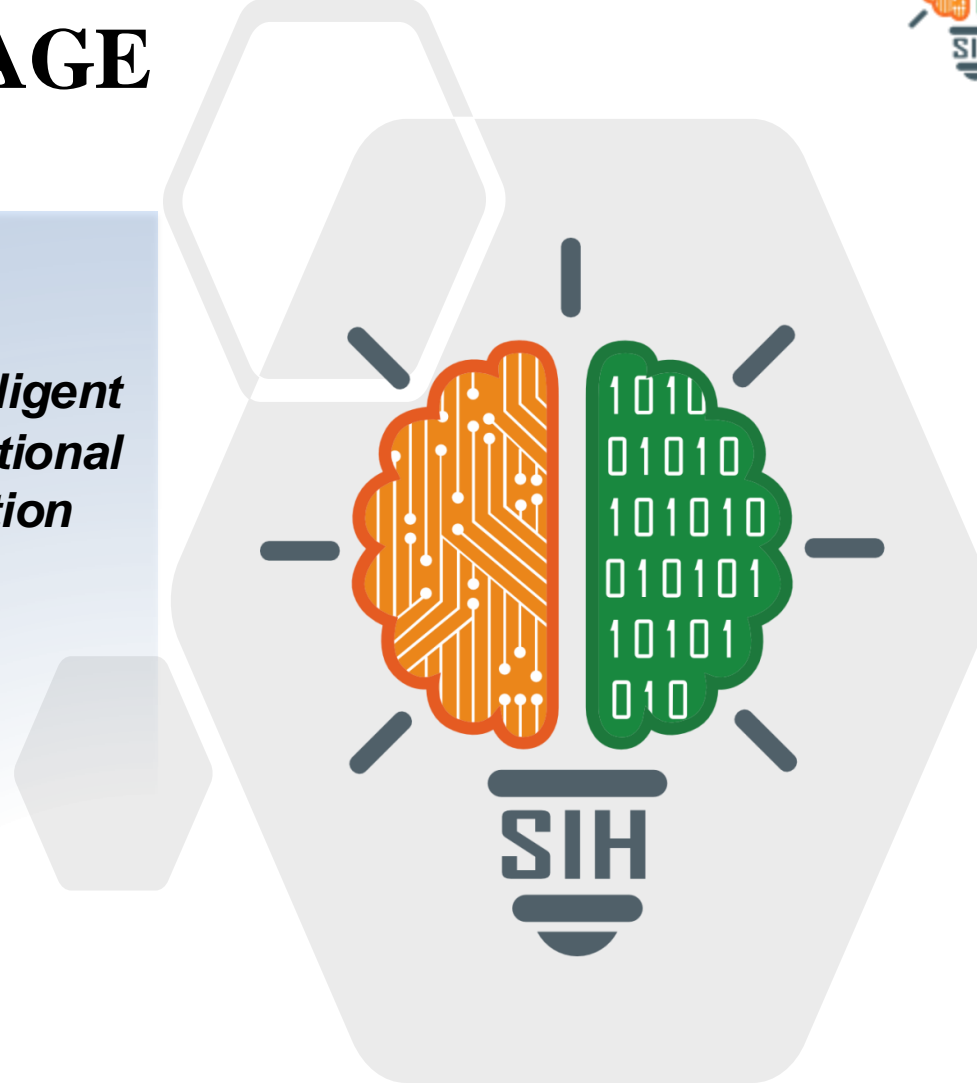


SMART INDIA HACKATHON 2024

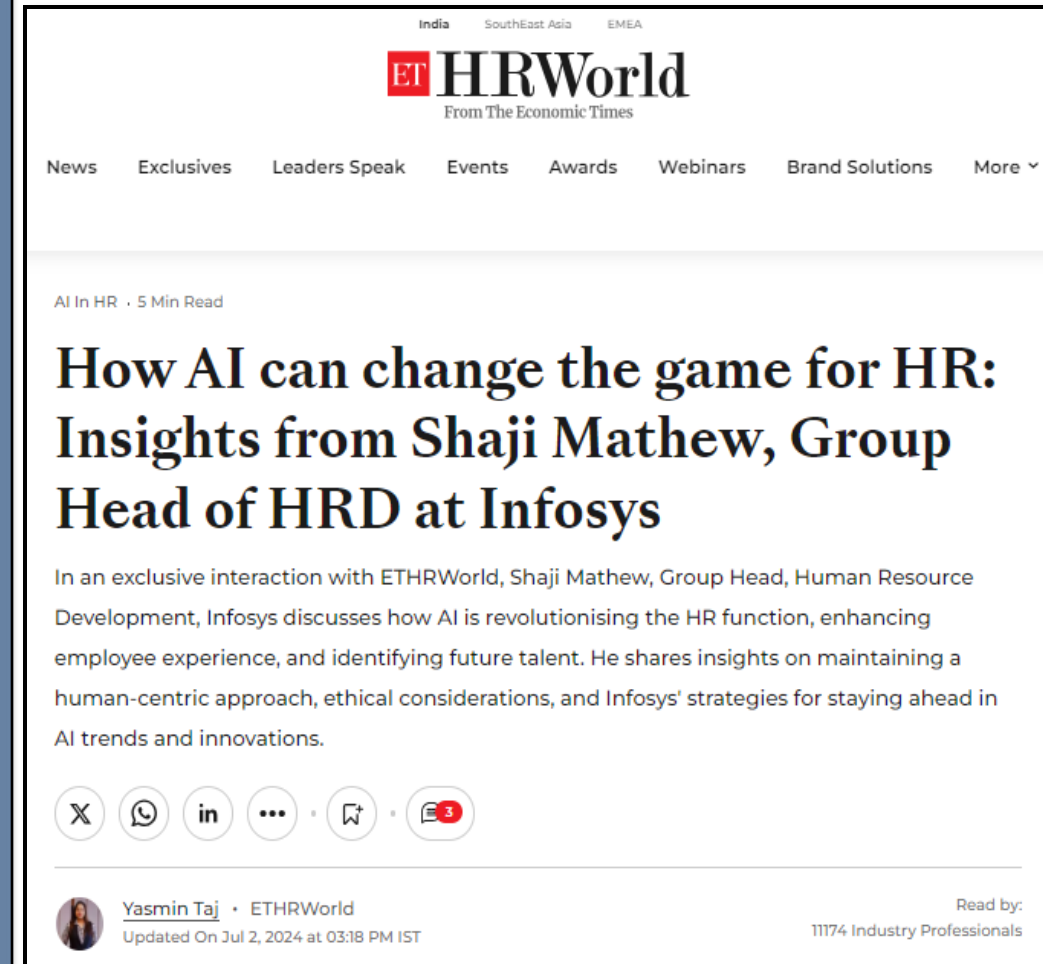
TITLE PAGE



- Problem Statement ID – 1706
- Problem Statement Title - *Intelligent Enterprise Assistant: Enhancing Organizational Efficiency through AI-driven Chatbot Integration*
- Theme - *Miscellaneous*
- PS Category - *Software*
- Team ID – SIH24SW056
- Team Name - *CLETOCITE*



