



Music Application Using Python Django

Sathvika Vulligaddala, Florence Angel and Roshan Yerra

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Music Application

Using Python And Django

SATHVIKA VULLIGADDALA¹, FLORENCE ANGEL², AND ROSHAN YERRA³

Students of Malla Reddy College of Engineering, Maisammaguda, Dhulapally, Hyderabad, Telangana – 500100, India

Abstract:

The world that we live in are often called "The busy world " because we see people around us always in a rush going to their offices, schools, colleges etc. For such busy schedules and tiresome days, the only remedy is MUSIC. In early days, for people to enjoy music, they had to buy/download songs only through few websites and listen only on the device they've downloaded on. Thankfully now, we have numerous music player applications where we can listen to collection of over millions of songs. But, there is a price to pay and we don't have the freedom to download them onto our devices to stream our songs without internet.

In our application people can register for free for the same and many more introduced features. These features include: Creating customized albums and playlists, Downloading for offline mode, Lyrics, Exclusive artist radios, Mood based playlists etc.

The system is built fully in Django Framework in back-end and HTML, CSS in front-end. Users can freely publish their music for public to enjoy. It is free to all communities and inclusive.

Keywords:

Wire framing, Curated Playlists, Prototyping, Monetization, Phonographic Performance Ltd. (PPL), Fermium, Sound Exchange

Introduction:

- **Music App Licensing Requirements :**
Stream licensing is crucial to ensuring that your internet radio station is legally allowed to broadcast copyrighted material

such as music. Without it, you could be breaking the law. There are four main music licensing agencies within the United States: ASCAP, BMI, SESAC, and Sound Exchange.

The Phonographic Performance Ltd. (PPL) owns, as assignee, and exclusively controls public performance rights and radio broadcasting rights in more than 500,000 songs (sound recordings) in Hindi, Telugu, Tamil, Bengali, Punjabi, Marathi, Malayalam, Bhojpuri and other Indian languages, including both film and non-film songs such as Ghazals, devotional, folk, pop, classical, etc. Membership includes hundreds of Indian music organizations.

- **Music Application Feature :**

The market for music apps is a competitive one. To attract audiences and retain them you need to offer features that matter. Here is the list of key features in the order of importance:

- The variety of music available.
- Compatibility across multiple devices.
- Easy-to-use 'user interface' (UI).
- Ease of finding new music.
- To what extent does the app allow users to combine their music and streaming libraries?
- The ability stream on smart home devices.
- Curated playlists.

- Featured artists and exclusive playlists of them.

- **Design Of The Music App UI/UX:**

- 1. Wire framing or Sketching**

Wire framing is the backbone of designing the UI of any app & the main goal of sketching or wire framing is to iterate until done perfectly.

- 2) Visual Design**

i) Select a perfect type with different variations in sizes, and context of the use.

ii) Choose the right colour pallet and Icons.

iii) Make re-usable components or elements required for your designs.ex. Buttons, lists, menu, tab-bars, dropdowns, etc.

- 3) Prototyping**

Prototyping is an iterative development technique in which users are actively involved in the mocking-up of the UI for a system.

- **Create Music Library:**

All music libraries are different, and the right free music player can help you get the most out of yours – particularly if you have a large collection.

1. Gather what you have and decide what's worth keeping.
2. Digitize what can be converted and put music that can't be on a wish list.

3. Organize files by how they will be used.

4. Add to your collection.

5. Limit access to the library with password protection.

- **Create Audio Streaming MVP:**

It's common to divide features into two categories — MVP and advanced. MVP or must-have features stand for essential functionality to satisfy basic use needs. You can create an MVP of your music streaming app, release it, and get the feedback. After that, you can add more advanced and expensive features. Additionally, having an MVP version of your app, you have more chances to get investments. A working product makes stakeholders trust you. Let's single out must-have features for a music streaming app.

Registration: You need to offer several options to make the process fast and user-friendly. For instance, you can integrate signup via social networks like Facebook or Google. Also, you need to add email and password, phone number and password signups. 'Forget password' feature makes your app more user-friendly.

Search: To find music, users need to have a search. Users can search for the music by artist,

title, album, recording studio, or genre.

