



VIDYAVARDHINI'S COLLEGE OF
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Microsoft Learn Students Club

PRESENTS

COHERENCE 1.0

INNOVATE. CREATE. TRANSFORM.

23-24 MARCH

PROBLEM STATEMENT

WEB DEVELOPMENT

PROBLEM STATEMENT :

In the digital era, individuals and businesses encounter the formidable task of efficiently managing their presence across a multitude of social media platforms. Despite the availability of numerous tools and platforms, creating captivating content and outpacing competitors remain formidable challenges.

Your objective is to craft an inventive **Full Stack Social Media Dashboard** enriched with advanced analytics capabilities.

This dashboard should tackle the following key challenges:

- 1. Seamless Data Integration and Secure Access:** Seamlessly integrate with major social media platforms (e.g., Facebook, Twitter, Instagram, LinkedIn) to aggregate user data while ensuring robust authentication and access controls.
- 2. Advanced Analytics for Predictive Insights:** Employ sophisticated analytics algorithms to dissect historical data and forecast future content trends, audience engagement patterns, and optimal posting schedules. The predictive analytics component should empower users to proactively strategize their content creation efforts.
- 3. Personalized Content Recommendations:** Forge an analytics-driven content recommendation system that suggests tailored content ideas, formats, and hashtags based on individual user preferences, audience demographics, and competitor evaluations. The system should furnish actionable insights to enhance content resonance and engagement.
- 4. Competitor Analysis and Performance Comparison:** Harness analytics techniques to scrutinize competitors' social media profiles, content strategies, and audience engagement metrics. The dashboard should furnish comparative analyses and pinpoint areas for improvement grounded in competitor benchmarks.

5. Intuitive User Interface and Flexibility: Architect an intuitive user interface that enables users to personalize their dashboard layout, configure preferences, and monitor key performance metrics (KPIs). The dashboard should furnish real-time insights to facilitate data-driven decision-making.

BLOCKCHAIN

PROBLEM STATEMENT :

The prevailing financial infrastructure operates within centralized frameworks, where traditional financial institutions hold sway over the provision of financial services. Consequently, users are compelled to entrust their assets and personal information to these entities. Moreover, conventional financial systems often impose exorbitant fees and stringent regulations, thereby excluding many individuals from accessing essential financial services.

To mitigate these challenges, there is a need to construct a **Decentralized finance (DeFi) platform**. Such a platform would facilitate users' access to financial services like borrowing, lending, and trading in a decentralized and trustless manner. By eliminating intermediaries such as banks, a decentralized platform would empower users to engage directly with one another, fostering a more inclusive and accessible financial ecosystem, particularly for those currently marginalized by traditional financial systems.

However, the development of a DeFi platform presents several hurdles. Firstly, the platform must prioritize security, given its handling of sensitive financial data and transactions. Secondly, scalability is imperative to accommodate a burgeoning user base and transaction volume. Thirdly, the platform's interface must be intuitive and user-friendly to ensure seamless navigation and utilization of its features. Lastly, regulatory compliance, especially concerning anti-money laundering (AML) and know-your-customer (KYC) protocols, is essential to ensure adherence to pertinent regulations.

AI-ML

PROBLEM STATEMENT :

In today's digital age, businesses are increasingly reliant on technology to streamline their operations and enhance customer experiences. One critical aspect of this is the integration of advanced AI technologies to optimize customer support, particularly in IT Helpdesk and Support Services. However, existing solutions often fall short in delivering seamless and natural interactions between customers and virtual assistants. Currently, creating a natural voice for AI interactions requires complex integration of Speech-to-Text (STT), LLM, and Text-to-Speech (TTS) technologies. This often leads to slow response times and unnatural interactions that frustrate customers.

Your mission is to build an intelligent **CVA (Customer Virtual Assistant)** that overcomes these limitations by:

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- **Natural Language Understanding (NLU):** Accurately convert user audio input (via STT) into text and leverage the LLM to comprehend the user's intent, issue and to accurately interpret customer queries and extract relevant information, including the full name of the caller, the nature of the issue (new or existing), contact information, address with pin code, details of the problem, and preferred date and time for technician visits. (Refer sample conversation transcript below)
- **Human-like Interaction:** Implement Large Language Models to generate responses that mimic human conversation, including appropriate tone, language style, and emotional expression. The virtual assistant should engage customers in meaningful dialogue and provide assistance in resolving their issues effectively.

Multilingual Support (Bonus): Enable the virtual assistant to understand and respond to queries in both English and Hindi languages. Participants will earn bonus points for implementing multilingual capabilities, enhancing the accessibility and usability of the solution.