SEN4017 Project: Music Player

a. Music Player application allows users to create accounts, create playlists, add tracks into them and listen to the songs they added to their playlists. Users login/signup through entering their credentials which are saved to the database. Users can add new playlists or delete playlists, add songs into the playlists and play songs by selecting a playlist and a song from their treeviews. Users can pause, unpause, and rewind songs, listen to them and view their album cover.

|	Duru Dokuzluoğlu	Meltem Meydan	Anka Berk Manduz
Planning and Documentation			
Project Management	R		
Main Application GUI Development			
Welcome Page	A	R	I
Signup	A	R	I
Login	A	R	I
Main Page	R	I	I
Create Playlist	R	I	I
Search Song	R	I	I
Audio Player	A	I	R
Additional Development			
Add Song	R		I
Edit Users	R		I

Legend

R Responsible

A Accountable

C Consulted
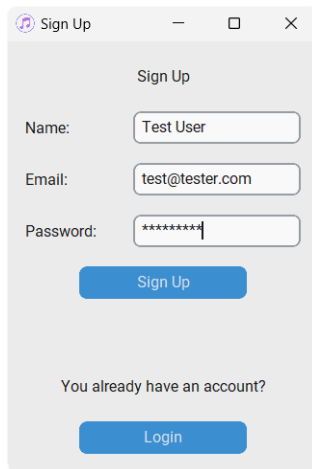
I Informed

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b. Schema Diagram:
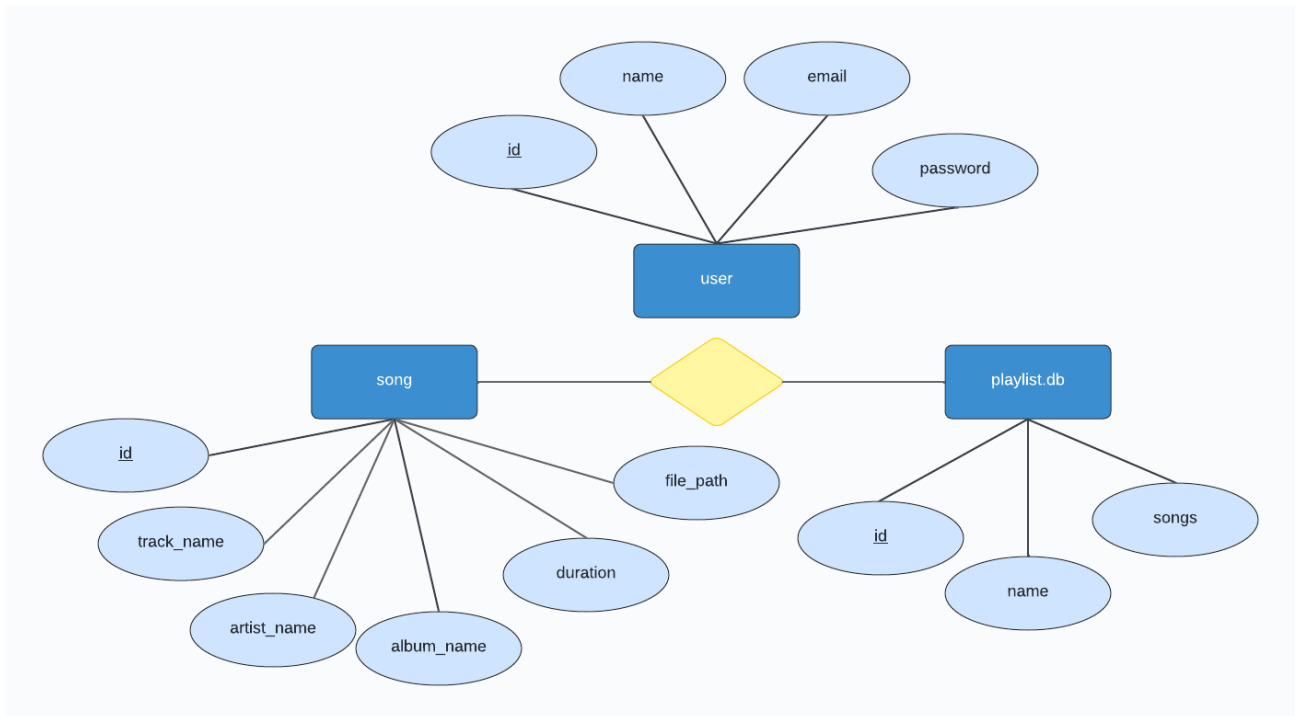
c. GUI Windows
1. Welcome Page
