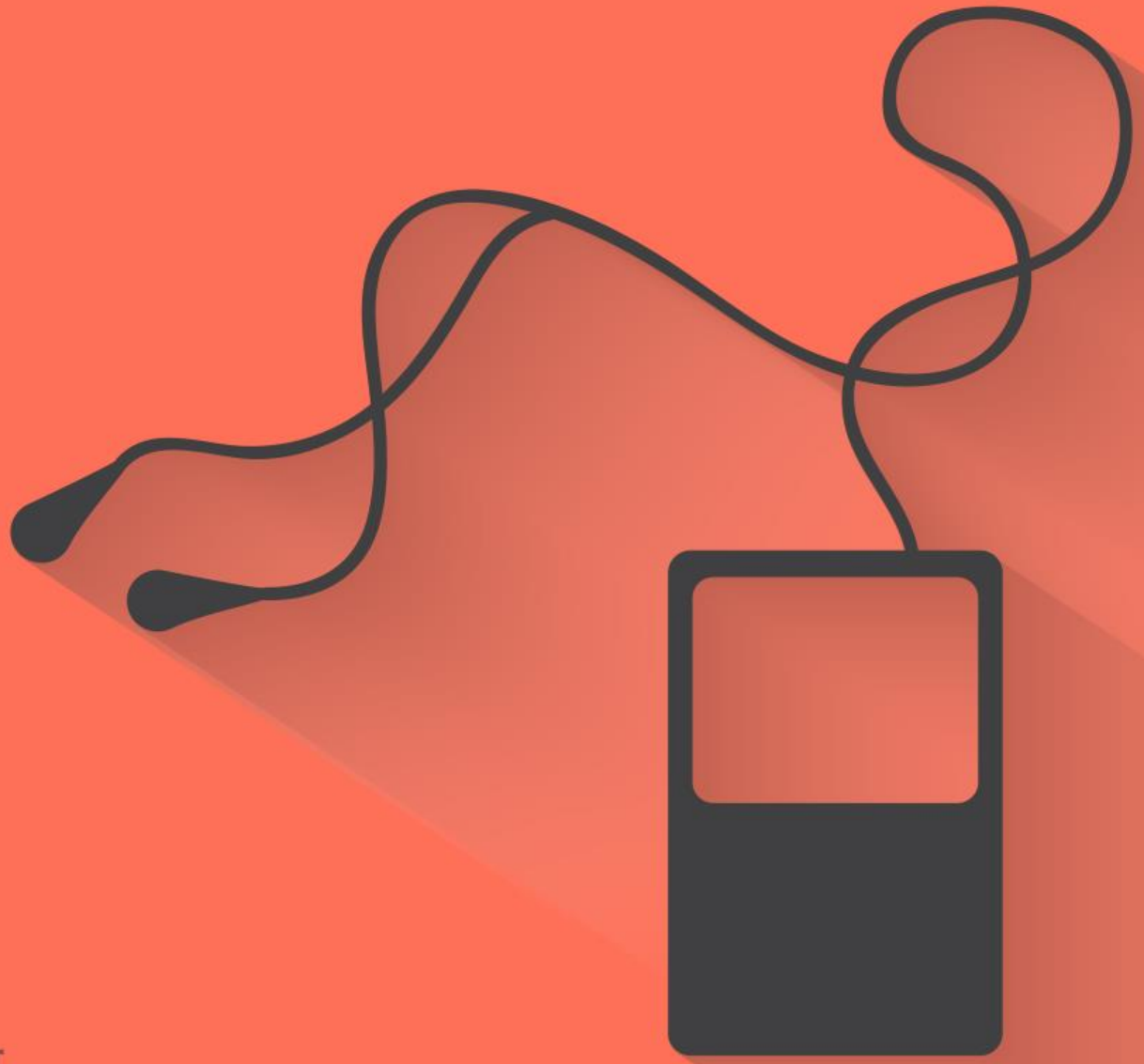
Emotion-Based Music Player



Content

Introduction

- Emotions can be expressed through gestures, speech, facial expressions, etc. For the system to understand a user’s mood, we use emoji’s .
- Project Emotion based music player is a novel approach that helps the user to automatically play songs based on the emotions of the user.
- It recognizes the emotions of the user by the emoji present on the screen and plays the songs according to their emotion.
- Emotion’s plays and important role in human life, it especially plays an important role in extraction of an individual‘s behaviors and emotional state.
- The app recognizes the emotion of the user by an emoji and according to the emotion, the music will be played from the predefined directories.
- This can be accomplished through the system reacting to the user’s emotion, saving time that would have been spent entering information manually.

Product Description

- The Emotion Based Music player requires the user to have a profile to access the application. The user needs to grant permissions for the application to access the device’s storage.
- The application allows users to upload songs and give feedback on the song.
- Emotion-Based Music Player saves the user profile on the device and keeps the profile logged-in until user logs out of the device manually. The Emotion Based Music player requires the user to have a profile to access the application. The user needs to grant permissions for the application to access the device’s storage.
- The system will determine emotions and create play-lists for the user based on emotion captured.
- The application also allows user’s to easily customize the playlists. It recommends songs for the user that may fit their current emotion, helping the user automate the initial song selection. The recommendations are based on the previous information about the user’s preferences and usage.

Product Scope

