PES University, Bengaluru

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Department of Computer Science & Engineering

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UE19CS353 – Object Oriented Analysis and Design with Java

Theory ISA (Mini Project)

Report on

YouTube Clone

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6th Semester 'H'

1. **Project Description**

   Github link : https://github.com/SujayAmbekar/Youtube-Clone

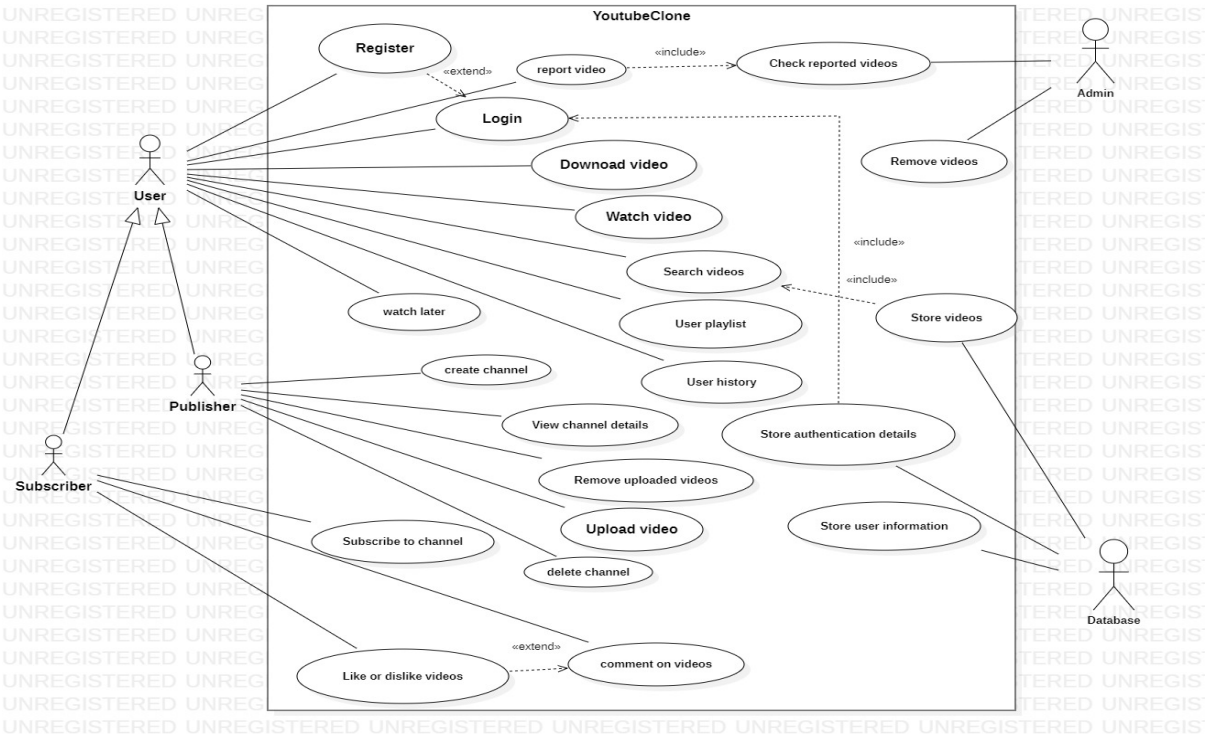
Our project is a Platform for uploading and watching videos on YouTube

Functionalities:

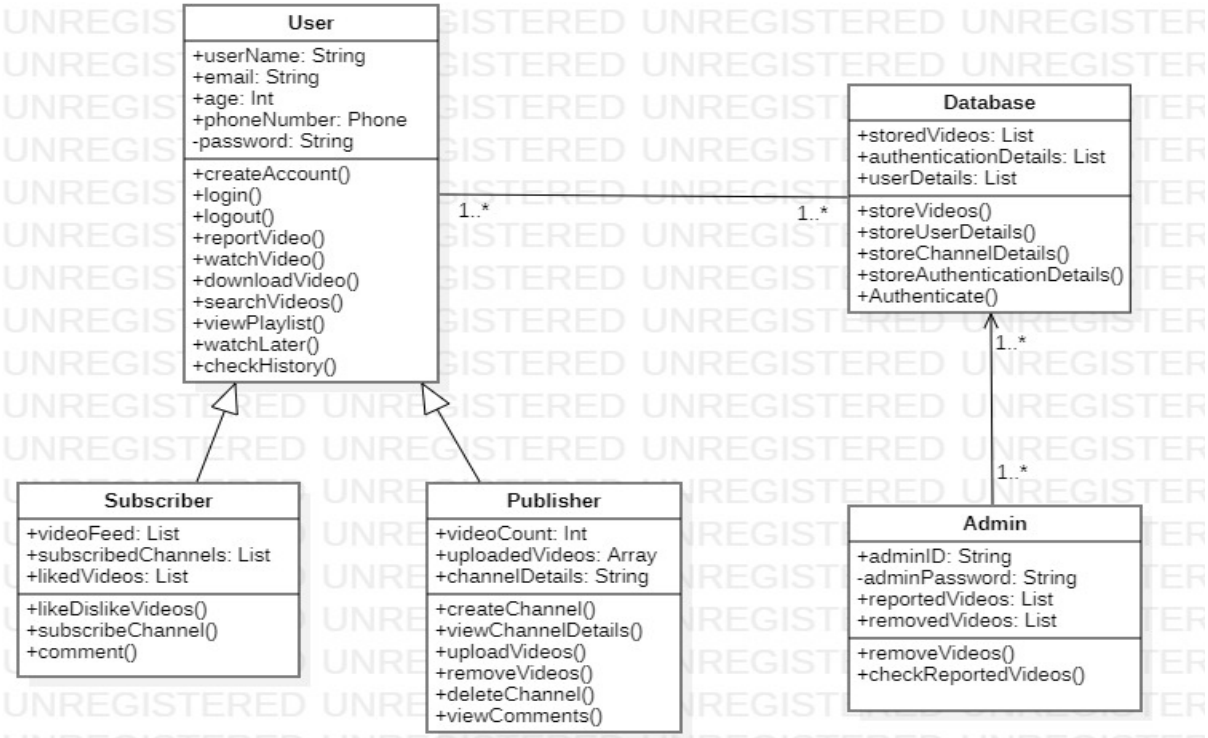
Login – Allows users to login to their accounts
Register – Allows users to make a new account
Upload Video – Users can upload videos
Download Video – Users can download videos and store it in internal storage
Search Video – Users can search for a video
Report Video - This functionality is used by subscribers to report videos uploaded by publishers which violate the rules and regulations of the app.
Store user information - User details like username, email, age, phone number and age are stored.
Store Authentication details - Used to store user authentication details like username and password.
Watch later – Users can select videos which they would like to watch later
View channel Details - Channel details like numbers of uploaded videos, number of people who have subscribed to the channel and average watch time.
Create channel - Used by publisher to create channels.
Delete channel - Used by publisher to delete channels.
Subscribe to channel - Used by subscriber to subscribe to channels of publisher
Publisher - A user of the app whose main functionality is to create their own channels, view their channel usage details, upload videos and remove the videos uploaded by them.
Subscriber - like and dislike videos uploaded by publishers, subscriber can comment on the videos uploaded by publisher

