

Section 1: Metadata

to be filled by the student

1.1. Project Information to be filled by the student

Title: VibeTube	
Section: L4	Instructor: Dr.Umer Tariq

1.2. Student(s) Information

Name: Bushra Sadaf	ID: bs09267
Section: L4	Batch:2027
Name: Nabiha Hasnain	ID: nh09355
Section: L4	Batch:2027

Submission guideline: Save your project proposal as a pdf file and rename as
Section<Number>-Group<Number>.pdf

Section 2: The Project

to be filled by the student

1. Project Description: *Please provide a brief introduction of the project including its scope.*

Our project titled **VibeTube** is aimed at categorizing YouTube creators and videos into genres such as Study, Travel, Entertainment, Technology, and Fitness, etc. **Creators** can upload new videos, edit or delete existing ones, and track performance through views, likes, and comments. **Viewers** can search videos through genres such as Study, Travel, Entertainment, etc or by title and channel name and can browse trending videos (based on highest views/likes). Each video has a details page that displays that video's details along with options to like, comment, the video while also suggesting trending videos in a sidebar.

Scope:

The scope of this project will focus on providing a user-friendly interface and database design to support two main types of users with distinct privileges. The project focuses on database design, backend queries, and a user-friendly GUI, while excluding advanced features such as live streaming, AI based recommendations, or large-scale usage with more users such as admins, moderators, premium users, etc.

2. Functional Requirements

This section describes each function/feature provided by your system.

User Types:

User A: Creator

User B: Viewer

Function 1: User Registration & Login Bushra

- The system shall allow users to register as either a *Viewer* or a *Creator* by providing their Name, Email, and Password.
- The system shall allow users to log in using valid credentials, with role-based redirection to either the Viewer or Creator dashboard.

Function 2: Video Management (Creators Only) Bushra

- The system shall allow creators to upload videos with details such as Title, Description, Genre, and Upload Date and edit or delete their uploaded videos when needed. This system also allows the creators to be able to view their uploaded videos with the corresponding number of likes, views, and comments.

Function 3: Browsing & Search (Viewers Only) Nabiha

- The system shall allow viewers to browse and search videos by genre, title, or channel name.

Function 4: Viewer Interactions Nabiha

- The system shall allow viewers to like and comment on videos and also subscribe to creators for easy access to their latest uploads.

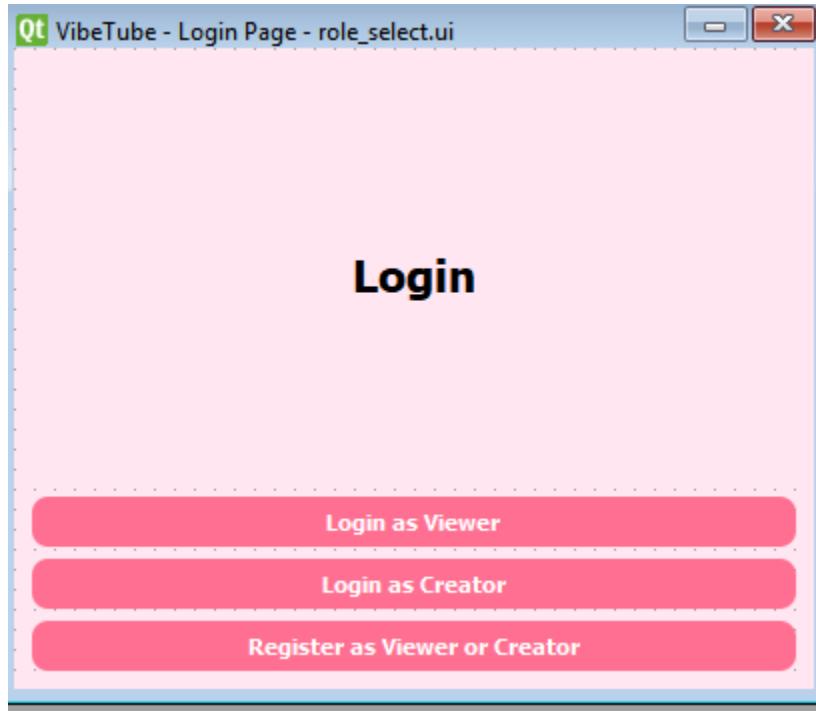
Function 5:Trending System Both

- The system shall allow viewers to see a trending section that highlights videos with the highest views and likes.

3. UI Screens: Provide images of all application screens, showcasing clear input and corresponding outputs. Ensure each image includes a concise caption explaining user action and expected/observed output. You can create these screens using Qt Designer.

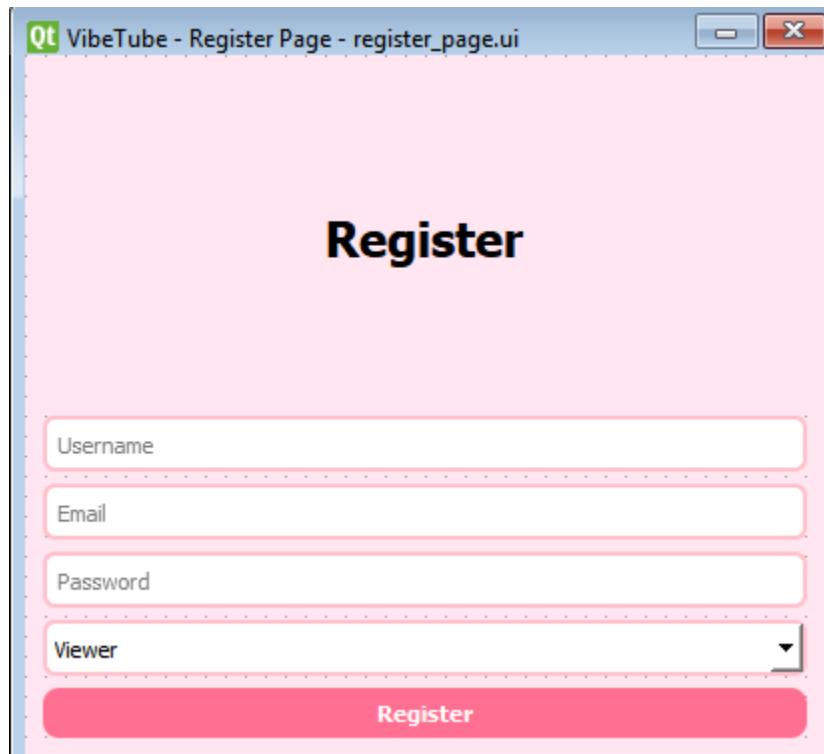
Functional Requirement 1: Register and Login_ Bushra

The system shall allow Viewers and Creators to Register and Login.



