**Introduction:**

My name is **Akanksh G Prabhu**, currently pursuing **Bachelors of Technology in Computer Science** at **Vellore Institute of Technology**, moving to my **final year the upcoming semester**. I had the opportunity to intern at Bosch Digital from 12th May to 4th July.

This internship was a significant step in my academic and professional journey, allowing me to work on cutting-edge AI technologies and understand the functioning of a global organization. It gave me a platform to apply my technical knowledge, learn from industry experts, and experience a corporate working environment.

**Initial Internship Expectations**

Before starting my internship, I had a mix of emotions — excitement, curiosity, and a bit of nervousness. I wasn’t entirely sure how a **corporate working environment** would function or what exactly would be expected of me. Coming from an academic background, I was unsure whether I could meet the demands of an unfamiliar, production-oriented software development setup.

I knew that companies like Bosch follow standards and practices that go beyond classroom knowledge involving tools, workflows, and real-world constraints that I hadn’t yet experienced. The idea of working on something that might actually be used in a real system was exciting, but also intimidating.

Despite this uncertainty, I was determined to **learn something new every single day**. My goal was to soak in whatever I could — from anyone and everyone I interacted with. I came in with the mindset to observe, adapt, ask questions, and grow continuously.

At the same time, I hoped to:

* Gain **practical exposure** to how AI and software engineering are applied in real-world industry use cases.
* Work on **live projects** involving modern technologies like AI agents and automation.
* Understand the **structure, workflow, and collaboration** practices followed in large-scale teams.
* Improve my technical skills in areas like **Python, APIs, databases**, and tool integration.
* Enhance my **professional communication**, time management, and reporting abilities.

In short, I looked at this internship as a unique opportunity to bridge the gap between academic learning and industry experience — and I was excited to make the most of it.

**Purpose and Impact of the Project**

The main purpose of the project was to **streamline the process of demand creation** for resource planning in projects. Traditionally, resource requests involved navigating complex tools like Planisware, manual data entry, and a steep learning curve for new users. This project aimed to **simplify and automate that process** by introducing an **agent-based conversational interface** that interacts directly with the Planisware database behind the scenes.

The impact of this approach is significant:

* It **reduces time and complexity** for project and delivery managers in raising demands.
* It **lowers the barrier to entry** for new users who are not familiar with enterprise tools like Planisware.
* It offers a **smart, conversational interface** that can understand user intent, ask clarifying questions, suggest skillsets, and validate inputs in real time.
* It enables **error prevention** through validation and feedback, reducing the risk of incorrect or incomplete entries.
* By **automating the backend update process**, it eliminates the need for manual database updates or navigating through multiple UI screens.

This lays the foundation for **intelligent resource suggestion in the second phase**, where AI agents will match demands to suitable internal talent — creating a truly AI-driven resource management solution.

**For Whom We Did This Project**

This project was developed for the **BDO department** within **Bosch Global Software Technologies Pvt. Ltd. (BGSW)**. While BDO is our internal customer in terms of software development ownership, the **actual users of the system are project and delivery managers** across different business units.

These managers are responsible for initiating project demands and allocating resources. The tool is designed to make their workflows simpler, faster, and more intelligent. By giving them a conversational AI interface, the project helps remove friction and enables them to focus more on planning and execution rather than navigating tools or filling out forms.

**Concept of the Project**

The concept of the project revolves around the integration of **Agentic AI**, using the emerging **AutoGen framework**, to create a **conversational demand creation assistant**. Instead of relying on static forms or complex enterprise tools, users interact with AI agents through natural language.

The system performs tasks such as:

* Taking project details and required resources as input from managers.
* Suggesting suitable **skillsets** for each project, based on historical and contextual data.
* Validating entries and providing **real-time feedback** to prevent errors.
* **Writing directly to the Planisware database** — bypassing manual workflows.

The use of the **AutoGen framework** allows the system to be modular, expandable, and ready for future enhancements. The conversational UI and intelligent backend setup together represent a shift toward **user-centric, AI-augmented enterprise tools**.

**Outcome of the Project**

By the end of my internship, the **core functionality** of the demand creation assistant was successfully developed. The system is capable of:

* **Identifying project/delivery managers** (via planned OneIDM integration) and retrieving relevant project details.
* Allowing users to **select a project** and receive **contextual skillset suggestions** based on that selection.
* Accepting all required inputs to **create a new demand** in a guided, conversational manner.
* Providing **explanations, validations, and assistance** throughout the process.
* Routing the demand data to the **update agent**, which will eventually write to Planisware once the write-API is received.

The system is modular and ready for upcoming integrations, such as **authentication (OneIDM)** and **Planisware write-back** functionality. The conversational interface has already demonstrated the potential to **simplify complex internal workflows** and offer a more **intuitive experience** for project and delivery managers.

**Customer Feedback**

The Minimum Viable Product (MVP) was well received by the internal customer, **Jagadeesh from BDO**, who appreciated the ease and clarity with which the system guided users through the demand creation process.

Jagadeesh also shared the MVP demo with **Atul**, a domain expert in GenAI within BDO, who responded positively and remarked that this is the **beginning of a new direction** for internal tools at Bosch. He emphasized the **innovation and future potential** of the approach, especially the use of Agentic AI and conversational interfaces to streamline operations.

The feedback reinforced that this project is not just a useful tool, but also a **strategic step forward**, introducing a **new paradigm** in enterprise applications at BGSW.

**Next Steps**

A few important next steps have been identified for completing and extending the project:

1. **Integrate OneIDM authentication** – to identify users securely and personalize the project selection experience.
2. **Develop and connect the Planisware update agent** – this will allow the system to write finalized demand data into the Planisware database, fully automating the workflow.
3. **Begin Phase 2** – once demand creation is complete, the next phase will involve AI agents **recommending suitable resources** based on the created demand.

These steps will move the solution closer to production-readiness, while also making it a **scalable template for similar applications** across other departments.

**Weekly Progress Summary**

**Week 1**

* Researched and gathered information on **MCP server setup** from various online sources.
* Installed necessary **prerequisite software components** required for the project environment.

**Week 2**

* Continued environment setup and completed installation of all required tools.
* Explored important Python libraries such as **asyncio**, **httpx/requests**, **langchain**, etc., which were useful for building async workflows and interacting with APIs.
* Started building a **basic session context management** logic to track user interactions.

**Weeks 3–4**

* Set up and explored the **AutoGen framework** and **AutoGen Studio**, which form the core of the project.
* Built a small **proof of concept (PoC)** to understand how to use AI agents for structured, contextual conversations.

**Weeks 5–6**

* Developed a **Minimum Viable Product (MVP)** that enables a delivery/project manager to:
  + Provide project input.
  + Receive **smart skill suggestions**.
  + Ask questions related to demand creation.
* Integrated the backend with **FastAPI**, making it ready to be **hosted and accessed** via APIs.

**Weeks 7–8**

* Integrated the system with **Redmesh Database** to:
  + Retrieve project details.
  + Access past demands for more relevant skill suggestions.
* Tuned the agent responses to improve accuracy and user experience.
* Performed basic **quality testing** and refinements to stabilize the interaction flow.