Rungta College of Engineering & Technology. Bhilai
Department of Computer Science & Engineering

Project Synopsis

Semester: 7th

1. Project Title: AiBox-AI Saas Portal

2. Project Type: Software Development.

3. Project Overview/ Abstract: This project introduces an AI-powered creative and productivity platform that empowers users to generate and edit digital content while boosting efficiency in daily tasks. The platform enables users to create and modify images and videos (background removal, object addition/removal, enhancements), share their work in a community space, and utilize AI-driven tools like article/blog title generation.

Beyond creative tools, the system integrates advanced AI modules including a resume analyzer, behaviour & emotion analyzer (with stress and confidence scoring), forensic sketch generator, and meeting notes generator. A premium version offers unlimited access to all tools, ensuring scalability for diverse users.

Developed using the MERN stack, integrated with Machine Learning (ML) models and external APIs, the platform is designed to be scalable, interactive, and accessible across devices.

4. Problem Statement: In today's digital-first world, professionals, students, and creators often rely on multiple applications for content creation, productivity tasks, and AI-driven analysis. This fragmentation reduces efficiency and increases cost.

Traditional platforms either focus solely on creativity (image/video editing) or productivity (notes, analysers) but lack an all-in-one intelligent system. Users also face limitations in advanced AI tools without subscribing to multiple services.

This project aims to solve these challenges by building a unified AI-powered platform where users can generate, edit, analyse, and share digital content seamlessly.

5. Objective:

- Develop an AI-powered platform for image and video generation & editing.
- Provide smart utilities like resume analyzer, emotion & behaviour analysis, forensic sketch generator, and meeting notes automation.
- Integrate community features for collaboration and sharing.

- Support a premium model for unlimited tool access.
- Ensure scalability, security, and performance using MERN stack and ML.

6. Methodology:

- **Frontend (React.js):** Interactive UI for content creation, editing, and sharing.
- **Backend (Node.js + Express):** API handling, authentication, and premium feature access.
- **Database (MongoDB):** Stores user profiles, content, analytics, and premium subscriptions.
- **Machine Learning & AI:**
  - **Image/Video Processing:** OpenCV, TensorFlow.
  - **Emotion/Behaviour Analysis:** Sentiment analysis + facial emotion detection.
  - **Notes Generator:** Speech-to-text + summarization (Transformers).
- **API Integration:** For advanced ML services (OpenAI, Clip Drop, etc.).
- **Authentication & Security:** JWT, Clerk, role-based access (Free vs Premium).

7. Flow Chart/DFD/ER Diagram:

- ER Diagram:

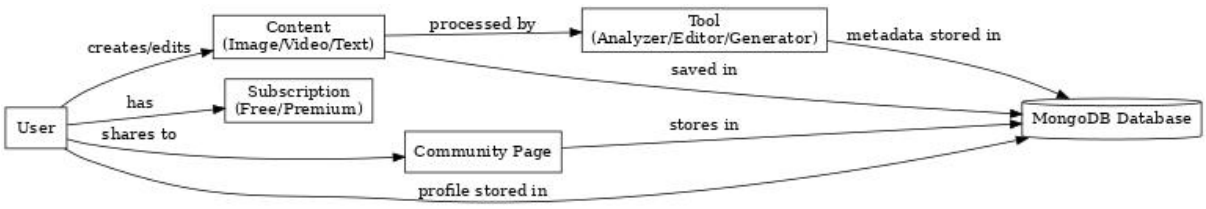

Fig1. ER Diagram

- Flowchart

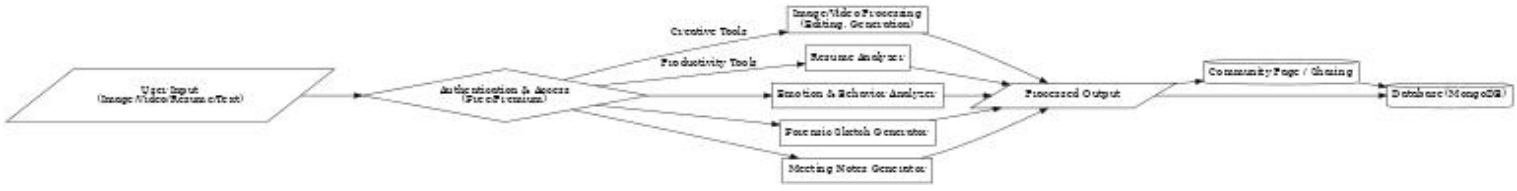

Fig2. Flowchart

8.Technical Details:

- Languages & Frameworks: React.js, Node.js, Express.js, MongoDB,Python
- AI/ML Libraries: TensorFlow, OpenCV, Transformers, scikit-learn
- APIs: OpenAI API, Clip-Drop, Speech-to-Text,Gemini
- Hosting & Deployment: AWS, Vercel
- Authentication: JWT, Clerk
- UX Features: Responsive UI, drag & drop editing, dark mode

9. Team Members:

SN	Name of Projectee	Enrollment	Univ. Roll No.	Email	Contact no.
1.	PRAKHAR GUPTA	CB8335	301302222043	welcomprakhar@gmail.com	8318001544

Signature of Project Guide:
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