MID-1 Presentation

Report

SUBJECT: RURAL INNOVATION-1

III Year – II Semester

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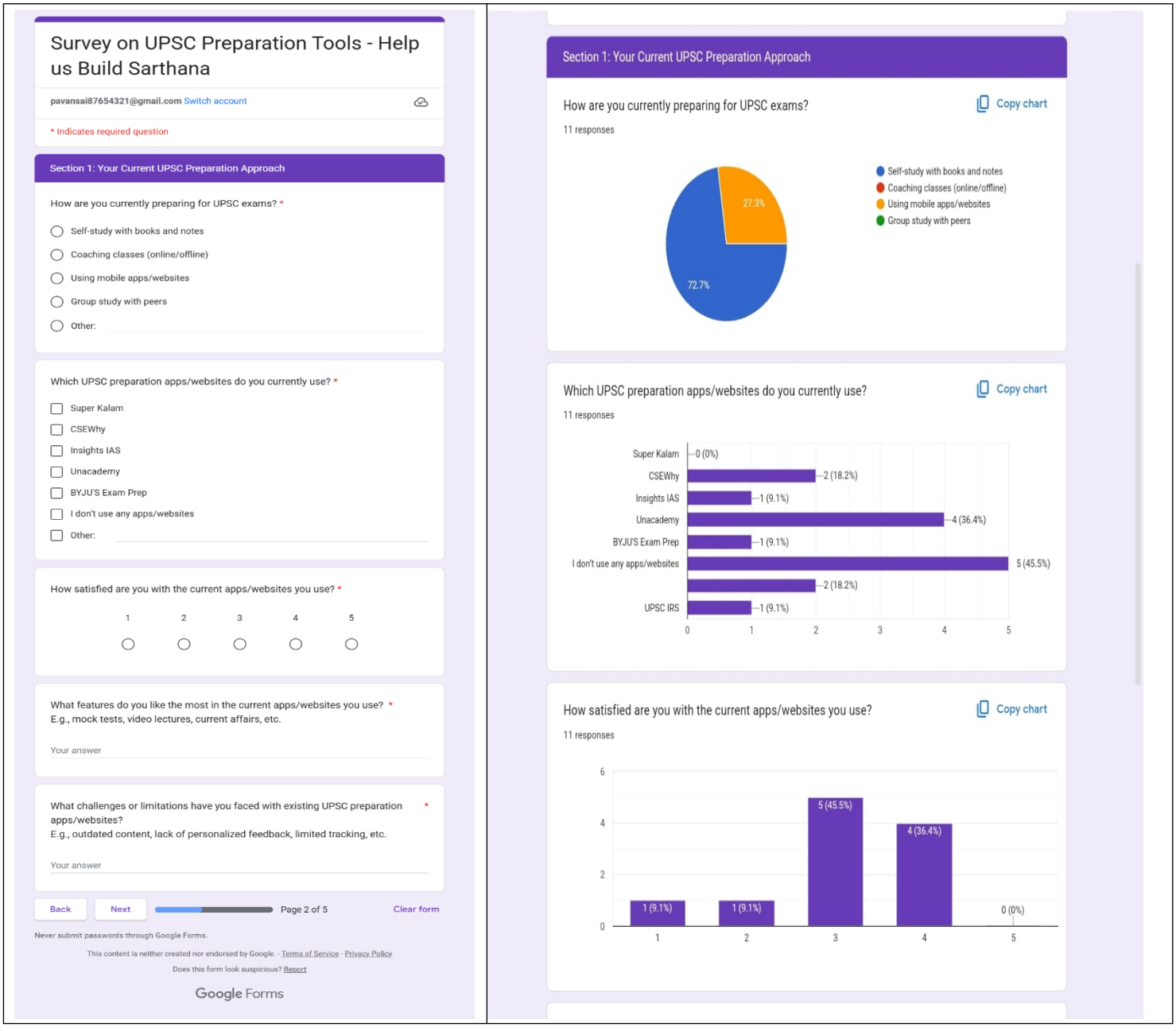
2024-25

Sarthana Application

Weekly Progress Report (Week 4)

Survey:

We conducted survey on present UPSC Preparation Tools here is the survey link:



Weekly Progress Report (Week 5)

1. Introduction

Sarthana is an advanced and user-friendly application designed specifically for UPSC aspirants. The application aims to provide a structured and comprehensive approach to UPSC preparation by integrating key features such as syllabus-based study materials, quizzes, essay-writing practice, daily current affairs, and personalized performance tracking. The application is being developed to overcome the drawbacks of existing platforms and to provide an enhanced learning experience.

2. Work Done This Week

This week, significant progress was made in both frontend and backend development, focusing on improving user experience and feature implementation.

Frontend Development:

- Improved UI/UX design to make navigation smoother and more intuitive.

- Integrated mock test features, allowing users to take subject-specific and full-length tests.

- Implemented a responsive design for better accessibility across multiple devices. - Added interactive dashboards for performance tracking and result analysis.