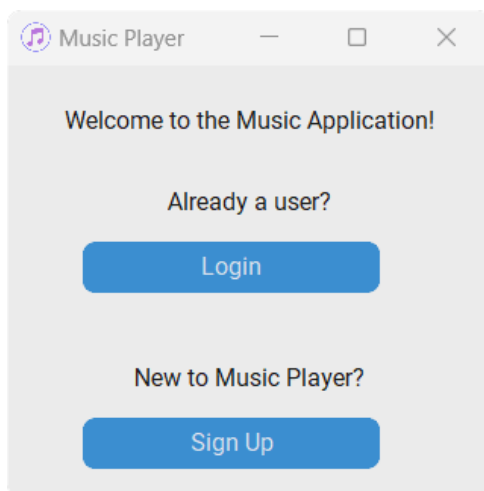
The application starts with the welcome page. The user is given two options, either to login or to signup by clicking one of the buttons. After clicking one, the user is forwarded the the according GUI.
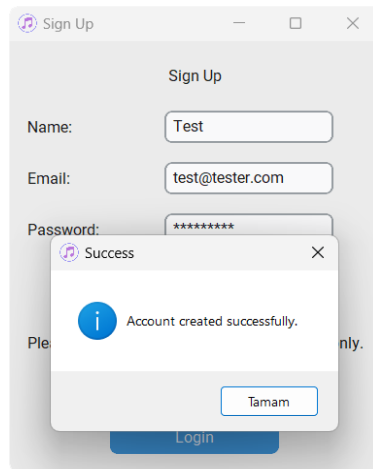
2. Sign Up
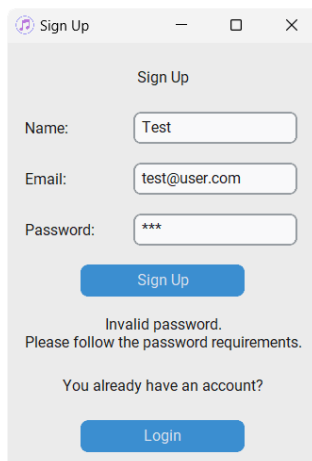
The application starts with the sign up page. Users enter their credentials to the according text fields to create their accounts. If user already has an account, they can be forwarded to the login GUI via the *Login* button. Name, email, and password text fields have certain filters to avoid execution of database tasks with invalid inputs. Email and password input criteria is based on universal standards, and password is saved to the database after hashing for data security. If the user enters an invalid input, they are informed accordingly as shown in the figures:
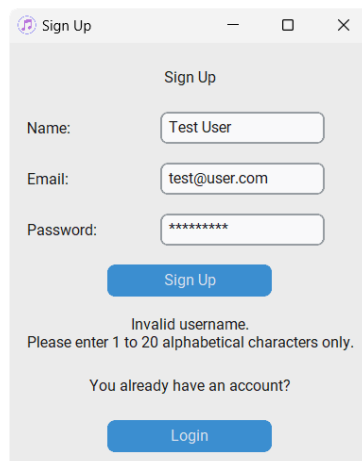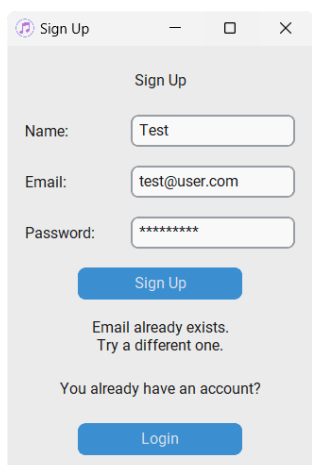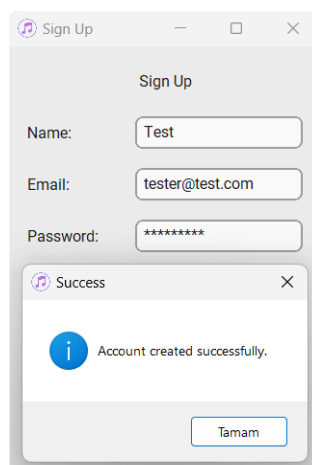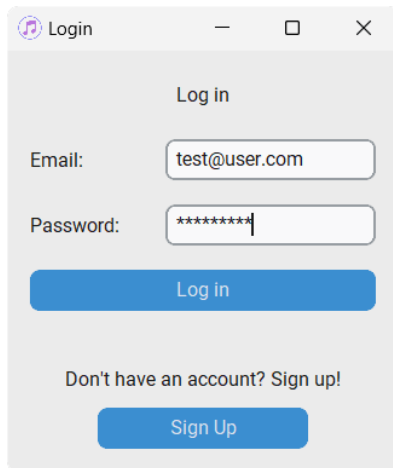

