SSIP

Emotion Based Music Player

Team Members :

Kandarp Patel (leader)

Divya vagh

Kirtan Vasava

Priyanka Gondaliya

Anjali Shah

Mentor :

Prof. Dr_Madhav Astik

Department

Faculty of Technology

Outline

- Team formation
- Brief Description
- Value Proposition
- Market Survey
- Project Status
- Proposed Solution
- Fund requirements
- Path Forward
- References

TEAM

Name of Team Member	Capabilities
Kandarp Patel	leadership,problem solving,Full Stack
Divya Vagh	creativity,designing
Kirtan Vasava	UX/UI designing,Frontend Technology
Priyanka Gondaliya	MEAN Developer,troubleshooting
Anjali Shah	Database Management,Selenium Tester

Team Mentor: Dr Madhav Astik

- We Choose **Dr Madhav Astik** as our Team Mentor because he is **Willingness to share skills,knowledge, and expertise Demonstrates a positive attitude and acts as a positive role model. Takes a personal interest in the mentoring relationship.Provides guidance and constructive feedback.Respected by colleagues and employees in all levels of the organization.Motivates others by setting a good example.**

Brief Description

- there are many traditional music players that require songs to be manually selected and organized. User, have to create and update play-list for each mood, which is time consuming.
- Some of the music players have advanced features like providing lyrics and recommending similar songs based on the singer or lyrics . Although some of these features are enjoyable for user, there is room to improve in the field of automation when it comes to music players.
- Selecting songs automatically and organizing these based on the user's mood gives user's a better experience.
- This can be accomplished through the system reacting to the user's emotion, saving time that would have been spent entering information manually.

.

PROBLEM WE ARE SOLVING

- Music listeners have tough time creating the playlist manually when they have hundreds of songs. It is also difficult to keep track of all the songs: sometimes songs that are added and never used, wasting a lot of device memory and forcing the user to find and delete songs manually.

Value proposition

- Currently, there are no applications that allows users to play songs on-the-go without selecting songs manually or from a playlist.
- User’s have to manually select songs every time based on interest and mood. User’s also have difficulty to re-organize and playing music when play-style varies.
- **Recent studies confirm that humans respond and react to music and that music has a high impact on person's brain activity.**

Market Survey

Currently, there are many existing music player applications. Some of the interesting applications among them are:

- Saavan and Spotify – These application gives good user accessibility features to play songs and recommends user with other songs of similar genre