Backend Development:

- Optimized the database structure to efficiently store and retrieve user progress data. - Developed an authentication system for secure login and user management.

- Worked on API integrations to fetch daily current affairs and dynamically update study materials.

Content Management:

- Added comprehensive NCERT notes, and important topics categorized by syllabus.

- Created question banks with over 500 new questions for history and geography sections. - Integrated essay-writing topics and guidelines to help aspirants improve their writing skills.

- Enhanced multi-language support for a more inclusive user base.

3. Working Process of Sarthana

The Sarthana application follows a systematic workflow to ensure seamless user interaction and learning:

1. **User Registration & Login:** Users sign up with email or phone number and create profiles based on their UPSC preparation stage.
2. **Personalized Dashboard:** Displays syllabus breakdown, recent activities, upcoming mock tests, and daily current affairs.
3. **Study Materials & Notes:** Users can access structured notes, NCERT summaries, and reference materials.
4. **Quizzes & Mock Tests:** Subject-wise quizzes and full-length mock tests are available. 5. Essay Writing & Answer Practice: Dedicated space for essay writing practice with AI-powered feedback.
5. **Performance Tracking:** AI-driven analytics to track progress, strengths, and weak areas.
6. **Community & Discussion Forums:** Users can engage in discussions, ask doubts, and participate in peer-learning.