2. Analysis and Design Models

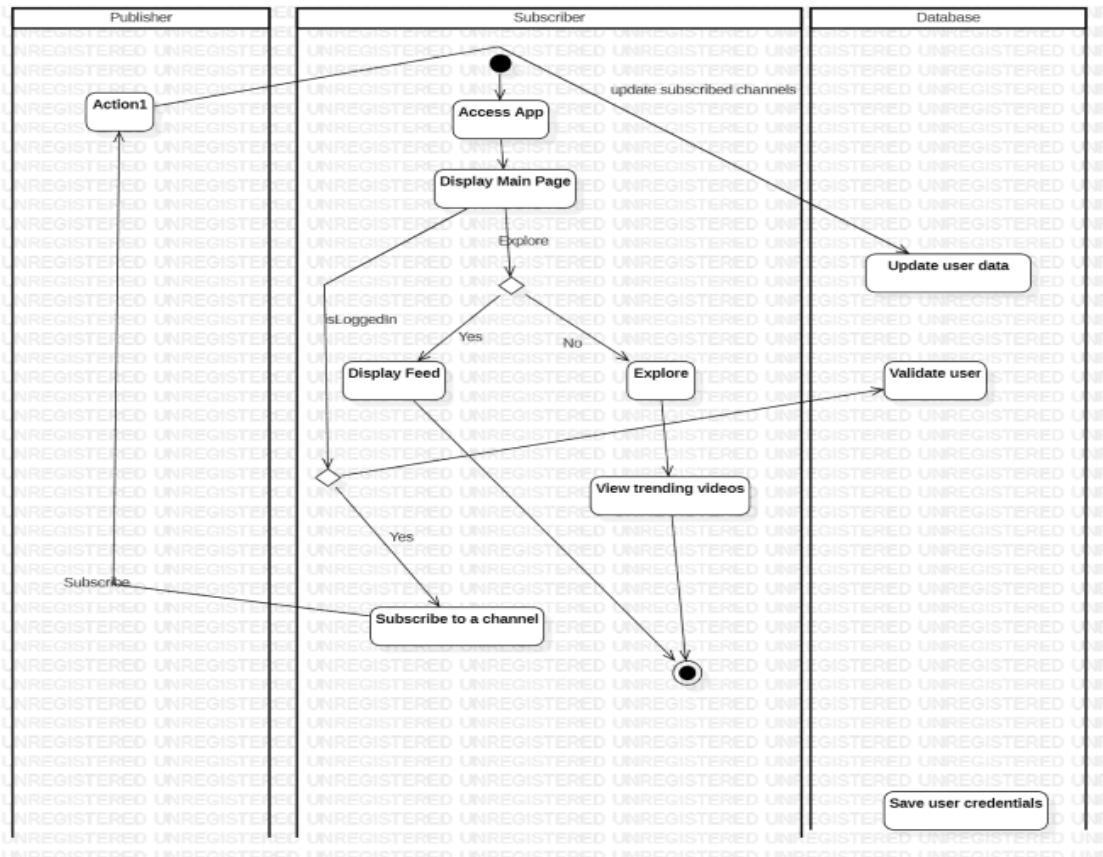
Use Case Model



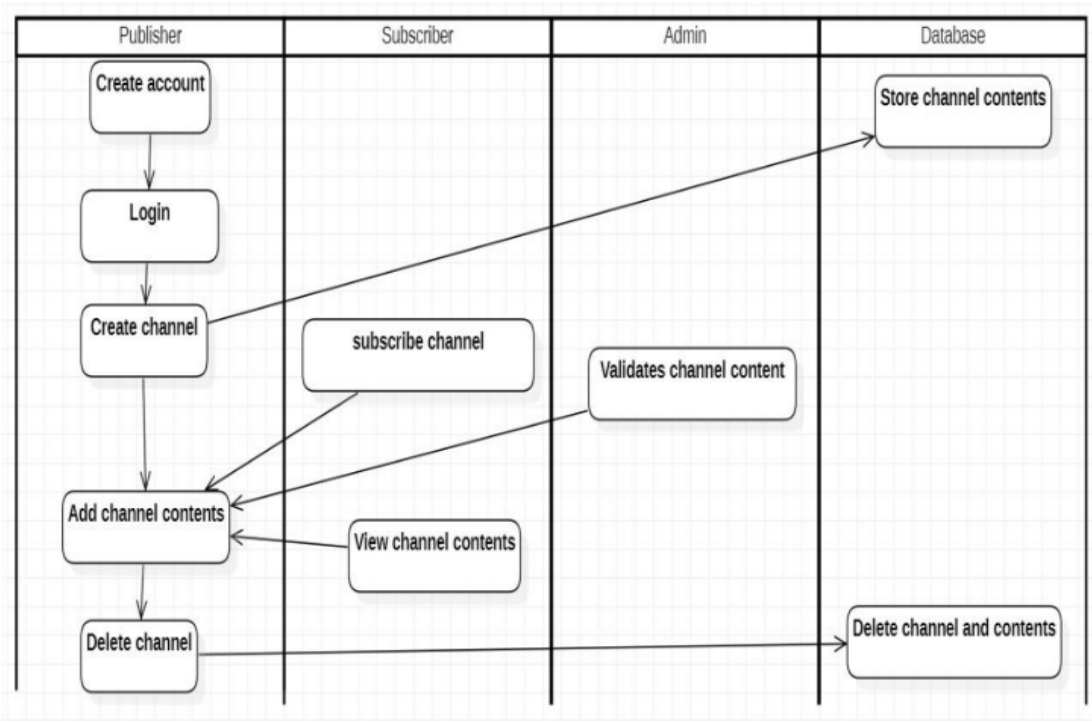
Class Model



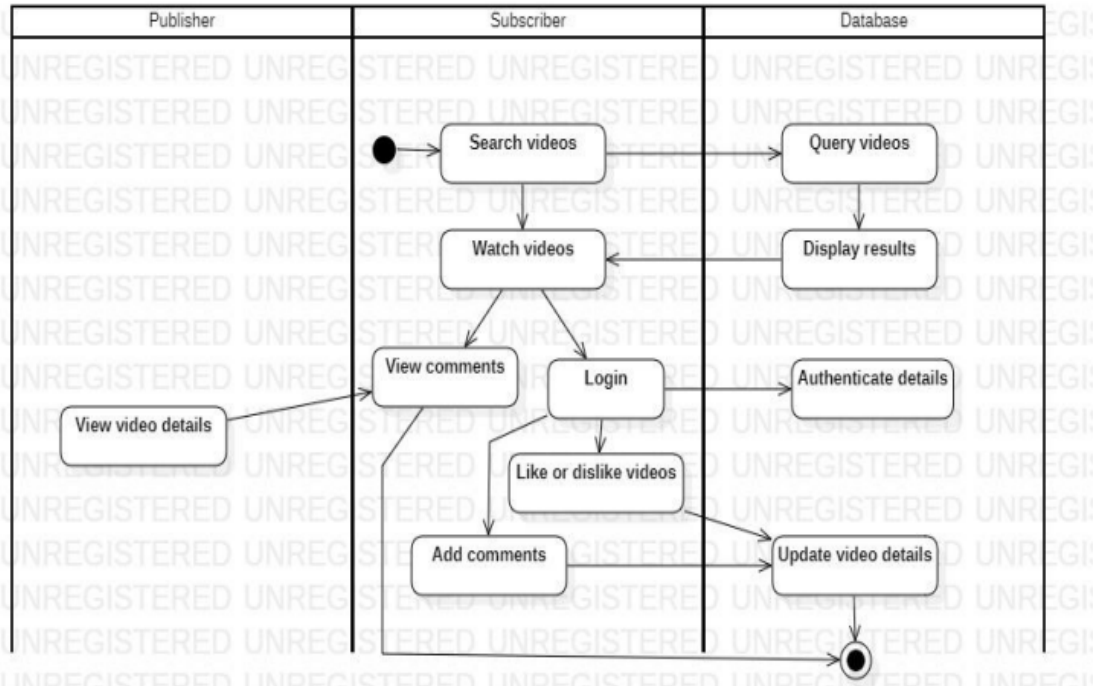
Activity diagram for Search Videos and Explore



Activity diagram for Create Channel



Activity diagram for Watching and video interaction for subscriber



3. **Tools and Frameworks Used**

   i. **Android Studio**

   ii. **Database – Sqlite**

   iii. **YouTube API**

4. **Design Principles and Design Patterns Applied**