- Emotion Based Music player is a useful application for music listeners with a smart phone and an Internet connection. The application is accessible by anyone who creates a profile on the system.

- In future, this system can be enhanced with capability of detecting mood using voice, facial expressions and body postures to get more accuracy.

- Also, we can be improved analysis and sorting of user’s playlist by mood at run time.

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- The future scope in the system would to design a mechanism that would be helpful in music therapy treatment and provide the music therapist the help needed to treat the patients suffering from disorders like mental stress, anxiety, acute depression and trauma.

Hardware and Software Specification

Software Configuration :

- Operating system : Android OS 4.0 OR higher
- Front-End Language: XML
- Back-End Languages:SQLlite and Realtime Database
- Data Server: Firebase

Hardware Configuration :

- RAM: 1GB Minimum
- Processor: CoretexA-7 Minimum
- Internal Storage: 100MB Minimum

System Modules

This section illustrates the design and functional phase of the application. Emotion Based Music Player is installed on a mobile device, where the user can access their customized play-lists and play songs based on their emotions. Depicts the overview of the application.

1. **Login/signup phase**: Users have to create a profile in order to store personal date. If the user already has an account, they can log-in to their account to access customized play-lists as well as songs. Once user logs-in, their profile is saved on the application, until they manually log-out. While the user adds songs, their input (i.e category and interest level) is taken by the system.

2. **Add Music** Phase: In this phase all you have to do is select the song from the songs which are available in the device after it you have to choose for which emotion you will you assign it and you have to name that song. After you are done with all this the song will be uploaded to the firebase storage with an unique id and it will be assigned to the particular emotion.