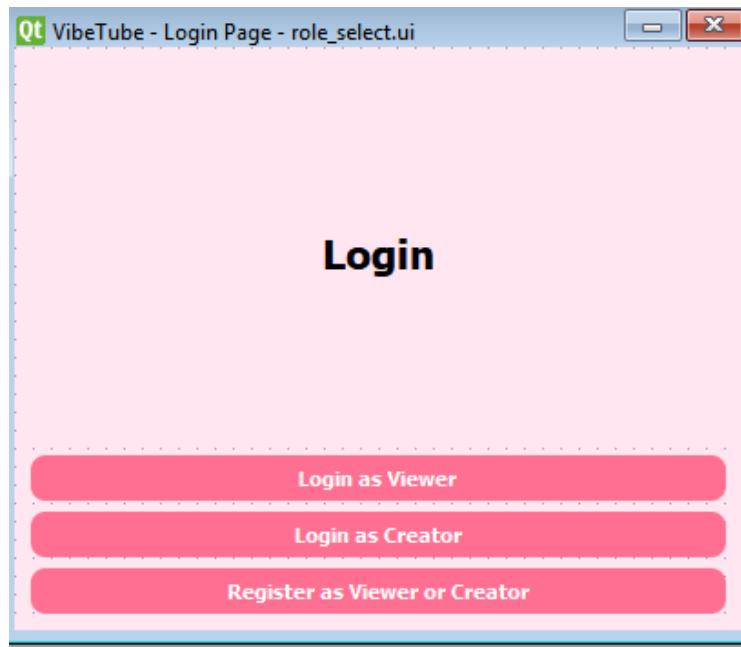
UI Screen 1.A: Login Screen (First Screen)

Upon pressing Register as Viewer or Creator, they get to the following screen:



UI Screen 1.B: Register New Account Screen

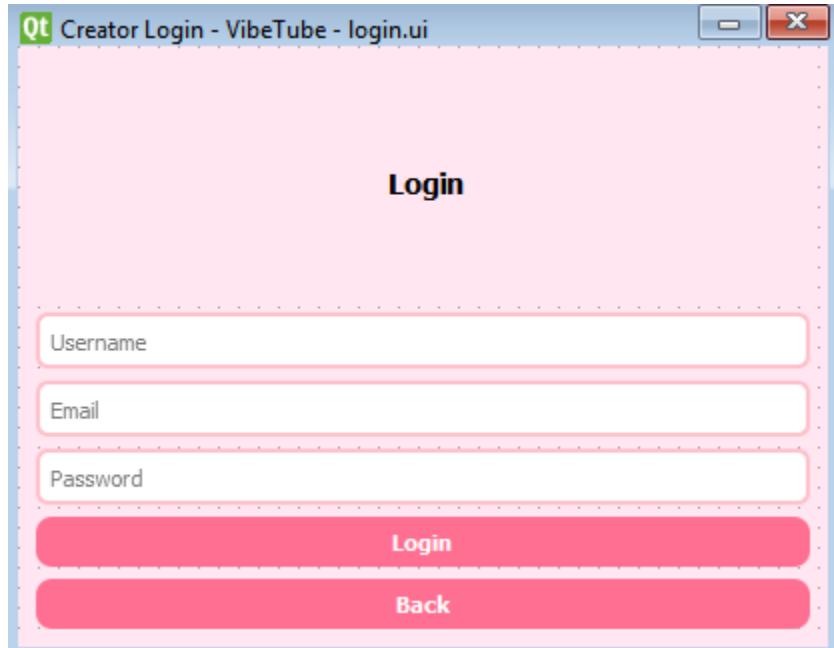
After pressing register, they get back to Screen 1.A:



UI Screen 1.A: Login Screen (First Screen)



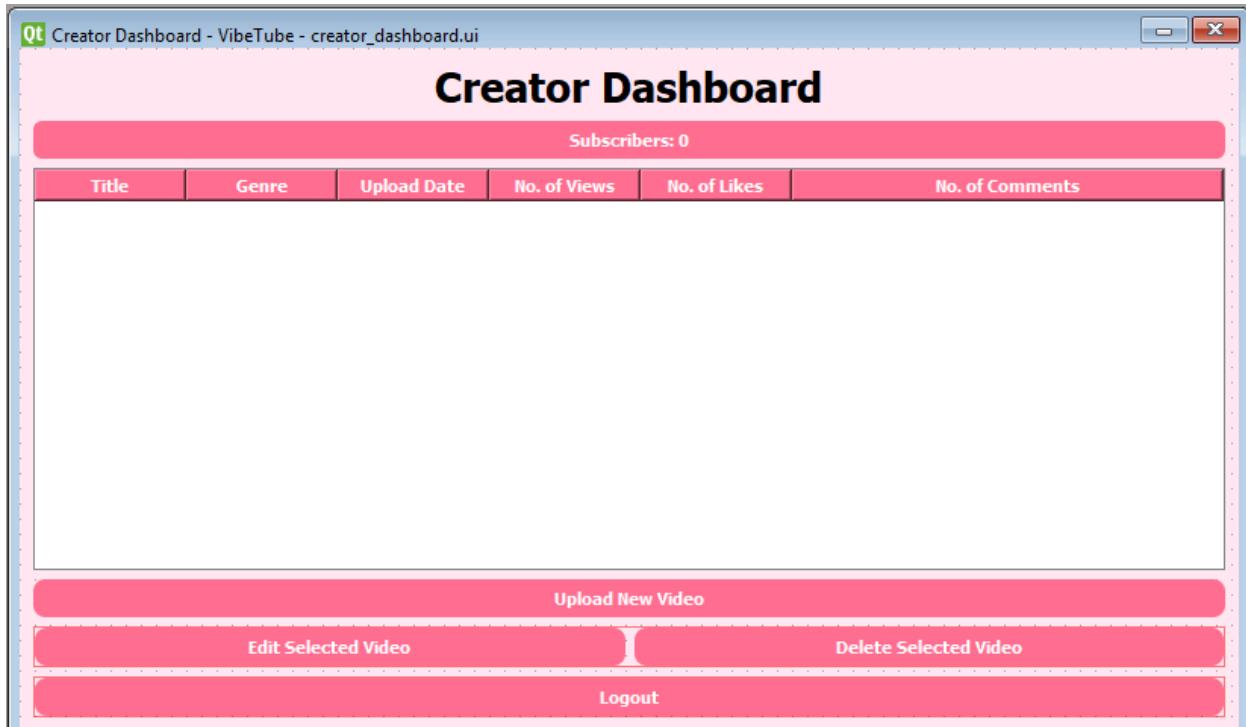
Upon pressing login as viewer or login as creator, they get to the following screen:



