WebX Lab CA - Report

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Class Roll No	D15A_24
D.O.P.	20/03/2025
D.O.S.	27/03/2025
Sign and Grade	

TITLE : Prepwise

PROJECT DESCRIPTION

The **PrepWise** project is a **Fullstack AI Roadmap Generator application** developed using **Flask, MongoDB, React, and TypeScript**. It is an AI-powered career preparation platform that delivers personalized roadmaps to help users navigate and achieve their career goals efficiently.

The **backend** is built using **Flask (Python)** to handle API requests and communicate with the database. **MongoDB** is used for storing product details, user information, and order data. The **frontend** is developed using **React with TypeScript**, ensuring a responsive and dynamic user interface.

TECHNOLOGIES USED

- **Frontend:** React, TypeScript, Tailwind CSS
- **Backend:** Flask (Python)
- **Database:** MongoDB (Atlas)
- **Development Tools:** VS Code, Postman, Git

FEATURES IMPLEMENTED

- **AI-Powered Planning:** Get a custom day-by-day study plan with progress milestones.
- **Expert Resources:** Access top books, websites, and videos for every topic.
- **Flexible Timeline:** Set your own schedule with custom start and end dates.
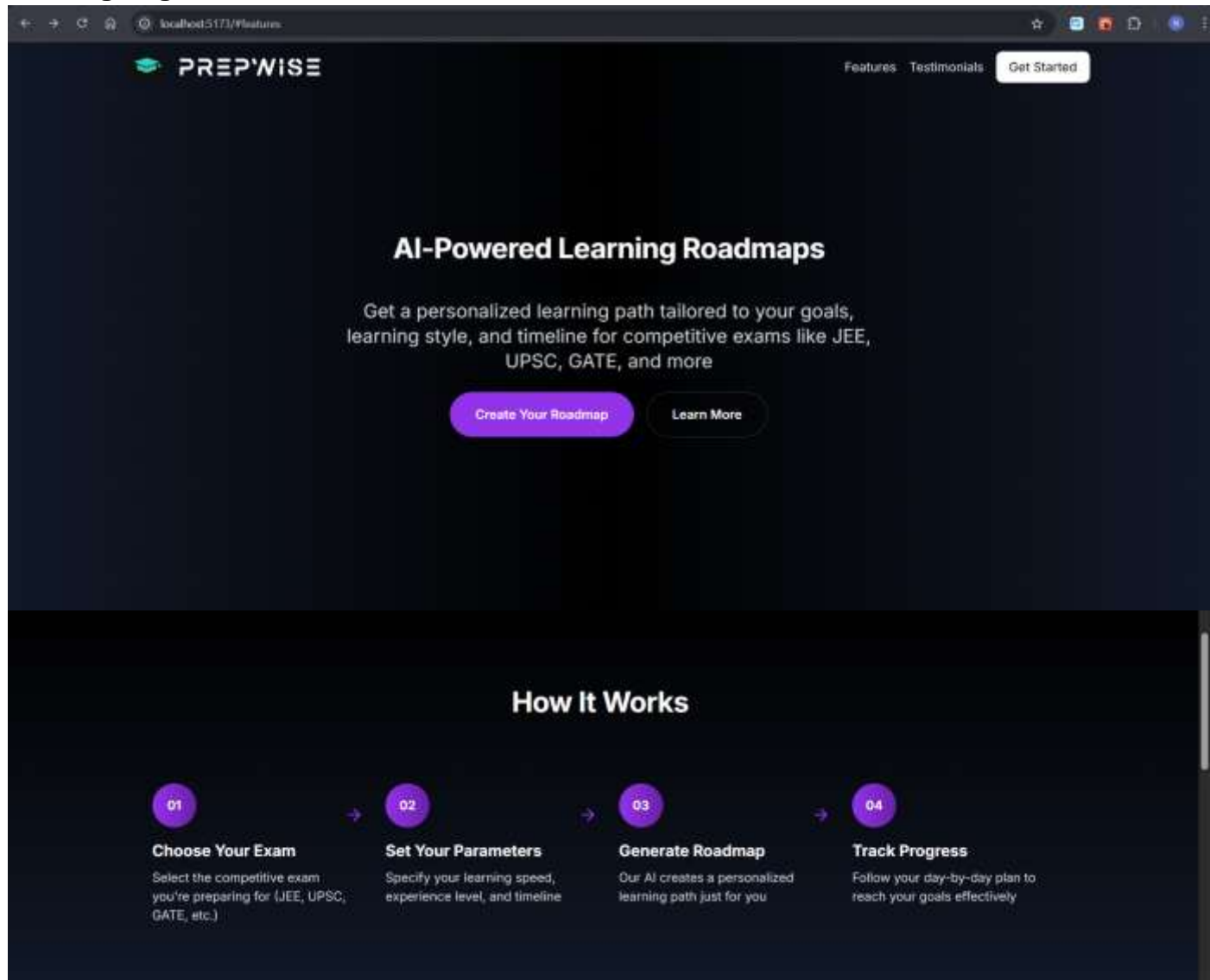- **Download Roadmap:** Export your full learning path for offline use or sharing.