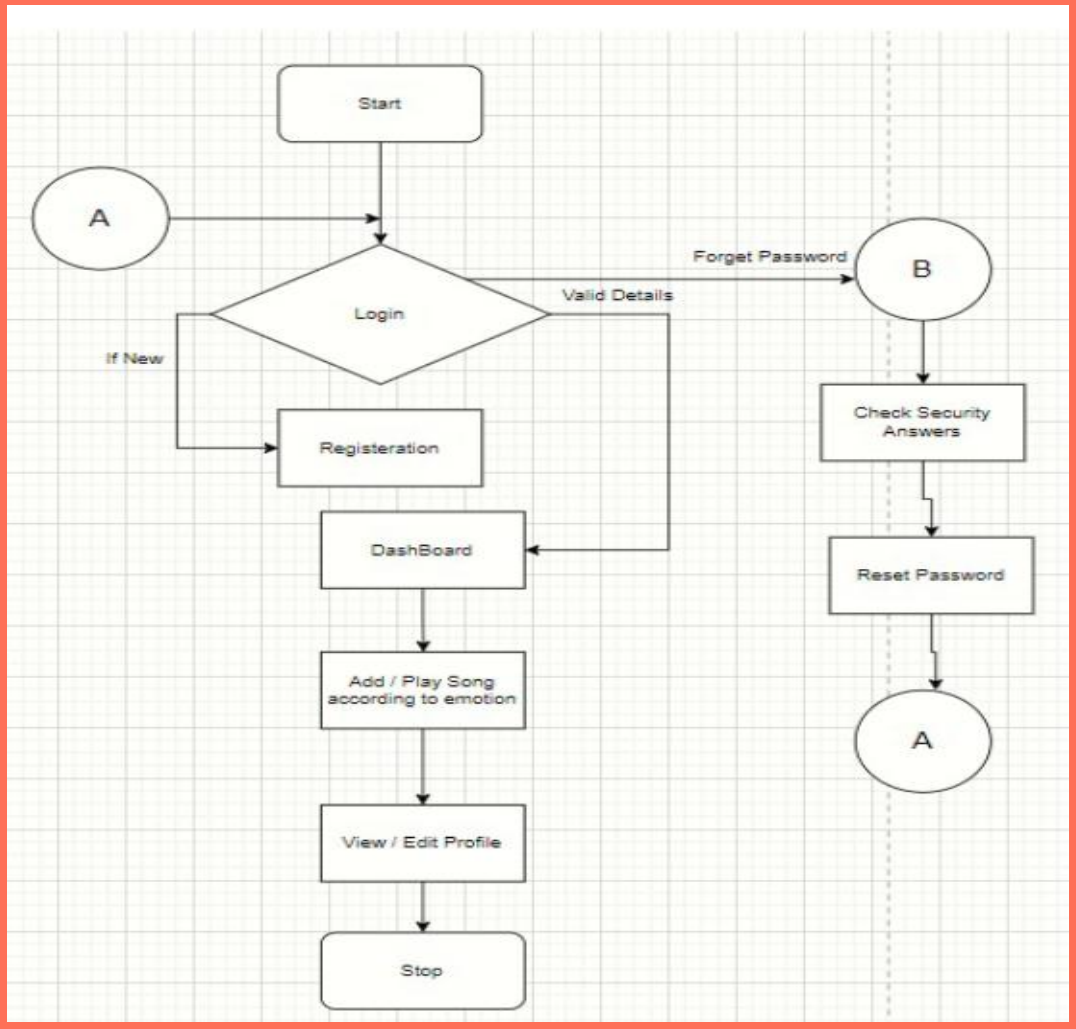
3. **Display Phase :** Here, the songs are organized based on algorithm and the user can play any song from the list displayed. The user has the option to add, remove, modify the songs and also can change category and interest level of a song at any time in the application.

