

## Functional Requirements

- The system must allow users to register and login
- The system must use the MusicBrainz API to retrieve data
- Users must be able to review songs
- Users must be able to only leave one review per song, that can be edited
- Users must be able to follow other users and artists
- Reviews can only be deleted by their user
- Users must be able to search based on artist, genre, or album

## Non-Functional Requirements

- The system must follow MusicBrainz's rate limit of 1 request per second
- The user interface should be simple and user-friendly
- Users should have reliable access, with minimal downtime
- The system should support up to 1,000 users, not simultaneously

## Business Rules and Constraints

- Users must have unique usernames - This helps avoid issues signing in if two or more users were to have the same name. It also helps users find and differentiate other users.
- Users must create accounts with emails - This is standard practice. Emails are more universal, and users are typically more comfortable giving an email versus a phone number.
- Users can follow other users - A social feature that allows users to interact with each other. A user can't follow themselves or follow another user more than once to avoid redundancy and confusion within the system.
- Users can leave likes on reviews - A social feature that allows users to interact with each other. A user can't like a review multiple times, and a user can un-like a review.
- Users, songs, and artists must have unique IDs - This allows for each user, song, and artist to have a unique identifier. This allows the system to retrieve data easier and avoids confusion.
- Users can delete or edit their reviews - A social feature that users can use to express themselves. Reviews will include an updated timestamp and overwrite the old review. Deleted reviews will be removed from the database, and users will be able to create a new review.
- Artists can have many songs - Artists may release many songs. This helps define the relationship between artists and songs for the system.
- An artist can be a group/band - Artists may be represented as a group/band as a whole. This reflects multiple artists within one group.
- Artists must have a name - This gives clear representation of the artist. It helps avoid confusion within the system and makes it easier for users to search for artists.
- Artists can release singles - Since artists release songs as singles instead of in an album, songs are not required to have an album.
- An EP is counted as an album - EPs are treated as albums in the database and songs within an EP have an album ID. This allows for easy representation of EPs, and makes searching for EPs easier.

- A review belongs to only one user and one song - A user can only make one review for one song, individually. This ensures organization and prevents confusion and redundancy
- A review must have a rating of 0-5 stars - This allows users to accurately convey their opinion and allow other users to easily see their opinion. This is required to prevent confusion for users and the system.
- Reviews must have a creation date and update date - This gives representation of user activity, relevancy, and change over time. This can be utilized by the system and other users.
- Reviews can only be deleted by their author - To delete a review, the user that created the review can only do so through their account. This allows users to have control over their content and prevents confusion and removal from other users.
- Songs must have a title, artist, release date, and duration - This gives accurate representation to the users. This also allows efficient data retrieval for the system.
- Songs can have multiple genres - Many songs have multiple genres. This establishes that relationship for the system.
- Songs and albums can belong to multiple artists - Many songs/albums have collabs or features. This provides an accurate reflection of the song/album itself and the contributing artists.
- Albums can have many songs - Albums often contain multiple songs. This ensures that is reflected for user convenience. This also establishes part of the relationship to the system
- Albums must have at least 1 song - Albums must contain at least one song. This defines the other part of the relationship to the system.
- Albums must have a title and release date - Each album requires a title and release date so users can accurately differentiate and search for albums, and the system can correctly represent album data.