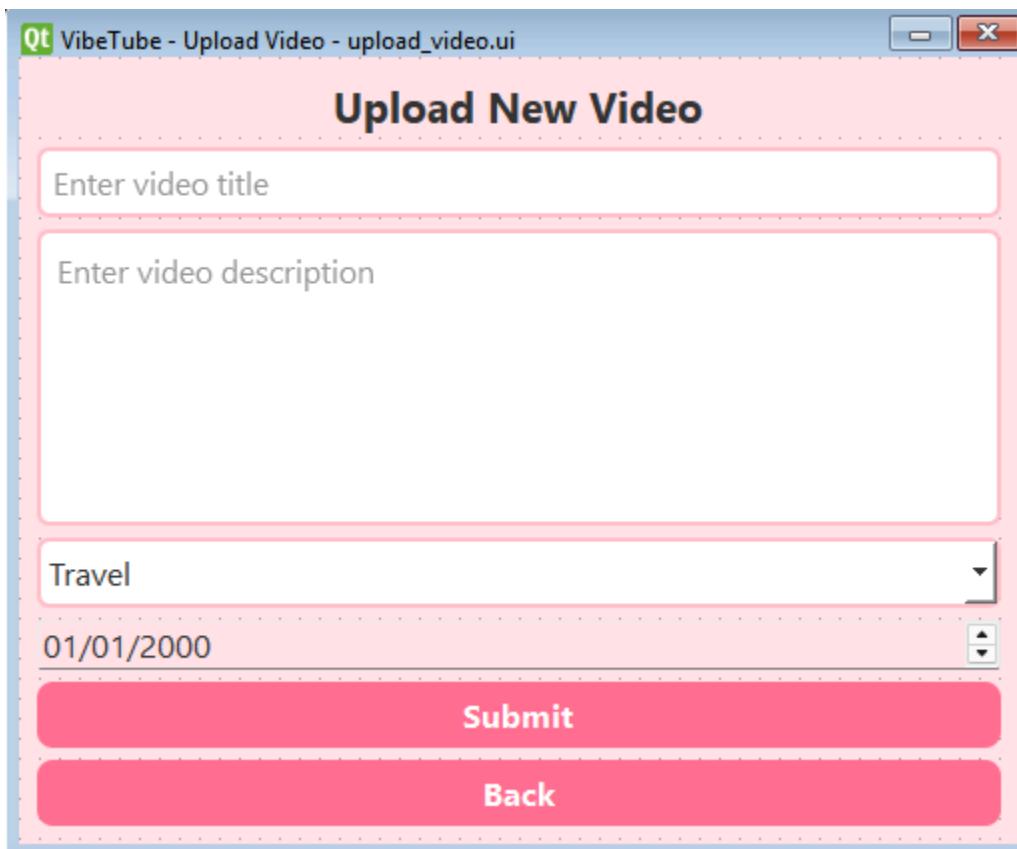
UI Screen 1.C: Viewer/Creator Login Screen

Functional Requirement 2: Video Upload and Management by Creator Bushra

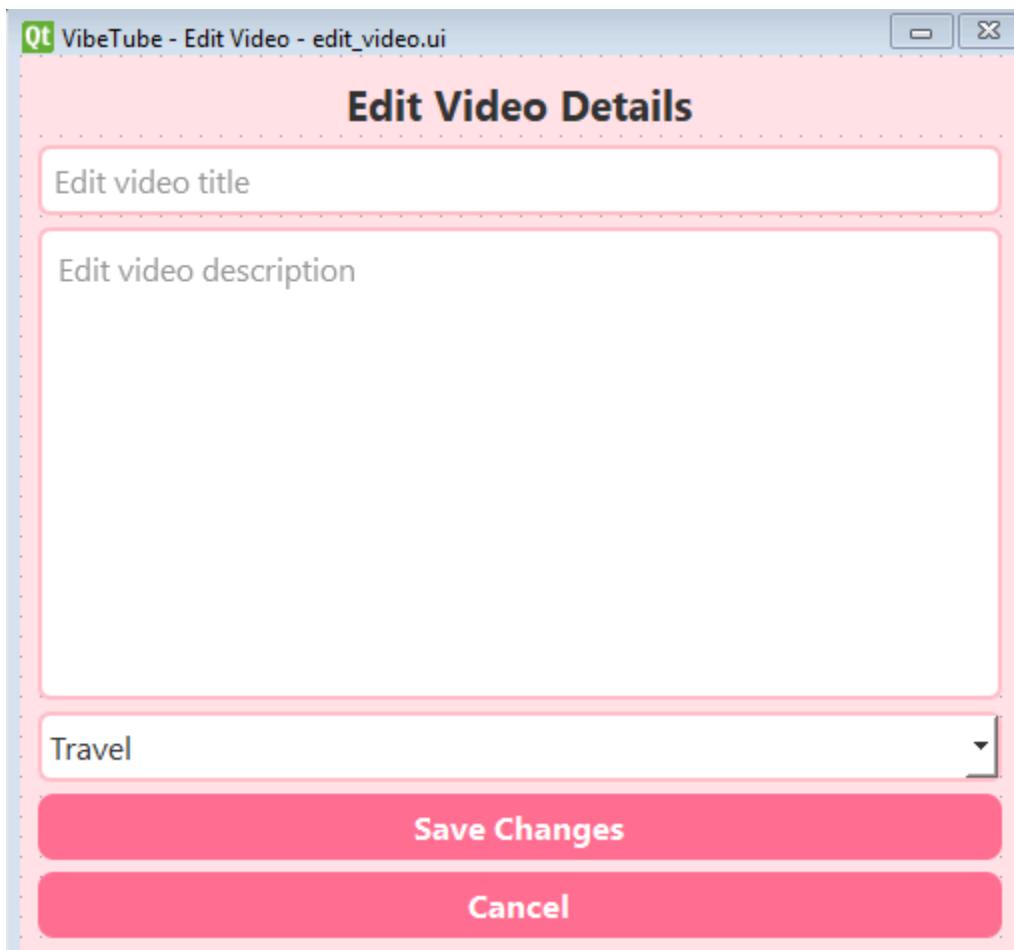
The system shall allow a Creator to upload, view analytics and delete/edit uploaded videos.



