**Voice-Based Patient Call System**

**Project Statement:**

The project aims to develop a voice-based patient call system that allows patients to

communicate their needs to nurses in a natural and convenient manner. Through the use of

a friendly voice assistant powered by Azure OpenAI, the system will engage in interactive

dialogues with patients to understand and analyse their requests. The system will make use

of Autonomous AI Agents, which will take patient concerns and autonomously act upon

them based on predefined rules and priorities. These agents will work with Speech Services

(both Speech to Text and Text to Speech), combined with Natural Language Processing

(NLP), to improve the overall user experience.

The AI will then assign a priority level to each request and send it to nurses via a

smartphone app, providing a clear overview of requests with the room number and content.

This system improves patient care by facilitating seamless communication between patients

and nurses, allowing quicker responses to critical requests.

**Outcomes:**

**Autonomous AI Agents:** Use of AI agents to autonomously process and act upon

patient requests.

**Speech Services Integration:** Incorporation of Speech to Text and Text to Speech

functionality for smoother communication with patients.

**NLP-Powered Request Analysis:** Use of Azure OpenAI and NLP for analysing and

prioritizing patient requests based on urgency.

**Voice-Driven Communication System:** A seamless voice-driven interface for patients

to communicate requests to nurses.

**Nurse Mobile Application:** Real-time display of requests for nurses with room

number and content on a smartphone app.

**Improved Patient Care:** More efficient nurse-patient communication, leading to

quicker responses to high-priority requests.

**Modules to be Implemented:**

1. Voice Assistant and AI Agents Development

2. Speech Services and AI Request Prioritization

3. Nurse Mobile Application

4. Testing and Deployment