

CS 3338 Final Project - Group 6

Sleep Fixer App

Jira Project URL: <https://calstatela-cs3338-fall2025group6.atlassian.net/jira/software/projects/T6SFA/boards/233>

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Overview

The Sleep Fixer App is a mobile application for iOS and Android that helps users gradually improve their sleeping habits. Users input their current sleep schedule and desired sleep goal using time sliders, and the app creates a personalized plan with incremental adjustments to help them reach their target bedtime and wake time.

Users navigate through four screens: Create Plan, View Plans, AI Info, and Dashboard. The app calculates sleep schedules based on two selectable shift options chosen by the user.

System Architecture

The application follows this workflow:

1. **User Input:** Users enter current sleep schedule and desired goals using time sliders.
2. **Plan Generation:** App generates customized sleep schedule based on user-selected shift options.
3. **Local Storage:** User data and calculations stored on device using Hive for offline use.
4. **Notifications:** App sends reminders 30 minutes before bedtime and morning check-ins.

5. **Progress Tracking:** Users track streaks and view weekly reports on the Dashboard.
6. **AI Assistant:** Optional cloud connection to AI trained on Harvard sleep studies.
7. **Cloud Backup:** Optional Firebase backup for data sync and social features.

Features

- **Mobile Application:**
 - Sleep plan creation with time sliders
 - Two selectable shift options
 - Plan editing and deletion
 - Streak counter and weekly reports
 - Sleep journal
 - Smart insights and PDF export
 - AI assistant trained on Harvard sleep studies
 - Bedtime reminders and morning check-ins
 - Social features (anonymous sharing, monthly challenges, badges)
 - Home screen widgets
 - Multi-language support (English, Spanish, French)
 - Biometric app lock

Technologies Used

- **Mobile Application:**
 - Flutter
 - Dart
 - Provider
 - Hive
- **Backend:**
 - Firebase
- **Libraries:**
 - flutter_local_notifications
 - timezone
 - share_plus
 - pdf
 - home_widget

Installation and Access

Requirements:

- iOS 12.0+ or Android 5.0+
- 100 MB free storage
- Internet connection for AI features

Download:

1. Open App Store (iOS) or Google Play Store (Android)
2. Search "Sleep Fixer App"
3. Tap Get/Install
4. Grant notification and calendar permissions
5. Register or log in
6. Complete initial sleep assessment