GITHUB LINK - https://github.com/2022NK/PrepWise_WebX_CA

Flow Diagram:
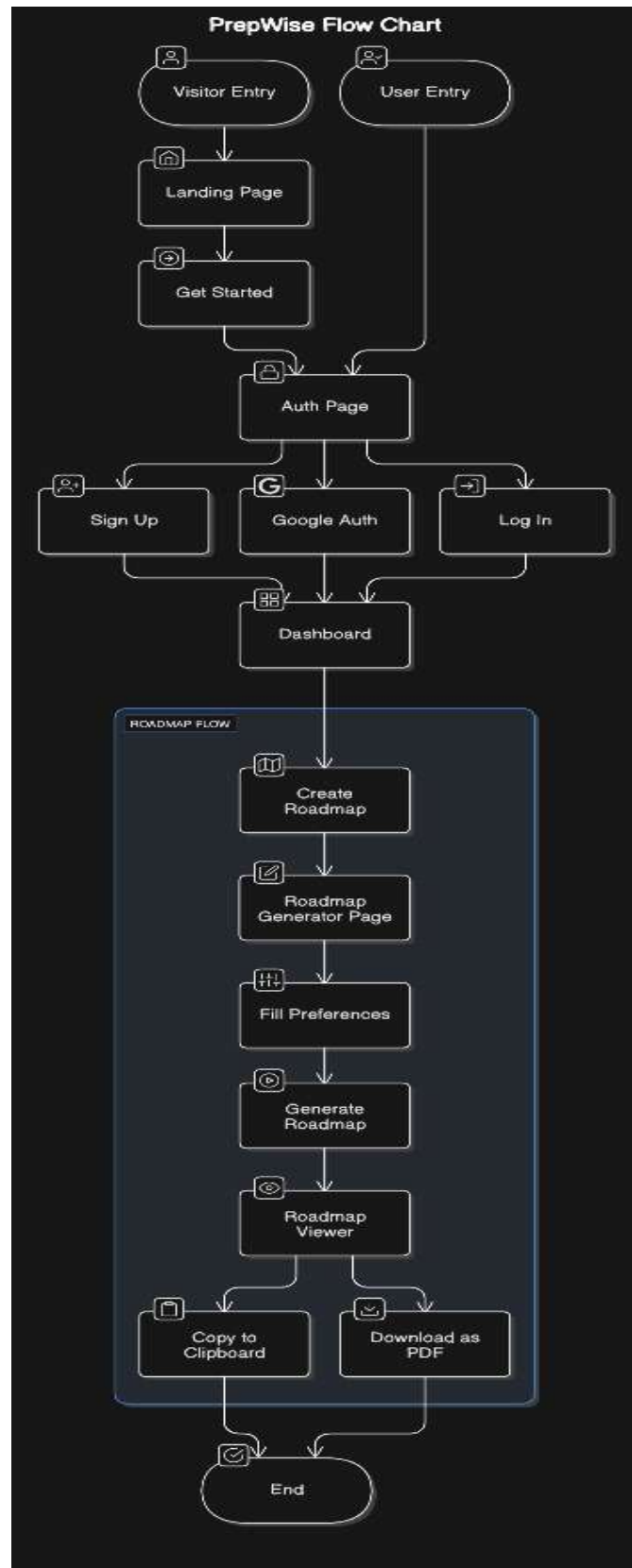
OUTPUT:

Landing Page:

Why Choose Our Roadmap Generator?