Sign-Up and Login

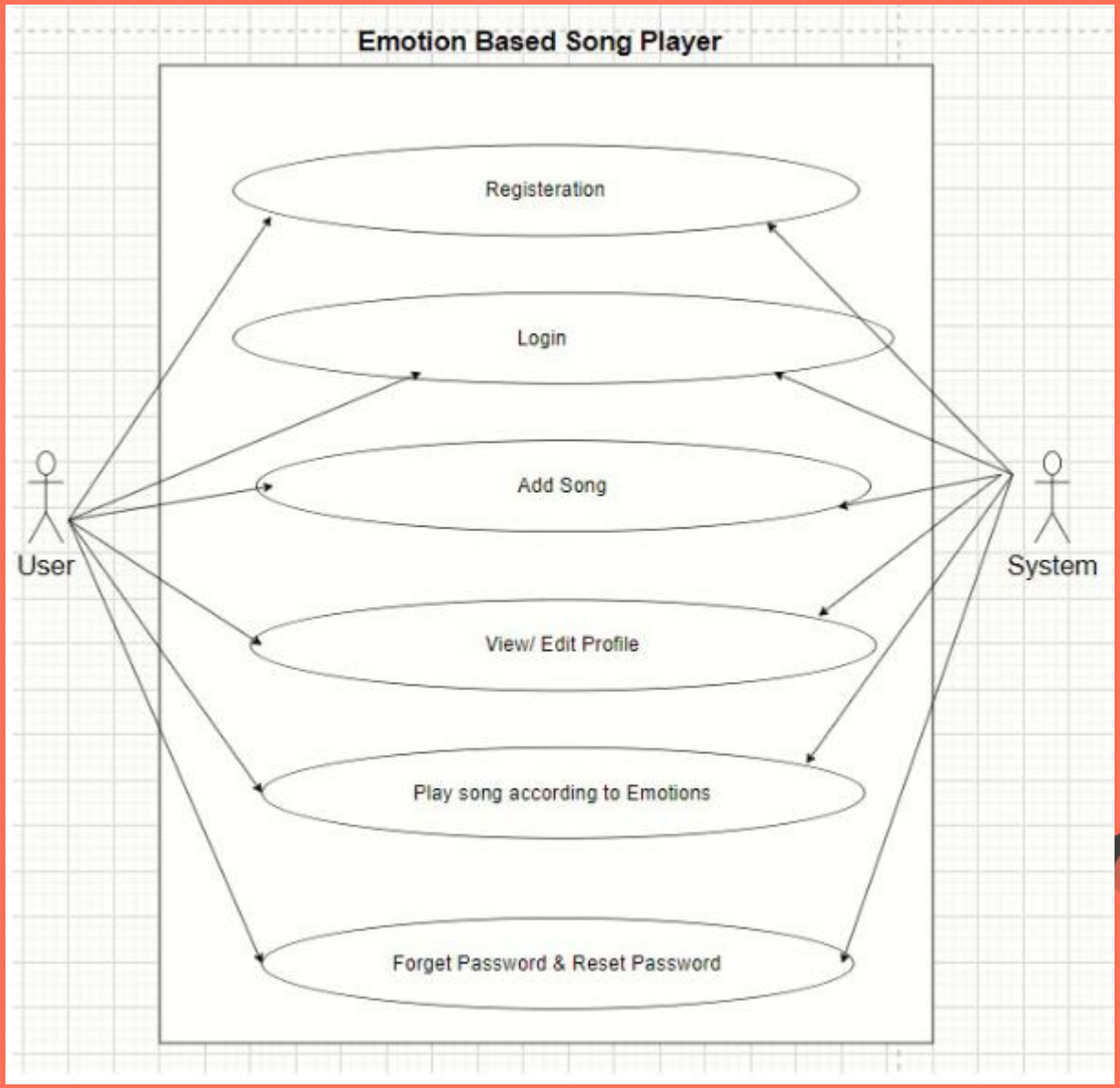
- If the user is accessing the application for the first time, they need to register for the application.
- The user must give valid email address, username, mobile number, gender and password.
- If the user forgets their password there are security questions to reset the password.
- All the information is validated and account creation is finished. Users cannot create multiple accounts with the same email.
- The user should provide a registered username and corresponding password to log-in to the application and the information will be saved on cloud.
- The application saves the user's authentication information as the default. The user can log-out of the application any time. The user is redirected to an error page if they enter the wrong credentials or if they are non-registered.