The user database is checked to see if a user with the same email exists. If so, user is informed through a label and is unable to create the account with that email. If not, the user is saved to the database.
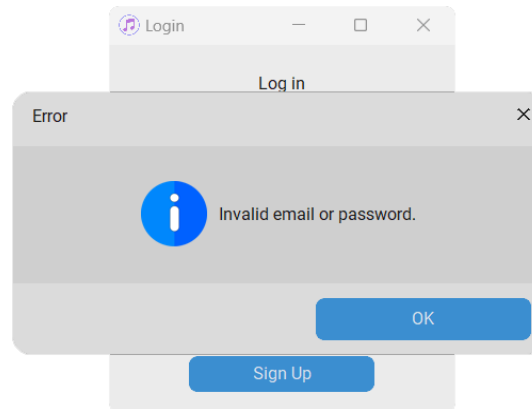
3. Log in
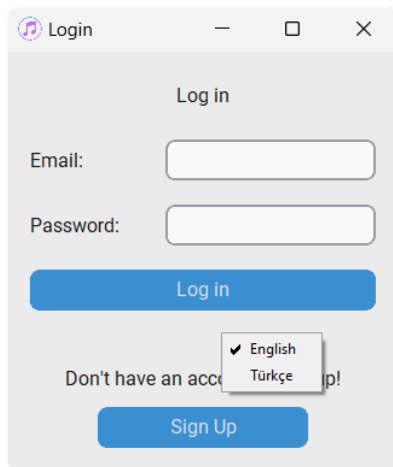

