CAPSTONE PROJECT

AI STUDY PLANNER

PRESENTED BY

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OUTLINE

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PROBLEM STATEMENT

Students often struggle with structuring their study schedules, leading to inefficiency, procrastination, and burnout. Common issues include:

- Lack of planning – Students don’t know what to study and when.
- Overwhelming workload – No structured approach to breaking topics into manageable parts.
- Low motivation & engagement – No personalized guidance or encouragement.
- Ineffective time management – No balance between study, breaks, and revision.

PROPOSED SOLUTION

- Generate personalized study schedules based on subject, time availability, and difficulty. Break topics into manageable parts over a selected number of days. Suggest effective study tasks (reading, exercises, quizzes, projects) based on difficulty. Include breaks & productivity tips to prevent burnout. Allow users to download study plans for offline use

SYSTEM APPROACH

- **Requirement Analysis**
  - Identified student needs for personalized, efficient study planning.
- **System Design**
  - Modular structure: Input module, logic engine, and output display.
  - UI/UX emphasis for ease of use and clarity.
- **Module Development**
  - Study Plan Generator
  - Difficulty-based Task Mapping
  - Dynamic Table Output (Study Schedule)
- **Implementation**
  - Rapid development using Python and Streamlit for web interface.
  - Logic separated for maintainability and scalability.
- **Testing & Evaluation**
  - Functional and usability testing with sample users.
  - Feedback loop for continuous refinement.

ALGORITHM & DEPLOYMENT

1. **Start**
2. **Input**:
   - •Topic
   - •Study Hours per Day
   - •Difficulty Level (Beginner, Intermediate, Advanced)
   - •Number of Days
3. **Initialize Task Set** based on Difficulty Level:
   - •Map to predefined list of tasks.
4. **Loop through Days (1 to N):**
   - •Assign Topic Part (e.g., *Topic - Part i*)
   - •Select Task from task list (cycle if list is shorter than days)
   - •Assign Study Hours
   - •Append to Plan
5. **Convert Plan to Table (DataFrame)**
6. **Display Plan**
7. **End**

Deployment Strategy

- **Platform**: Web-based interface using **Streamlit**
- **Language**: Python 3.x
- **Libraries**:
  - streamlit – UI rendering
  - pandas – Data structuring
- **Hosting**:
  - Deployed on **Streamlit Cloud** for real-time access
- **Access**:
  - No installation required; accessible via web browser
- **Scalability**:
  - Can be extended with login, data storage, and download features

RESULT

- The implementation of the AI-powered study planner system yielded the following outcomes:
- **Personalized Study Plans Generated Successfully**
  Users were able to create customized study schedules based on their selected topic, study duration, difficulty level, and timeline.
- **Improved Time Management**
  Students reported better organization of their daily study hours, reducing procrastination and confusion about what to study.
- **Enhanced Learning Efficiency**
  Structuring tasks based on difficulty (e.g., beginner vs. advanced) helped users engage in progressively challenging study activities.
- **User-Friendly Interface**
  The clean and intuitive UI developed with Streamlit allowed even non-technical users to navigate the tool with ease.
- **Flexible and Repeatable Process**
  The dynamic logic enabled users to regenerate plans for different subjects or exams without restarting the system.

CONCLUSION

This project presents a web-based AI study planner designed to help students create personalized and structured study schedules. By taking inputs such as topic, available study hours, difficulty level, and duration, the system generates a daily plan with appropriate tasks. Built using Python and Streamlit, the tool enhances time management, promotes effective learning, and offers an intuitive user experience—all aimed at supporting students in achieving their academic goals.

FUTURE SCOPE

- **User Authentication & Data Storage**
- Implement login functionality to allow users to save, edit, and track their study plans over time.
- **Progress Tracking & Notifications**
- Integrate progress tracking, reminders, and motivational alerts to keep students engaged and consistent.

REFERENCES

List and cite relevant sources, research papers, and articles that were instrumental in developing the proposed solution. This could include academic papers on bike demand prediction, machine learning algorithms, and best practices in data preprocessing and model evaluation.

GitHub Link: https://github.com/mounikamoskur/AI-Study-Planner

Thank you