UI Screen 2.A: Main Creator dashboard



UI Screen 2.B: Uploading a video



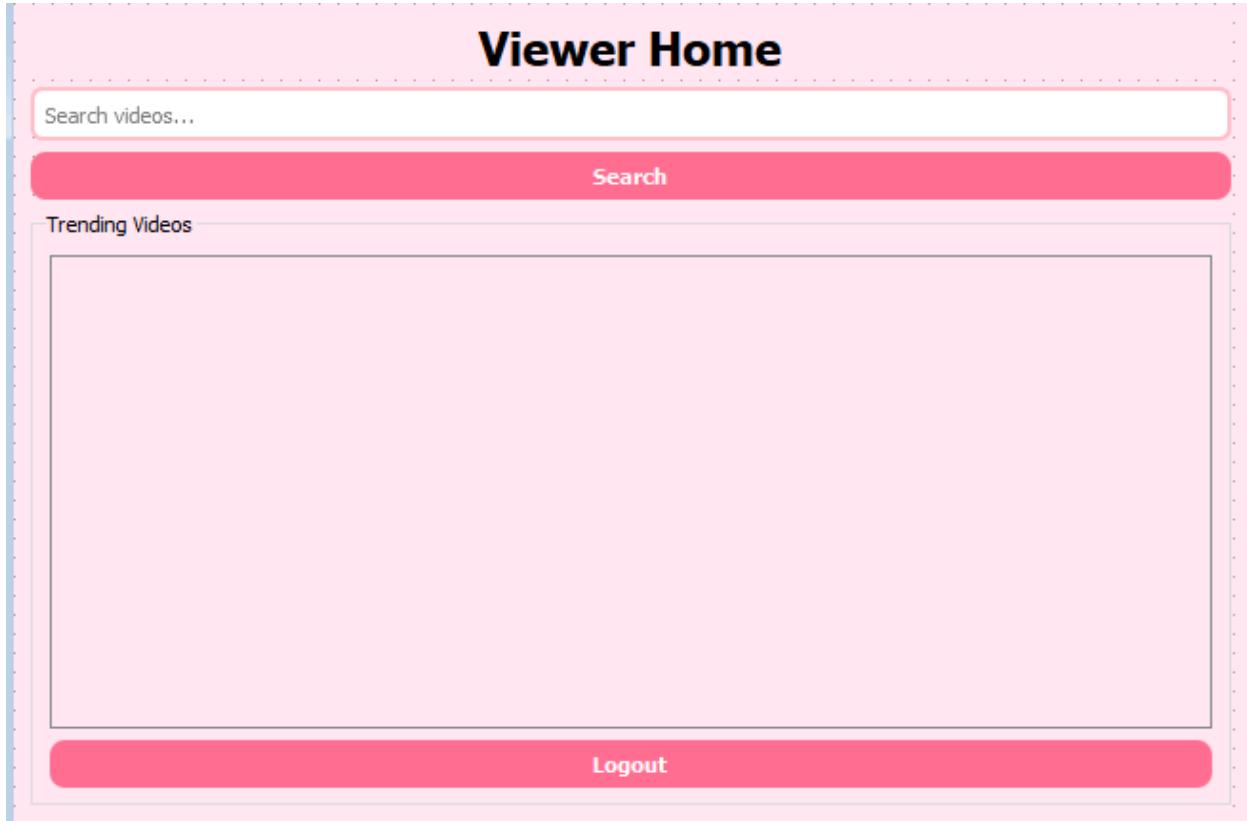
UI Screen 2.C: Editing a video



Functional Requirement 3: Browsing on main page by Viewer Nabiha

The system shall allow a Viewer to browse/search for videos uploaded by different Creators channels.

Note: The following screen will also show trending videos (Functional Requirement 5).



UI Screen 3.A: Homepage for Viewers



UI Screen 3.B: Search Results for Viewers



Functional Requirement 4: Liking, commenting and subscribing by Viewer Nabiha

The system shall allow a Viewer to **view, like and comment on videos** uploaded by different Creators, and also **subscribe** to the channel in this manner.

Video Title
Views: 1200 | Genre: Travel
Uploaded by: Channel Name (Joined via FK) [Subscribe](#)

[Like](#)

Comments
Write a comment... [Post](#)

Trending Videos

[Back to searchpage](#)

UI Screen 4.A: Viewer Screen when clicked on a video



Functional Requirement 5:Trending Videos_ Both

The system shall allow a Viewer to see trending videos based on the highest number of likes and views.



UI Screen 5.A: Viewer Homepage showing trending videos

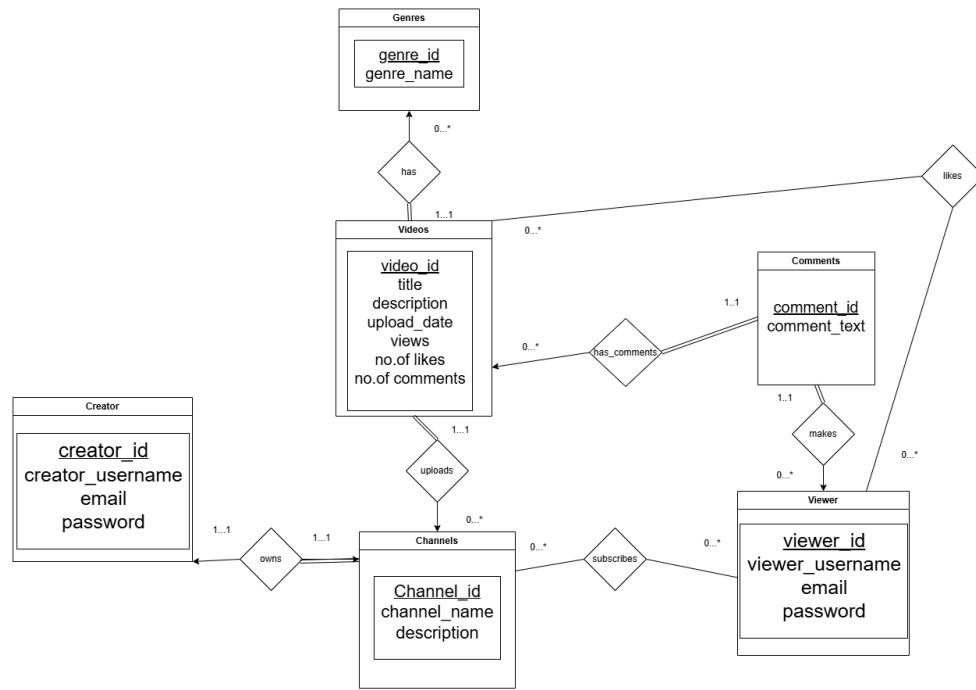


The image shows a wireframe of a video details page. On the left, there is a large video player placeholder with the title "Video Title". Below it, the text "Views: 1200 | Genre: Travel" and "Uploaded by: Channel Name (Joined via FK)" are displayed, along with a "Subscribe" button. A "Like" button is also present. A "Comments" section includes a text input field with "Write a comment..." and a "Post" button. On the right side, there is a sidebar titled "Trending Videos" which currently contains an empty placeholder. At the bottom right of the main content area is a "Back to searchpage" button.

