

Crowdsound: A Popularity-based Music Application

Inspired by the use of music streaming services (such as Spotify) at social gatherings, the Crowdsound web application allows partygoers to collectively choose the songs they want to hear. Usage of the application begins with a party host, who creates a new playlist from the landing page. After authenticating with Rdio, the host is directed to the playlist page and can begin streaming music. Each playlist is assigned a unique code for the host to share with guests, who use it to access the playlist via their mobile devices. Anyone viewing a playlist may search for songs and add them to the collaborative list. Users can then vote for songs already in the playlist, causing them to move closer to the top of the queue. Both desktop and mobile displays use web sockets to show playlist updates in real time, making for an engaging user experience.

The project was developed in collaboration with students Mackenzie Clark, Jian Shen Tan, and Koji Yamamoto. I contributed much of the server-side components, including Rdio authentication and search, API endpoints, and socket communication. Intended only for demonstration purposes, the first iteration of the application used server main memory to store playlist data. I later improved the project by implementing MongoDB as the data store, a fundamental step toward scalability.

The screenshot displays the Crowdsound web application interface. At the top, a blue header bar contains the text "crowdsound | H91DP18". Below the header, the current song "We Are The Champions" by Queen is playing, with a progress bar and volume control. The main content area is divided into three sections: a search bar on the left containing "michael jackson", a list of search results on the left, and a current playlist on the right. The search results list includes "Rock with You", "Billie Jean", "Beat It", "Don't Stop 'Til You Get Enough (2003 Edit)", "Thriller (2003 Edit)", "Smooth Criminal", "The Way You Make Me Feel", and "I Just Can't Stop Loving You". The current playlist lists seven songs: "Thriller", "What's Going On", "By The Way", "Isn't She Lovely", "Smells Like Teen Spirit", "Come Fly With Me", and "Don't Stop Believin'".

Search Results	Current Playlist
Rock with You Michael Jackson, Number Ones	1 Thriller Michael Jackson, Thriller
Billie Jean Michael Jackson, Number Ones	2 What's Going On Marvin Gaye, What's Going On (Remaster...)
Beat It Michael Jackson, Number Ones	3 By The Way Red Hot Chili Peppers, By The Way
Don't Stop 'Til You Get Enough (2003 Edit) Michael Jackson, Number Ones	4 Isn't She Lovely Stevie Wonder, Songs In The Key Of Life
Thriller (2003 Edit) Michael Jackson, Number Ones	5 Smells Like Teen Spirit Nirvana, Nevermind (Deluxe Edition)
Smooth Criminal Michael Jackson, Number Ones	6 Come Fly With Me Frank Sinatra, Sinatra: Best Of The Best
The Way You Make Me Feel Michael Jackson, Number Ones	7 Don't Stop Believin' Journey, Greatest Hits
I Just Can't Stop Loving You Michael Jackson, Number Ones	

Playlist page as viewed by the host. The top panel contains music player controls and current song information. Search results and the current playlist appear in center left and right panels, respectively.