



Thapovan
Info Systems Inc.
Intense Pursuit of Knowledge

**Your Dedicated IT Solution Partner in
US ✦ India ✦ Europe ✦ Middle-East**

**AI-ENABLED
EXECUTIVE DASHBOARD**

Case Study



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About Client

- The client is an innovative multimedia social networking company that successfully blends social networking with the media to enable their users to communicate with millions of users across the world, exchange views, listen to commercially hosted shows, play games and make friends.
- The client has one of the largest voice and video chat communities in use on the Internet today and the portal provides various functions to support the above activities.

Objective

- The client's goal is to automate the weekly reporting process for tracking various business KPI's and identify patterns and trends using AI.
- These insights are crucial for decision-making, identifying growth areas, and detecting anomalies.
- The task is to create an intelligent executive dashboard that enables executives to get up to date insights interactively.

Challenges

- The manual process of compiling these reports is labour-intensive, making it difficult to maintain consistency in identifying trends.
- The client must rely on intuition or simple analytics rather than leveraging advanced tools for more comprehensive insights, such as understanding why there are drops in certain periods.
- The executives rely on the development/analyst team and the marketing team for specific events and subscriptions during a particular period.
- The existing manual process limits scalability of handling additional metrics and would require significant time and effort.
- Having N number of sheets with patterns for the reports could make it harder to draw clear conclusions.



Our Solution



- **Data Integration and Automation:** Automate the data collection process by integrating all data sources into a unified system. This ensures that KPI reports are generated automatically without manual intervention, providing real-time access to critical metrics.
- **AI-Powered Insights:** Leverage LLM models to identify trends, patterns, and anomalies in the data. This enables the system to generate deeper insights, highlighting the reasons behind KPI changes.
- **Enhanced Visualization:** Design intuitive, and interactive UI with visual cues (charts, graphs, and heat maps). Decision-makers can easily explore and interpret complex data to derive actionable insights, making the information more accessible just by asking questions to the system.
- **Conversational Agent:** The Model has the details you need, and you can follow up on the reports and get detailed breakdowns of the insights on the fly.
- **Scalability and Flexibility:** Build a scalable solution that can handle increasing volumes of data and adapt to future business needs. The application can be extended to track additional metrics or accommodate new reporting requirements as the business grows.
- **Centralized and Simplified Reporting:** Consolidate all reporting within an interactive page, which can be exported into the format you need (PDF, Excel etc.,). This eliminates the need for multiple spreadsheets, ensuring clarity and reducing confusion for new users while providing easy access to historical and comparative data.

Technology Environment:



Thapovan was responsible for identifying and implementing the most appropriate technology for the various applications in order to meet the performance, cost and usability objectives set by the client.

Major Technology Components:

Language: Python (3.x)

Models: Open AI 4o mini, Open AI 4o, llama 3.1, and Open AI 4 (Based on requirement)



Webserver: Nginix

Database: Postgres

Caching Technology: Redis

Frameworks: Fast API, Langchain

Benefits



- **Efficiency Gains:** Weekly reports that once took more than at least an hour can now be generated on the fly, saving the client's time and labor.
- **Enhanced Decision-Making:** The AI models provide deeper, data-driven insights into the causes behind key trends, allowing the client to make better, faster decisions.
- **Scalability:** The system can easily be expanded to accommodate new data sources or metrics as the client's needs evolve.
- **Accuracy:** Reducing human error, AI ensures consistent results, improving accuracy in reporting and analysis.