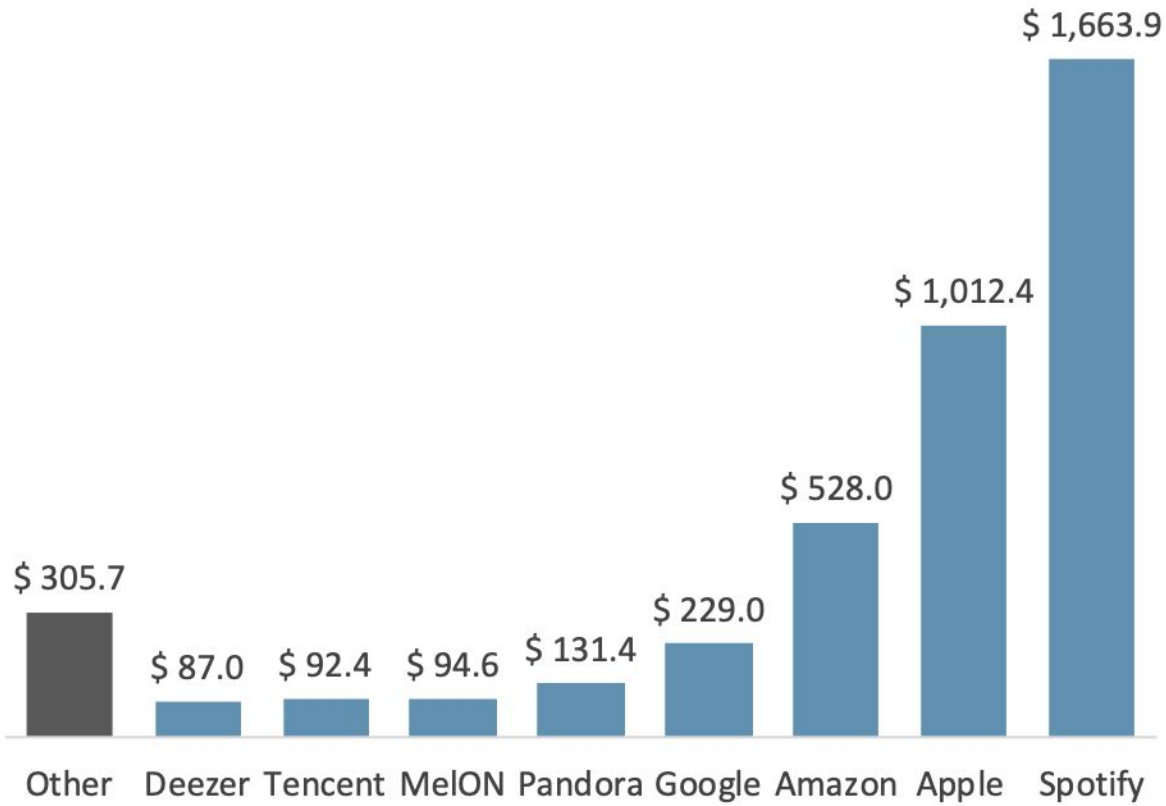
Our Target market are n-users

Global Streaming Music Subscription Market, H1 2019

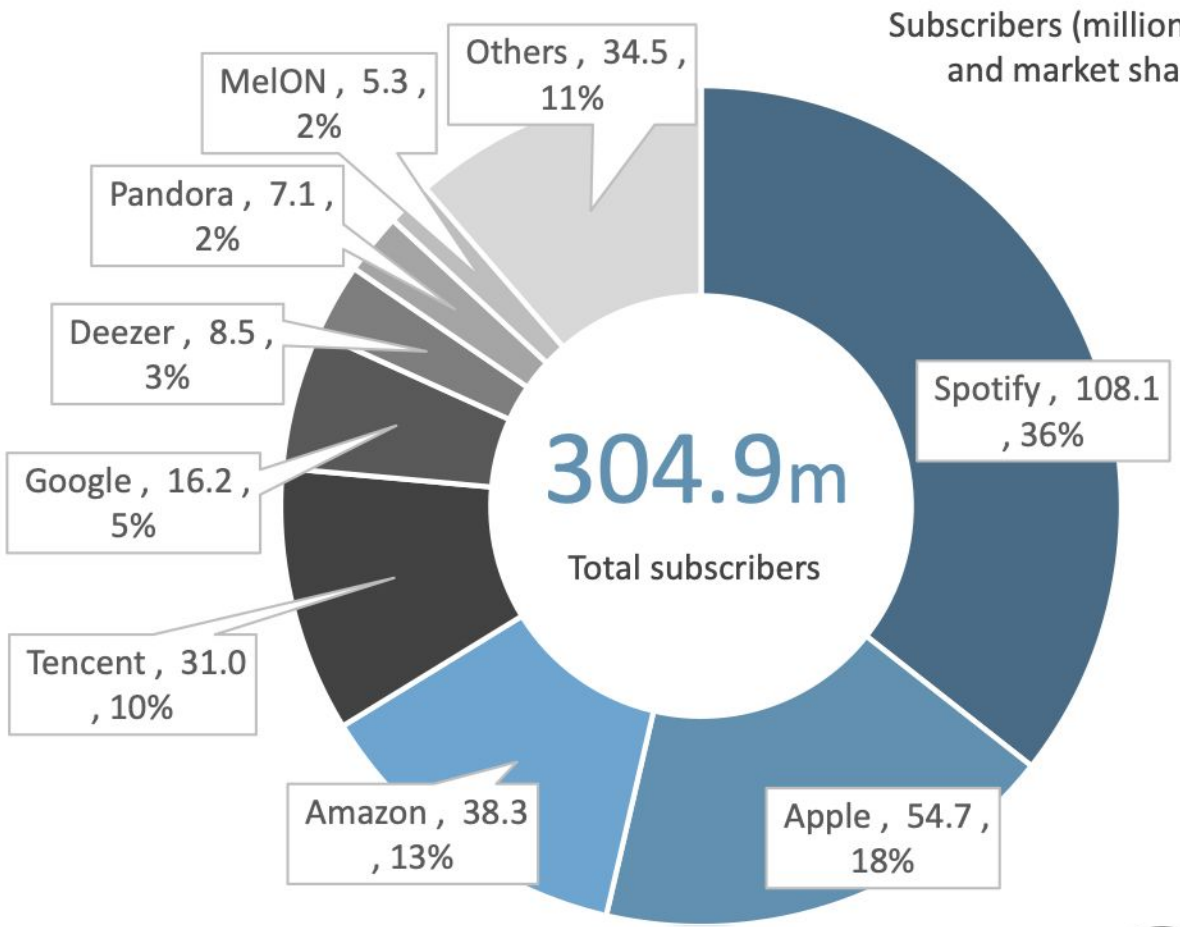
Global Streaming Music Subscription Market, H2 2019 (All Revenues Are Label Trade Values)

