Business Prospectus for Monaarch

Project Name: Monaarch Project Type: Web Application

Overview

At Monaarch, we are a dedicated team striving to simplify and enhance the user experience in audio manipulation and mastering. Our innovative web application utilizes cutting-edge technologies such as Python Django, PyTorch, TensorFlow, and Librosa. Our primary goal is to make professional-grade audio editing accessible to everyone, from hobbyists to seasoned musicians.

Services Offered

1.   Vocal Remover: By leveraging TensorFlow models, Monaarch can isolate vocal tracks from instrumental parts or vice versa. This involves training our neural network on a vast dataset of isolated vocal and instrumental tracks, enabling it to accurately separate vocals from background music.

2.   Splitting Service:

○   Basic Splitting: Our app can split music into voice, drums, bass, and other components using pre-trained models. This segmentation is achieved by analyzing the audio file's frequency spectrum and isolating the distinct sound patterns of each instrument.

○   Advanced Splitting: This service further refines the splitting process to include vocals, piano, drums, bass, guitar, and other instruments. The advanced model is trained on a more diverse dataset to recognize and separate these additional instruments accurately.

3.   Mixing and Mastering: Users can upload unmastered songs to be automatically mixed and mastered. We employ sophisticated digital signal processing (DSP) techniques and sound processing algorithms from Librosa to balance audio levels, enhance sound quality, and apply effects. Users can also tweak parameters or use preset settings to achieve the desired output.

4.   Chord Extraction: Monaarch utilizes machine learning models to analyze single instrument sounds and extract chords, which are then converted into MIDI files. This involves identifying pitch, timbre, and harmonic structures within the audio file, allowing for accurate chord extraction.

Technology Stack

●   Frontend: We use React.js or Vue.js for a responsive and user-friendly interface.

●   Backend: Django is employed for robust server-side logic and seamless integration with the frontend.

●   Machine Learning: PyTorch and TensorFlow are utilized for developing and training neural networks to perform audio separation and processing tasks.

●   Audio Processing: Librosa is used for analyzing and manipulating audio signals, utilizing DSP and principles from physics and mathematics to maintain high audio fidelity.

●   Cloud Services: AWS is chosen for reliable storage and processing capabilities, ensuring scalability and performance.

●   Database: We recommend using PostgreSQL for its robustness and scalability. PostgreSQL will handle user data and service records efficiently.

Streamlit Version

We also have a Streamlit version of Monaarch, where various services can be tested on a private server. This version is ideal for rapid prototyping, internal testing, and providing a sandbox environment for users to explore the capabilities of the platform.

Deployment Options

● With GPU: We recommend using cloud providers like AWS EC2, Google Cloud Compute Engine, or Azure Virtual Machines to take advantage of GPU acceleration for faster processing times.

● Without GPU: Options include AWS Lightsail, Heroku, or DigitalOcean for more cost-effective deployments without the need for GPU resources.

Hosting Requirements

1. Domain: We need to purchase a domain name from providers like GoDaddy or Namecheap.

2. Hosting Provider: We suggest considering cloud providers like AWS, DigitalOcean, or Heroku for scalable and reliable hosting solutions.

3. Server: Depending on our needs, we can choose between Virtual Private Servers (VPS), Dedicated Servers, or Shared Hosting. VPS is a good starting point for its balance of cost and performance.

4. Database: PostgreSQL is recommended for managing user data and service records due to its robustness and scalability.

Payment Integration

● Stripe: A widely-used payment gateway that supports various payment methods and is easy to integrate with Django.

● PayPal: Another reliable option that is trusted by users worldwide.

● Square: Ideal for in-person payments but can also be used for online transactions.

● Authorize.Net: A versatile payment gateway that supports a wide range of payment options.

User Control and Revenue Constraints

We will implement user control through Django's built-in authentication and permissions systems. Ensuring secure handling of transactions and compliance with financial regulations will help us maintain user trust and platform integrity.

Revenue Model

1. Freemium Model: Offer basic services for free to attract users and convert them to paid subscribers for advanced features.

2. Subscription Plans: Provide tiered subscription plans to cater to different user needs and budgets.

3. One-Time Payments: Allow users to pay for individual services without committing to a subscription.

Maintenance of Current Version

1. Regular Updates: We will keep Django, Streamlit, and other dependencies up to date to ensure security and performance.

2. Security: Regularly update security measures and monitor for vulnerabilities.

3. Backups: Implement regular data backups to prevent data loss.

4. Monitoring: Use tools like New Relic, Prometheus, or Grafana for monitoring performance and detecting errors.

Unique Selling Points

● High-Quality Processing: Leveraging advanced machine learning models and DSP techniques to provide superior audio processing.

● User-Friendly Interface: An intuitive design that makes complex audio editing tasks accessible to users of all skill levels.

● Flexible Pricing: A freemium model with various subscription plans to cater to different user needs and budgets.

Target Audience

● Musicians and producers looking for easy-to-use tools to enhance their music.

● Content creators who need high-quality audio for their videos and podcasts.

● Music enthusiasts who enjoy experimenting with audio tracks.

● Educational institutions that can use the platform for teaching purposes.

Marketing Strategy

● Online Advertising: Utilize Google Ads, social media platforms, and influencer partnerships to reach a wider audience.

● Content Marketing: Create blogs, tutorials, and case studies showcasing the app's capabilities and benefits.

● Partnerships: Collaborate with music schools, content creators, and industry influencers to promote the platform.

● Free Trials and Discounts: Offer limited-time free trials and discounts to attract new users and encourage conversions to paid plans.

In conclusion, Monaarch is a comprehensive web application designed to revolutionize the way users interact with and manipulate audio files. With our advanced technology stack, user-friendly interface, flexible pricing model, and robust deployment options, we have the potential to become a leading platform in the audio processing industry. By leveraging modern technologies and a well-thought-out business strategy, Monaarch aims to meet the evolving needs of musicians, content creators, and audio enthusiasts, providing them with powerful tools to achieve their creative goals.