

HEY AUXI!!!: YOUR ALL-IN-ONE INTERACTIVE HOME COMPANION

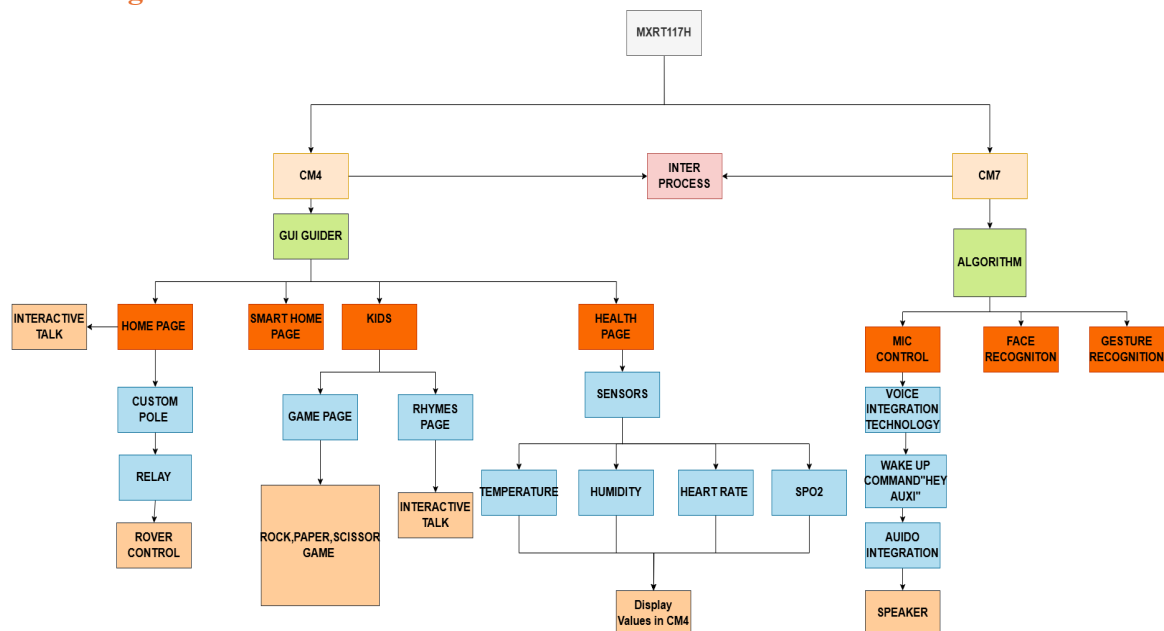
Project Name:

Hey Auxii!! Your All-in-One Interactive Home Companion

Project Objective/Aim:

To develop a **smart mobile assistant** that seamlessly integrates advanced technologies like **voice interaction**, **IoT capabilities**, **Gesture Recognition** into a single, versatile platform.

Block Diagram:



Project Details:

The "Hey Auxii" project utilizes the advanced **NXP EdgeReady Smart Human Machine Interface (SMHMI)*** solution powered by the **i.MX RT117H** crossover MCU. This platform is expertly designed to operate on the **FreeRTOS system**, supported by the robust **NXP software framework**, establishing a solid base for a highly responsive and **efficient smart home assistant**.

"Hey Auxii" talking about cleverly constructed **dual-core architecture** with **Cortex-M4** and **Cortex-M7** processors whose tasks are completely different but complementary, thus making the performance of the entire system much more enhanced in terms of ergonomics:

- **Cortex-M4:** Will concentrate on managing a complex **graphical user interface (GUI)**, as includes several major modules customized to deliver user-oriented experiences, making daily activities more functional:
- **Home Page & Smart Home Page:** These modules allow users to control smart devices through a clear **GUI or voice commands** greatly increasing accessibility and comfort for all.
- **Kids Page:** Probably a Games Page based on **Gesture Recognition** technology to provide an interactive experience for children, including a Rhymes Page with the enjoyment of rhyme for kids.

- **Health Page:** Monitors vital health parameters like **temperature, humidity, heart rate, and SpO2 levels**. Interactively charts this data on a vivid GUI. This allows the entire family to live a continuous health watch.

- **Cortex-M7:** This benefits really relegated towards advanced algorithmic processing for **recognition technologies and voice control**, which are very important in developing the interactivity and responsiveness of the environment:

- **Advanced Recognition:** The best of face and gesture recognition come together for a user to really become intuitive to their actions: from using their identity to **recognizing gestures** for **playing games or manipulating a smart home rover**

. - **Voice Integration Technology (VIT):** Includes a very sensitive wake-up command ("Hey Auxi") and integrates advanced audio outputs that allow omnipresent voice interaction in the house.

Algorithms implemented:

1. Face Recognition:

- Hey Auxi uses **Face Recognition** so that the board detects the face and it allows the user to interact with the bot

2. Gesture Recognition:

- It uses the gesture recognition for the movement of the rover and also to play games in the kids mode.

3. Voice Recognition:

- Voice recognition is used so that when the board recognises the wake word it will allow the user to interact with bot and listen to the commands and respond accordingly.

Team members:

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