Music player: How to create a music streaming app and reach success? You have to develop a user-friendly music player. Users can create playlists of favourite songs, add albums, and mark artists as favourite.

My music: The users can look through their favourite tracks and download them. Also, they can create or delete playlists, share playlists, and play them. You can also add the ability to share playlists or songs via social media. It's common to integrate an artist screen with popular tracks and latest albums.

Settings: To make a music streaming app more user-friendly, you need to incorporate the ability to change audio and app settings. For example, you can add an automatic download, sync for various devices.

Existing Methods:

1. Choose your Type of Music App

Music Streaming Apps

The primary purpose of the music streaming application is to play music available in the databases of the service, compose custom playlists

and suggest similar songs. The main elements of music streaming apps are:

- Discovery. The central component of user engagement is the availability of the music and the ability to discover similar genres.
- Recommendations. To provide users with more relevant recommendations you need to implement a recommender engine to your music streaming app.
- Personalization and deep categorization. The music can be sorted by period, genre, performer association (solo albums of band members) or by more ephemeral characteristics such as mood (happy, sad, romantic), tone (dark, brooding, sunshiny), or pace (fast, slow, waltz) of the compositions.
- Social networking. You can apply custom playlists as promotional or educational tools. Thus, users can share playlists with friends via social media platforms.

2. Select the main features for the music app

Registration / signing up: An essential option that identifies the user to synchronize his playlist and music in service.

Track search: Give users the capability to find music they want to hear and you'll get an army of loyal users.

Catalogue: Provide users with a music catalogue to help them find how many music contents your service offers. It might seem obvious, but there are a lot of bad examples on the market when

developers have ignored this feature.

Push notifications: Recent research discovered that push notifications lead to higher engagement across all categories, but most of all, impact a music apps' engagement. See exactly how on the chart below.

3. Develop a Music app MVP

The price of music app development depends on many factors, such as the number of platforms, developer experience, the number of third-party integrations, and others. Our advice at this stage is to consider developing an app MVP to validate your business idea and find out whether your product would be popular among users.

4. Monetize your music app

Subscriptions

This monetization model includes two types:

Freemium: The user receives the basic features of a music app with a free account. But, one cannot get access to premium functionality, such as saving tracks offline, playing tracks in high quality, or create playlists.

Trial period: The Tidal music app uses this monetization model. Before starting the free trial period, the user enters cart information. After the end of a free trial, the app charges a subscription fee automatically.

Advertisements

Running ads is a traditional way to monetize a freemium music application. For running ads on your app you can charge the following costs:

Cost-per-mile: The advertisers pay you for running ads for at least a thousand users

Cost-per-view: You charge advertisers the cost per each view of their ads

Cost-per-action: You charge advertisers fees only if the app user makes a target action after viewing an ad. This might be going to a website, placing orders, and so on.

Proposed Methods:

1. Registration and Login

Authentication

Not only does this step help you build a strong community, but also to provide a highly personalized experience for your users. You might ask for age and zip-code to suggest popular music among certain user categories. Otherwise, simply put direct questions about user's music preferences.

2. Social media integrations

The tricky moment at the registration/login stage is not to look over-annoying. An appealing UI/UX design and social media integrations might assist with this challenge.

3. Discovery (browsing)

Advanced search is one of the most demanded features. Let users search not only by the song name or artist but also by mood, genre, remixes, etc.

4. Navigation

Clear navigation and interface means your users feel comfortable to intuitively navigate through the app.

5. Music Categorization

Users must feel flexibility to search the tracks and artists. For a smooth

experience, you might provide categorization by playlists, genres, popularity, other ratings, year of recording, mood, activities, etc. Both browsing and music arrangement are among key moments to impress your potential customers.

6. Recommendations

This might be a pain-point at the development stage. You have to create a unique algorithm which can suggest users various playlists and songs based on their preferences. The app might base on either user behaviour (the most played songs, favourite artists, skipped songs, etc.) or collaborative filtering (music preferences of like-minded users).

7. Music Collections

Curated playlists do not only ease the user experience. They reveal your style and knowledge in the industry and help your app to become trend-setting. Over half of US listeners say music collections are among the most important features.