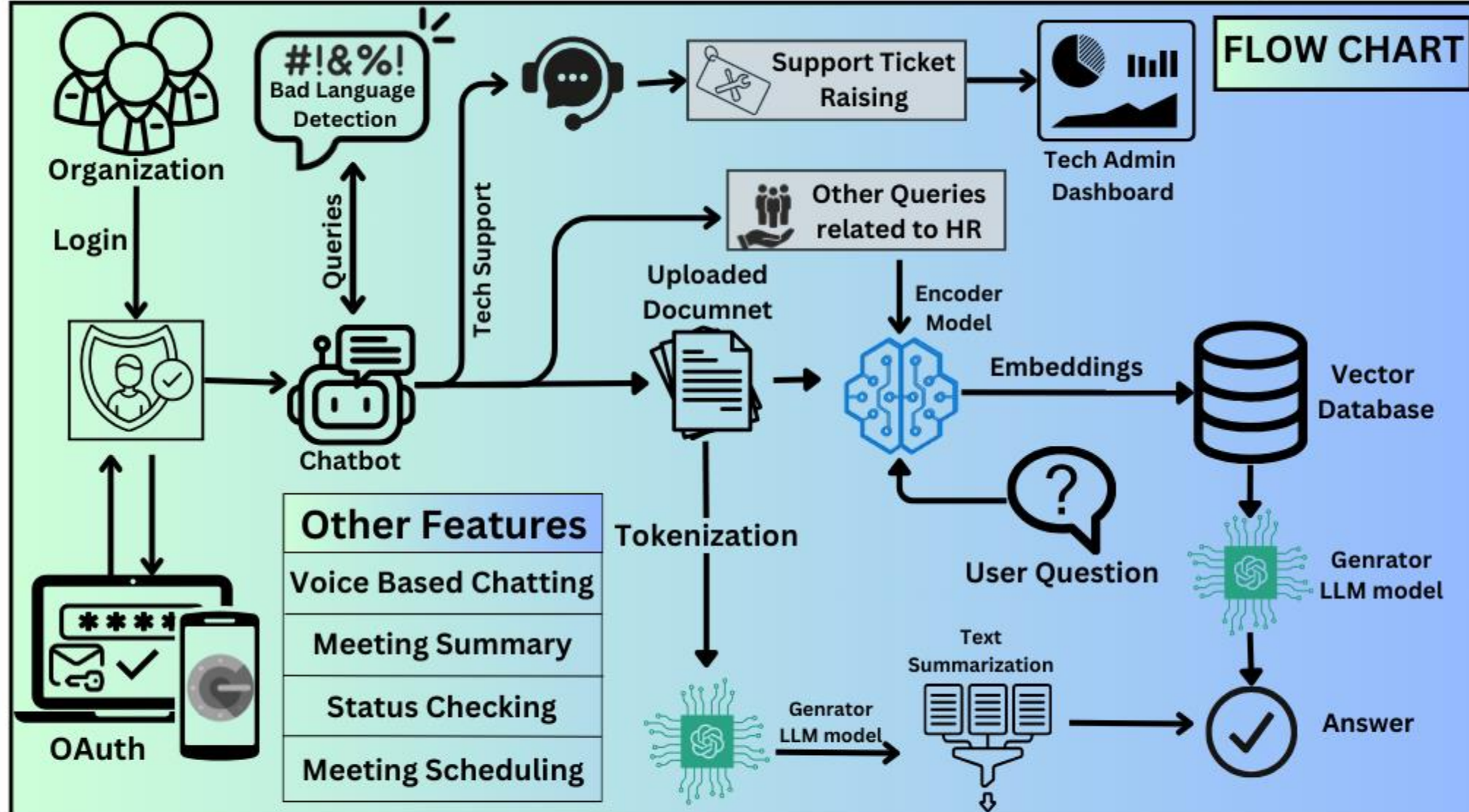
- Implement Two-Factor Authentication (2FA) to enhance **account security**. Additionally, make sure to filter out **inappropriate language** to maintain a respectful and safe online environment.
- Expand the chatbot to handle **voice interactions**, **images**, and **documents**, and provide visual outputs like **charts**.
- Use machine learning to tailor the chatbot's **personality**, **language**, and **responses** to **individual** employees.
- Integrate the chatbot with other enterprise systems like **HR information** systems, **IT ticketing** systems, and **learning** management systems.
- Employ predictive analytics to proactively suggest **HR policies**, **IT solutions**, and **upcoming events**
- Develop robust document processing capabilities that can extract **structured data** from documents, handle **scanned documents**, and provide tailored **summaries**.



