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Marwadi Chandarana Group





Major Project – II (01CE0807)  
Review 1 (13/01/2024)

**Learn Sync – Your Learning Companion**  
Team ID: MU\_CE\_2023-24\_126

Team Member 1: Aum Pitroda (92000103148) (TC3)

Team Member 2: Ravi Ajagiya (92000103139) (TC2)

Team Member 3: Kishan Songara (92000103090) (TC2)

Guided By

Internal Guide Name: Prof. Santushti Bergeri

Department of Computer Engineering, Faculty of Technology

## **Introduction to Project and Project Management**

- Project Summary
- Motivation
- Objective
- Scope
- Technology & Literature Review
- Project Planning
- Gantt Chart
- Roles & Responsibilities

## **System Analysis**

- Study of Current System
- Features of LearnSync
- Components of LearnSync

## **System Design**

- System Design & Methodology
- Database Design
- User Flow Diagram
- Conclusion
- References

Our Team's Moto :

*Be Precise, on time, just meaningful!*



## **LearnSync:** Revolutionizing learning with

- ✓ **Advanced Techniques**
- ✓ **Gamified Journeys**
- ✓ **All-in-one hub**
- ✓ **Connected Community**  
for excellence...



In the exam's embrace, challenges dance, testing resilience's elegant stance.

Vast  
Syllabus

Motivation  
Hurdles



Time-Bound  
Revision

# Objectives of LearnSync



- ✓ **Fully Functional Web App:** Deliver LearnSync, a feature-rich web app, ensuring all aspects function flawlessly and pass rigorous testing.
- ✓ **Scalable Database Infrastructure:** Optimize MongoDB for efficient performance, handling user data, tasks, groups, and activities with scalability in mind.
- ✓ **User-Friendly Interface:** Design an intuitive interface with smooth navigation, ensuring a satisfying and engaging user experience.
- ✓ **Integration with External APIs:** Seamlessly integrate LearnSync with external APIs like Google Calendar & Email, enhancing connectivity and overall functionality.
- ✓ **Comprehensive Documentation:** Provide detailed codebase documentation and user training materials, empowering users to efficiently utilize LearnSync's benefits.





- ✓ **Optimize Learning Schedules:** Efficiently plan studies with Spaced Repetition, Task, and Time Schedulers.
- ✓ **Enhance Focus with Pomodoro Timer:** Boost productivity using Pomodoro Timer for focused study intervals.
- ✓ **Motivate Through Streaks:** Instill motivation with Task Streaks, fostering a consistent learning rhythm.
- ✓ **Build Collaborative Communities:** Foster connections through Friend's Activity Panel, Group Streaks, and Leaderboards.
- ✓ **Organize Information with Flash Cards:** Facilitate effective learning through Flash Cards, promoting information retention.