At the login page, users enter their credentials to login to the music application. Given inputs are checked from the database and if there is such user, user is forwarded to the main page of the application.
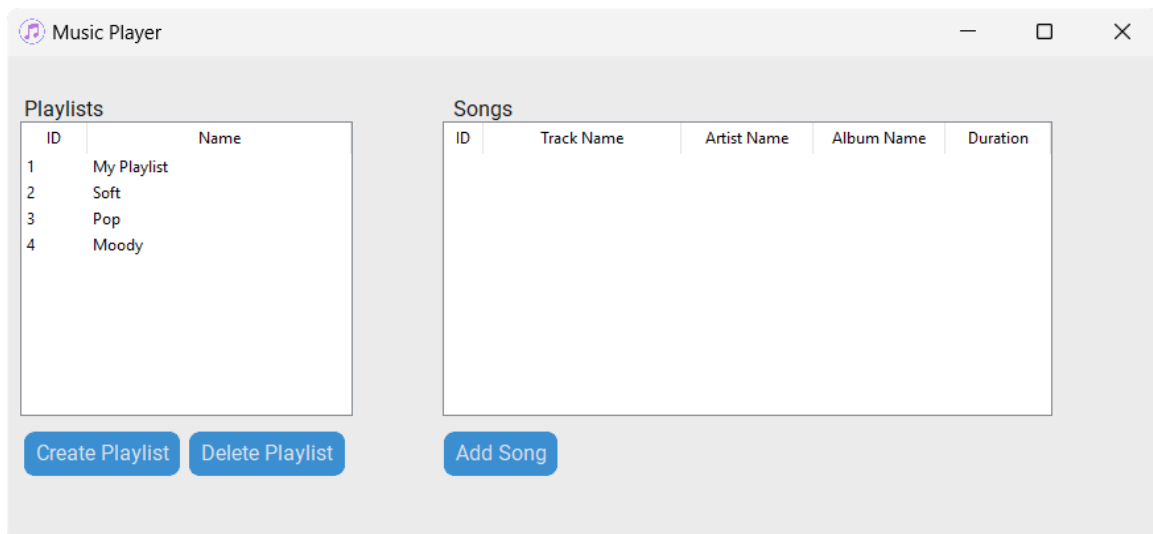
Language Patch is used to translate this GUI. Using language files with the .*lng* extension, this page is able to be displayed in English or Turkish once right clicked at the main frame from the context menu.

4. Main Page

Main Page is where users can view already created playlists, create playlists, delete playlists, add songs to the selected playlist, and play music from the selected playlist. The treeview for

