



Student Dashboard



Hips

Internship Diary

Internship Diary Entries

Project

Project Diary

Project Diary Entries

Project Team Members

Follow these steps to ensure smooth project creation and team collaboration on the VTU-InternYet portal.

Learn More →

Submitted Project

Edit

Project Information

Title

AI Powered Fitness Assistance

Domain

Artificial Intelligence

Team Size

3

Description

An AI-powered fitness web app is a digital platform that uses artificial intelligence to provide personalized workouts, diet plans, chatbot to interact with ai, real-time feedback, and progress tracking to users, also Find their nearby gyms and yoga classes. In today's digitally driven world, health and fitness have become a key focus area. The FitnessAI project aims to bridge this gap by leveraging artificial intelligence to provide customized fitness recommendations to users.

Guide Information

Name

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Mobile

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Designation

Professor & HOD Department of CSE

Specialisation

Computer science and engineering

Team Members

Team Lead

Prajwal banakar (prajwal.banakara@gmail.com)

Member 2

Chirag H (1GC22IS010) - cc7881289@gmail.com

Member 1

Ajay Kumar H N (1GC22IS003) - ajaykumar392004@gmail.com

Member 3

Prajwal banakar (1GC22IS022) - prajwal.banakara@gmail.com





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Edit Project Diary Entry

Cancel

Project Diary Entry Details

Project
AI Powered Fitness Assistance

Date
04 Aug 2025

What I worked on?

Work Summary *

Today our project members are discussed about the project requirements and sources under the guidance of our project guide here are the objectives and key points

Project Definition and Research Foundation

Objective: Formally define the project goals, target audience, and key deliverables, while establishing a strong research basis.

1136/2000

Hours worked *

6

Allowed range: 0–24 (supports 0.25 steps)

Show Your Work (Links)

Reference Links

Paste one or more relevant links, separated by commas

0/5000

Blockers & Learnings

Learnings / Outcomes *

The first week of the FitnessAI project, dedicated to Project Initiation, Research, and Setup, yielded critical learnings and tangible outcomes that established a solid foundation for development.

The Value of Academic Research (IEEE Papers): The review of academic literature provided crucial insights into established metrics for measuring exercise performance (e.g., BMI calculations, rep counting logic) and validated the best practices for model selection,



516/2000

Blockers / Risks



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Project
AI Powered Fitness Assistance

Date
09 Aug 2025

What I worked on?

Work Summary *

Requirement Gathering & Use Cases :

Collected functional requirements such as user registration, fitness profile creation, workout/diet recommendation, AI chatbot, and PDF export. Wrote main use cases: user onboarding, goal update, plan generation, PDF download, and chat with AI coach.

286/2000

Hours worked *

4

Allowed range: 0–24 (supports 0.25 steps)

Show Your Work (Links)

Reference Links

Paste one or more relevant links, separated by commas

0/5000

Blockers & Learnings

Learnings / Outcomes *

Collected functional requirements such as user registration, fitness profile creation, workout/diet recommendation, AI chatbot, and PDF export. Wrote main use cases: user onboarding, goal update, plan generation, PDF download, and chat with AI coach.

250/2000



Blockers / Risks



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Project Diary Entry Details

[Edit](#)

Project Diary Entry Details

[View Project](#)[AI Powered Fitness Assistance](#)[View Date](#)[15 Aug 2025](#)[View Hours Worked](#)[5 hrs](#)

Activity

[View Work Description](#)

Tech Stack Setup : Initialized the Next.js 15 project with TypeScript and configured Tailwind CSS for styling. Set up the Node.js backend structure with Express and basic routing for health-check and test endpoints.

[View Learnings](#)

Initialized the Next.js 15 project with TypeScript and configured Tailwind CSS for styling. Set up the Node.js backend structure with Express and basic routing for health-check and test endpoints.

[View Blockers](#)

—

Links & References

[View Links](#)<https://nodejs.org/en>

Skills Applied

[View Skills](#)[Layout Design](#)



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AI Powered Fitness Assistance

Date

18 Aug 2025

Hours Worked

6 hrs

Activity

Work Description

Git & Project Structure Organization : Created a clean monorepo-style or separated folders for frontend and backend, with standard naming conventions for pages, components, and routes. Configured Git repository, branch strategy, and added initial README with project overview and setup steps.

Learnings

Learned using git and GitHub version control systems. Created a clean monorepo-style or separated folders for frontend and backend, with standard naming conventions for pages, components, and routes. Configured Git repository, branch strategy, and added initial README with project overview and setup steps.