Personalized Roadmaps

Get a custom learning path tailored to your specific goals, speed, and experience level

AI-Powered Planning

Our advanced AI creates a detailed day-by-day study plan with milestones to track progress

Expert Resources

Access curated books, websites, and YouTube channels recommended for each topic

Flexible Timeline

Set your own start and end dates to create a schedule that works for your availability

Success Stories

The personalized roadmap made my JEE preparation so much more efficient!

Raj Kumar
JEE Advanced, AIR 343

I was overwhelmed with GATE preparation until I found this roadmap generator.

Priya Singh
GATE CS, 99.2 percentile

The structured approach helped me crack UPSC in my first attempt.

Ankit Sharma
UPSC CSE, Rank 127

Ready to Create Your Learning Path?

Generate a personalized, AI-powered roadmap in minutes and start your journey toward success.

Create Your Roadmap Now

The landing page showcases a step-by-step guide to the roadmap generator, highlights key platform features, and presents user success stories for credibility.

Auth Page:

The auth page allows users to sign up or log in using manual registration or Google authentication to access their personalized dashboard.

Dashborad Page:
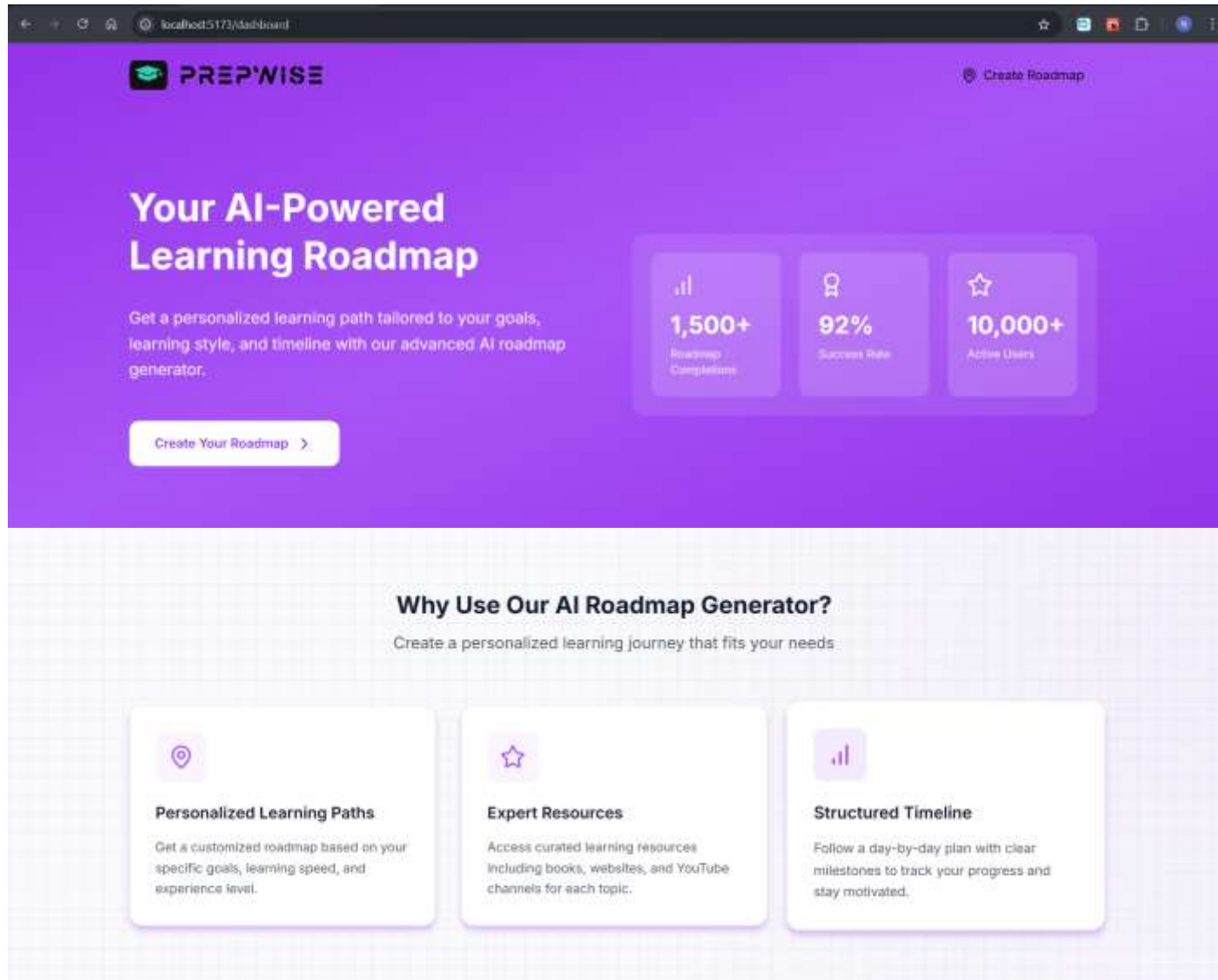
The dashboard provides users with an overview and quick access to create a new roadmap, and personalized study insights.