# Project Planning for LearnSync – Agile Methodology



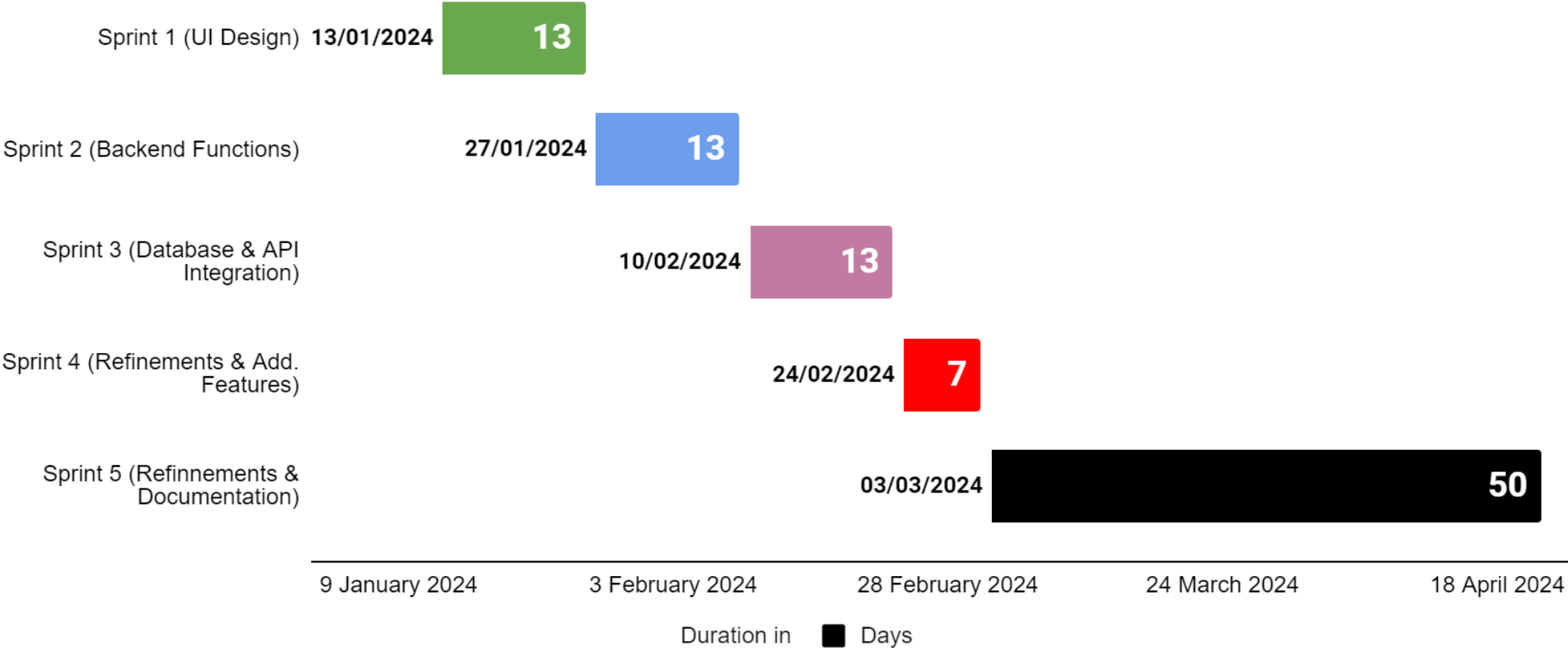
Agile Scrum is a flexible project management framework emphasizing collaboration, iterative progress in short sprints, and continuous improvement, providing adaptability for changing requirements and efficient team communication.

**Why Agile -> SCRUM?** Scrum is ideal for LearnSync's small team of three, ensuring clear roles, close collaboration, and efficient task distribution.

Sprint	Start Date	End Date	Goals/Tasks
Sprint 1	13/01/2024	26/01/2024	UI Design
Sprint 2	27/01/2024	09/02/2024	Backend Functions
Sprint 3	10/02/2024	23/02/2024	Database & API Integration
Sprint 4	24/02/2024	02/03/2024	Refinements on API's & Additional Features
Sprint 5	03/03/2024	26/04/2024	Refinements & Documentation



Gantt Chart for LearnSync



# Study of Current Systems their Major Problems & Weaknesses and Requirements of New System



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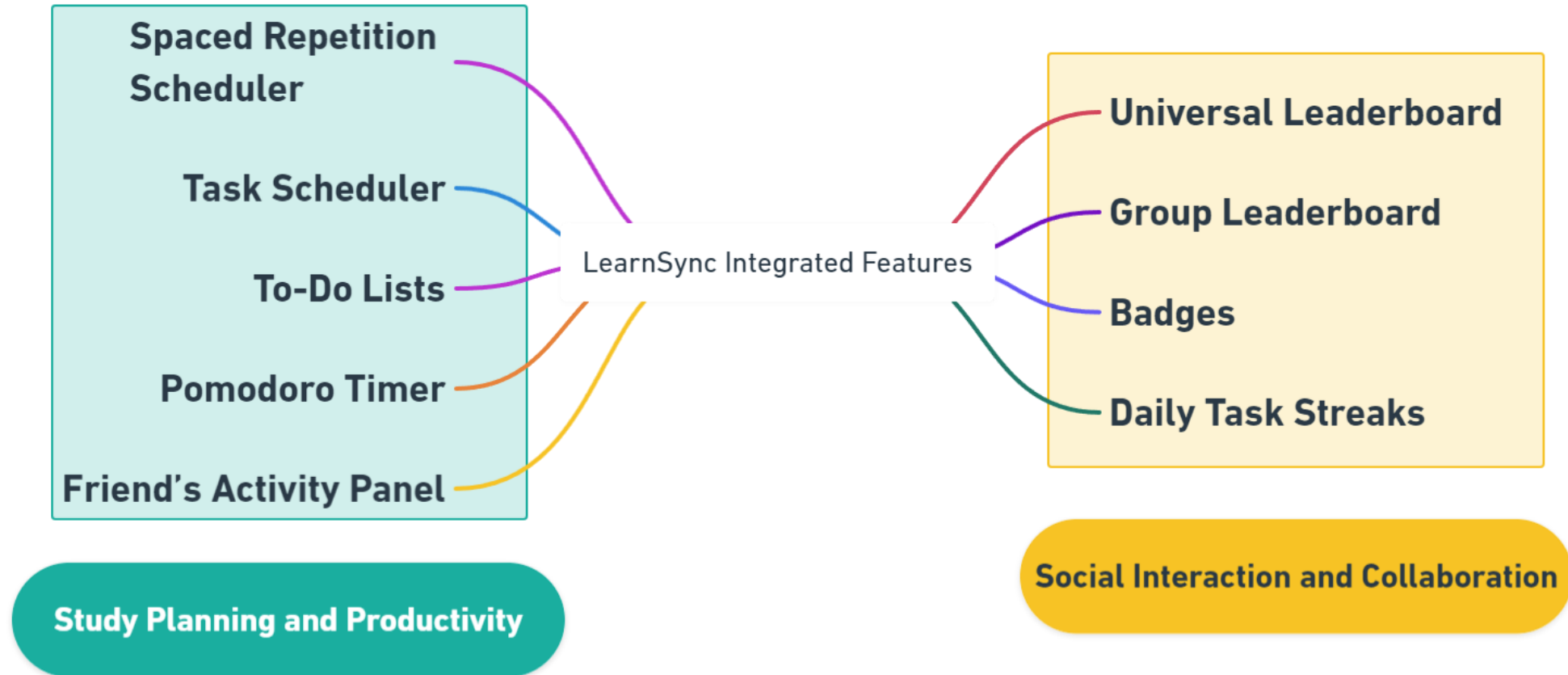