Blockers

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Links & References

Links

<https://github.com/Prajwal-banakar/Ai-powered-Fitness>

Skills Applied

Skills

Git





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Project Diary Entry Details

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Project

AI Powered Fitness Assistance

Date

22 Aug 2025

Hours Worked

6 hrs

Activity

Work Description

Database & Models Planning : Defined data models for User, FitnessProfile, WorkoutPlan, DietPlan, and ActivityLog, including fields for age, BMI, preferences, restrictions, and goals. Documented relationships and decided on storage strategy (e.g., cloud DB or local for prototype)

Learnings

Defined data models for User, FitnessProfile, WorkoutPlan, DietPlan, and ActivityLog, including fields for age, BMI, preferences, restrictions, and goals. Documented relationships and decided on storage strategy (e.g., cloud DB or local for prototype)

Blockers

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Links & References

Links

<https://www.geeksforgeeks.org/dbms/introduction-of-dbms-database-management-system-set-1/> <https://supabase.com/>

Skills Applied

Skills

Database design PostgreSQL





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AI Powered Fitness Assistance

Date

25 Aug 2025

Hours Worked

6 hrs

Activity

Work Description

Authentication & Basic Login UI : Implemented a basic login/register page in Next.js using React components and Tailwind for responsive layout. Connected the frontend form to backend authentication endpoints (mock or simple JWT/session), enabling users to log in and store a session token.

Learnings

basic login/register page in Next.js using React components and Tailwind for responsive layout. Connected the frontend form to backend authentication endpoints (mock or simple JWT/session), enabling users to log in and store a session token.

Blockers

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Links & References

Links

<https://supabase.com/>

Skills Applied

Skills

React.js Layout Design





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AI Powered Fitness Assistance

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27 Aug 2025

Hours Worked

5 hrs

Activity

Work Description

User Profile & Fitness Input Form : Built pages where users can enter age, gender, height, weight, activity level, goals (fat loss, muscle gain, general fitness), and dietary preferences. Validated inputs on both client and server, and stored profile data in the database through backend APIs.

Learnings

users can enter age, gender, height, weight, activity level, goals (fat loss, muscle gain, general fitness), and dietary preferences. Validated inputs on both client and server, and stored profile data in the database through backend APIs.

Blockers

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Links & References

Links

<https://supabase.com/> <https://github.com/Prajwal-banakar/Ai-powered-Fitness>

Skills Applied

Skills

Database design





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29 Aug 2025

Hours Worked

6 hrs

Activity

Work Description

Goal and Preference Management : Added UI to update goals, weekly target frequency, and constraints (e.g., veg-only, no dairy, injuries). Implemented backend endpoints to update and fetch current goal state so AI always uses latest user data.

Learnings

weekly target frequency, and constraints (e.g., veg-only, no dairy, injuries). Implemented backend endpoints to update and fetch current goal state so AI always uses latest user data. [1]

Blockers

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Links & References

Links

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Skills Applied

Skills

Layout Design





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Project

AI Powered Fitness Assistance

Date

03 Sep 2025

Hours Worked

4 hrs

Activity

Work Description

Workout Plan Generation Endpoint : Implemented a dedicated Node.js API route that receives user ID or profile data, calls the AI engine, and parses its response into a structured workout plan format (days, exercises, sets, reps, difficulty). Added basic error handling and retries.

Learnings

Implemented a dedicated Node.js API route that receives user ID or profile data, calls the AI engine, and parses its response into a structured workout plan format (days, exercises, sets, reps, difficulty). Added basic error handling and retries.

Blockers

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Links & References

Links

<https://groq.com/>

Skills Applied

Skills

Data encryption





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AI Powered Fitness Assistance

Date

05 Sep 2025

Hours Worked

6 hrs

Activity

Work Description

Diet Plan Generation Endpoint : Created parallel API endpoint for diet plan generation, returning meals per day, macronutrient focus, and timing suggestions. Standardized output schema to be easily rendered by React components and stored as JSON.

Learnings

parallel API endpoint for diet plan generation, returning meals per day, macronutrient focus, and timing suggestions. Standardized output schema to be easily rendered by React components and stored as JSON

Blockers

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Links & References

Links

<https://groq.com/> <https://supabase.com/>

Skills Applied

Skills

Machine learning Data modeling





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AI Powered Fitness Assistance

Date

08 Sep 2025

Hours Worked

4 hrs

Activity

Work Description

React Components for Plan Display : Built reusable components to display workout and diet plans in a clean, card-based layout with Tailwind CSS. Ensured sections for "Today's Plan", "Weekly Overview", and "Summary Notes" to improve readability on mobile.

Learnings

Built reusable components to display workout and diet plans in a clean, card-based layout with Tailwind CSS. Ensured sections for "Today's Plan", "Weekly Overview", and "Summary Notes" to improve readability on mobile.

Blockers

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Links & References

Links

<https://react.dev/>

Skills Applied

Skills

React.js





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AI Powered Fitness Assistance

[Date](#)

12 Sep 2025

[Hours Worked](#)

5.5 hrs

Activity

[Work Description](#)

Real-time Activity Tracking UI : Designed screens for logging workouts performed, steps, duration, and basic metrics such as calories burned. Added UI controls (buttons, sliders, input fields) and client-side validation to quickly record completed activities.

[Learnings](#)

Designed screens for logging workouts performed, steps, duration, and basic metrics such as calories burned. Added UI controls (buttons, sliders, input fields) and client-side validation to quickly record completed activities.