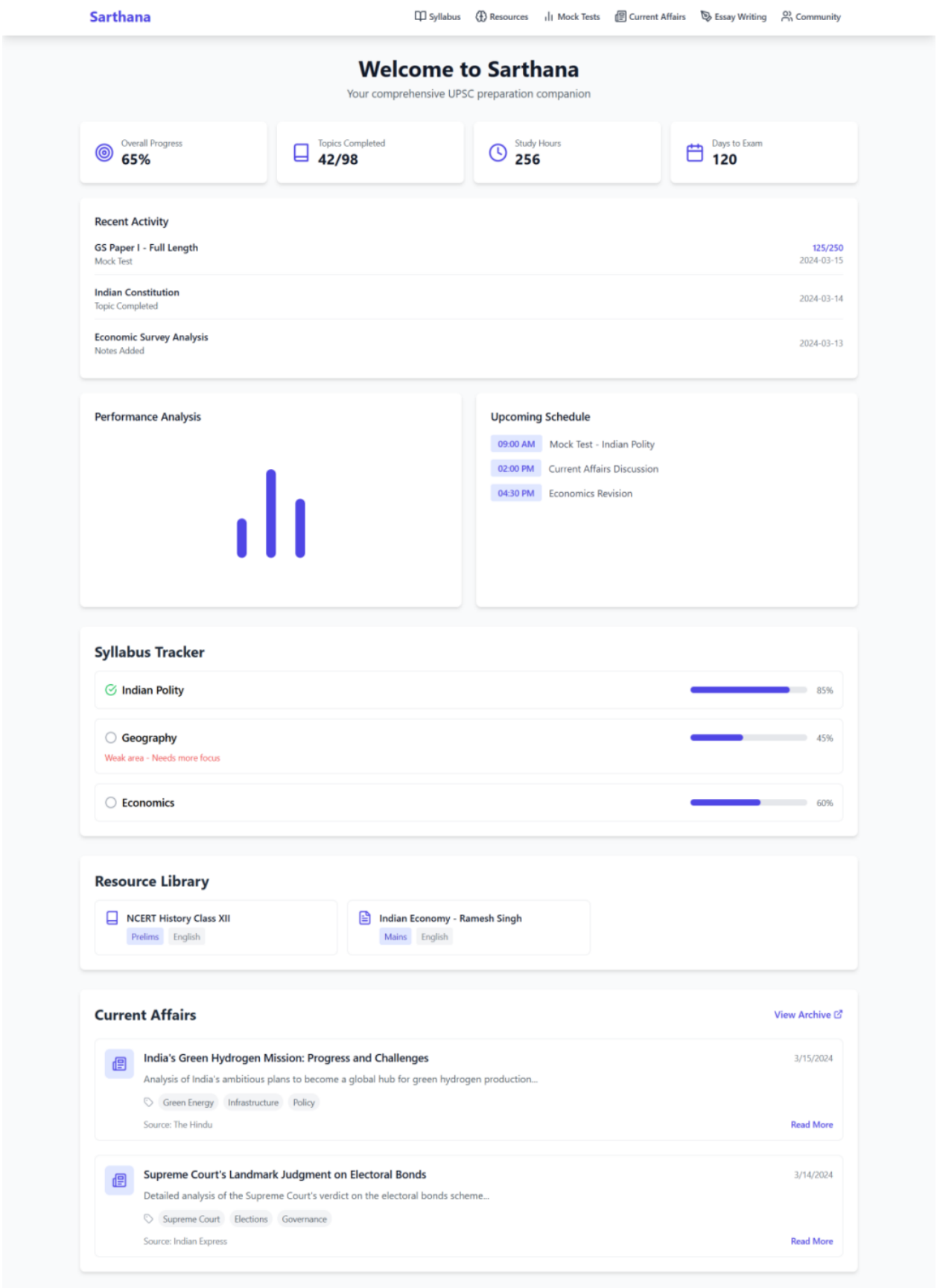
4. User Preferences in the Application

- **Language Support:** Users can access study materials and take tests in multiple languages, including English, Hindi, Telugu, Tamil, and Marathi.
- **Customizable Study Plans:** Users can set daily, weekly, or monthly study goals based on their schedule.
- **Adaptive Testing:** The application suggests mock tests based on users' performance trends.
- **Offline Access:** Study materials and notes can be downloaded for offline use.
- **Dark Mode & Accessibility Features:** Users can switch themes and adjust text size for better readability

5. Conclusion

The development of the Sarthana application has progressed significantly this week, with major enhancements in both frontend and backend functionalities. The focus on user preferences has helped in making the application more accessible and effective for UPSC aspirants. Moving forward, additional features such as AI-based doubt resolution and mentor support will be integrated to further improve the learning experience.

6. Output:


Sarthana
Syllabus
Resources
Mock Tests
Current Affairs
Essay Writing
Community
Welcome to Sarthana
Your comprehensive UPSC preparation companion
Overall Progress
65%
Topics Completed
42/98
Study Hours
256
Days to Exam
120
Recent Activity
GS Paper I - Full Length
Mock Test
125/250
2024-03-15
Indian Constitution
Topic Completed
2024-03-14
Economic Survey Analysis
Notes Added
2024-03-13
Performance Analysis
Upcoming Schedule
09:00 AM
Mock Test - Indian Polity
02:00 PM
Current Affairs Discussion
04:30 PM
Economics Revision
Syllabus Tracker
Indian Polity
85%
Geography
Weak area - Needs more focus
45%
Economics
60%
Resource Library
NCERT History Class XII
Prelims
English
Indian Economy - Ramesh Singh
Mains
English
Current Affairs
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Week 6 Report

In Week 6, the focus was on database integration, ensuring MongoDB was connected properly. User authentication and login system were partially implemented, transitioning from SQLite to MongoDB.

Week 6 Report (Feb 5 - Feb 11, 2025)

Tasks Completed:

1. **MongoDB Integration:**
   - Successfully connected Sarthana to MongoDB.
   - Fixed pymongo import issues and ensured proper installation.
2. **User Authentication System:**
   - Implemented login and registration system with MongoDB.
   - Added email-based OTP verification for secure authentication.
   - Refactored database.py to store user data in MongoDB instead of SQLite.
3. **Bug Fixes & Debugging:**
   - Resolved ModuleNotFoundError: No module named 'database' in login.py.
   - Tested database queries for proper data retrieval and storage.

Challenges Faced:

- Initial issues with pymongo installation.
- Debugging database connection errors.

Next Steps:

- Implement role-based access control.
- Enhance user profile management in MongoDB.

Week 7 Report

Week 7 involved implementing the syllabus tracker for GS1, GS2, GS3, and GS4. Additionally, the Mains Test Series module was developed to allow users to practice for UPSC Mains.

Tasks Completed:

1. **Mains Test Series Implementation:**
   - Designed a structured format for UPSC Mains Test Series.
   - Added features for users to attempt, submit, and review answers.
   - Stored user responses and scores in MongoDB.
2. **Performance Tracking System:**
   - Created a module to track test performance over time.
   - Integrated it with MongoDB to fetch and store user progress.
3. **Syllabus Tracker Enhancements:**
   - Categorized GS1, GS2, GS3, and GS4 subjects separately.
   - Allowed users to update progress and store it in MongoDB.

Challenges Faced:

- Optimizing database queries for fast retrieval.
- Ensuring the test series system supports large-scale usage.

Next Steps:

- Implement AI-based mentorship features.
- Enhance discussion forum for better user interaction.

Week 8 Report

During Week 8, the AI mentorship and discussion modules were introduced. These features were designed to provide guidance and facilitate peer interactions.

Tasks in process:

1. **AI Mentorship Integration:**
   - Developed ai_mentor.py for personalized mentorship.
   - Integrated AI-based study recommendations using previous performance.
2. **Discussion Forum Enhancement:**
   - Created a dedicated discussion board for UPSC aspirants.
   - Enabled real-time topic-based discussions.
3. **Revision & Mock Test System:**
   - Built revision.py to help users revisit weak areas.
   - Added AI-generated mock test questions.
   - Stored mock test attempts and improvement data in MongoDB.

Challenges Faced:

- Ensuring AI mentorship suggestions are relevant.
- Optimizing discussion board for real-time responses.

Next Steps:

- Fine-tune AI mentorship with user feedback.
- Improve database queries for faster test retrieval.

Week 9 Report

In Week 9, performance tracking and revision planning modules were integrated. Database refinements and AI tutor functionalities were also added.