Sniix

Link for Drive : [Google Drive Link](https://drive.google.com/drive/folders/1D5jyTt5P7SxVSfOrhwHWdgR4AGjYivHS?usp=sharing)

Link for GitHub : [Github Link](https://github.com/sujalwarke28/Sniix_Buildathon)

**Table of Contents**

1. **Introduction**
   * Overview of the Product
   * Core Objectives
2. **Features and Capabilities**
   * Key Functionalities
   * Personal AI Assistant Capabilities
3. **Technical Specifications**
   * Hardware Overview
   * Software Details
4. **Setup and Installation**
   * Step-by-Step Guide
   * Connectivity Options
5. **User Interface and Controls**
   * Interaction Methods
   * Voice and Touch Control
6. **FAQs and Troubleshooting**
   * Common Issues and Fixes
   * Support Information
7. **Future Enhancements**
8. **Conclusion**

**1. Introduction**

**Overview of the Product**

The Audible Device with Inbuilt Personal AI Assistant is a cutting-edge, voice-activated audio device designed to revolutionize how you interact with technology in your daily life. It combines premium sound quality with an intelligent personal assistant to deliver a seamless user experience. Whether you're listening to music, managing tasks, or controlling smart home devices, this product is your ultimate companion.

**Core Objectives**

* **Convenience:** Simplify daily tasks with hands-free voice commands.
* **Accessibility:** Provide seamless interaction through advanced voice recognition and AI.
* **High-Quality Audio:** Deliver exceptional sound performance for music, podcasts, and calls.
* **Smart Integration:** Serve as a hub for your smart home ecosystem.

**2. Features and Capabilities**

**Key Functionalities**

* **AI-Powered Personal Assistant:**
  + Handles voice queries, sets reminders, and provides real-time information.
  + Learns user preferences over time for a personalized experience.
* **Audible Excellence:**
  + Delivers high-fidelity audio with deep bass and crystal-clear highs.
  + Adaptive equalizer adjusts audio output based on the environment.
* **Smart Home Integration:**
  + Compatible with popular smart home platforms like Google Home, Alexa, and Apple HomeKit.
  + Allows control of smart devices via voice commands.
* **Multi-Device Pairing:**
  + Seamlessly connects to smartphones, laptops, and other devices using Bluetooth and Wi-Fi.
  + Supports multi-room audio playback.

**Personal AI Assistant Capabilities**

* **Conversational AI:**
  + Natural language understanding and context-aware responses.
* **Task Management:**
  + Create and manage to-do lists, schedules, and alarms.
* **Entertainment Hub:**
  + Stream music, podcasts, audiobooks, and radio.
* **Custom Voice Profiles:**
  + Recognizes individual voices and tailors responses accordingly.

**3. Technical Specifications**

**Hardware Overview**

* **Microphones:** Far-field microphone array for accurate voice recognition.
* **Speakers:** Dual high-fidelity drivers with a bass reflex system.
* **Processor:** Qualcomm Snapdragon QCS400 for advanced AI and audio processing.
* **Connectivity:** Wi-Fi 6, Bluetooth 5.2, and optional Zigbee/Thread support.
* **Power Supply:** USB-C charging with a rechargeable 5000mAh battery for portability.

**Software Details**

* **Operating System:** Runs on a lightweight RTOS with AI optimization.
* **AI Framework:** Powered by TensorFlow Lite and Edge Impulse for on-device processing.
* **Security:** End-to-end encryption for all voice and data interactions.

**4. Setup and Installation**

**Step-by-Step Guide**

1. **Unbox the Device:**
   * Ensure all components, including the device, charger, and user manual, are present.
2. **Power On:**
   * Connect the device to a power source using the provided USB-C cable.
3. **Connect to Wi-Fi:**
   * Follow the on-screen or voice-guided instructions to connect to your home network.
4. **Pair with the Mobile App:**
   * Download the companion app from the App Store or Google Play.
   * Use the app to customize settings and preferences.
5. **Enable Voice Recognition:**
   * Set up voice profiles for personalized responses.

**Connectivity Options**

* Wi-Fi setup for cloud-based features and updates.
* Bluetooth pairing for audio streaming and hands-free calls.
* Integration with smart home devices via Zigbee, Thread, or compatible APIs.

**5. User Interface and Controls**

**Interaction Methods**

* **Voice Commands:**
  + Activate by saying the wake word (e.g., "Hey [AI Name]").
  + Supports natural language queries like "What's the weather today?" or "Play my favorite playlist."
* **Touch Controls:**
  + Touch-sensitive surface for adjusting volume, play/pause, and skipping tracks.

**Voice and Touch Control**

* **Customizable Wake Word:**
  + Change the wake word via the companion app.
* **LED Indicators:**
  + Visual feedback for device status, volume levels, and active listening.

**6. FAQs and Troubleshooting**

**Common Issues and Fixes**

1. **Issue:** Device not responding to wake word.
   * **Fix:** Ensure the microphone array is not obstructed and check power status.
2. **Issue:** Poor audio quality.
   * **Fix:** Adjust equalizer settings in the app or reposition the device.
3. **Issue:** Difficulty connecting to Wi-Fi.
   * **Fix:** Restart the device and ensure your router is compatible with Wi-Fi 6.

**Support Information**

* Visit [support.website.com] for more FAQs, user manuals, and live chat assistance.
* Contact our support team via email at support@[email.com] or call [phone number].

**7. Future Enhancements**

* **AI Updates:**
  + Regular firmware updates to improve AI capabilities and add new features.
* **Third-Party Integrations:**
  + Expanding compatibility with more smart home platforms and services.
* **Hardware Upgrades:**
  + Future models with enhanced battery life and additional sensor capabilities.

**8. Conclusion**

The Audible Device with Inbuilt Personal AI Assistant is designed to enrich your daily life by combining exceptional audio performance with advanced AI functionalities. Whether you're relaxing at home or managing your tasks, it is a versatile and intelligent companion that adapts to your needs. Explore the future of smart living with this innovative device.