playlists and songs use *playlist.db* and *song.db* to gather data from. Once a playlist is clicked, users can view the songs inside and make additions themselves. *Create Playlist* button forwards users to the Create Playlist GUI and *Add Song* button forwards users to the Search Song GUI.
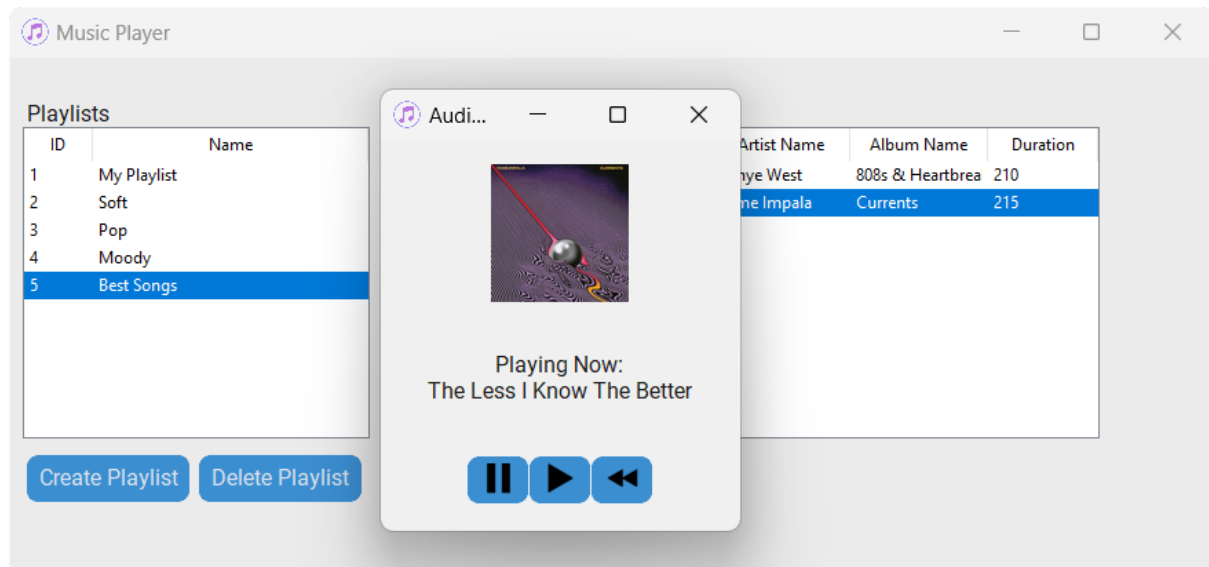
5. Create Playlist
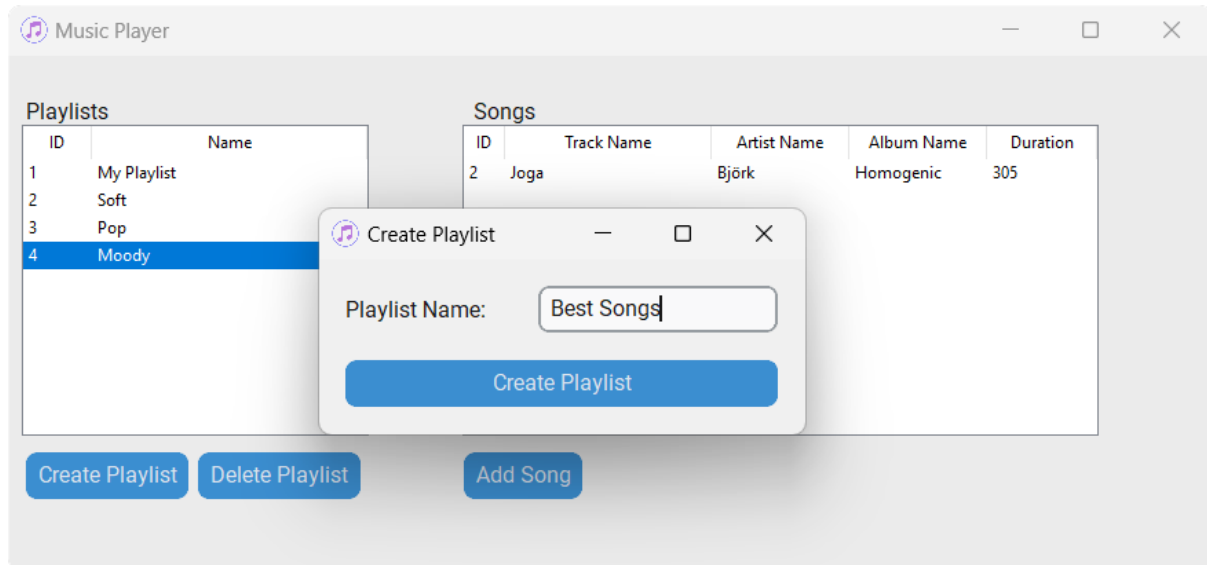
Create Playlist GUI adds a new playlist with the given name to the *playlist.db*.

