Specifications – Manu**

- FR 1.28.1: Define time-of-day bins used for analysis.

- FR 1.28.2: Define how focus stability metrics are aggregated by time-of-day.
- FR 1.28.3: Define criteria for identifying peak focus windows.
- FR 1.28.4: Explicitly state that outputs are exploratory and non-diagnostic.

Progress Summary: Completed.

#### **1.41 - Welcome Landing Page Animation (When Opening the App) – Mya & Zeidan**

- FR 1.41.1: Implement a welcome animation displayed on app launch.
- FR 1.41.2: Ensure animation does not block navigation or functionality.
- FR 1.41.3: Ensure animation aligns with the app's visual theme.

Progress Summary: Completed.

#### **1.42 - Define Metrics for Focus Stability vs. Focus Intensity – Manu**

- FR 1.42.1: Define focus intensity as an instantaneous EEG-derived engagement proxy.
- FR 1.42.2: Define focus stability as variability of engagement over time.
- FR 1.42.3: Clearly distinguish how stability differs from intensity in analysis.

Progress Summary: Completed.