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Ideation Phase

Brainstorm & Idea Prioritization

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Date: 31 May 2025
Team ID: LTVIP2025TMID24661
Project Name: SmartTeach AI
Maximum Marks: 4 Marks

Brainstorm & Idea Prioritization Template:

Brainstorming provides a free and open environment that encourages everyone within a team to participate in the creative thinking process that leads to problem solving. Prioritizing volume over value, out-of-the-box ideas are welcome and built upon, and all participants are encouraged to collaborate, helping each other develop a rich amount of creative solutions.

Use this template in your own brainstorming sessions so your team can unleash their imagination and start shaping concepts even if you're not sitting in the same room.

Reference: https://www.mural.co/templates/brainstorm-and-idea-prioritization

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SmartTeach AI - Brainstorming Session

Project Title: SmartTeach AI

Team Information:

- **Team ID:** LTVIP2025TMID24661

- **Team Size:** 4 members

- **Team Leader:** Sk. Mohammad Hussain

- **Team Member-1:** Sd Naseer

- **Team Member-2:** Regula Dinesh

- **Team Member-3:** Seelam Santhosh

Step-1: Team Gathering, Collaboration and Select the Problem Statement

How might we build an AI-powered educational assistant that provides personalized learning support, including interactive tutoring, adaptive assessment, and intelligent content analysis using IBM WatsonX Foundation Models integrated with Streamlit?

Step-2: Brainstorm, Idea Listing and Grouping

AI-Powered Chat Assistant

1. Natural language query processing for academic questions

2. Context-aware responses based on uploaded study materials

3. Multi-subject support with specialized knowledge domains

4. Conversation history for learning continuity

Intelligent Assessment System

1. Dynamic quiz generation based on learning topics

2. Adaptive difficulty adjustment based on performance

3. Instant feedback with detailed explanations

4. Progress tracking and performance analytics

Content Processing & Analysis

1. PDF text extraction and analysis

2. OCR for handwritten notes and images

3. Study material summarization

4. Concept mapping and knowledge graphs

Personalized Learning Experience

1. Individual learning path recommendations

2. Weakness identification and targeted practice

3. Learning style adaptation

4. Spaced repetition for better retention

User Interface & Experience

1. Intuitive Streamlit-based dashboard

2. Mobile-responsive design

3. Dark/light mode toggle

4. Accessibility features for diverse learners

Advanced Features (Future Scope)

1. Voice-to-text interaction

2. Collaborative study rooms

3. Teacher dashboard for monitoring student progress

4. Integration with Learning Management Systems (LMS)

Step-3: Idea Prioritization

Idea	Feasibility	Impact	Priority
AI chat with natural language processing	High	High	⭐⭐⭐⭐
Dynamic quiz generation	High	High	⭐⭐⭐⭐
PDF and document processing	High	High	⭐⭐⭐⭐
Progress tracking dashboard	High	High	⭐⭐⭐⭐
Streamlit UI with seamless integration	High	High	⭐⭐⭐⭐
Adaptive difficulty adjustment	Medium	High	⭐⭐⭐
Context-aware responses	Medium	High	⭐⭐⭐
Learning path recommendations	Medium	High	⭐⭐⭐
Multi-subject knowledge domains	Medium	Medium	⭐⭐
OCR for handwritten content	Medium	Medium	⭐⭐
Collaborative features	Low	Medium	⭐⭐
Teacher dashboard	Low	High	⭐⭐

Final Prioritized Features for MVP (Minimum Viable Product):

Core Features

- AI-powered chat assistant with academic knowledge
- Dynamic quiz generation with multiple difficulty levels
- Document upload and processing (PDF, images)
- Progress tracking and analytics dashboard
- User authentication and session management

Enhanced Features

- Context-aware responses using uploaded materials
- Performance-based adaptive learning
- Multi-format content support
- Responsive web interface with Streamlit