System Test Plan

Testing the system is not obvious since there could be emergent behavior when creating the system. In other words, some elements of system functionality only becomes obvious when you actually put the components together. Thus our system testing mainly focuses on testing the interactions between the components and objects that form the system and because of its focus on interactions, we developed the tests based on the sequence diagram. Furthermore, all system functions that can be accessed through the interface should be tested with correct and incorrect input to all functions to examine correct output. In this test, there might be unexpected situations where system would fail, however, our expectation is to achieve 99 % test coverage since all the methods are being tested thoroughly.

Test Situations – Features of the system to be manually tested

Description:

The following test situations describe the manual tests to be performed on the complete system. These tests apply for the three apps (desktop, mobile and web) and they are divided into pairs for the situations with correct and with incorrect inputs. The descriptions include the expected results that need to be verified in the different components of the system.

1. Adding an album to the library with all the fields (name, genre, release Date) filled correctly.
    After pressing the "AddAlbum" button, verify that:
    a. In the application: the album name appears in the albums spinner.
    b. In the persistence file: The album object is present with all the correct fields.

2. Adding an album to the library with one or more fields (name, genre, release Date) filled incorrectly.
    2.1. The name field is empty or just filled with spaces " ".
    2.2. The genre is not selected.
    2.3. The date is not selected.
    After pressing the "AddAlbum" button, verify that:
    a. In the application: The correct error message is shown.
    b. In the application: the album name does not appear in the albums spinner.
    c. In the persistence file: The album object or any of its fields are not present.

3. Add an artist to the library with the name field filled.
    After pressing the "AddArtist" button, verify that:
    a. In the application: the artist name appears in the artists spinner.
    b. In the persistence file: The artist object is present with the artist name.

4. Add an artist to the library with the name field empty filled or only with spaces " ".
    After pressing the "AddArtist" button, verify that:
    a. In the application: The correct error message is shown.
    b. In the application: the artist name does not appear in the artists spinner.
    c. In the persistence file: The artist object or its name are not present.

5. Add a song to the library with all the fields (title, duration, position in album, album, artist) filled correctly.
   After pressing the "AddSong" button, verify that:
      a. In the application: the song name appears in the songs spinner.
      b. In the persistence file: The song object is present with all the correct fields.

6. Add a song to the library with one or more fields (title, duration, position in album, album, artist) filled incorrectly.
   6.1. The title is field is empty or just filled with spaces "   ".
   6.2. The duration is not selected.
   6.3. The position in album is empty or zero.
   6.4. The album is not selected in the album spinner.
   6.5. The artist is not selected in the artist spinner.
   After pressing the "AddSong" button, verify that:
      a. In the application: The correct error message is shown.
      b. In the application: the song name does not appear in the songs spinner.
      c. In the persistence file: The song object or any of its fields are not present.

7. Add a playlist to the library with the name field filled.
   After pressing the "AddPlaylist" button, verify that:
      a. In the application: the playlist name appears in the playlists spinner.
      b. In the persistence file: The playlist object is present with the playlist name.

8. Add a playlist to the library with the name field empty filled or only with spaces "   ".
   After pressing the "AddPlaylist" button, verify that:
      a. In the application: The correct error message is shown.
      b. In the application: the playlist name does not appear in the playlists spinner.
      c. In the persistence file: The playlist object or its name are not present.

9. Add a location with the name field filled.
   After pressing the "AddLocation" button, verify that:
      a. In the application: the location name appears in the locations spinner.
      b. In the persistence file: The location object is present with the location name.

10. Add a location to the library with the name field empty filled or only with spaces "   ".
    After pressing the "AddLocation" button, verify that:
       a. In the application: The correct error message is shown.
       b. In the application: the location name does not appear in the location spinner.
       c. In the persistence file: The location object or its name are not present.

11. Add a song to an existing playlist (both song and playlist are specified)
    After pressing the "AddSongToPlaylist" button, verify that:
       a. In the persistence file: The specified song's ID appears within the specified playlist.

12. Add a song to an existing playlist (song and/or playlist are not specified)
    After pressing the "AddSongToPlaylist" button, verify that:
    a. In the application: The correct error message is shown.
    b. In the persistence file: The specified song's ID does not appear within the specified playlist.

13. Assign a song to an existing location (both song and location are specified)
    After pressing the "AssignSongToLocation" button, verify that:
    a. In the persistence file: The specified song's ID appears within the specified location.

14. Assign a song to an existing location (song and/or location are not specified)
    After pressing the "AssignSongToLocation" button, verify that:
    a. In the application: The correct error message is shown.
    b. In the persistence file: The specified song's ID does not appear within the specified playlist.

15. Assign an album to an existing location (both album and location are specified)
    After pressing the "AssignAlbumToLocation" button, verify that:
    a. In the persistence file: The specified album's ID appears within the specified location.

16. Assign an album to an existing location (album and/or location are not specified)
    After pressing the "AssignAlbumToLocation" button, verify that:
    a. In the application: The correct error message is shown.
    b. In the persistence file: The specified album's ID does not appear within the specified playlist.

17. Assign a playlist to an existing location (both playlist and location are specified)
    After pressing the "AssignPlaylistToLocation" button, verify that:
    a. In the persistence file: The specified playlist's ID appears within the specified location.

18. Assign a playlist to an existing location (playlist and/or location are not specified)
    After pressing the "AssignPlaylistToLocation" button, verify that:
    a. In the application: The correct error message is shown.
    b. In the persistence file: The specified playlist's ID does not appear within the specified playlist.

19. Clear previously assigned songs/albums/playlist from all locations (location specified)
    After pressing the "ClearAllLocations" button, verify that:
    a. In the persistence file: The specified locations do not have any song, album or playlist assigned (there is no IDs inside of the locations).

20. Clear previously assigned songs/albums/playlist from all locations (location not specified)
    After pressing the "ClearAllLocations" button, verify that:
    a. In the application: The correct error message is shown.

b. In the persistence file: All locations have the previously assigned songs, albums or playlists within them.

21. Play currently assigned songs/albums/playlist at locations with music assigned (one or more location has music assigned)
    After pressing the "PlayAtSelectedLocations" button, verify that:
    a. In the application: Correct messages displayed, shown which songs/albums/playlist are being played in which locations.

22. Play currently assigned songs/albums/playlist at locations with music assigned (no locations have music assigned)
    After pressing the "PlayAtSelectedLocations" button, verify that:
    a. In the application: The correct error message is shown.

23. Change the volume of an existing location (location and volume specified)
    After pressing the "ChangeLocationVolume" button, verify that:
    a. In the persistence file: The volume value has been changed for the specified location.

24. Change the volume of an existing location (location and/or volume not specified)
    After pressing the "ChangeLocationVolume" button, verify that:
    a. In the application: The correct error message is shown.
    b. In the persistence file: The volume value has not been changed for any location.

25. Mute an existing location (location specified)
    After pressing the "MuteLocation" button, verify that:
    a. In the persistence file: "isMuted" variable set to true for the specified location.

26. Mute an existing location (location not specified)
    After pressing the "MuteLocation" button, verify that:
    a. In the application: The correct error message is shown.
    b. In the persistence file: "isMuted" variable's value not changed for any location.