ZotMusic: The Vision 👁

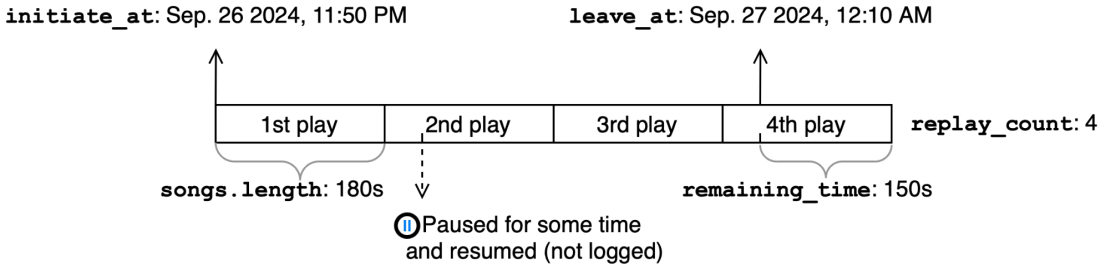
Our vision is called ***ZotMusic***, a groundbreaking online platform dedicated to AI-generated music. Our idea is to provide a space where users can release their own records consisting of songs created by generative artificial intelligence, explore and stream AI music created by others, and contribute to the community through reviews and feedback. Whether users are seasoned AI music creators or casual listeners, ZotMusic aims to foster creativity and discovery through a seamless, intuitive experience. The platform will allow artists to showcase their work to a diverse audience while enabling listeners to find new and unique sounds generated through AI. To encourage engagement, users will be able to rate records, leave reviews, and help others navigate the growing collection of AI-generated music.

Here are some more details about how we envision ***ZotMusic*** looking and working:

- Each user of ZotMusic will have a unique user id when registering. They will be required to provide a valid email address along with a nickname to display. In addition, to allow ZotMusic to enable location-based recommendations so that users can share and discover new content around them, users will also provide their address, consisting of a street address, city, state, and zip code. Their date of joining the platform will also be captured. Last but not least, like traditional music platforms, ZotMusic also supports genre-based recommendations. Users can opt to indicate zero or more music genres that they are interested in.
- Users can be listeners and/or artists (creators) of AI-generated music. In addition to the aforementioned info about all users, artists will specify a stage name separate from their nickname. They can also write a bio about themselves to put on their artist page. Artists may also have a numeric rating for their content (the value for which will be computed behind the scenes, by the platform, based on review data).
- For listeners, they can either enjoy free music with occasional ads, or pay for subscriptions to enjoy music without interruptions. As a result, listeners will have a subscription-type associated with them (free, monthly-subscription, or yearly-subscription.) As the platform allows listeners to buy merchandise from their favorite artists, listeners will also need to leave their names (first and last) to complete their shipping addresses. As quality reviews are essential to the discovery of good music, listeners, who post reviews, also have a number associated with them to indicate how many times their reviews have been upvoted.
- Artists can release records that are either singles or albums (a record can be only a single or an album); the release date associated with a record will be stored on the platform. Each record has a unique identifier (system-generated) and must specify a name and a genre that the record belongs to. A record will also have auto-computed numeric fields, including its total length and rating.
- Albums contain a list of songs, and an optional description for the album can be provided by the artist; for singles, they contain only one song, and each single can be

associated with a music video (a URL to the video). The number of songs in an album can be auto-computed based on its songs.