6. Search Song
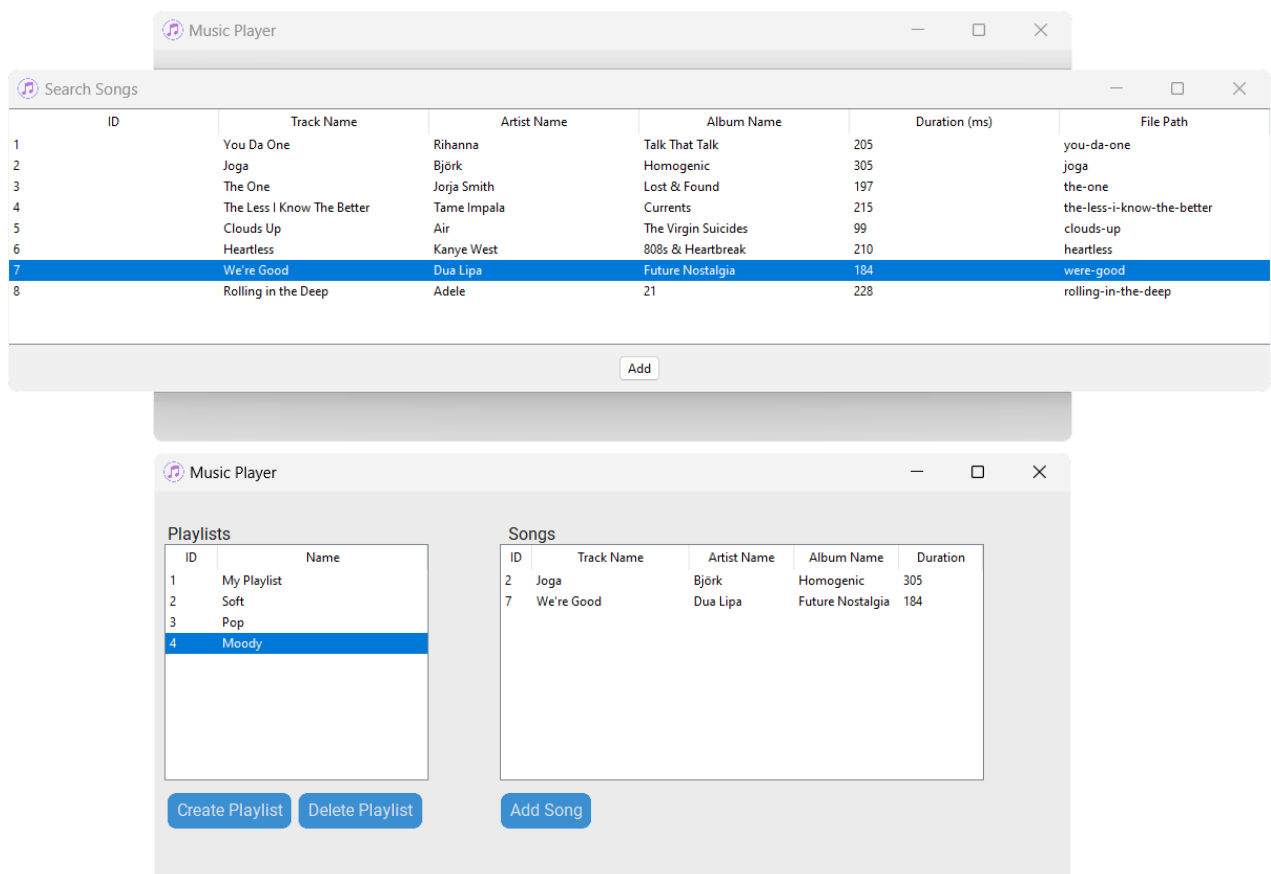
At the search song GUI, all songs at the database are displayed to the user at a treeview where then can select the ones they want and add them their selected playlist by clicking on the *Add* button.

7. Audio Player

After double clicking on a song of a playlist, user is forwarded to the Audio Player GUI where the selected song is played. There are three buttons to pause, start, and rewind the music. pygame is used for playing the music. pygame gathers the music from the *~/src/songs* file and finds each song by their file path attributes.

8. Admin Page
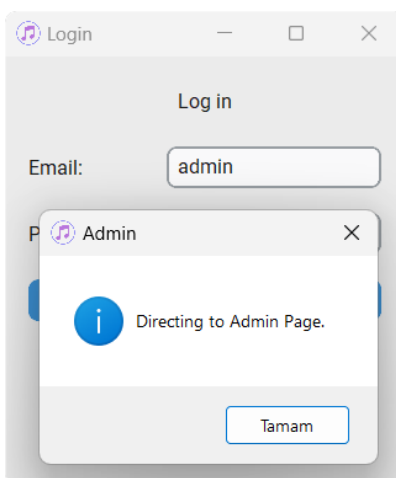
By writing the admin credentials at the login page, the user is forwarded to the admin page where they can edit users or add new songs to the database.

9. Add Song

New songs can be added to the database using this GUI. It has several text fields and a treeview which represent the columns of *song.db*. By entering inputs at the text fields, clicking on save and delete buttons; users can save new songs, edit existing songs, or delete songs. *song.db* is displayed at the treeview and database.py is used for that function as in other tables throughout the project.

10. Edit Users

Users can remove existing users from this table by clicking the *Remove* button where all users in *users.db* are displayed