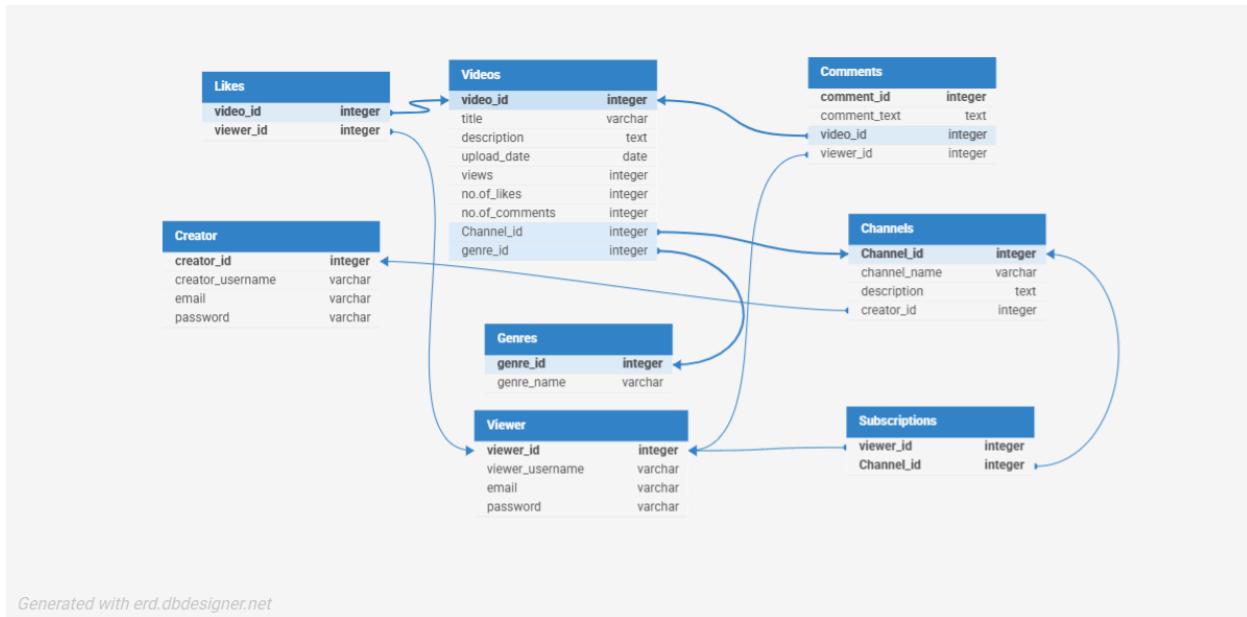
UI Screen 5.B: Video details page showing trending videos on the right



4. ERD



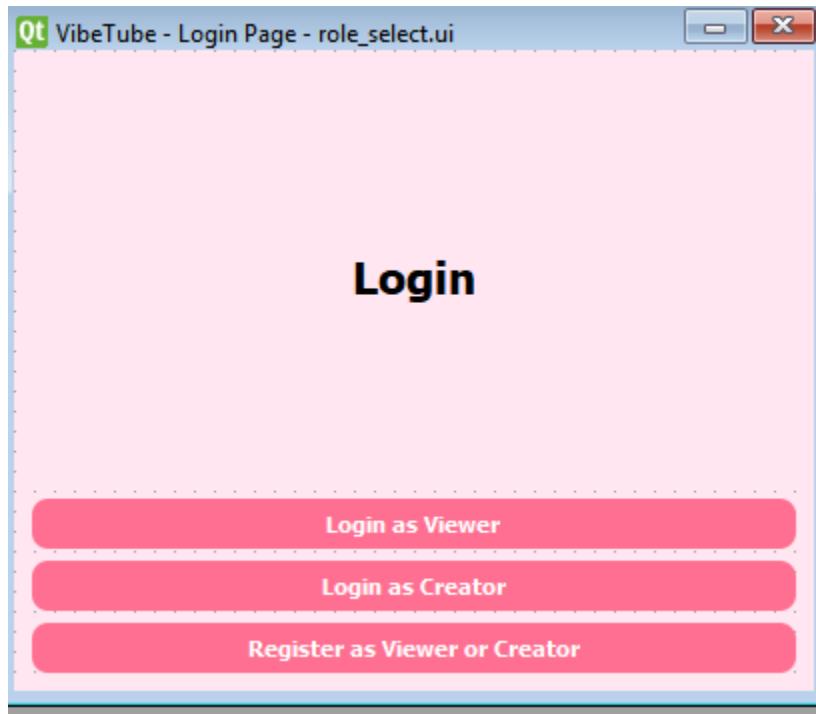
5. Relation Schema



6. SQL

Functional Requirement 1: Register and Login

The system shall allow Viewers and Creators to Register and Login.



UI Screen 1.A: Login Screen



UI Screen 1.B: Register New Account Screen

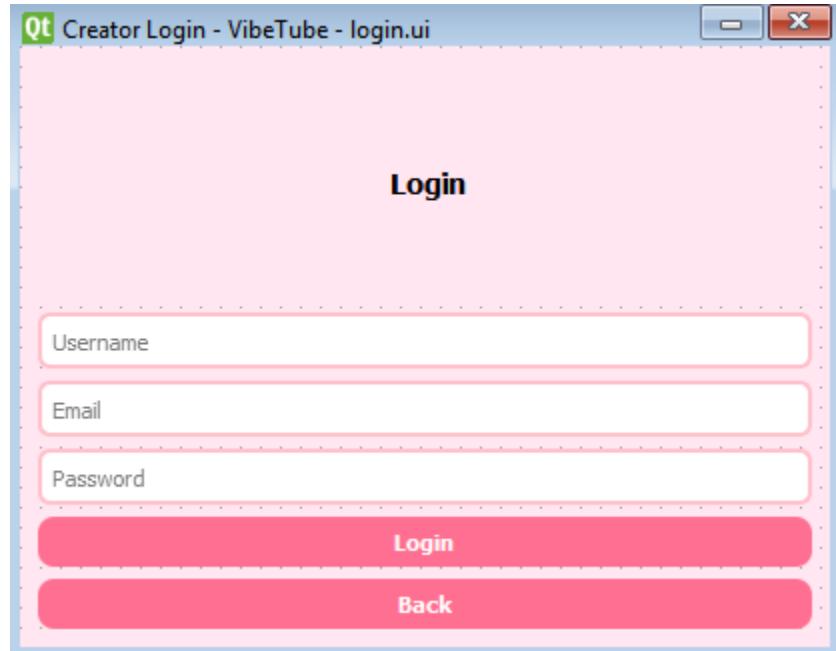
SQL Query 1.A.1: Register as Creator

```
INSERT INTO Creators (name, email, password)
VALUES (?, ?, ?);

-- Create a corresponding channel for the new Creator
INSERT INTO Channels (creator_id, channel_name)
VALUES (
    (SELECT creator_id FROM Creators WHERE email = ?),
    ?);
```

SQL Query 1.A.2: Register as Viewer

```
INSERT INTO Viewers (name, email, password)
VALUES (?, ?, ?);
```



