

# 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

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

  <b>Function: secondsToMinutesSeconds()</b>
    Converts seconds to MM:SS format

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

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

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

  <b>Function: main()</b>
    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 <b>displayAlbums()</b> on load
```

## songs/

```
  Playlist1/FOLDER
    song1.mp3
    cover.jpg
  Playlist2/FOLDER
    song2.mp3
    cover.jpg
  Playlist3/FOLDER
    song3.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 ← All playlist info (title, cover, songs)

```
[

  {
    "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 Mobile View

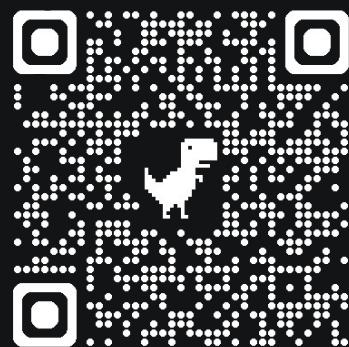
A screenshot of the Samify desktop interface. At the top left is the "Your Library" section with four items: "Zubeen Mode" (playing), "Anuradha", "MAYA MATHU", and "Mayabini Ratir Bukut". Below this is the "Playlists" section, which includes "Zubeen Mode" (selected, showing its tracks), "Kendrick Lamar", "Drake", "LUCKY ALI", "Angurag Papon", and "Post Malone". Further down are sections for "Beats", "Chill Music", "Bolly Mix", "Latest Trends", "Phonk", and "Lofi Music", each with a thumbnail and a brief description. At the bottom is a player bar showing "AAMI JEN JANTRA" as the current track, with a progress bar at 00:30 / 05:44 and volume controls.

A screenshot of the Samify mobile application on an iPhone. It shows the "Playlists" screen with "Zubeen Mode" selected. Below it is a player bar for "AAMI JEN JANTRA" at 01:15 / 05:44. The interface is designed to be responsive, with a dark mode theme and rounded corners.

A second screenshot of the Samify mobile application on an iPhone. It shows the "Your Library" screen with four items: "Zubeen Mode" (selected, showing its tracks), "Anuradha", "MAYA MATHU", and "Mayabini Ratir Bukut". Below it is a player bar for "AAMI JEN JANTRA" at 01:15 / 05:44. The interface is designed to be responsive, with a dark mode theme and rounded corners.

# Thank You

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