

# Kyle Agent Development Tracking Document

## Project Overview

This document tracks the development progress of Kyle, an AI-powered personal assistant with:

- Screen analysis
- Audio recognition (for guitar notes and conversations)
- Long-term memory
- Advanced conversational AI
- UI for interaction feedback

## Development Status & Tasks

### 1. Setup & Configuration

Task	Status	Notes
Set up GitHub repository	<input type="checkbox"/> Pending	
Install dependencies (Node.js, Python, etc.)	<input type="checkbox"/> Pending	
Configure API keys (.env setup)	<input type="checkbox"/> Pending	
Set up Cursor IDE for development	<input type="checkbox"/> Pending	
Create project structure	<input type="checkbox"/> Pending	

### 2. Core Features Implementation

#### Screen & Audio Processing

Task	Status	Notes
Implement screen capture (OpenCV)	<input type="checkbox"/> Pending	
Implement audio processing (FFmpeg, Whisper API)	<input type="checkbox"/> Pending	

Enhance noise reduction & filtering	<input type="checkbox"/> Pending	
-------------------------------------	----------------------------------	--

## AI & Memory

Task	Status	Notes
Integrate GPT-4 Turbo for conversation	<input type="checkbox"/> Pending	
Implement vector database for memory	<input type="checkbox"/> Pending	Weaviate, Pinecone, or ChromaDB
Optimize response time	<input type="checkbox"/> Pending	

## UI & Interaction

Task	Status	Notes
Develop UI for listening/speaking indicators	<input type="checkbox"/> Pending	Electron.js / React
Implement voice synthesis (optional)	<input type="checkbox"/> Pending	

## 3. Testing & Optimization

Task	Status	Notes
Test screen & audio recognition	<input type="checkbox"/> Pending	
Optimize API calls & reduce latency	<input type="checkbox"/> Pending	
Improve UI/UX	<input type="checkbox"/> Pending	

## 4. Documentation & Deployment

Task	Status	Notes
Write developer documentation	<input type="checkbox"/> Pending	
Create user guide	<input type="checkbox"/> Pending	
Deploy backend to cloud	<input type="checkbox"/> Pending	AWS / DigitalOcean / Render
Finalize MVP for testing	<input type="checkbox"/> Pending	

## Version Tracking

Version	Changes	Date
0.1	Initial setup	TBD
0.2	Core AI implementation	TBD
0.3	UI & interaction updates	TBD

## Notes & Considerations

- Keep track of API costs and optimize usage.
- Future updates may include multi-user support and enhanced personalization.
- Regularly update this document to reflect progress.

---

This document will be used to track all development stages. Keep it updated as tasks progress!