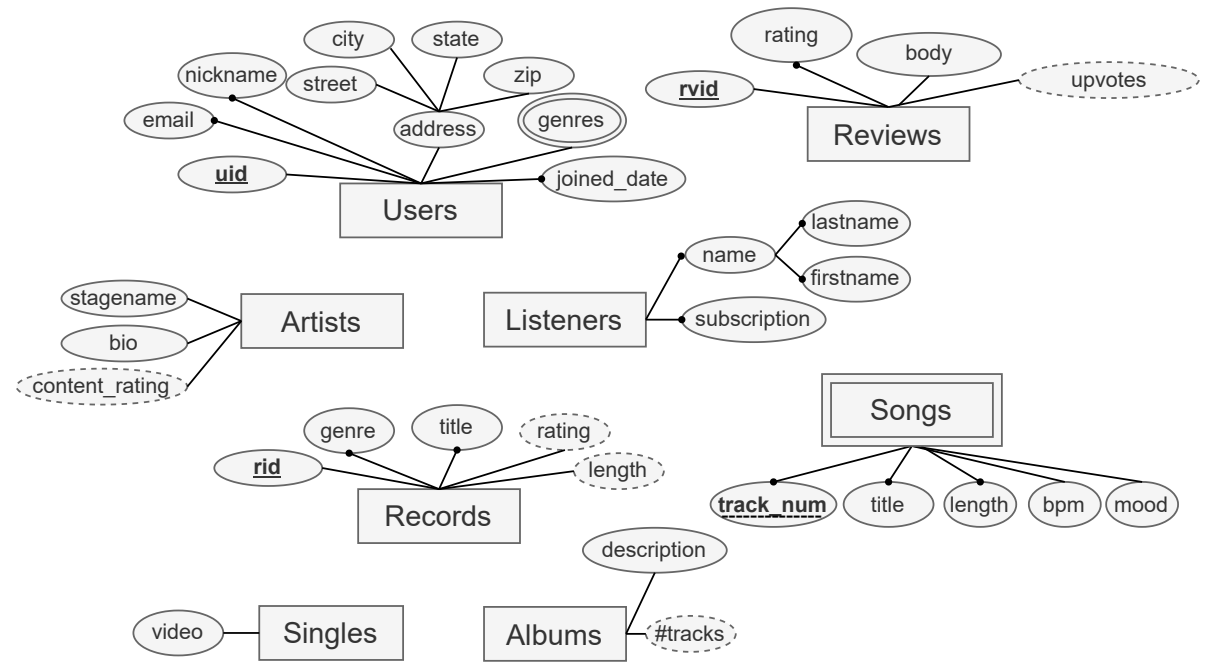
- Each song must be identified by the record it belongs to, along with a number to identify which track it is in the record. The required fields for a song include a title and its length (in seconds). Optionally, a song can also have a bpm (beats-per-minute) and an associated mood.
- Streaming activities from listeners are vital to the analytics of user data. Each time a user plays a song (and only for this song), this activity is captured as a streaming session. Each session has a unique id. The required fields of a session include: the user who starts the session, the song played in this session, the date and time the user starts the session (`initiate_at`), the date and time the user ends the session (`leave_at`), the quality of the music file that is streamed during the session (e.g., “lowest”, “low”, “normal”, “high”, “Hi-Fi”, “lossless”), the device the session is played on (“mobile-browser”, “mobile-app”, “desktop-browser”, “desktop-app”), and remaining unplayed time in the song (`remaining_time`). Optionally, if the user plays the song on repeat (which will be logged in the same session), the number of times the user replays the song will also be stored (`replay_count`). Note if a song gets played on repeat, only the last replay will be used to log the remaining time, and all previous replays are considered complete. Below is a diagram to help you understand these attributes. It visualizes a session when a user plays one song on repeat 4 times. Note if a user pauses a song (for example, in the 2nd play in this diagram) and resumes later, this action will not be logged (but may affect the `leave_at` attribute).



- As mentioned earlier, the platform allows listeners to post reviews about the records. Each review is posted by one listener and is for one record. A review has a unique identifier, a datetime when the review is posted, a numeric rating (0 – 5) that the listener gave to the record, and optionally a body of text that the listener writes about the record.
- Finally, to help other reviewers identify good reviews, besides posting a review, a listener can also upvote the reviews posted by other listeners. A listener can upvote multiple reviews and a review can be upvoted by multiple listeners.

Based on our vision, our lead architect has developed an ER-Design (see below) for the ***ZotMusic*** database. The design captures the implications of our planned user model and business model. It utilizes advanced E-R model features where appropriate.

ZotMusic Entities



ZotMusic Relationships