- **Fragmentation** hampers seamless learning, **requiring navigation** across **multiple scattered tools**.
  - ✓ **Unified Platform:** Integrate various tools into a cohesive, unified learning platform.
- **Gamification lacks immersion**, missing opportunities for a motivating learning experience.
  - ✓ **Immersive Gamification:** Implement engaging and motivating gamification for a truly immersive experience.
- **Overlooked techniques** like spaced repetition limit memory retention enhancement .
  - ✓ **Comprehensive Techniques:** Prioritize memory enhancement techniques in to design.
- Social platforms **lack the** warmth of a **real community for learning**.
  - ✓ **Vibrant Community Integration:** Foster a warm and vibrant community atmosphere for collaborative learning.
- Some tools suffer from **unfriendly user interfaces**, hindering the learning journey.
  - ✓ **Sleek User Interface:** Design a modern and user-friendly interface for a smooth learning journey.

# Features of LearnSync : Activities + Easy Integration with Native Tools



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# Components of LearnSync (Overview of Modules / Pages)



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Introduction & Support	User Interactions	Social Interaction	User Account
Home/Welcome Page	Dashboard	Friend's Activity Panel	Profile
Login/Registration		Domain Leaderboard	Integration
About Us	Modules Accessible on Dashboard	Group Leaderboard	Leaderboard
FAQs	I. Study Planning II. Spaced Repetition Scheduler III. Task Scheduler IV. To-Do Lists	Badges	Streaks and Challenges
Privacy Policy	V. Pomodoro Timer VI. Links to Other Pages	Daily Tasks Streaks	Settings
		Group + Task Streaks	Error Pages

