Project Report

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Jay Shree Krishna My Name is Ganatra Darshan I'm From Rajkot, Gujarat I am a full time iitm bs student and I am currently in diploma level.

Description

In this Music Streaming app project we had to build an app in which we can listen to music rate them/review them be a creator and upload song ourselves and upload albums users should create/remove playlists and total of 3 roles we had to provide.

1. User Role : User should be able to listen to songs review them it has an option to register as creator also create/review playlist

2. Creator Role : After user registers as a creator creator should be able to upload a song assign a song to a particular album remove albums create albums and should have an overview of their creations

3. Admin Role: In Admin role we have to give all the access also blacklisting creators if they want to delete/remove song or album if they want they should be able to see all the statistics histograms/line graphs and all the data.

I've tried my best giving all the core features including some additional recommended features and I have designed the ui all myself.
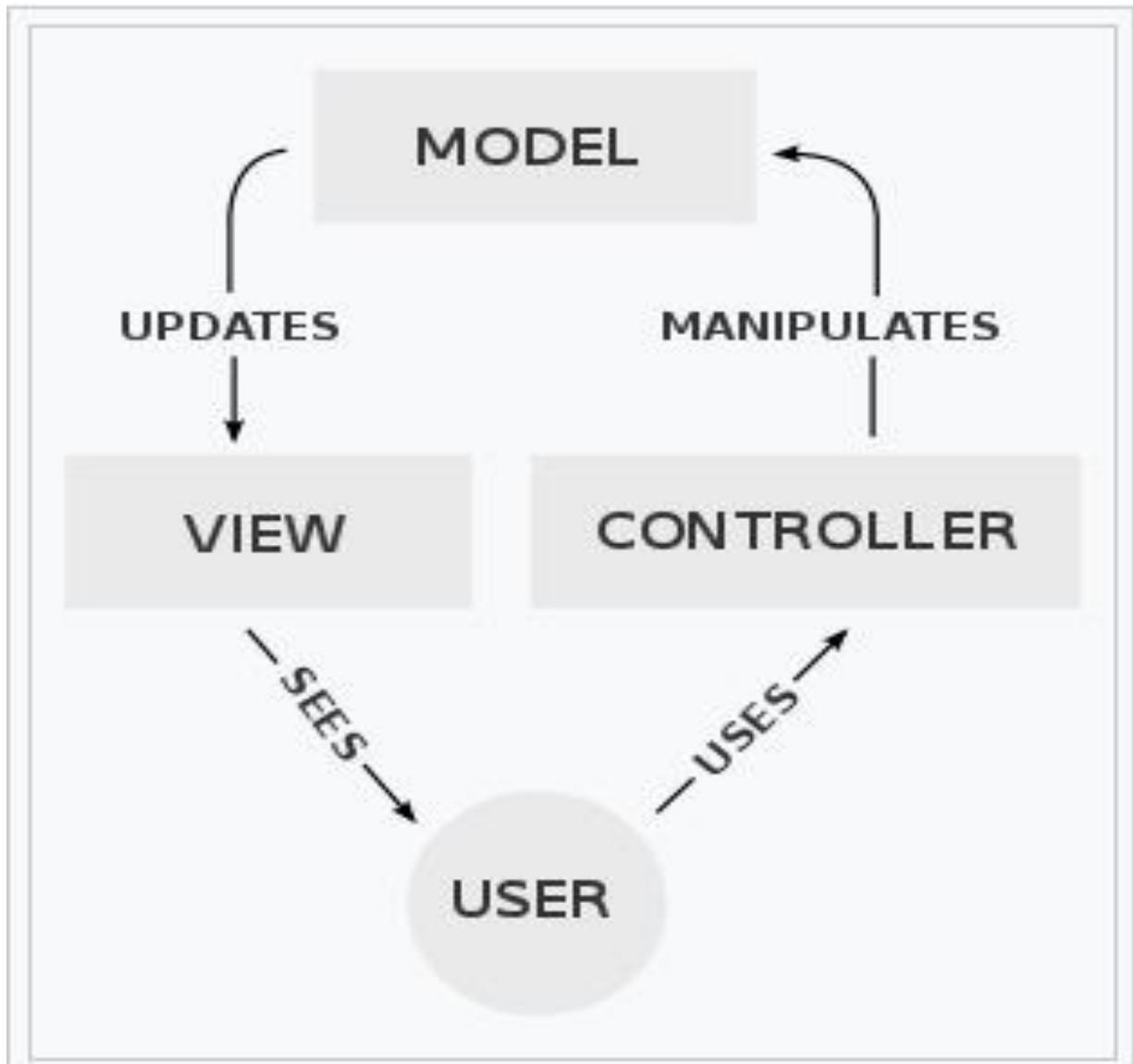
Technologies used

Flask-SQLAlchemy,Jinja2, matplotlib, Flask-Security-Too,flask-Restful

● Flask : Flask is a Python framework for developing web applications, implemented on Toolkit and Jinja2. Use of the Flask framework has several advantages: It has a built-in development server and a fast debugger.Flask is part of the categories of the micro-framework. Micro-framework is normally a framework with little to no dependencies to external libraries.

● SQLAlchemy: SQLAlchemy is the Python SQL toolkit and Object Relational Mapper that gives application developers the full power and flexibility of SQL.It is designed for efficient and high-performing database access, adapted into a simple and Pythonic domain language.

● Jinja2: Jinja is a fast, expressive, extensible templating engine. Special placeholders in the template allow writing code similar to Python syntax. Then the template is passed data to render the final document.

● Matplotlib: Matplotlib is a comprehensive library for creating static, animated, and interactive visualisations in Python. Most of the Matplotlib utilities lie under the pyplot.