UI Screen 1.C: Viewer/Creator Login Screen

SQL Query 1.C.1: Creator Login

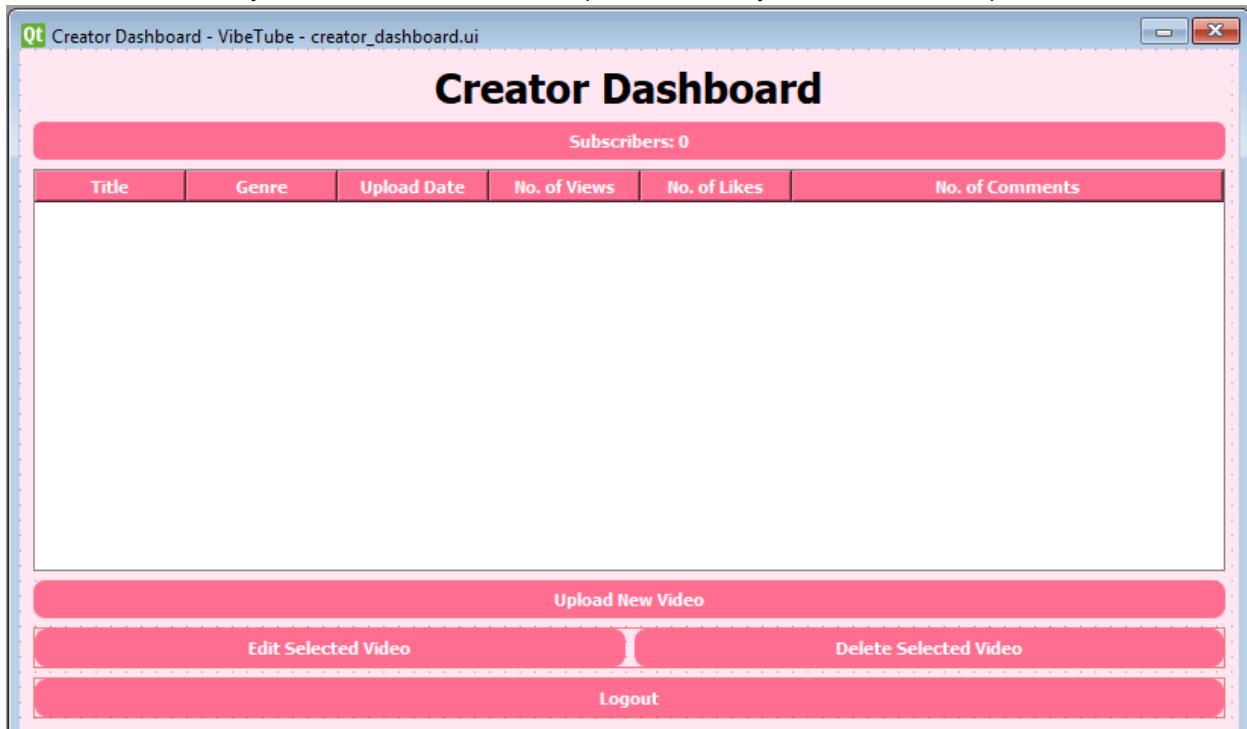
```
SELECT creator_id, name
FROM Creators
WHERE email = ? AND password = ?
```

SQL Query 1.C.2: Viewer Login

```
SELECT viewer_id, name
FROM Viewers
WHERE email = ? AND password = ?
```

Functional Requirement 2: Video Upload and Management by Creator

The system shall allow a Creator to upload, view analytics and delete/edit uploaded videos.



UI Screen 2.A: Main Creator dashboard

SQL Query 2.A.1: View Creator's Uploaded Videos with analytics

```
SELECT v.video_id, v.title, g.genre_name, v.upload_date, v.views, v.likes_count, v.comments_count
FROM Videos v
JOIN Genres g ON v.genre_id = g.genre_id
JOIN Channels c ON v.channel_id = c.channel_id
WHERE c.creator_id = [the specific creator id]
```

SQL Query 2.A.3: Delete Video

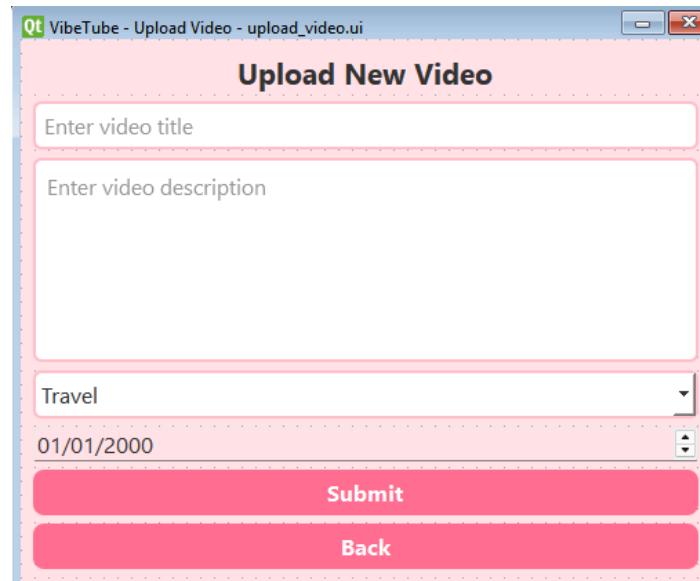
```
DELETE FROM Videos
```

```
WHERE video_id = [specific video ID]
```

```
AND channel_id = [specific channel ID]; -- ensures creator can only delete own videos
```

SQL Query 2.A.4: Subscriber Count

```
SELECT COUNT(*)  
FROM Subscriptions s  
JOIN Channels c ON s.channel_id = c.channel_id  
WHERE c.creator_id = ?;
```

