WEB APPLICATION DEVELOPMENT

(FREEBEATS - Music sharing and Streaming Web App)

PROJECT OVERVIEW:

B Tech CSE 4th Year Project by Ankit Kumar, Dheeraj Kumar Rana, Srishti Priya and Aparna Gorai with Jhalak Dutta, Assistant Professor, Department of CSE, HIT-Kolkata as Mentor.

Student Details:

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Project Introduction:

Music has always been a means of entertaining people even from the earliest ages of civilization. Historically it was produced by musicians and only available during live concerts. The technological evolution made it possible to save the music on electromagnetic charged stripes, CDs. When dealing with a huge collection of tracks, people encounter management problems they did not have before. So they have to develop new ways of using the music collection for their entertainment. Playlists are a good approach for saving successions of tracks that one likes.

Free Beats is a Music sharing and Streaming web application

This is a full-stack web application built with the MERN (MongoDB, Express, React, Node.js) stack that allows users to share and stream their favorite audio files. Users can create playlists, upload audio files, and explore other users' collections.

The music player allows a user to play various media file formats. It can be used to play audio files. The music player is a software project supporting all known media files and has the ability to play them with ease.

Technology Used:

- **HTML** - HTML is a markup language used to create and design web pages. It uses tags and attributes to define the structure and content of a web page.

- **CSS** - CSS describes how HTML elements should be displayed.

- **Tailwind CSS** - Tailwind CSS is a customizable CSS framework that provides pre-designed styles for rapid UI development with a responsive design approach.

- **JavaScript** - JavaScript is a programming language used for client-side scripting to create dynamic and interactive web pages. It can manipulate content, handle events, and communicate with servers for dynamic updates.

- **MongoDB** - MongoDB is a popular NoSQL document database used for storing and retrieving data in a flexible and scalable manner. It is widely used in web development and has a large and active community supporting it.

- **Express** - Express is a popular web application framework for Node.js, used for building server-side web applications and APIs. It provides a set of features and tools for routing, middleware, and handling HTTP requests and responses.

- **React** - React is a popular JavaScript library used for building user interfaces. It provides a declarative approach to building reusable UI components, and uses a virtual DOM for efficient updates and performance optimization.

- **Node.js** - Node.js is an open-source, cross-platform JavaScript runtime environment that allows developers to run JavaScript code outside of a web browser. It is widely used for server-side web development and provides a rich set of libraries and tools.

