

Eira: Smart Mental Health & Self-Care Platform

Technical Report – IEEE Protons Programming Competition

1. Team Overview

Team Name: Abo shady w atfalohProject Title: EiraCategory: Web Development – Health & WellnessContest: IEEE Protons Programming CompetitionTeam Members & Roles:

- Aya Elkhawaga – Mood Tracker, Chatbot (Ask AI) and Streak
- Nada Fahmy – Bio-Rhythm, Footer, and Login Page
- Marwan Alamir – Community and About Page
- Nadeen mahmoud – Daily Planner
- Karma moahmed – Blog Page and Daily Planner

2. Inspiration

Before creating *Eira*, our team wanted to build something that truly mattered not just a random web app, but one that solves a real problem. So, we started by designing a **form** and sharing it with students, friends, and people in our community. The form asked about their **mental health challenges, daily stress, and what kind of digital tools could actually help them feel better**.

After collecting dozens of responses, we analyzed the data carefully. The results showed a clear pattern: most people struggle with **mood changes, lack of motivation, poor time management, and stress from studying or social pressure**.

From this analysis, the idea for **Eira** was born a platform that helps users take care of their mental health, track emotions, and organize their lives in a calm, supportive way. It wasn't just a random concept; it was built from real stories, real struggles, and real data.

3. Introduction

Eira is a web application that supports users' mental health and daily wellness through mood tracking, bio-rhythm awareness, and AI-assisted conversation. It helps users to understand their emotions, build healthy habits, and manage stress in a personalized and friendly digital space. Unlike ordinary planners, Eira combines emotional data and biological rhythm tracking to suggest the best times for rest, focus, and self-care. The goal is to make technology a gentle companion for well-being.

4. Objectives

- Promote awareness of mental and emotional health among young users.
- Help users track mood patterns and discover emotional trends.
- Provide AI-powered chat support for reflection and motivation.
- Use bio-rhythm insights to recommend optimal activity times.
- Create a calm, user-friendly interface that feels safe and relaxing.

5. Tools & Technologies

Layer	Technology	Purpose
Frontend	React.js, JavaScript, CSS	Interactive and responsive pages such as Mood Tracker, BioRhythm, and Ask.
Backend	Node.js	Manages API endpoints, user data, and logic.
Database	pgAdmin4	Stores user moods, activities, and bio-rhythm data.
Version Control	Git & GitHub	For collaboration, commits, and version tracking.

6. System Overview

Eira's flow is simple and centered around emotional awareness:

1. Login/Register – Users access their personal dashboard.
 1. Bio-Rhythm Page – get your personalized bio-rhythm profile by answering questions.
 2. Mood Tracker – giving you tips by answering some questions.
 3. Daily planner – helping you going on with your day.
 4. Ask AI Assistant – Chatbot for asking anything related to health and the web.

7. Features

Mood & Emotion Tracking – Records daily emotions in a calm interface.

Bio-Rhythm Visualization – Shows energy levels based on cycles.

Daily planner – to plan your day based on your Bio-Rhythm profile.

Ask AI (ChatBot) – Offers empathetic responses and motivational prompts.

Relaxing UI Design – Soft pastels, rounded edges, and animations.

8. Technical Design

Frontend: Built with React functional components using `useState` and `useEffect` for state management. Includes pages like `MoodTracker.jsx`, `BioRhythm.jsx`, `Daily Planner.jsx`, `Ask.jsx`, and shared components such as `Navbar.jsx`.
 Backend: Node.js and Express.js handle REST API routes for user data and logs. Uses JSON for communication between frontend and backend.
 Security: Sensitive keys are stored in environment variables and excluded from Git history using `.gitignore`.

9. Impact

Eira demonstrates how young developers can use code to support mental health. By combining science, empathy, and interactivity, it encourages emotional awareness, healthier habits, and creates a safe digital space for reflection and growth.

10. Conclusion

Eira merges technology with mental wellness to create a personalized self-care companion. Built entirely by students using modern web tools, it embodies the IEEE Protons spirit — innovation, learning, and positive social impact through code.