8. Music Player

Listening to music should feel easy and natural: build shuffling, timing and tuning options in the player. A user might want to feature favorite songs or arrange them into personal playlists.

9. Homepage

Ensure both are easy to access straight from the homepage. Later, your app can get a newsfeed with recent industry updates and top releases.

10. Push Notifications

Inform your users about the events nearby, latest music news or favorite

artist's releases. Frankly speaking, the user won't listen to your app throughout all day. Notifications will kindly remind them about you while bringing useful updates alongside.

11. Download/Save option – Offline access

This feature can drastically ease the user experience with a simple download button straight at the playlist screen.

12. Pre-save option

Another upgrade option is pre-saving. Some albums are already announced but not available for listening. Therefore, you might offer users to get it downloaded automatically once the album appears at the service.

13. Sharing options

The above-mentioned social media integration not only simplifies the authentication process. It provides a space for building an app community through such features as sharing songs with friends, for example.

14. Lyrics

This simple integration can turn average listeners into your loyal fans. Often users want not only to listen to the song but to read lyrics and learn more information about the recording: label, year, awards, etc.

15. Voice Search and Commands

Another way to upgrade your streaming app is by integrating voice commands. With the voice search becoming more and more common, this is a solution which can ease the user experience.

16. Private Mode

If a user doesn't want certain music to impact further recommendations, a private mode feature will be of great help.

17. Artists Profiles

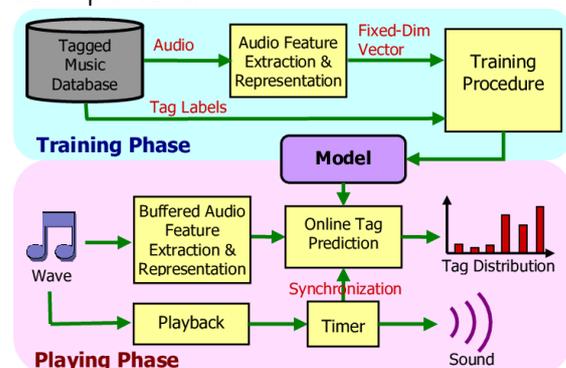
Users are not the only stakeholders you should care about. Musicians are another important part of the app success. Listeners are usually willing to follow favorite artists, their updates as well as to get artists' exclusives. According to Statista, nearly half of US residents say this feature is among the most important points.

18. Content Upload

Additional features that can make your app stand out of the crowd. Sometimes users wish to upload their own audio to listen to and share with friends. Otherwise, you can add synchronization of the phone music library and your streaming service.

19. The ability to stream on smart home devices

While it is no wonder that the internet surfer uses a few devices throughout the day, the ability to stream on multiple devices is vitally important. In fact, almost 70% of the US listeners highlighted this feature as important.



Conclusion :

Although this is a Music application encourage user input in the form of comments and review that help other users in consideration of their purchases. We are offering in a convenient package of streaming from your phone or as a digital file on a dedicated player. The user receives the basic features of a music application with a free account and they can also get access to some functionalities such as saving tracks offline, playing tracks in high quality, or create playlist (high performance). Creating customized Albums and playlists, downloading for offline mode, Lyrics, Exclusive artist radios.

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Authors:

- Florence Angel is pursuing her bachelor's degree in technology specialised in "Computer Science and Engineering" at Malla Reddy College of Engineering, JNTUH, Hyderabad. She is presenting the idea of a "Music Application" developed using Python and Django for her

project. Also, her research includes cognitive computing, IBM Watson and Artificial Intelligence.

- V.Sathvika is pursuing her B. Tech in “Computer Science and Engineering” at Malla Reddy College of Engineering, JNTUH, Hyderabad. She is also the Team Leader and will be presenting the project which is a “Music Application” developed using Python and Django. She is a technical candidate and her interests

include machine learning and artificial intelligence.

- Roshan Yerra is currently pursuing his B. Tech specialised in “Computer Science and Engineering” at Malla Reddy College of Engineering, JNTUH, Hyderabad. He is an active team player and a forward thinking team participant who has developed a project “Music Application” developed using Python and Django. His interests include learning about the emerging technologies.