UML DIAGRAMS

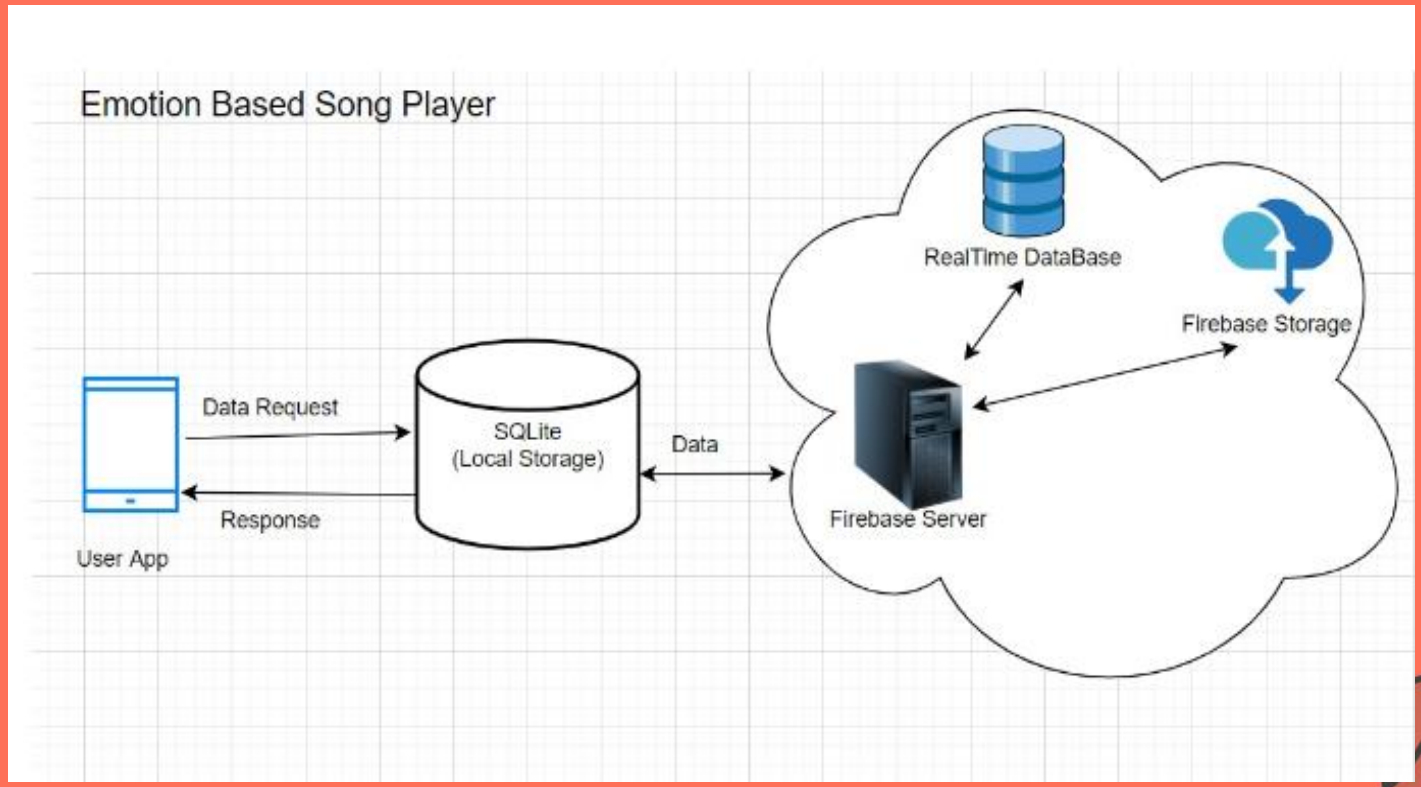
- FLOWCHART



❖ USE CASE DIAGRAM

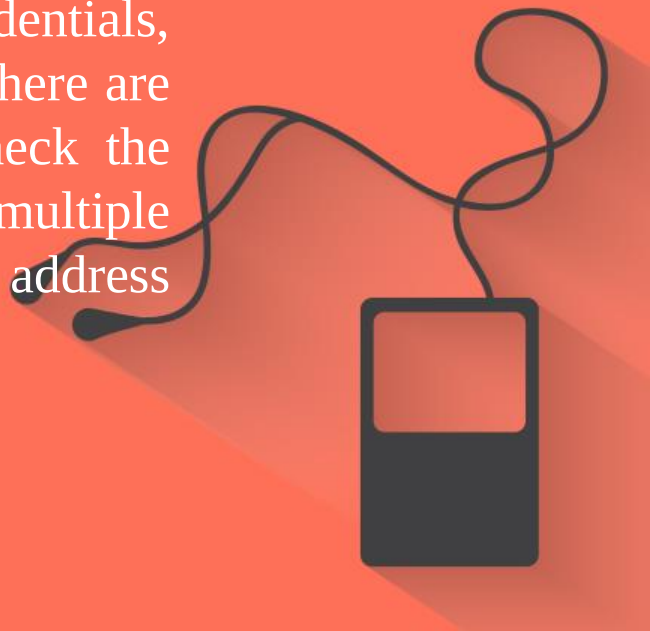


❖ ACTIVITY DIAGRAM



Project Testing

- **Login test:-**The user must be able to create a profile, and if they already have a profile, they must be able to log-in and see their personal data. If the user forgets his password, he must be able to reset password. The test for this scenario is to check if email is in proper format and credentials are validated. If user does not enter email properly, then the error as shown in is displayed. If the user tries to log-in to application using wrong credentials, the error message as shown in Fig is displayed. There are similar test cases for the sign-up process to check the redundancy of user accounts. User's can have multiple accounts with same user name, but the email address should be different.