# System Design for Web Based App : Tools Used



## API Integrations

**Google Calendar & Email API:** Seamless scheduling and reminders for enhanced study planning.

**Google OAuth API:** Secure user authentication, leveraging Google's trusted authentication system.

**MongoDB:** Efficient, scalable, and flexible NoSQL database for robust data management.

### Basic Technologies & Integrations Used:

## Technologies Used

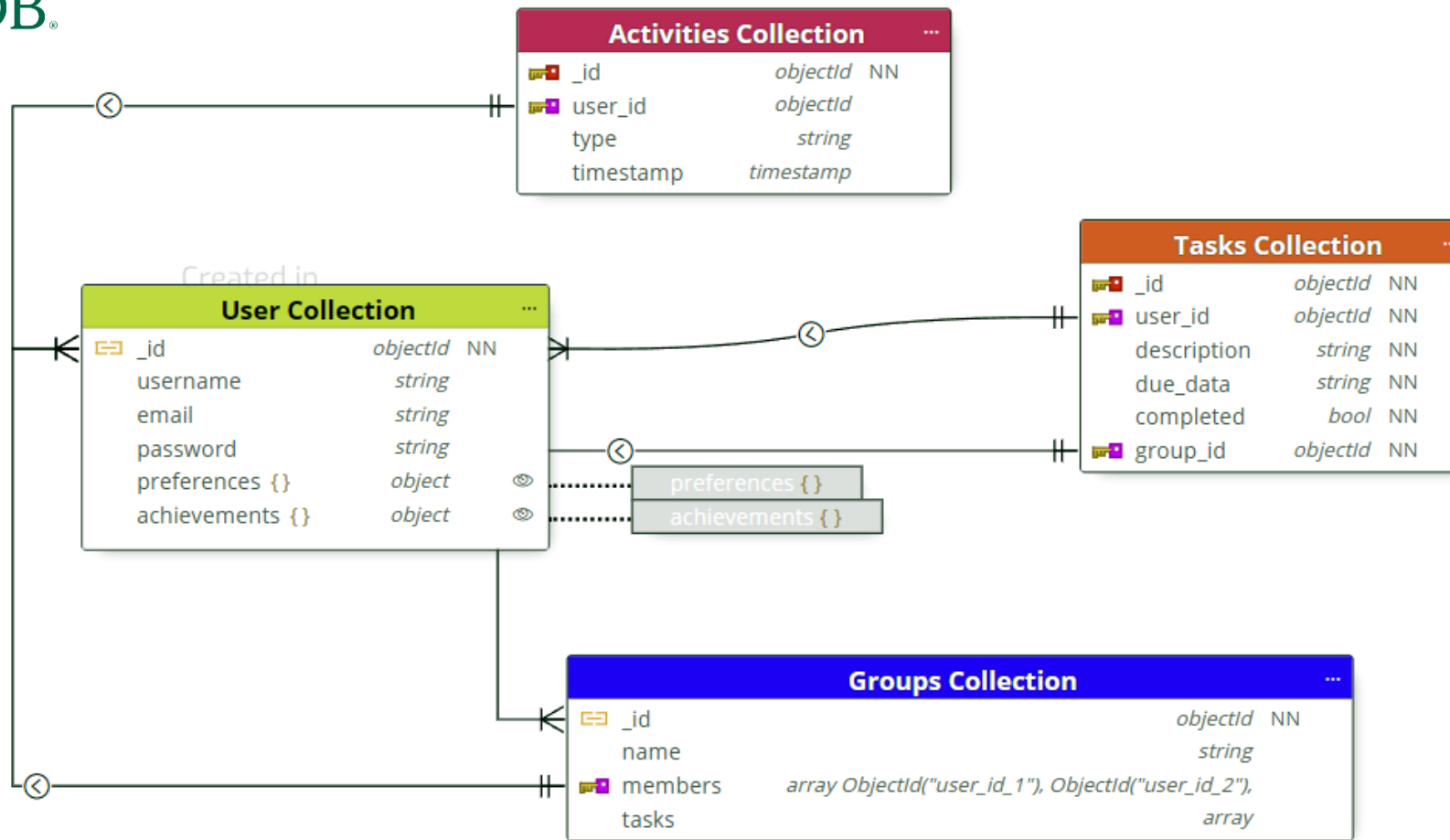
**Front-End: HTML, CSS, JS:** Modern, interactive, and responsive user interface for an engaging experience.