Roadmap Page:

Get Your Personalized Roadmap

Create a customized learning journey tailored to your goals and pace

What is your end goal?

JEE

How do you describe your learning speed?

○ Fast learner   ◉ Medium learner   ○ Slow learner

At what level do you want to learn?

○ Beginner   ◉ Intermediate   ○ Advanced

Select your preparation timeline:

Start Date
April 13th, 2025

End Date
December 14th, 2025

Generating Your Roadmap...

Get Your Personalized Roadmap

Create a customized learning journey tailored to your goals and pace

Your Personalized JEE Roadmap   Create New Roadmap

Goal:

To prepare for the Joint Entrance Examination (JEE) at an intermediate level within the given timeline of April 13, 2025, to December 14, 2025.

Daily Study Plan:

Given the vast syllabus of JEE, which includes Physics, Chemistry, and Mathematics, a comprehensive day-wise and topic-wise study plan is crucial. The plan will be divided into three main subjects and will cover key topics over the study period.

- Day 1-5:
  - Physics: Kinematics – Kinematics – Khan Academy
  - Chemistry: Atomic Structure – Atomic Structure – BYJU'S
  - Mathematics: Sets – Sets – Unacademy
- Day 6-15:
  - Physics: Dynamics – Dynamics – BYJU'S
  - Chemistry: Chemical Bonding – Chemical Bonding – Khan Academy
  - Mathematics: Relations and Functions – Relations and Functions – Vedantu

- Day 16-25:
    - Physics: Energy and Work - Energy and Work - 3Blue1Brown (YouTube)
    - Chemistry: Stoichiometry - Stoichiometry - Crash Course (YouTube)
    - Mathematics: Trigonometry - Trigonometry - IIT JEE (Unacademy)
- Day 26-35:
    - Physics: Rotational Motion - Rotational Motion - Physics Wallah (YouTube)
    - Chemistry: Gaseous State - Gaseous State - Chemistry LibreTexts
    - Mathematics: Quadratic Equations - Quadratic Equations - Khan Academy
- Day 36-45:
    - Physics: Thermodynamics - Thermodynamics - LearnEngineering (YouTube)
    - Chemistry: Thermodynamics - Thermodynamics - Chemistry Notes Info
    - Mathematics: Mathematical Induction - Mathematical Induction - Cambridge International Examinations

YouTube Channels:

English:

1. 3Blue1Brown
2. Crash Course
3. Khan Academy
4. Physics Wallah
5. LearnEngineering

Hindi:

1. Unacademy JEE
2. Vedantu JEE
3. Disha Publication
4. JEE Videos by IITians
5. Bodhaguru

Books List:

Physics:

1. **Halliday, Resnick, Walker - Fundamentals of Physics**
2. **H.C. Verma - Concepts of Physics**
3. **D.C. Pandey - Electricity and Magnetism**
4. **S.L. Loney - Mechanics**
5. **I.E. Irodov - Problems in General Physics**

Chemistry:

1. **N.C. Jindal - Organic Chemistry**
2. **O.P. Tandon - Organic Chemistry**
3. **D.S. Kohli - Inorganic Chemistry**
4. **R.C. Mukherjee - Physical Chemistry**
5. **S.N. Pandey - Chemistry in Daily Life**

Mathematics:

1. **Arihant - Algebra**
2. **S.L. Loney - Trigonometry**
3. **Hall and Knight - Higher Algebra**
4. **I.A. Maron - Calculus**
5. **A.R. Vasishtha - Differential Equations**

Websites:

1. Unacademy
2. Vedantu
3. Khan Academy
4. IIT JEE by Career Point
5. Doubtnut
6. BYJU'S

Additional Tips:

- **Consistency is Key:** Stick to your study plan.
- **Practice:** Solve problems regularly, especially after understanding each topic.
- **Revision:** Regular revision of previously studied topics is essential.
- **Mock Tests:** Attempt mock tests to understand your standing and improve.
- **Healthy Lifestyle:** Maintain a healthy diet, exercise, and ensure adequate sleep.
- **Seek Help:** Don't hesitate to reach out to teachers or mentors for help.
- **Stay Positive:** Keep a positive mindset throughout your preparation journey.
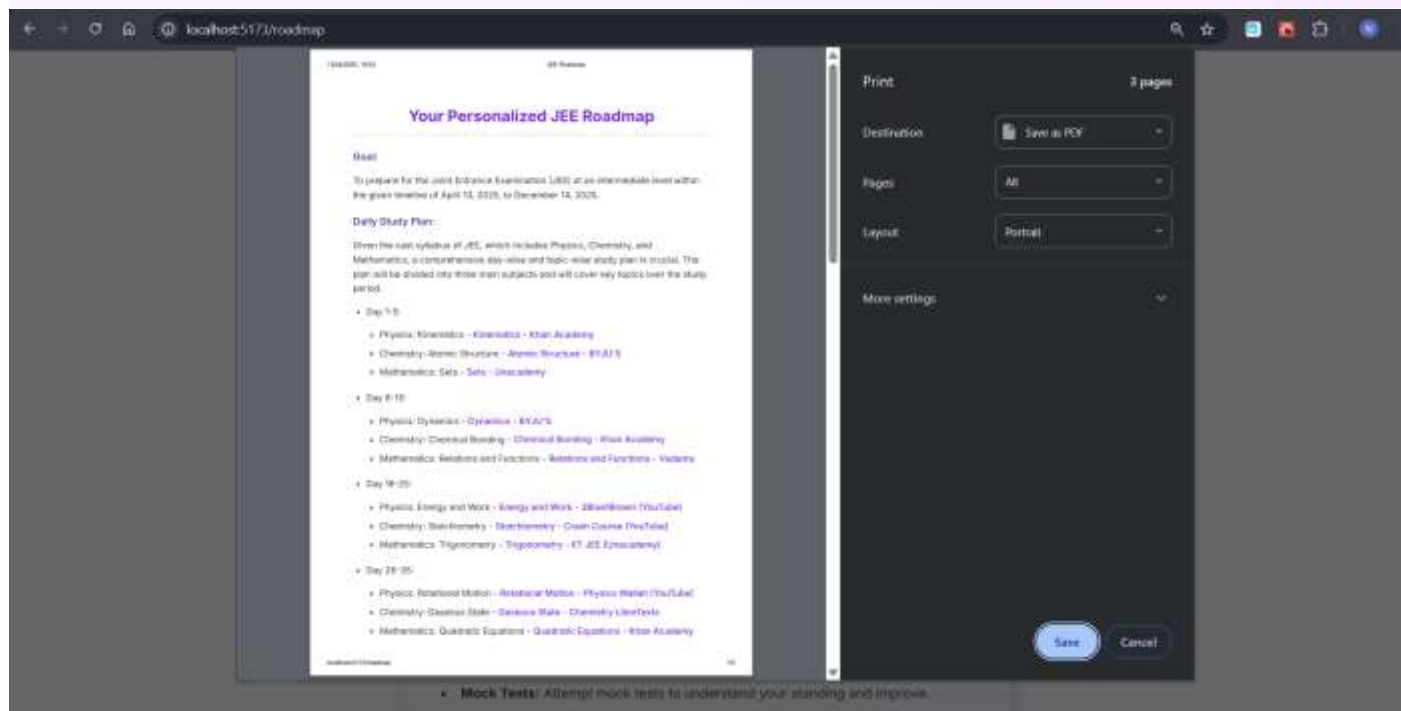
The roadmap page allows users to fill out a form to generate a personalized study plan, which can be viewed, copied, or downloaded as a PDF.

CONCLUSION:

PrepWise is an AI-powered exam preparation platform built using the MERN stack (MongoDB, Express.js, React, Node.js), showcasing full-stack development expertise. The platform features personalized learning roadmaps, progress tracking, and curated study resources. It effectively integrates advanced AI models (Meta Llama 3.2) to generate custom study plans based on user goals and timelines. This project demonstrates strong skills in frontend development (React), backend logic (Node.js + Express), and database management (MongoDB), making it a compelling real-world application of intelligent edtech solutions.