   Behavioural pattern :Publisher – Subscriber

Publisher - A user of the app whose main functionality is to create their own channels, view their channel usage details, upload videos and remove the videos uploaded by them.
Subscriber - like and dislike videos uploaded by publishers, subscriber can comment on the videos uploaded by publisher

Structural pattern – Adapter

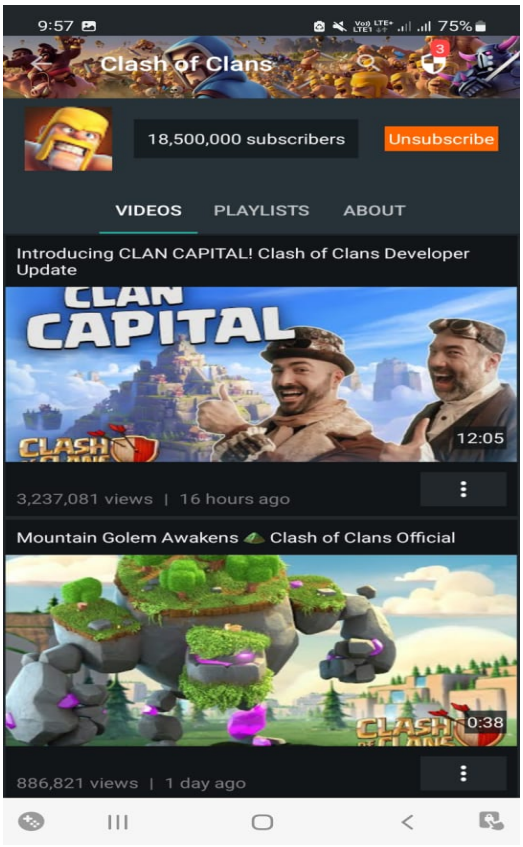
The whole application is split int components to which a user can adapt to depending upon their need

SOLID Principles:

