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Title: Service Independent Playlist Creator

Summary

Sharing playlists of music between a large group of people can be difficult when everyone doesn't listen to music through the same service. This will allow people to create playlists in a generic format that can then be integrated into the users service of choice. This allows people to share their playlists with their friends who can then export it into the streaming service of their choice.

User Requirements

ID	Description	Priority
UR-01	Users can create account	High
UR-02	Users can create a playlist	High
UR-03	Users can search database for song title, album title, artist, and playlist name	High
UR-04	Users can add content (songs, from albums or artists) to a playlist	High
UR-05	Users can remove songs from a playlist	Medium
UR-06	Users can make playlists collaborative	Low
UR-07	Users can share a playlist	High
UR-08	Users can connect their Spotify account to our service	High
UR-09	Users can connect their Tidal account to our service	High
UR-10	Users can connect their Google Play Music account to our service	High
UR-11	Users can export playlists into Spotify	High
UR-12	Users can export playlists into Tidal	High
UR-13	Users can export playlists into Google Play Music	High

Non-Functional Requirements

ID	Description	Priority
NFR-01	Search has to be less than 20ms	High
NFR-02	Service should support thousands of concurrent users	High
NFR-03	Should be able to expand to other music services easily	Medium

Functional Requirements

ID	Description	Priority
FR-01	When a user creates an account, a user record has to be added to the database	High
FR-02	When a user creates a playlist, a playlist record is added to the database which includes the name of the playlist and an optional description	High
FR-03	There has to be a database of music for users to search that is categorized by song, album, artist, and playlist	High
FR-04	When users search music database, it has to return any song, artist, or album, or playlist that matches the search query	High
FR-05	When a user selects a song to add to a playlist, a list of all playlists that the user owns or can collaborate on is returned to the user	High
FR-06	After selecting which playlist to add a song to, an association is created between the song and the playlist	High
FR-07	When a user selects an entire album to add to a playlist, a list of all playlists that the user owns or can collaborate on is returned to the user	High
FR-08	After selecting which playlist to add an entire to, an association is created between all the songs in the album and the playlist	High
FR-09	When a user chooses to view an album, all the songs on that album are listed	High
FR-10	When a user selects an artist, a list of their albums and songs is returned	High
FR-11	When a user removes a song from a playlist, the association between the song and playlist is removed	Medium
FR-12	When a user chooses to make a playlist collaborative, a flag is set allowing users other than the owner to edit the playlist	Low

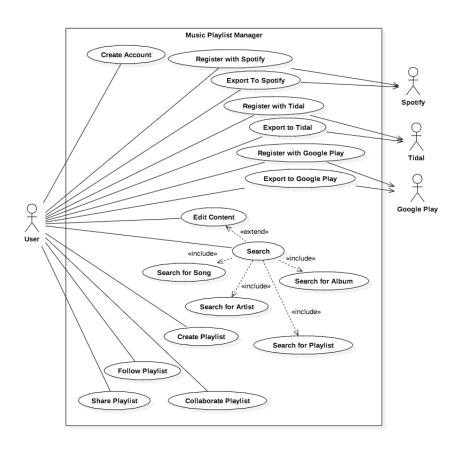|		
FR-13	When a user chooses to share a playlist, a unique link has to be created, based on the playlist id. This link has to be able to direct back to the playlist	High
FR-14	When a user connects their Spotify account with our service, our system will need to make a connection with Spotify to authorize the account	High
FR-15	After authorizing the connection with Spotify, their Spotify credentials need to be stored with the user's record	High
FR-16	When a user connects their Tidal account with our service, our system will need to make a connection with Tidal to authorize the account	High
FR-17	After authorizing the connection with Tidal, their Tidal credentials need to be stored with the user's record	High
FR-18	When a user connects their Google Play Music account with our service, our system will need to make a connection with Google Play Music to authorize the account	High
FR-19	After authorizing the connection with Google Play Music, their Google Play Music credentials need to be stored with the user's record	High
FR-20	When exporting a playlist to Spotify a new playlist has to be created for the Spotify account associated with our user	
FR-21	When exporting a playlist to Spotify, each song has to be searched for using the Spotify API to get the song's id for Spotify. Then each song has to be added to the playlist that was created in FR-20	
FR-22	When exporting a playlist to Tidal a new playlist has to be created for the Tidal account associated with our user	
FR-23	When exporting a playlist to Tidal, each song has to be searched for using the Tidal API to get the song's id for Tidal. Then each song has to be added to the playlist that was created in FR-22	
FR-24	When exporting a playlist to Google Play Music a new playlist has to be created for the Google Play Music account associated with our user	
FR-25	When exporting a playlist to Google Play Music, each song has to be searched for using the Google Play Music API to get the song's id for Google Play Music. Then each song has to be added to the playlist that was created in FR-24	

Use Cases

Figure 1: System Use Case Diagram

Below are the two use case documents:

Use Case ID:	UR-03
Use Case Name:	Search
Description:	Users can search songs, albums, artists and playlists from database
Actors:	Users
Pre-conditions	User is logged in
Post-conditions	User got a search result
Frequency of Use:	Daily
Flow of Events:	

		Actor Action	System Response
	1	User enters a string in the search field	
	2		System find songs in database that match the string
	3		System find artists in database that match the string
	4		System find albums in database that match the string
	5		System find playlists in database that match the string
	6		System displays results
	7	User views results	

Variations:	
Exceptions:	
Developer Notes:	

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	3		System find artists in database that match the string
	4		System find albums in database that match the string
	5		System find playlists in database that match the string
	6		System displays results
	7	User views results	
Variations:		
Exceptions:		
Developer Notes:		

Use Case ID:	UR-04			
Use Case Name:	Add Playlist Content			
Description:	Users can add content to a playlist.			
Actors:	Users			
Pre-conditions	Users are logged in. Users have searched for content in the system (see UR-03)			
Post-conditions	User has added a song or album to the playlist			
Frequency of Use:	As frequently as desired			
Flow of Events:			**Actor Action**	**System Response**
	1		User selects the search term results for a song.	System displays available playlists.
	2		User selects playlist to add song.	System displays playlist with new song added.
Variations:				
	(a)	1	User selects the search term results for an album.	System displays all songs from album.
		3	User can either add entire album or choose a song (see previous variation)	System prompts user for which playlist to add content to.
		4	User chooses playlist.	System displays playlist with new content added.
	(b)	1	User selects the search term results for an artist.	System displays artists albums.
		2		System displays artists songs.
		3	User selects playlist to add song or album to (see previous two variations)	System prompts user for which playlist to add content to.
		4	User chooses playlist.	System displays playlist with new content added.
Exceptions:				
Developer Notes:				