MUSIC SUBSCRIPTION REVENUE BY SERVICE

Revenues in millions USD



MUSIC SUBSCRIBERS BY SERVICE



Source: MIDiA Research Music Subscriber Market Share Model 11/19

MIDiA.

CURRENT STAGE & NEXT STAGE

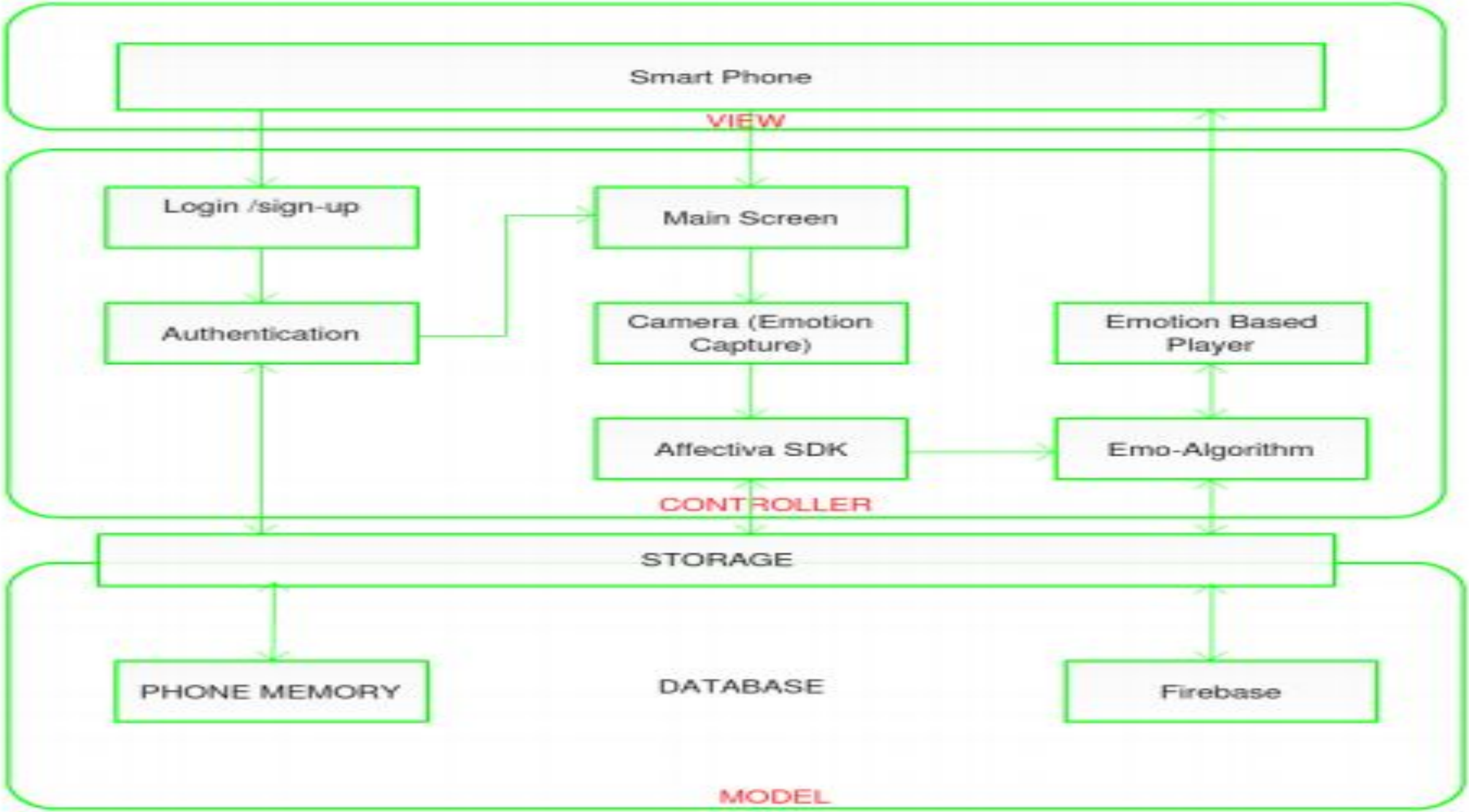
Current Stage

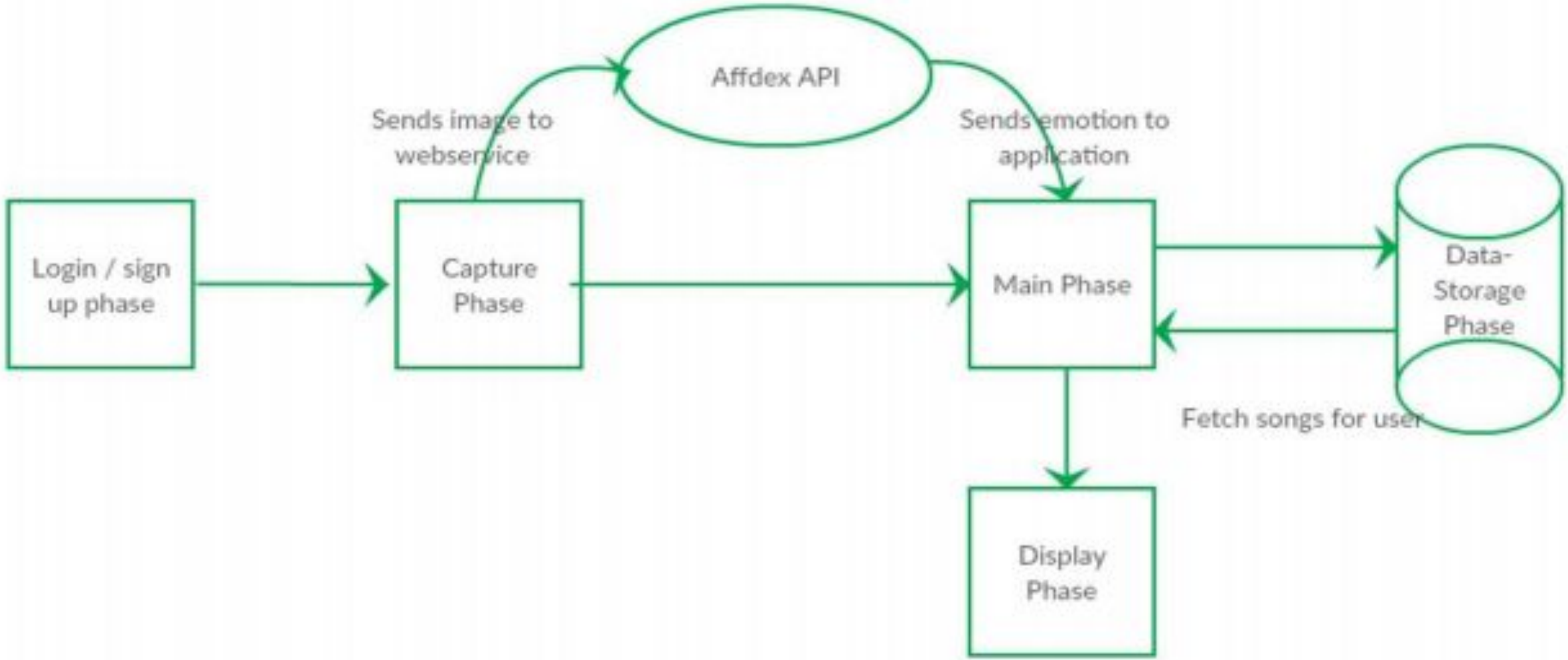
- This is the start of the project, and the goal of this phase is to define the project at a broad level. This phase usually begins with a business case. This is when you will research whether the project is feasible and if it should be undertaken. If feasibility testing needs to be done, this is the stage of the project in which that will be completed.
- Currently We Explore and came to the Solution that
- **detect a face on the webcam and pre-process the image of the face; grab some images of your face and dynamically update the model over time; detect the emotion on your face; pick a random song linked to that emotion and play it.**

Next Stage

- According to the response received from the users, we will make changes in UI/UX of our platform.
- Plotting resources on the project plan and refining the sequencing of the work based on project dependencies and resource constraints.
- Assessing risks and developing a risk prioritization and mitigation plan.
- If we get good enough customer base we will make an android and iOS application of our platform.
- Updating our application according to latest trend.