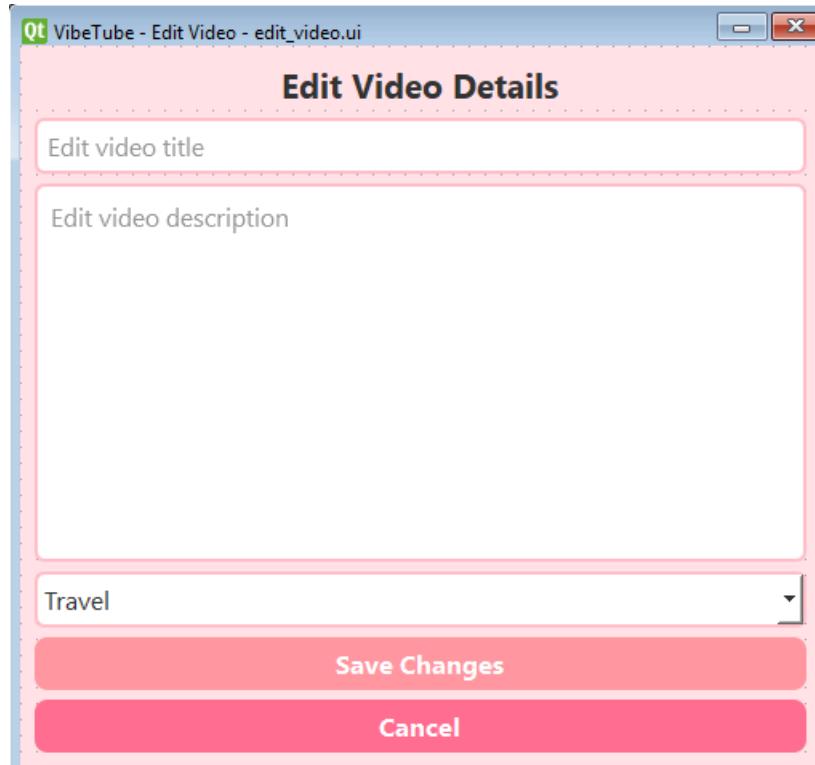


UI Screen 2.B: Uploading a video

SQL Query 2.B.1: Upload new video

```
INSERT INTO Videos (channel_id, genre_id, title, description, upload_date, views,  
likes_count, comments_count)
```

```
VALUES ( ?,?,?,?,?,?, 0, 0, 0);
```



UI Screen 2.C: Editing a video

SQL Query 2.C.1: Edit Video

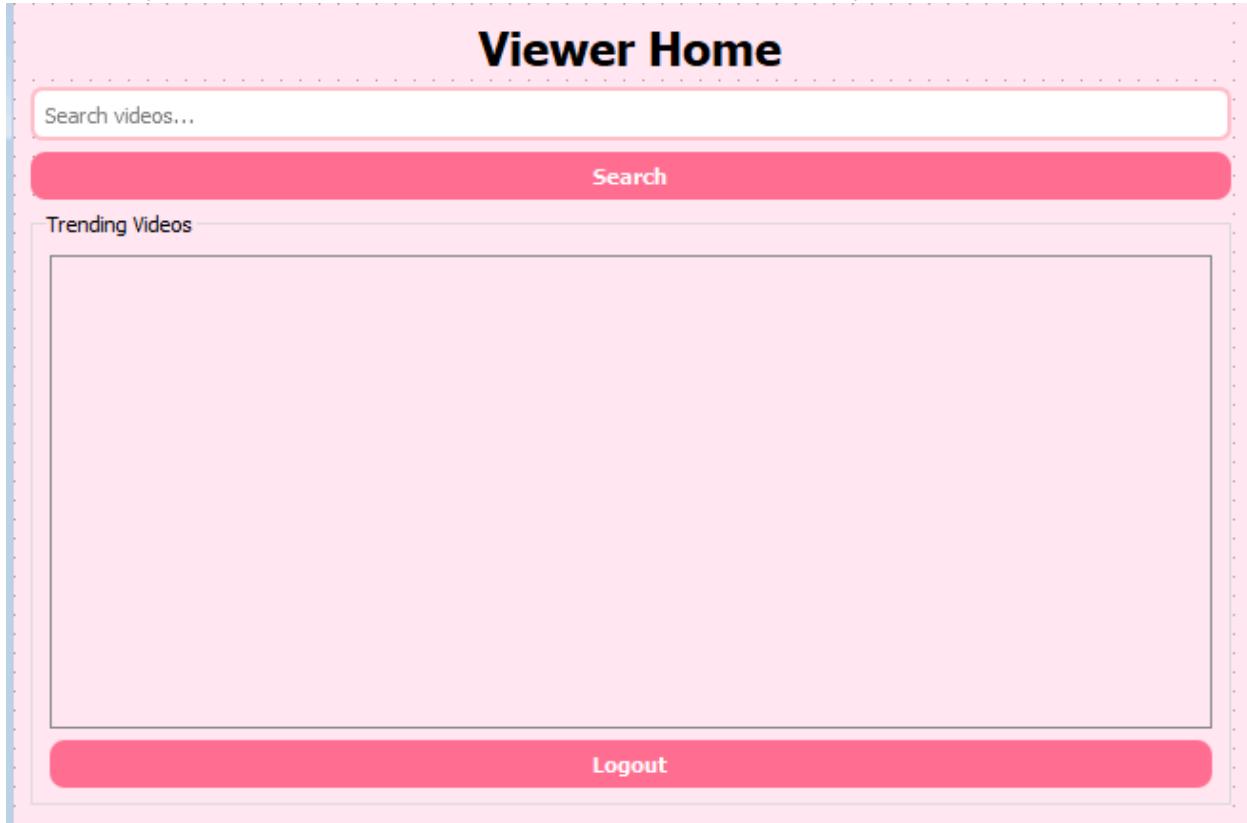
UPDATE Videos

SET title = [desired video title], description = [desired video description], genre_id = [desired video genre], upload_date = [specific video upload date]

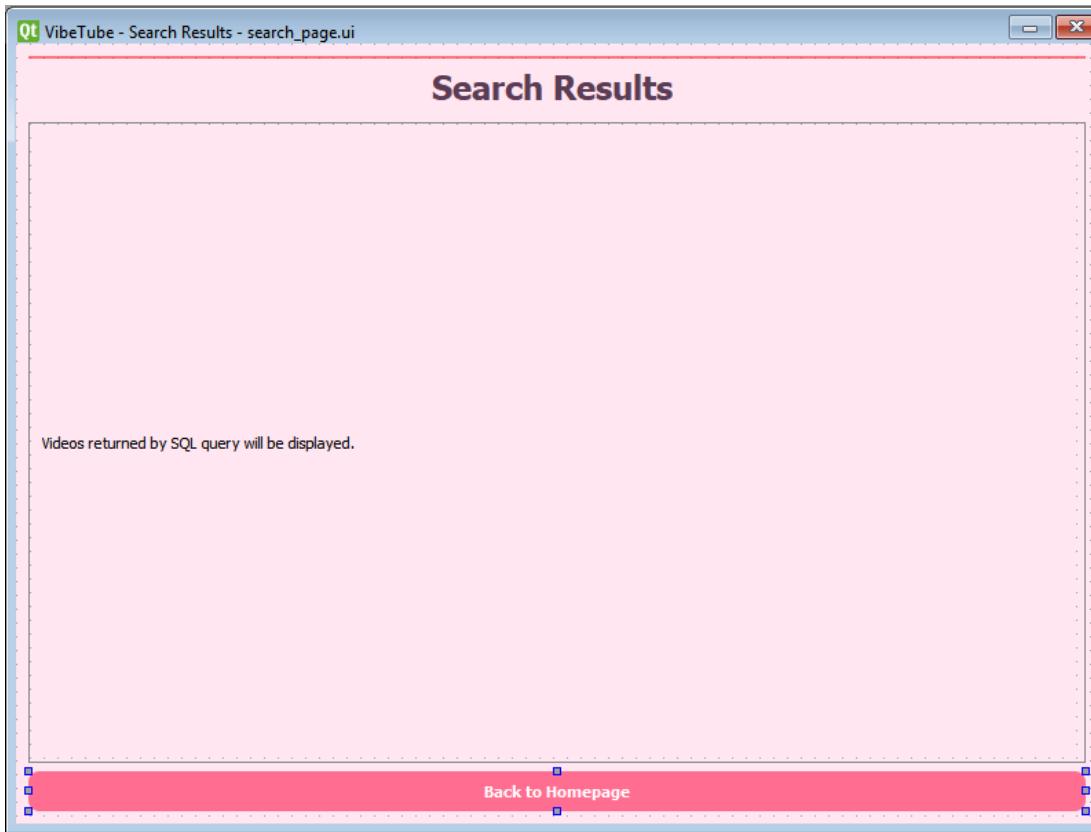
WHERE video_id = [specific video ID] AND channel_id = [specific channel ID]; -this ensures creators can only edit their own videos