The **front-end** of the application is built using ReactJS, a popular JavaScript library for building user interfaces. The application is divided into several components, including the login and registration pages, the playlist creation page, song upload etc. The UI is responsive and mobile-friendly, allowing users to access the application from their desktop or mobile devices.
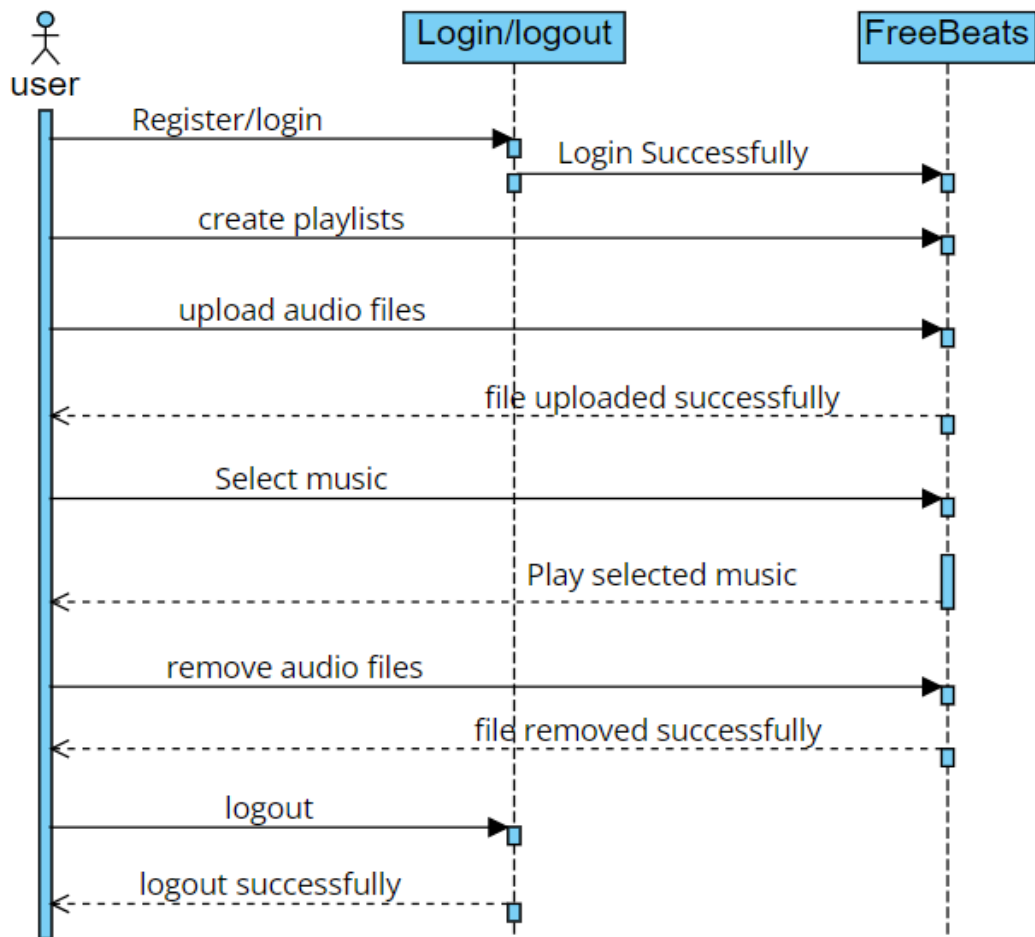
The **back-end** of the application is built using Node.js and Express, a popular web framework for building web applications. The server-side code handles user authentication and playlist creation and management. The application uses MongoDB, a NoSQL database, to store user data, songs and playlist data.
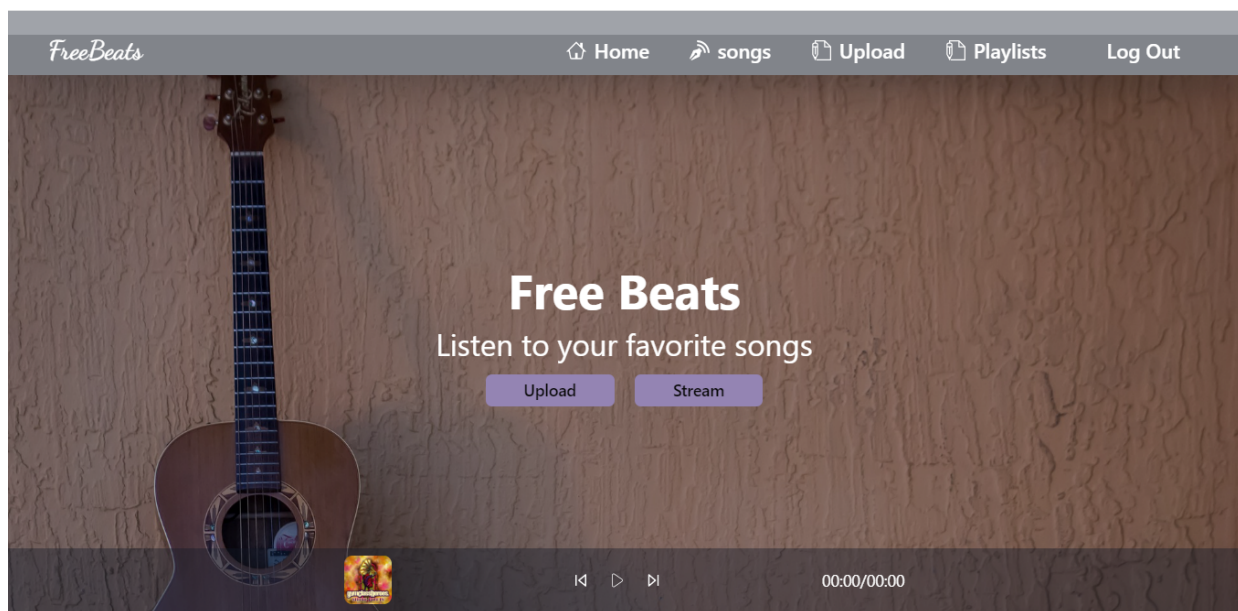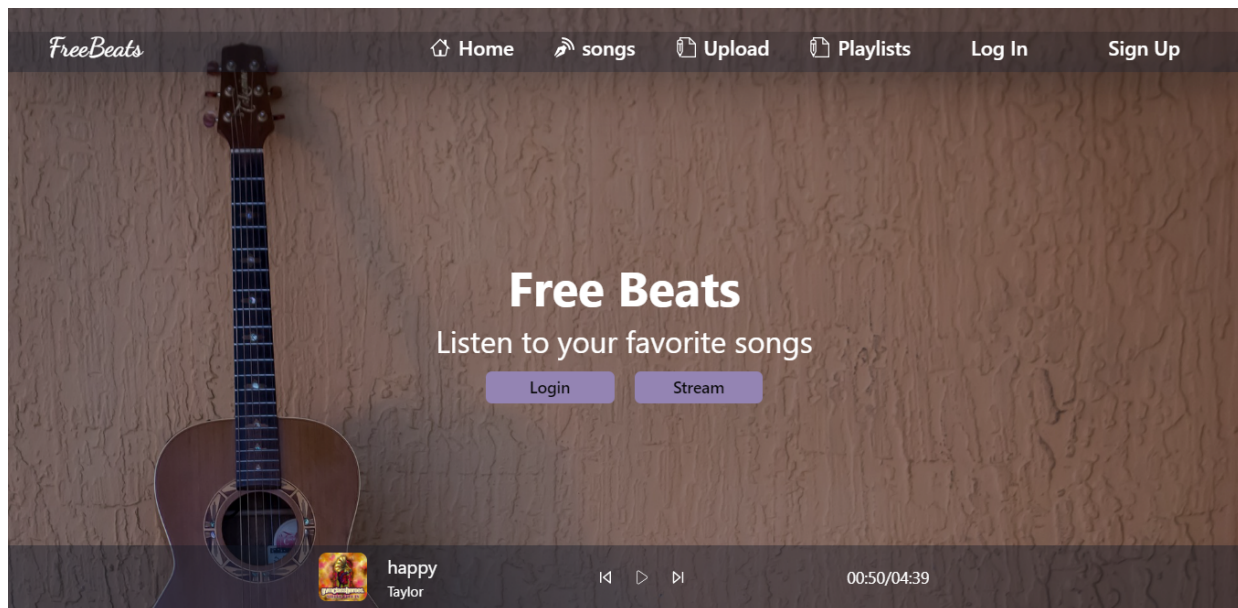
Features:

- Music player and music discovery tool for Independent artists and fans.
- Upload and maintain ownership of your music.
- User profile page to manage uploaded audio files and playlists.
- Audio file upload with support for multiple file formats.
- Playlist creation and management.
- Audio streaming with player controls (play, pause, skip, etc.).
- Responsive design for optimal viewing on any device.
- User authentication and authorization using JWT tokens
- No Ads played between the songs.

FREE-BEATS is a well-designed web application that offers a unique and fun way for users to share music with their friends. The application is easy to use, with a clean and intuitive user interface, and offers a range of features that make it a great choice for music lovers.

Sequence Diagram:

Project Details:

Upload Song

Title

Blank Space

Description

This song is about a dangerous man who's not marriage material

Artist

Taylor Swift

Cover Album

1989

Audio File

Choose File   No file chosen

Submit

⏮ ▷ ⏭   00:00/00:00

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happy
Taylor   ☰+ ⊞ 🗑

Darling
sunidhi   ☰+ ⊞ 🗑

kahani suno
zaifi   ☰+ ⊞

hsdtg
ydtey   ☰+ ⊞

⏮ ▷ ⏭   00:00/00:00

All Playlists

	Happy		
	Songs - 1		≡+

+ Create Playlist

kahani suno
zaifi
⏮ ▷ ⏭   00:25/NaN:NaN

Happy
Songs - 1   🗑

	happy		
	Taylor		⊟

kahani suno
zaifi
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