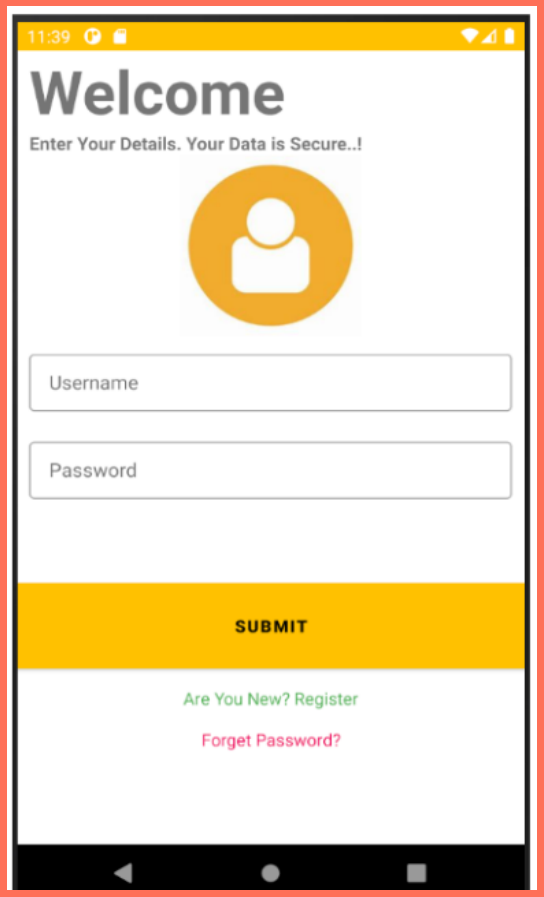


- **Test Case for Adding or Editing a Song:-**

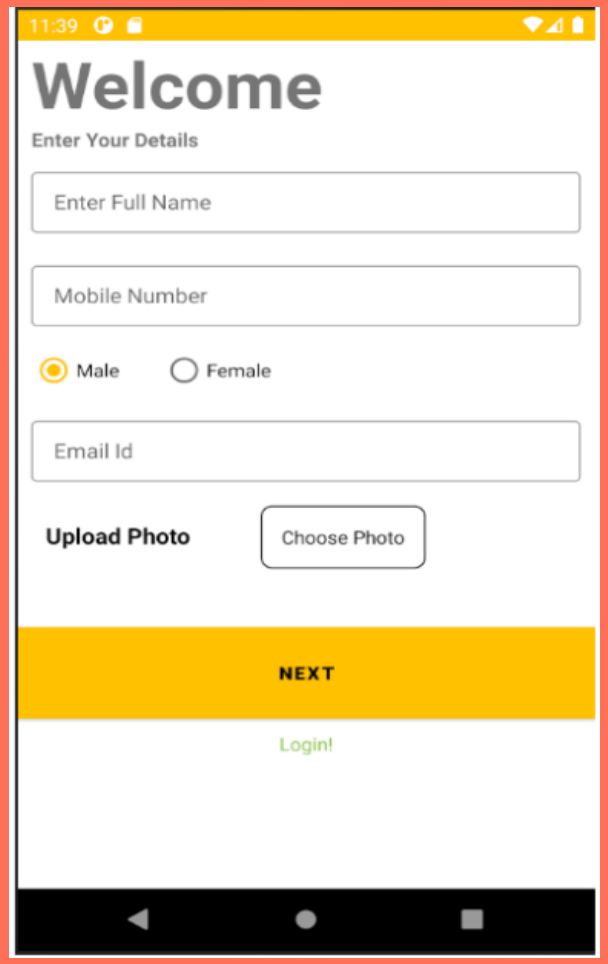
  The user must provide the category and interest level of the song that is uploaded.

  If the user does not provide this information, they will see the error message . All fields are mandatory while adding and editing a song. The weight is calculated based on these fields every time.

Snapshots

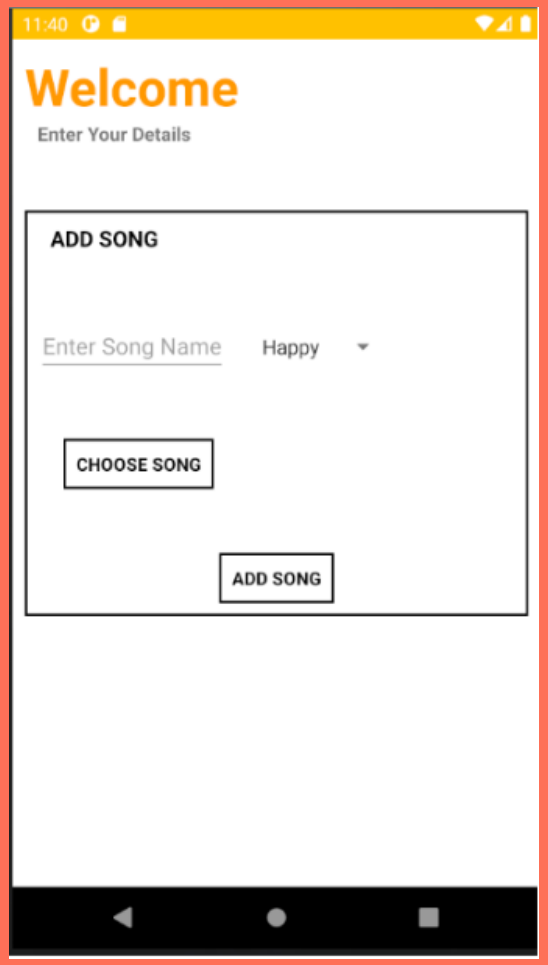


- Login page contain Submit Button two textfields for username password along with two textview one is are you new? Register and the other is forgot password



- Registration page contain next Button and choose photo button, one JRadio button and three textFields for registration

- Home page contain different Buttons which redirects to their activity



- Add music page contains of one textfield to enter the name of song two buttons one is choose song to choose the song from the phone storage and second is add song which is to assign the song to particular emotion and one drop down button to assign the song to a particular emotion

Conclusion

The Emotion-Based Music Player is used to automate and give a better music player experience for the end user. The application solves the basic needs of music listeners without troubling them as existing applications do: it uses technology to increase the interaction of the system with the user in many ways. It eases the work of the end-user by capturing the image using a camera, determining their emotion, and suggesting a customized play-list through a more advanced and interactive system.

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Thank You