

SE Bonus : Transition Systems

1. User Management System(S1) :

a. **U** : (Actions) :

- i. **SelectSignIn** - Click on SignIn Button
- ii. **SelectRememberMeCheckbox** - Click on remember me checkbox (during SignIn)
- iii. **ChangePassword** - Change Password and Click on save
- iv. **SelectLogout** - Click on Logout Button
- v. **SelectActivateRemoteControlCheckBox** - Click on Activate Remote Control CheckBox
- vi. **SelectConnectLastFM** - Click on Connect Last.fm button

b. **Y**: (Observables) :

- i. Initial User Dashboard with no song/playlist selected.
- ii. Login page with autofilled username and password.
- iii. Account Update - User password changed : pop-up
- iv. Back to SignIn page (when logout)
- v. Activate Remote Control preference saved and enabled
- vi. User's Last.fm account is connected with Music application

c. **X** : (set of all states) :

- i. SignInPage
- ii. SignInPageAutofilled
- iii. InitialUserDashboard
- iv. MyAccountPage
- v. MyAccountPageWithPopUp
- vi. RemoteControlPage
- vii. RemoteControlPreferenceEnabled
- viii. Last.fmNotConnected
- ix. Last.fmConnected

d. **X0** : (set of initial states) :

- i. SignInPage

e. **h** : (Display Map) :

- i.

State	Observables
SignInPage	Music Application SignIn page
SignInPageAutofilled	User details autofilled on SignIn page

InitialUserDashboard	Music App User Dashboard is loaded (with no song/playlist selected)
MyAccountPage	MyAccountPage is loaded
MyAccountPageWithPopUp	AccountUpdate - User password changed pop-up shown on MyAccountPage
RemoteControlPage	ActivateRemoteControl checkbox is not ticked
RemoteControlPreferenceEnabled	ActivateRemoteControl checkbox is ticked
Last.fmNotConnected	MyAccountPage with Last.fm Connect button
Last.fmConnected	AccountUpdate - Last.fm account integrated pop-up shown on MyAccountPage

ii.

f. **f** : (Transition Relation) :

Current State	Action	Next State
SignInPage	SelectSignIn	InitialUserDashboard
SignInPage	SelectRememberMeCheckbox	SignInPageAutofilled(for next time)
MyAccountPage	ChangePassword	MyAccountPageWithPopUp
InitialUserDashboard	SelectLogout	SignInPage
RemoteControlPage	SelectActivateRemoteControlCheckBox	RemoteControlPreferenceEnabled
Last.fmNotConnected	SelectConnectLastFM	Last.fmConnected

2. Library Management System(S2) :

a. **U** : (Actions) :

- i. **LoadSongs** - Load all user songs
- ii. **EnterInSearchSong** - Search for a song
- iii. **ClickAddSong**- Click on Add song button
- iv. **ClickUploadSong** - Click on upload button
- v. **EnterInImportURL** - Type in import URL textbox
- vi. **ClickImportSong** - Click on Import Song Button
- vii. **ClickAddToPlaylist**- Click on AddToPlaylist Button
- viii. **ClickAddAlbumCover** - click on Add Album Cover Button
- ix. **EnterInSearchPlaylist** - Type in Search In Playlist Textbox
- x. **ClickOnLatestAlbums** - Click on Latest Albums Section
- xi. **ClickOnMostListenedAlbums** - Click on Most Listened Albums Section
- xii. **SelectSortingCriteria** - Select sorting criteria(Play count etc.,) for displaying songs

b. **Y**: (Observables) :

- i. Loaded Songs on User Dashboard
- ii. Selected Song Displayed on top
- iii. Loaded Add Songs options
- iv. Song is imported and added to library
- v. Song is imported from URL and added to library
- vi. Song is added to specified playlist
- vii. Album cover is updated
- viii. Selected Playlist Displayed on top
- ix. Latest Albums are displayed on top
- x. Most Listened Albums are displayed on top
- xi. Songs are shown according to selected criteria

c. **X** : (set of all states) :

- i. **InitialUserDashboard**
- ii. **LoadedSongsInUserDashboard**
- iii. **SelectedSongDisplayed**
- iv. **LoadedAddSongsOptions**
- v. **SongAddedToLibrary**
- vi. **SongImportedFromURLToLibrary**
- vii. **SongAddedToPlaylist**
- viii. **AlbumCoverUpdated**
- ix. **SelectedPlaylistLoaded**
- x. **LatestAlbumsLoaded**
- xi. **MostListenedAlbumsLoaded**
- xii. **SongsLoadedBasedOnCriteria**
- xiii. **MyMusicTab**

d. **X0** : (set of initial states) :

i. InitialUserDashboard

h : (Display Map) :

State	Observables
InitialUserDashboard	Initial User Dashboard is seen
LoadedSongsInUserDashboard	Loaded Songs on User Dashboard
SelectedSongDisplayed	Selected Song Displayed on top
LoadedAddSongsOptions	Loaded Add Songs options
SongAddedToLibrary	Song is imported and added to library
SongImportedFromURLToLibrary	Song is imported from URL and added to library
SongAddedToPlaylist	Song is added to specified playlist
AlbumCoverUpdated	Album cover is updated
SelectedPlaylistLoaded	Selected Playlist Displayed on top
LatestAlbumsLoaded	Latest Albums are displayed on top
MostListenedAlbumsLoaded	Most Listened Albums are displayed on top
SongsLoadedBasedOnCriteria	Songs are shown according to selected criteria

f : (Transition Relation) :