TECHNICAL STACK



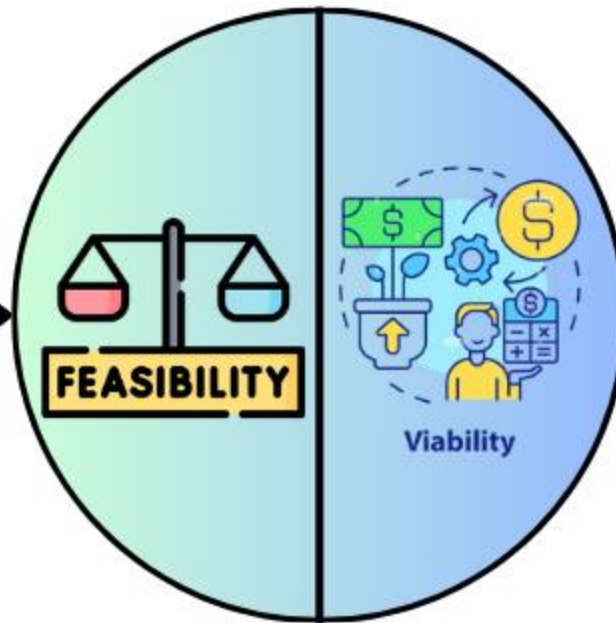
FLOW CHART



Technological Feasibility: Mature multimodal interactions, machine learning, and system integration technologies ensure project viability

Economic Feasibility: Initial costs are offset by long-term savings through task automation, increased productivity, and reduced errors.

Operational Feasibility: Seamless integration with existing systems and manageable maintenance ensure smooth operations.



Scalability: SaaS model supports easy expansion for growing user bases without major infrastructure costs.

Instant Access: Provides 24/7 access to information eliminates the need for employees to wait for specific hours or appointments.

Rapid Deployment: SaaS solutions enable quick deployment and faster realization of chatbot value.

IMPACT



Cultural Impact: Adding a chatbot could influence how employees engage with one another and the firm, thereby impacting the work culture.

Productivity Boost: The chatbot improves efficiency and productivity by automating processes and minimizing the need for humans to intervene.

Cost Efficiency: By automating operations and offering self-service, the chatbot reduces support costs for the business.



BENEFITS

Competitive Advantage: Technology may boost employee satisfaction and productivity, providing the organization a market edge.

Data Insights: Chatbot data on employee requests can be studied to detect trends and enhance organizational operations.

Resource Optimization: The chatbot can automate tasks such as answering FAQs, processing documents, and scheduling appointments, freeing up human resources.

CLETOCITE



Username

Role



AI Chat bot



Team Space



Documents

Research



Search



1. Latency Reduction:

- **Model Selection:** LaMini T5, a small-sized quantized model, is being chosen for its low latency.
- **Architectural Optimization:** Microservices and asynchronous APIs are to be used to further reduce response times.

2. Bad Language Filtering:

- **Advanced Filtering Techniques:** specific filtering techniques here, such as regular expressions, machine learning models, or third-party libraries will be used to identify and filter inappropriate content.

3. Parallel User Handling:

- **Task Queues:** A Redis cache will be used to manage incoming requests asynchronously.
- **Asynchronous APIs:** Non-blocking operations will be implemented to handle multiple requests concurrently.
- **Scalability:** Docker containers will provide flexibility and scalability to handle increasing workloads.

4. RPA-Capable Virtual Agent:

- **Enhanced Productivity:** A virtual agent capable of Robotic Process Automation (RPA) will be developed to automate repetitive tasks, freeing up employees to focus on more strategic work.
- **Improved Efficiency:** By automating routine tasks, the virtual agent can streamline workflows and reduce errors.

References

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