StudyBuddy

Feasibility Report

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1 Introduction

The purpose of this report is to evaluate the feasibility of developing **StudyBuddy**, a web-based productivity and collaboration platform for students. The system aims to help users organize tasks, manage their agenda, take notes, and interact with peers through real-time chat and competitive ranking features.

2 Objectives

- Help students organize their study time effectively.
- Provide reminders and notifications for pending tasks.
- Enable real-time collaboration and communication between students.
- Introduce gamification to enhance motivation through points and leaderboards.

3 Tools & Technologies Required

- **Frontend:** React.js, HTML, CSS, JavaScript
- **Backend, Database & Authentication:** Firebase
- **Hosting:** Vercel or Firebase Hosting
- **Version Control:** GitHub

4 Technical Feasibility

The selected technologies are modern, lightweight, and suitable for academic-scale development. React provides component reusability and responsive UI, while Firebase simplifies backend integration, authentication, and real-time database synchronization.

Skills Assessment

- Web development fundamentals (HTML, CSS, JavaScript)
- Frontend framework experience (React.js)
- Backend API development
- Database design and management (Firebase)

Technical Challenges

- Real-time chat synchronization across multiple devices.
- Gamification point system and leaderboard logic.
- Calendar integration and conflict detection.
- Push notification system for reminders and tasks.

5 Economic Feasibility

Since all technologies used are free and open-source, and hosting platforms like Vercel and Firebase offer free tiers, the project's cost is minimal. The main investment is development time.

6 Operational Feasibility

StudyBuddy's UI will be clean and responsive, ensuring accessibility on both mobile and desktop. The system will rely on Firebase's scalability and authentication features for reliability and ease of use.

7 Schedule Feasibility

Development will proceed in the following phases:

1. Requirements gathering and feasibility analysis
2. UI/UX design and prototyping
3. Implementation (Frontend + Backend)
4. Integration and testing
5. Documentation and presentation

8 Conclusion

The feasibility analysis confirms that StudyBuddy is achievable using modern, free tools. It offers high educational value by integrating productivity, collaboration, and gamification into a single web platform. The next phase will be the formal definition of system requirements.