Current State	Action	Next State
InitialUserDashboard	LoadSongs	LoadedSongsInUserDashboard
InitialUserDashboard	EnterInSearchSong	SelectedSongDisplayed
InitialUserDashboard	ClickAddSong	LoadedAddSongsOptions

LoadedAddSongsOptions	ClickUploadSong	SongAddedToLibrary
LoadedAddSongsOptions	EnterInImportURL	SongImportedFromURLToLibrary
LoadedAddSongsOptions	ClickImportSong	SongAddedToLibrary
SelectedSongDisplayed	ClickAddToPlaylist	SongAddedToPlaylist
InitialUserDashboard	ClickAddAlbumCover	AlbumCoverUpdated
InitialUserDashboard	EnterInSearchPlaylist	SelectedPlaylistLoaded
InitialUserDashboard	ClickOnLatestAlbums	LatestAlbumsLoaded
InitialUserDashboard	ClickOnMostListenedAlbums	MostListenedAlbumsLoaded
MyMusicTab	SelectSortingCriteria	SongsLoadedBasedOnCriteria

3. Admin Management System(S3) :

a. U : (Actions) :

- i. **SelectAddUser**- Click on Add button in Users Tab
- ii. **SelectDeleteUser**- Click on Delete Button after selecting a user
- iii. **SelectLogs** - Click on Logs Tab
- iv. **SelectAddDirectory** - Click on Add Button in Directory Tab
- v. **SelectDeleteDirectory** - Click on Delete Button in Directory Tab
- vi. **SelectRescanDirectory** - Click on Rescan Button in Directory Tab
- vii. **SelectAddTranscoder** - Click on Add button in Transcoder tab

b. Y: (Observables) :

- i. Loaded Admin Dashboard
- ii. Updated Users table(new user added) in Users tab
- iii. Updated Users table(selected user deleted) in Users tab
- iv. Loaded logs in logs tab
- v. Loaded Scanned directories table with added directory
- vi. Delete directory pop-up
- vii. Rescanning directories in-progress pop-up
- viii. Loaded Transcoder in Transcoding tab

c. X : (set of all states) :

- i. InitialAdminDashboard
- ii. InitialUsersTab
- iii. UserAddedInUsersTab
- iv. UserDeletedInUsersTab
- v. LoadedLogsInLogsTab
- vi. InitialDirectoriesTab
- vii. DirectoryAddedInScannedDirectoriesTable
- viii. DirectoryRemovedInScannedDirectoriesTable
- ix. RescanInProgressPopUp
- x. InitialTranscodingTab
- xi. AddedTranscoderInTranscodingTab

d. **X0** (set of initial states) :

- i. InitialAdminDashboard

e. **h**: display map

State	Observables
InitialAdminDashboard	Loaded Admin Dashboard
InitialUsersTab	Loaded Users table in users tab
UserAddedInUsersTab	Updated Users table(new user added) in Users tab
UserDeletedInUsersTab	Updated Users table(selected user deleted) in Users tab
LoadedLogsInLogsTab	Loaded logs in logs tab
InitialDirectoriesTab	Loaded Scanned Directories table
DirectoryAddedInScannedDirectoriesTable	Loaded Scanned directories table with added directory
DirectoryRemovedInScannedDirectoriesTable	Delete directory pop-up
RescanInProgressPopUp	Rescanning directories in-progress pop-up
InitialTranscodingTab	Loaded Empty Transcoding Tab
AddedTranscoderInTranscodingTab	Transcoder added in Transcoding tab

f. **f** : (Transition Relation) :

InitialUsersTab	SelectAddUser	UserAddedInUsersTab
InitialUsersTab	SelectDeleteUser	UserDeletedInUsersTab
InitialAdminDashboard	SelectLogs	LoadedLogsInLogsTab
InitialDirectoriesTab	SelectAddDirectory	DirectoryAddedInScannedDirectoriesTable
InitialDirectoriesTab	SelectDeleteDirectory	DirectoryRemovedInScannedDirectoriesTable
InitialDirectoriesTab	SelectRescanDirectory	RescanInProgressPopUp
InitialTranscodingTab	SelectAddTranscoder	AddedTranscoderInTranscodingTab

4. Last.fm Integration(S4) :

a. **U** : (Actions) :

- i. **SelectLast.fmConnect**: Click on Connect Button in Last.fm scrobbling
- ii. **SelectLast.fmDisconnect**: Click on Disconnect Button in Last.fm scrobbling

b. **Y**: (Observables) :

- i. Last.fm connected pop-up
- ii. Last.fm Disconnected pop-up

c. **X** : (set of all states) :

- I. MyAccountTab
- II. ConnectedPopUpInMyAccountTab
- III. DisconnectedPopUpInMyAccountTab

d. **X0** (set of initial states) :

- i. MyAccountTab

e. **h** : (Display Map) :

- i.

State	Observables
MyAccountTab	Initial MyAccount Tab loaded

ConnectedPopUpInMyAccountTab	Last.fm connected pop-up
DisconnectedPopUpInMyAccountTab	Last.fm Disconnected pop-up

f. **f** : (Transition Relation) :

Current State	Action	Next State
MyAccountTab	SelectLast.fmConnect	ConnectedPopUpInMyAccountTab
MyAccountTab	SelectLast.fmDisconnect	DisconnectedPopUpInMyAccountTab