Capstone Project-IOD

MOOD JOURNAL AI

Unnati Gadhiya

19th July, 2025

PROJECT OVERVIEW

- "Mood Journal AI" is a wellness-focused full-stack web application that allows users to track their daily mood, stress, energy, motivation, and sleep , basically their emotional well-being.

- It blends mental wellness, daily tracking, and a bit of AI to help users understand their emotional journey better with feedback and view mood trends.

- It leverages sentiment analysis to provide personalized insights using natural language processing on the user's daily notes.

- The core focus is Mental Wellness & Self-Reflection using modern web technologies and AI.

MOTIVATION

- In today's fast-paced world, we often forget to check in on ourselves emotionally. People might struggle to track how they've been feeling over the week or notice if they're falling into negative patterns.

- So I built Mood Journal AI to allow users to log how they feel — not just with ratings, but with personal notes — and get insights through automatic sentiment detection and visual dashboards."

PROJECT FEATURES

🔐 User Authentication (Register/Login)

📝 Mood Journal Entries

📈 Mood Sentiment Chart

🔥 Weekly Mood Streak

📊 Summary of moods (Positive/Neutral/Negative)

🤖 AI Integration

🎯 Real-world Relevance

TECH STACK

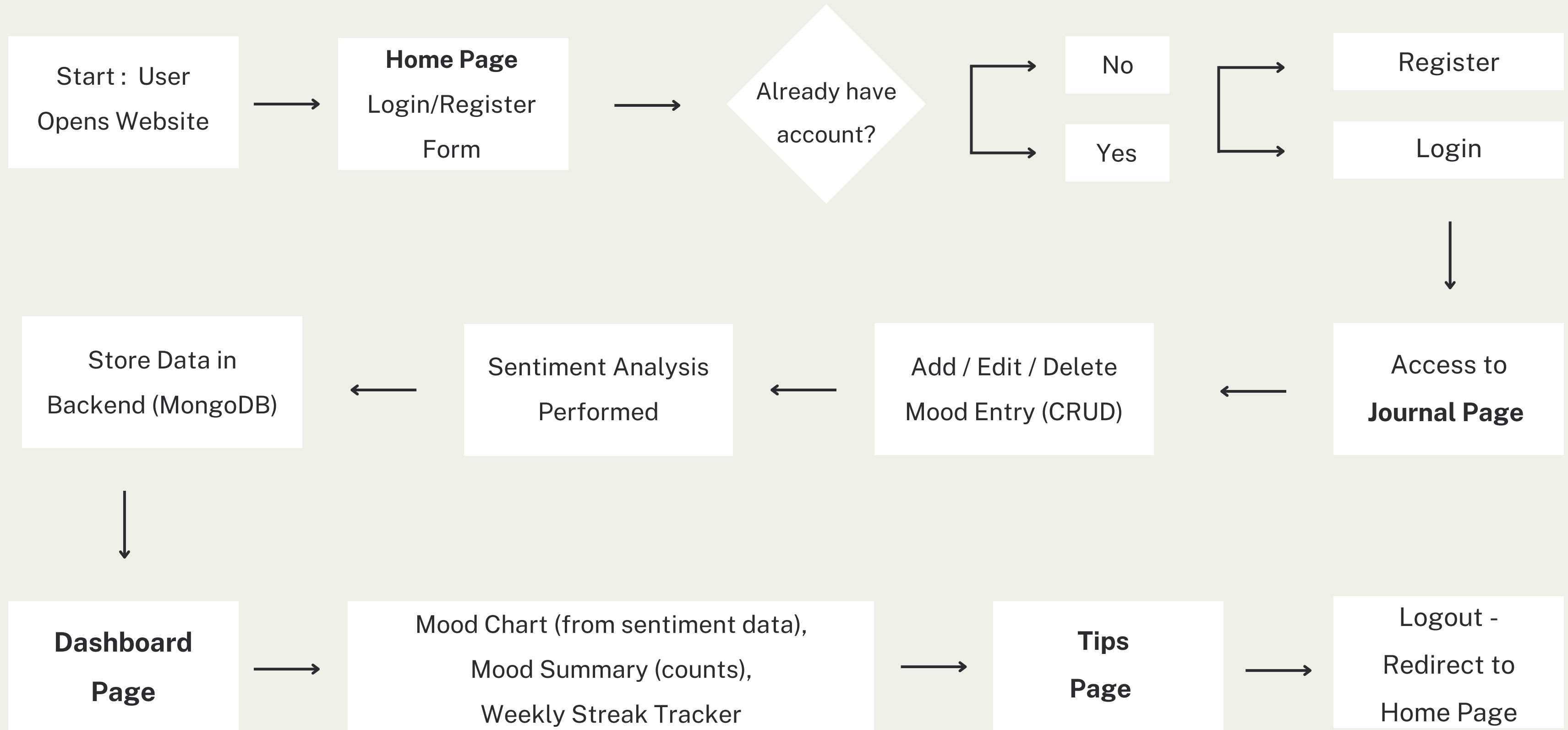| Layer	Tools Used
Frontend	React, JSX, CSS
Backend	Express.js, Node.js
Database	MongoDB, Mongoose
AI Analysis	Sentiment npm package
Styling	CSS (custom styling)

