GuitarMuse AI - Project Setup

File Structure

```
guitarmuse/
├── assets/
│   ├── css/
│   │   ├── main.css          # Core styling
│   │   ├── themes.css        # Dark theme styling
│   │   └── songbook.css      # Songbook-specific styling
│   ├── js/
│   │   ├── app.js            # Main application controller
│   │   ├── chord-generator.js  # Chord progression generation logic
│   │   ├── audio-engine.js     # Web Audio API implementation
│   │   ├── ui-controller.js    # UI event handlers and updates
│   │   ├── openai-service.js   # OpenAI API integration
│   │   └── songbook-manager.js # Songbook storage and management
│   └── img/
│       └── logo.svg          # GuitarMuse logo
├── index.html                # Main application HTML
└── README.md                 # Project documentation
```

Key Features Implementation

1. Main Application (index.html)

This will contain the tabbed interface with two main views:

- "Progression Scratchpad" - The chord generator and playground

- "Your Songbook" - Saved progressions and tab sheets

2. OpenAI Integration (openai-service.js)

This module will handle:

- API key management (stored securely)

- Prompt construction based on user inputs

- API calls and response parsing

- Error handling and fallback options

3. Audio Engine (audio-engine.js)

This module will provide:

- Web Audio API implementation for chord playback

- Individual note playback for arpeggios

- Realistic guitar sound synthesis

- Adjustable tempo and rhythm patterns

4. Songbook Manager (songbook-manager.js)

This module will handle:

- Local storage of saved progressions

- Tab sheet generation and export (PDF, image)

- Database integration (optional)

- Importing/exporting songbook data

Implementation Plan

Phase 1: Core UI and Structure

- Set up the tabbed interface

- Implement basic progression generator UI

- Create songbook list view

Phase 2: OpenAI Integration

- Implement API calls

- Create prompt templates

- Handle response parsing

Phase 3: Audio Engine

- Implement Web Audio API

- Create guitar sound samples

- Build chord and arpeggio playback

Phase 4: Songbook Features

- Implement progression saving

- Create tab sheet generator

- Add export functionality

Technology Stack

- **Frontend**: HTML5, CSS3, JavaScript (vanilla)

- **Audio**: Web Audio API

- **Storage**: LocalStorage (initial), Firebase (future)

- **AI**: OpenAI API

- **Export**: html2canvas, jsPDF