Assitech- Accessible Indoor Information and Navigation System with AI

What It Is

Navigating large indoor spaces like malls, airports, or office buildings can be overwhelming, especially for people with visual impairments. This is what the **AI-powered Indoor Information and Navigation System** (AinIS) aims to improve.

AinIS is an AI-powered innovative solution designed to make indoor navigation simpler, smarter, and more accessible for everyone by integrating advanced AI technologies.

The Problem It Solves

Traditional signs and maps often fail to address the diverse needs of all users, particularly those requiring additional accessibility features. AInIS tackles this problem by offering intelligent and user-friendly solutions that cater to various needs, ensuring personalized guidance and real-time information, and helping users find their way easily.

The Technology It Uses

- **AI & Machine Learning**

  Utilizes pre-trained large language models (LLMs) and a Retrieval-Augmented Generation (RAG) model trained on detailed, annotated digital maps to deliver precise wayfinding and information retrieval.
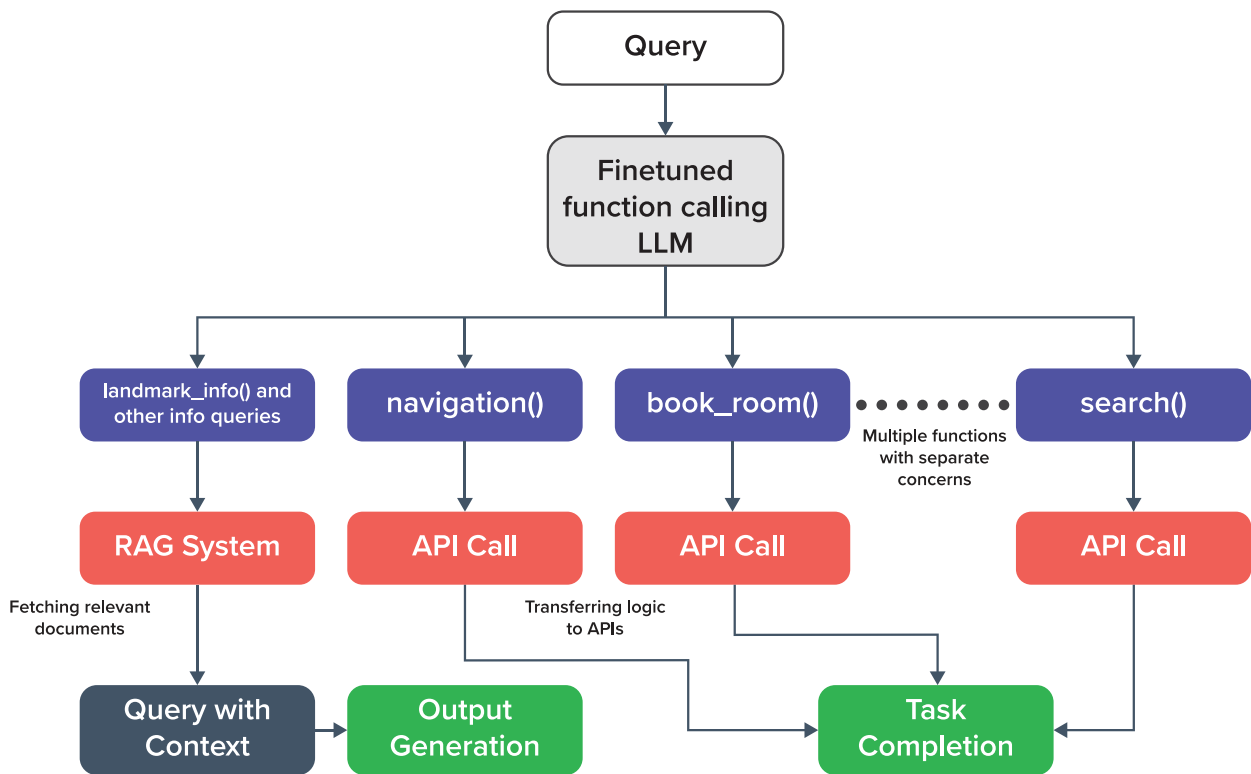
- **Accessibility Features**

  Incorporates text-to-speech navigation, TalkBack compatibility, and multi-platform interfaces for kiosks, mobile apps, and web applications.

- **Interactive Chatbot & Advanced Search**

  Supports personalized queries and landmark-based navigation to provide tailored responses.

- **Real-Time Optimization**

  Ensures updated, accurate routes through continuous AI-driven optimization.

Key Goals

- Enhance accessibility for individuals navigating complex indoor spaces.

- Provide seamless, voice- or text-based navigation across multiple platforms.

- Leverage AI for real-time, personalized wayfinding and information delivery.

Collaborators

This project is driven by R-Systems' Center of Excellence (Assistech Lab, School of Information Technology IIT Delhi) working alongside accessibility experts and AI specialists to ensure it meets the highest standards of inclusivity and usability.

With AInIS, we're reimagining indoor navigation—making it more intuitive, inclusive, and human-friendly.

THANK YOU!

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Contact Us

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