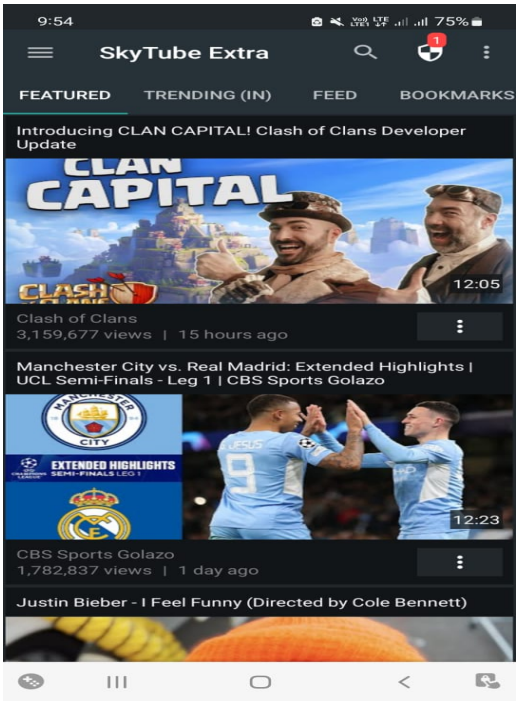
1. SRP - Achieved by splitting use cases into separate classes
2. OCP – New functionalities can be added without changing existing code
3. LSP – achieved by child classes having functionality like their parent class so that they can replace them
4. ISP – Achieved by separating interfaces
5. DIP – Could not be achieved as many modules are interdependent.

5. Application Screenshots (3-4 important pages)

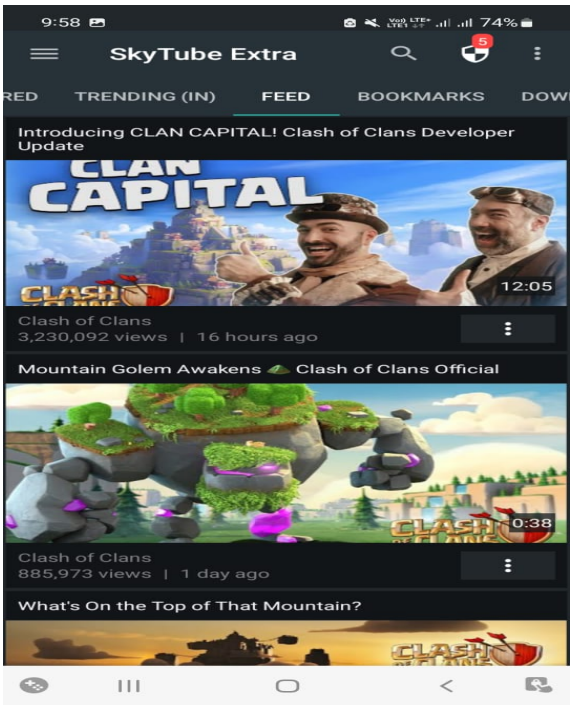
i. Subscribe/Unsubscribe to a particular channel



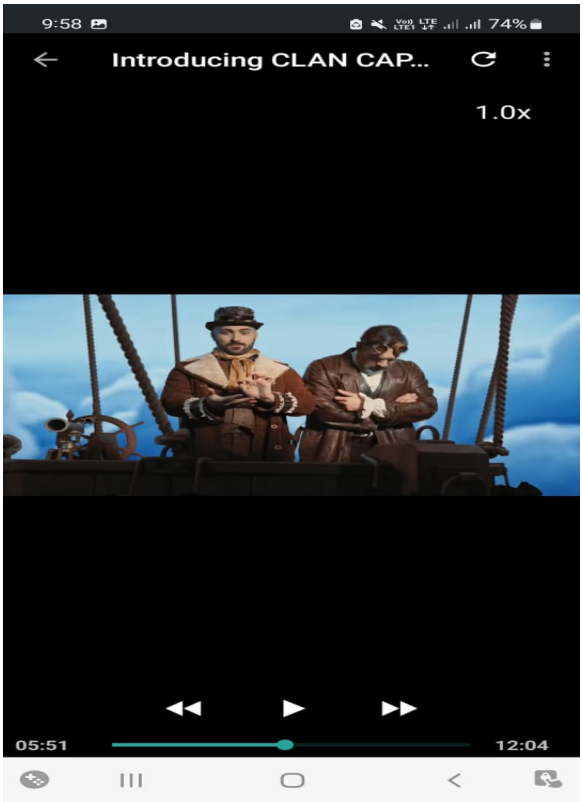
ii. Video playlist



iii. Feed after subscribing to a channel



iv. Playing a video



6. Team member contributions

Suhail F Sheikh	1. Searching for a video 2. Video Player Controller 3. User history 4. Integrating of modules
Sujay S Ambekar	1. Subscribing to a channel 2. Feed and Bookmarks 3. Playlist 4. User Interface

Sumukh J Bharadwaj	1. Featured page / Main page 2. Trending videos 3. Downloading a video 4. Database Management