**Backend Framework: Flask, Python:** Python's simplicity and Flask's flexibility for efficient backend development.

**Database: MongoDB:** NoSQL advantage, offering scalability and adaptability for LearnSync's data.

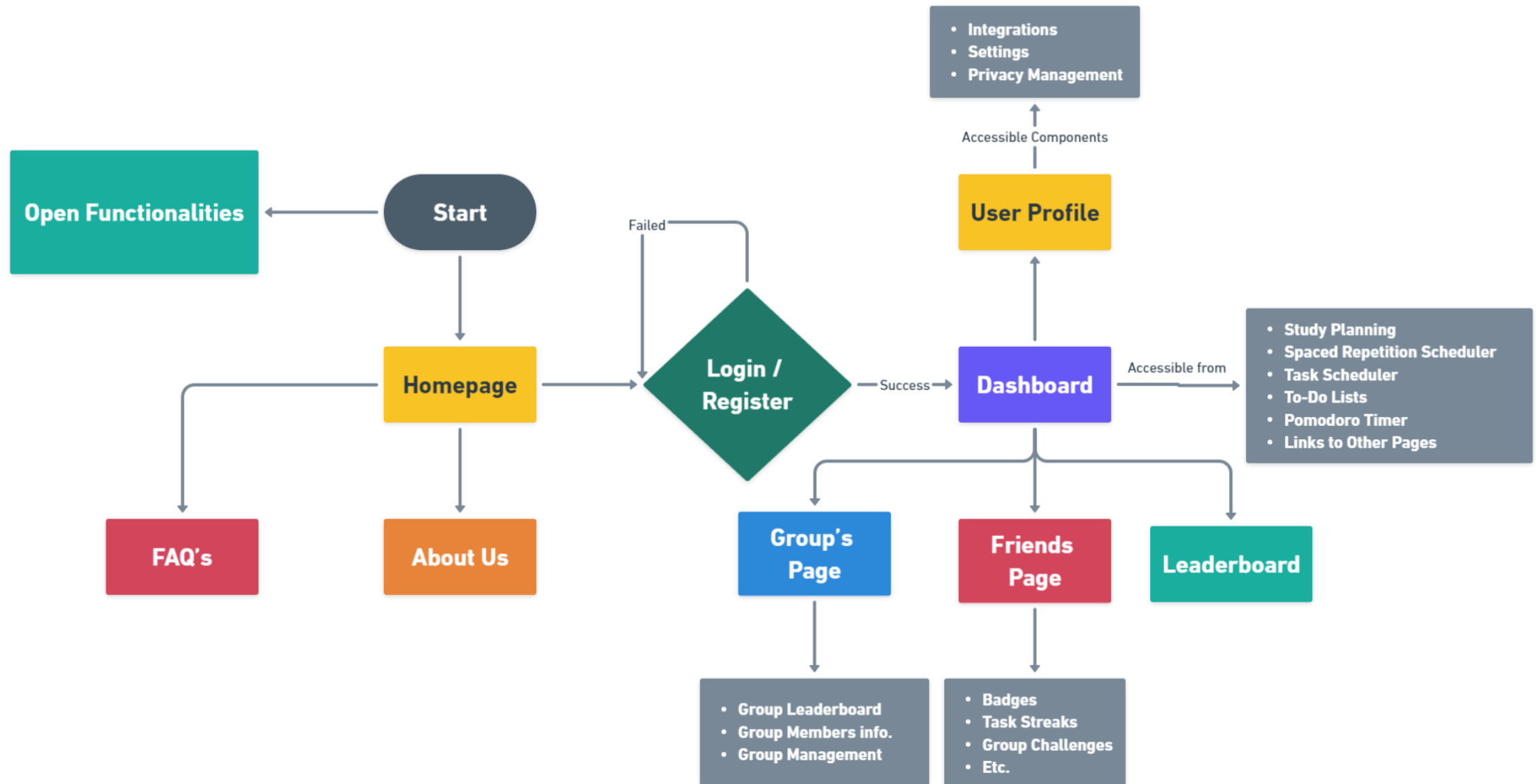
**User Authentication: Flask Login, Google OAuth V2.0: Secure user login,** combining Flask simplicity with Google's authentication reliability.

# No-SQL Database : MongoDB Design For LearnSync





# User Flow Diagram for LearnSync Basic



- In conclusion, the LearnSync project has made significant strides with the development of core functionalities. The next steps involve completing the Web UI, refining class and function models for Flask, rigorous testing for integration and utility, and culminating in a final sprint commit. These tasks align with our commitment to delivering a robust and user-centric learning platform, driving us towards a successful project completion.

**1. How to Study Effectively Article, Alexander Fowler et al.** National Library of Medicine–

[<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5673147/#>]

- ✓ Various Study techniques, their fieldwork, impact assessment of techniques on students of Med. School.

**2. UI Design and Specification**

[<https://m3.material.io/>]

- ✓ Guidelines for designing, accessibility, components of UI for an elegant look to App.

**3. Dopamine Nation: Finding Balance in the Age of Indulgence – Anna Lembke,** American Psychiatrist

- ✓ Learnt systematic application of techniques of learning to gain enhanced outcomes on users.

**4. Research on “Snapchat Streaks: How Adolescents Metagame Gamification in Social Media” by Europe PMC -** [<https://europepmc.org/article/ppr/ppr324038>]

- ✓ Learning about effects of Streaks on motivating students.

**5. Using Gamification in Education: A Systematic Literature Review,** Research Gate Article –

[[https://www.researchgate.net/publication/330093575\\_Using\\_Gamification\\_in\\_Education\\_A\\_Systematic\\_Literature\\_Review](https://www.researchgate.net/publication/330093575_Using_Gamification_in_Education_A_Systematic_Literature_Review)]

- ✓ Insights on impact of Gamification on aspirants/students scores and effects on learning quality of them.



**THANK YOU**

