

WEB DEVELOPMENT SUMMER INTERSHIP PROJECT 2025



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<https://samirjsarmah.me/Samify-MusicPlayer/>

Purpose

This project is a web-based music streaming application inspired by popular platforms like Spotify. It features a user-friendly interface and organized playlist structure to enhance the music experience.

The application's project structure includes multiple playlists, each stored in its own dedicated folder. Every playlist folder contains:

- MP3 audio files: The actual songs to be played.
- playlists.json metadata file: Contains metadata for each playlist, including details such as:
 - Playlist name
 - Description

Users Can

- 1 **Browse playlists visually with album covers and artist information**
- 2 **Load and play songs from any selected playlist.**
- 3 **View track details, progress, and duration**
- 4 **Use play, pause, next, and previous controls**

Technologies Used

- 1 **HTML** - for page structure.

- 2 **CSS** - for responsive design and styling

- 3 **JavaScript** -
 - Loading playlist data from JSON.
 - Handling audio playback and controls.
 - Dynamically updating the user interface



Key Features

Multiple playlists with MP3 files.

Dynamic content loading using JSON(JavaScript Object Notation File) .
Interactive audio controls (play, pause, next, previous).

Responsive and modern design.

Clear separation between landing page and player interface.

Responsive UI with hamburger navigation

Project Structure (Directory Overview)

index.html

```
<body>
  <.container>   ← Main wrapper
    <.left>      ← Sidebar
      <.close>    ← Close button (mobile)
      <.home>     ← Logo section
        <img> logo.svg
      <.library>   ← Library section
        <.heading>
          <img> playlist.svg
          <h2> Your Library
          <h2> playlistTitle ← Dynamic title
        <.songList>
          <ul>...</ul>  ← Populated via JS

    <.right.bg-grey.rounded> ← Main content
      <.header>    ← Top navigation
        <.nav>
          <.hamburgerContainer>
            <img> hamburger.svg
            <img> icon.png
            <p> Feel The Music

      <.musicPlaylists>
        <h1> Playlists
        <.cardContainer> ← Playlist thumbnails
          <.card ...>   ← Cards added via JS

      <.playbar>    ← Music controls and info
        <.seekbar>
        <.circle>

      <.abovebar>
        <.songinfo>
        <.songbuttons>
          #previous ← Previous song button
          #play     ← Play/pause button
          #next     ← Next song button

        <.timevol>
          <.songtime>
          <.volume>
            <img> volume icon
          <.range> <input type="range">
```

css/

```
  | <.style.css>   ← Core styles for layout
  | <.utility.css> ← Reusable classes
```

js/ script.js

```
  | <.Variables>
  |   currentSong   ← Audio object
  |   songs          ← Array of song filenames
  |   currFolder    ← Current album folder
  |   currentIndex  ← Index of currently playing song

  | <.Function: secondsToMinutesSeconds()>
  |   Converts seconds to MM:SS format

  | <.Function: loadSongs(songList)>
  |   Renders <li> for each song
  |   Adds click event to play the selected song

  | <.Function: playMusic(track, pause = false)>
  |   Loads the selected track into audio player
  |   Updates UI (title, play/pause button, highlight playing)
  |   Starts playback (unless pause = true)

  | <.Function: displayAlbums()>
  |   Fetches <playlists.json`>
  |   Populates album cards
  |   Sets current folder and songs list
  |   Loads and plays first song in album

  | <.Function: main()>
  |   Initializes controls
  |   Handles:
  |     Play/Pause toggle
  |     Time update & seekbar position
  |     Song end → autoplay next
  |     Seekbar click → jump position
  |     Hamburger open/close
  |     Previous / Next song
  |     Volume slider control
  |     Mute toggle
  |   Calls <displayAlbums()> on load
```

songs/

```
  | Playlist1/FOLDER
  |   song1.mp3
  |   songN.mp3
  |   cover.jpg
  | Playlist2/FOLDER
  |   song.mp3
  |   cover.jpg
  | Playlist3/FOLDER
  |   song.mp3
  |   cover.jpg
```

img/

```
  | icon.png ← Site favicon
  | play.svg, pause.svg , previous , next ← Control icons
  | volume.svg, mute.svg
  | music.svg ← List icons
```

playlists.json

```
  [
    {
      "folder": "A_zubeen_mode",
      "cover": "songs/A_zubeen_mode/cover.jpg",
      "title": "Zubeen Mode",
      "description": "Zubeen's Collections",
      "songs": [
        "AAMI JEN JANTRA.mp3",
        "Anuradha.mp3",
        "MAYA MATHU.mp3",
        "Mayabini Ratir Bukut.mp3"
      ]
    },
    {
      "folder": "Folder_Name",
      "cover": "songs/Folder_Name/cover.jpg",
      "title": "Playlist Title",
      "description": "Playlist Description",
      "songs": [
        .....mp3
      ]
    }
  ]
```

The Frontend UI

LAYOUT:

- left panel: Navigation & Library
- right panel: Header, playlists, and the playbar

FEATURES:

- Hamburger menu (for mobile view)
- Dynamic playlist rendering
- Controls: Play, Pause, Next, Previous
- Volume slider
- Seekbar with live updates

The Styling

STYLE.CSS (STYLING THE PLAYER)

- Dark theme inspired by Spotify
- Responsive using media queries
- Styled cards for albums
- Playbar fixed at the bottom
- Hover effects on cards
- Current song highlighted with a green background (.playing class)

UTILITY.CSS (REUSABLE UTILITY CLASSES)

Examples:

- .flex, .bg-black, .rounded
- Custom scrollbar styling

JavaScript Logic

SCRIPT.JS

Key Functions:

- *getSongs(folder)*
Fetches MP3 files from meta file and lists them.
- *playMusic(track)*
Loads and plays a specific track; highlights it.
- *displayAlbums()*
Fetches all albums
- *main()*
Initializes:
 - First song
 - Event listeners for play, pause, seek, volume
 - Album switching and UI controls

The Desktop View



The desktop view of the Samify web player. At the top left is the "Your Library" section, which includes a "Zubeen Mode" playlist currently playing "AAMI JEN JANTRA". Below it are other playlists: "Anuradha", "MAYA MATHU", and "Mayabini Ratir Bukut", each with a "Play Now" button. The main area displays a grid of playlists: "GNX" by Kendrick Lamar, "CERTIFIED LOVER BOY" by Drake, "LUCKY ALI" by Lucky Ali, "Angurag Papon" by Angurag Papon, "POST MALONE" by Post Malone, "BEATS SO FRESH" by Beats, "Chill Music", "Latest Trends", "Phonk", "Lofi Music", "Swades", "Rockstar", "THE BEATLES", and "LINKIN PARK". At the bottom is a dark navigation bar with a play/pause button, a progress bar showing "00:30 / 05:44", and a volume slider.

The Mobile View

The mobile view of the Samify app. It shows a "Playlists" screen with a large image of a person wearing sunglasses. Below it is a "Zubeen Mode" playlist from "Zubeen's Collections". The bottom half of the screen features a music player interface with a play/pause button, a progress bar showing "01:15 / 05:44", and a volume slider.

The mobile view of the Samify app. It shows a "Your Library" screen with a "Zubeen Mode" playlist currently playing "AAMI JEN JANTRA". Below it are other playlists: "Anuradha", "MAYA MATHU", and "Mayabini Ratir Bukut", each with a "Play Now" button. The bottom half of the screen features a music player interface with a play/pause button, a progress bar showing "01:15 / 05:44", and a volume slider.

Thank You

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