APP FLOW (FLOWCHART)

Start : User Opens Website → **Home Page** Login/Register Form → Already have account? → No / Yes → Register / Login

Home Page Login/Register Form

Already have account?

No

Yes

Register

Login

↓

Access to **Journal Page**

Add / Edit / Delete Mood Entry (CRUD)

Sentiment Analysis Performed

Store Data in Backend (MongoDB)

↓

Dashboard Page → Mood Chart (from sentiment data), Mood Summary (counts), Weekly Streak Tracker → **Tips Page** → Logout - Redirect to Home Page

FRONT-END CODE HIGHLIGHTS

- Register.jsx / Login.jsx :

  Forms for creating account or signing in

- Dashboard.jsx :

  Shows mood chart, summary, and streak.

  Uses useEffect, API calls, and context authentication check.

- MoodChart.jsx :

  Converts mood sentiments to chart-friendly values.

- AuthContext.jsx :

  Manages login/logout status.

- Navbar.jsx :

  Uses NavLink for active page highlighting

BACK-END CODE HIGHLIGHTS

- moodController.js :

  Handles CRUD for moods.

- sentimentAnalysis.js :

  Calculates mood sentiment.

- authController.js :

  Handles register/login and JWT token generation.

- models/ Mood.js & User.js :

  MongoDB schema definitions

  Timestamps used for charting and streak tracking

DATABASE HIGHLIGHTS

- MongoDB used as the primary database with Mongoose ODM

- Two key collections :

  users: stores user credentials (name, email, hashed password)

  moods: stores mood entries (mood, stress, energy, motivation, sleep, note, sentiment, createdAt)

- Schema includes :

  Automatic timestamps (createdAt, updatedAt) for sorting and streak logic

  Embedded sentiment field calculated before saving mood entry

- Data relationships :

  Each mood entry is linked to a user via user: ObjectId

CHALLENGES FACED

- Integrating sentiment analysis with mood scoring

- Styling responsive dashboard layout

- Handling protected routes and authentication

- Fixing last-minute MongoDB connection issues

LEARNINGS

- React state management and routing

- Backend API handling and async/await

- MongoDB data modeling

- Combining AI sentiment logic with user data

- Full-stack application lifecycle

CONCLUSION

- Mood Journal AI is more than just a mood tracker - it's personal assistant that encourages emotional awareness and growth using simple yet powerful AI.
- The app addresses rising awareness around mental health by giving users a digital way to reflect and track their mood patterns.

FUTURE-SCOPE

- Notification reminders.
- Goal tracking.
- Calendar integration

Thank you!

I truly enjoyed building this full-stack Mood Journal AI app.

Looking forward to your feedback and suggestions!

Mentor : Kingsley Huang

Capstone Project - IOD