●Flask-Security-Too : Flask-Security allows you to quickly add common security mechanisms to your Flask application. They include: Session based authentication. Role and Permission management.

● Flask-RESTful : It is an extension for Flask that adds support for quickly building REST APIs. It is a lightweight abstraction that works with your existing ORM/libraries. Flask-RESTful encourages best practices with minimal setup. If you are familiar with Flask, Flask-RESTful should be easy to pick up
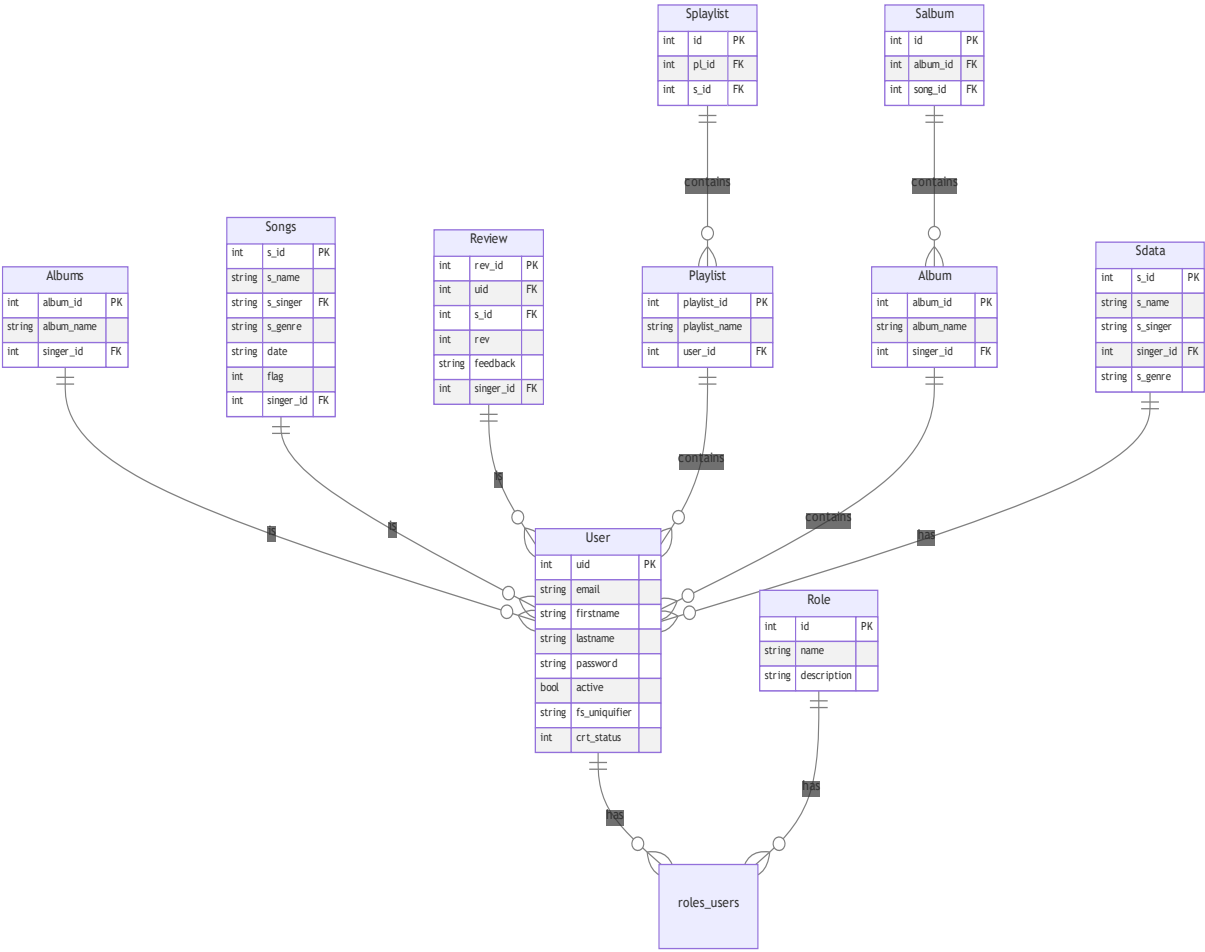
Architecture

●I used MVC architecture it is called Model, View, Controller where mode stores data controller sees the backend and view handles the presentation part of the web app this is really important and useful architecture in the world of app development

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E-R Diagram

Splaylist

int	id	PK
int	pl_id	FK
int	s_id	FK

Salbum

int	id	PK
int	album_id	FK
int	song_id	FK

Songs

int	s_id	PK
string	s_name	
string	s_singer	FK
string	s_genre	
string	date	
int	flag	
int	singer_id	FK

Review

int	rev_id	PK
int	uid	FK
int	s_id	FK
int	rev	
string	feedback	
int	singer_id	FK

Playlist

int	playlist_id	PK
string	playlist_name	
int	user_id	FK

Album

int	album_id	PK
string	album_name	
int	singer_id	FK

Sdata

int	s_id	PK
string	s_name	
string	s_singer	
int	singer_id	FK
string	s_genre	

Albums

int	album_id	PK
string	album_name	
int	singer_id	FK

contains

contains

contains

contains

contains

User

int	uid	PK
string	email	
string	firstname	
string	lastname	
string	password	
bool	active	
string	fs_uniquifier	
int	crt_status	

Role

int	id	PK
string	name	
string	description	

roles_users

Video Link

https://drive.google.com/file/d/1D1uuCEoaf_p8kr F4DyWOjwBZrcv0N7Ep/view