[Blockers](#)

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Links & References

[Links](#)

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Skills Applied

[Skills](#)

React





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AI Powered Fitness Assistance

Date

15 Sep 2025

Hours Worked

4 hrs

Activity

Work Description

Activity Logging APIs & Feedback Logic : Implemented backend endpoints to save activity logs and compute simple feedback metrics (consistency, adherence to plan, progression). Returned summary messages that the AI can later use to adapt recommendations.

Learnings

Implemented backend endpoints to save activity logs and compute simple feedback metrics (consistency, adherence to plan, progression). Returned summary messages that the AI can later use to adapt recommendations.

Blockers

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Links & References

Links

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Skills Applied

Skills

Vue.js





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Project

AI Powered Fitness Assistance

Date

19 Sep 2025

Hours Worked

6 hrs

Activity

Work Description

AI Chatbot for Coaching : Added an AI chat interface where users can ask questions about exercises, nutrition, and motivation. Connected this chat UI to an AI endpoint that uses conversation history and the user's goals to provide contextual guidance. [2]

Learnings

Added an AI chat interface where users can ask questions about exercises, nutrition, and motivation. Connected this chat UI to an AI endpoint that uses conversation history and the user's goals to provide contextual guidance. [2]

Blockers

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Links & References

Links

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Skills Applied

Skills

Verification & Validations





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Project

AI Powered Fitness Assistance

Date

01 Oct 2025

Hours Worked

8 hrs

Activity

Work Description

Mobile-first UI Optimization : Refined Tailwind CSS breakpoints to make sure all key pages (login, profile, plan view, activity tracking, chat) work smoothly on phones. Adjusted typography, button sizes, and card layouts for thumb-friendly usage. [2]

Learnings

Refined Tailwind CSS breakpoints to make sure all key pages (login, profile, plan view, activity tracking, chat) work smoothly on phones. Adjusted typography, button sizes, and card layouts for thumb-friendly usage. [2]

Blockers

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Links & References

Links

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Skills Applied

Skills

JavaScript HTML CSS Layout Design





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AI Powered Fitness Assistance

Date

03 Oct 2025

Hours Worked

6 hrs

Activity

Work Description

Performance Review of API Calls : Tested response times for AI calls and data APIs, introducing simple caching or debouncing on the frontend to avoid redundant calls. Optimized payload sizes by sending only necessary fields to the AI engine.

Learnings

Tested response times for AI calls and data APIs, introducing simple caching or debouncing on the frontend to avoid redundant calls. Optimized payload sizes by sending only necessary fields to the AI engine.

Blockers

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Links & References

Links

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Skills Applied

Skills

JavaScript Node.js Git





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Project

AI Powered Fitness Assistance

Date

10 Oct 2025

Hours Worked

6 hrs

Activity

Work Description

Performance and Load Checks Simulated multiple users generating plans and chatting with the AI to observe performance under higher load. Identified bottlenecks and slightly tuned backend concurrency or frontend throttling

Learnings

Simulated multiple users generating plans and chatting with the AI to observe performance under higher load. Identified bottlenecks and slightly tuned backend concurrency or frontend throttling

Blockers

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Links & References

Links

<https://github.com/Prajwal-banakar/Ai-powered-Fitness>

Skills Applied

Skills

JavaScript Git





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AI Powered Fitness Assistance

[Date](#)

17 Oct 2025

[Hours Worked](#)

6 hrs

Activity

[Work Description](#)

Final Report Drafting : Compiled technical details, architecture diagrams, screenshots, and test summaries into a structured project report. Highlighted how AI enables personalized and adaptive workout and diet planning

[Learnings](#)

Deployment of project Compiled technical details, architecture diagrams, screenshots, and test summaries into a structured project report. Highlighted how AI enables personalized and adaptive workout and diet planning

[Blockers](#)

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Links & References

[Links](#)

<https://github.com/Prajwal-banakar/Ai-powered-Fitness>, <https://ai-powered-fitness.vercel.app/>

Skills Applied

[Skills](#)

AWS





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AI Powered Fitness Assistance

Date

29 Oct 2025

Hours Worked

5 hrs

Activity

Work Description

The Final Quality Review : Before pushing the button, perform a high-level audit to ensure nothing has slipped through the cracks. **Code & Functionality:** Run your full test suite (unit, integration, and E2E). Manually test the "Happy Path"—the primary journey a user takes. **Security Check:** Ensure no API keys, passwords, or "TODO" comments are left in the source code. Verify that SSL certificates are active. **Performance:** Check load times. Are images compressed? Is the code minified? **Accessibility (a11y):** Run a quick Lighthouse or Axe audit to ensure the project is usable for everyone. **2. Deployment Strategies** Depending on your project's scale, you might choose one of these common deployment patterns to minimize downtime:

Learnings

Simulated multiple users generating plans and chatting with the AI to observe performance under higher load. Identified bottlenecks and slightly tuned backend concurrency or frontend throttling

Blockers

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Links & References

Links

<https://ai-powered-fitness.vercel.app/>

Skills Applied

Skills

Cloud access control