Proposed solution


Smart Phone
VIEW
Login /sign-up
Main Screen
Authentication
Camera (Emotion Capture)
Emotion Based Player
Affectiva SDK
Emo-Algorithm
CONTROLLER
STORAGE
PHONE MEMORY
DATABASE
Firebase
MODEL


Affdex API
Sends image to webservice
Sends emotion to application
Login / sign up phase
Capture Phase
Main Phase
Data-Storage Phase
Fetch songs for user
Display Phase

EmotionBased Music Player is installed on a mobile device, where the user can access their customized play-lists and play songs based on their emotions

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. Emotion Capture phase: As soon as the authentication phase is done, the application will ask user’s permission to access media and photos and will access camera to capture the user’s image.

3. Affdex API: After the image is captured, the application sends image captured to Affdex SDK . There, the captured image is processed and the image feedback is sent to the application.

4. Emo-phase: In this phase, the application receives the image information and recognizes the emotion based on the defined threshold. This emotion is sent to the database to fetch the emotion playlist.

5. Display phase: Here, the songs are organized based on EMO-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 anytime in the application. The application also has a recommendation tab where the system notifies the user of songs that are rarely played

Resource Required

- UI/UX Designing
- Full Stack Developement
- Ios/Android App Developement
- Domain & Hosting
- Technical Maintenance
- Online Marketing
- Customer Support

Technologies to be used & Cost Estimation

Phase	Time (weeks)	Cost (INR)	Influencing factors	Development tools /Frameworks
UI/UX	1	-	Attractive and easy-to-use User experience will be a good first impression.	Adobe Xd/Figma
Front-End development	2 – 3	-	Making sure that technical aspect of User experience work out well.	Material Design Bootstrap, React, HTML, CSS, Javascript
Back-End development	3 – 8	-	Integrating all the functionalities of the web application.	MERN Stack: Mongodb (Database), Express, React, NodeJS Cloud Server Platforms: AWS

Domain, Hosting and Maintenance Cost estimation

Expense Factor	Explanation	Cost (INR)	Providers
Domain Name	A domain name is an identification string that defines a realm of administrative autonomy, authority or control within the Internet.	Ranges from 699/yr to thousands/yr depending upon different type of needs as well as provider.	GoDaddy Bigrock Hostinger
Website Hosting	Service to keep our website accessible on the internet.	Ranges from 4999/yr to 14,999/yr.	GoDaddy Bigrock Hostinger
Maintenance	This includes troubleshooting of all technical problems which might interrupt smooth functioning of the web application.	-	-

Online Marketing Cost Estimation

Expense Factor	Explanation	Price (INR)	Platforms
Content Marketing	Content creation based on our product in audio, video, images, illustration and several other possible formats.	Varies on type of content.	Any platform on internet.
Social Media Marketing	Using Social media interaction to market our product.	Varies on numerous factors.	Social Media platforms like Instagram, Facebook etc.
Search Engine Optimization (SEO)	SEO helps to optimize your website for search engines like Google. The higher your site ranking in Search Engine Result Pages (SERP) for a user request, the better the optimization is.	Varies on numerous factors.	Google Analytics
Email Marketing	Email marketing	9999 /yr to 19,999 /yr approx	junglework.com freshwork.com

Path forward

The application can be improved by modifying and adding few functionality.

- Current application uses Affectiva SDK that has a lot of limitations, creating custom emotion recognition system that can be merged into the current application improves functionality and performance of the system.
- Making the application run without needing an internet connection.
- Including other emotions
- Playing songs automatically
- Optimizing the EMO-algorithm by including additional features which helps system to categorize user based on many other factors like location and suggesting the user to travel to that location and play songs accordingly

References

[1] Science about facial expression, 2011. [Online; accessed 11-July-2017].

[2] Average time spent by a person, 2014. [Online; accessed 11-July-2017]

[3] Saavn, 2017. [Online; accessed 11-July-2017]

THANK YOU