Functional Requirement 3: Browsing on main page by Viewer

The system shall allow a Viewer to browse/search for videos uploaded by different Creators channels.



UI Screen 3.A: Homepage for Viewers



UI Screen 3.B: Search Results for Viewers

SQL Query 3.A.1: Search by genre/ title/ channel name

```
SELECT V.video_id, V.title, V.description, C.channel_name, G.genre_name, V.views
FROM Videos V
JOIN Channels C ON V.channel_id = C.channel_id
JOIN Genres G ON V.genre_id = G.genre_id
WHERE V.title LIKE '%[Search Term]%'      -- Search by Title
      OR C.channel_name LIKE '%[Search Term]%' -- Search by Channel Name
      OR G.genre_name LIKE '%[Searched Genre Name]%' -- Search by Genre name
ORDER BY V.views DESC;
```



Functional Requirement 4: Liking, commenting and subscribing by Viewer

The system shall allow a Viewer to view, like and comment on videos uploaded by different Creators, and also subscribe to the channel in this manner.

The UI Screen 4.A displays a video details page. On the left, a large box contains the video title "Video Title", views (1200), genre (Travel), upload information ("Uploaded by: Channel Name (Joined via FK)"), a "Subscribe" button, a "Like" button, and a comments section with a placeholder "Write a comment...". On the right, a sidebar titled "Trending Videos" is shown, and at the bottom right of the main box is a "Back to searchpage" button.

UI Screen 4.A: Viewer Screen when clicked on a video

SQL Query 4.A.1: Views: Executed every time a viewer opens a video details page.

```
UPDATE Videos  
SET views = views + 1  
WHERE video_id = [Specific Video ID];
```

SQL Query 4.A.2: Like a Video

```
INSERT INTO Likes (viewer_id, video_id)  
VALUES ( ?,? );
```

UPDATE Videos -- also update videos table with increasing likes

```
SET likes_count = likes_count + 1  
WHERE video_id = [specific video ID];
```

SQL Query 4.A.3: Comment on Video

```
INSERT INTO Comments (viewer_id, video_id, comment_text)  
VALUES ( ?,?,?);  
  
UPDATE Videos  
  
SET comments_count = comments_count + 1  
  
WHERE video_id = [specific video ID];
```

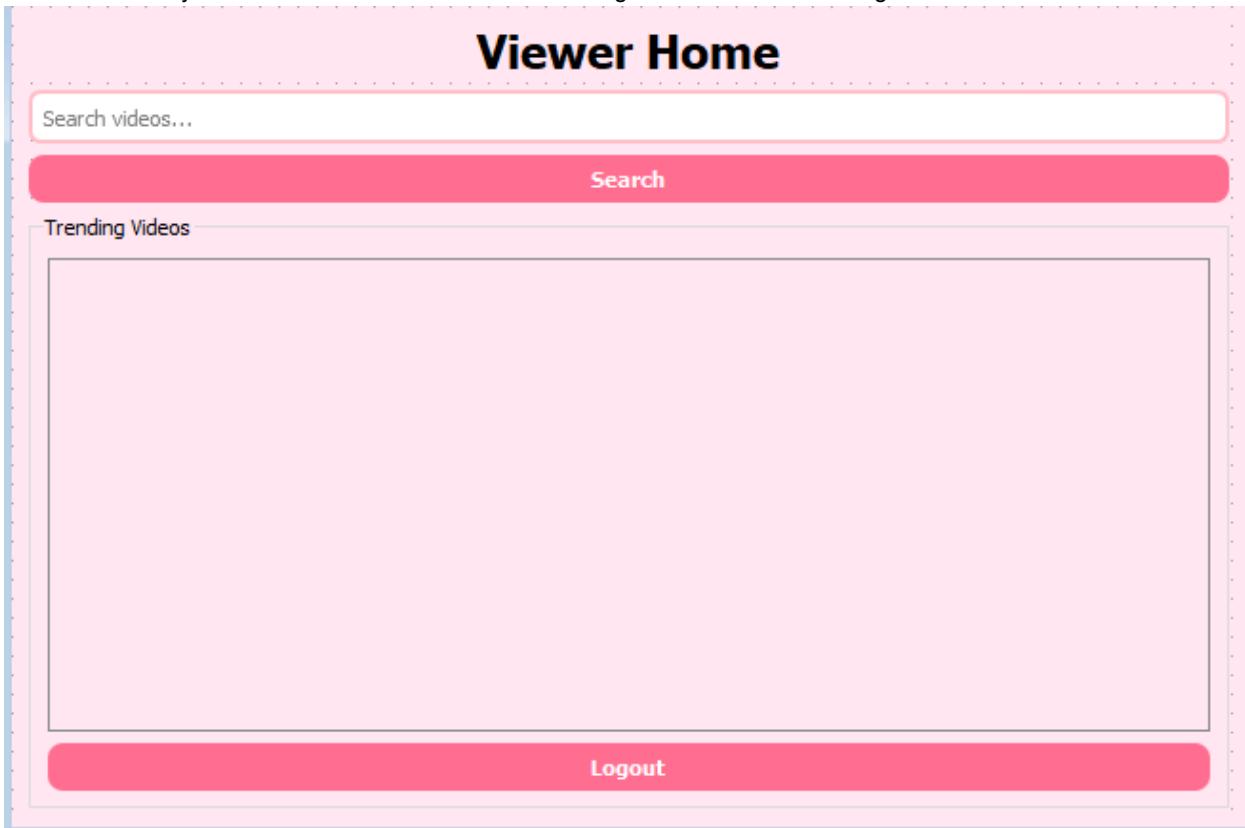
SQL Query 4.A.4: Subscribe

```
INSERT INTO Subscriptions (viewer_id, channel_id)  
VALUES ( ?,?);
```

Functional Requirement 5:Trending Videos



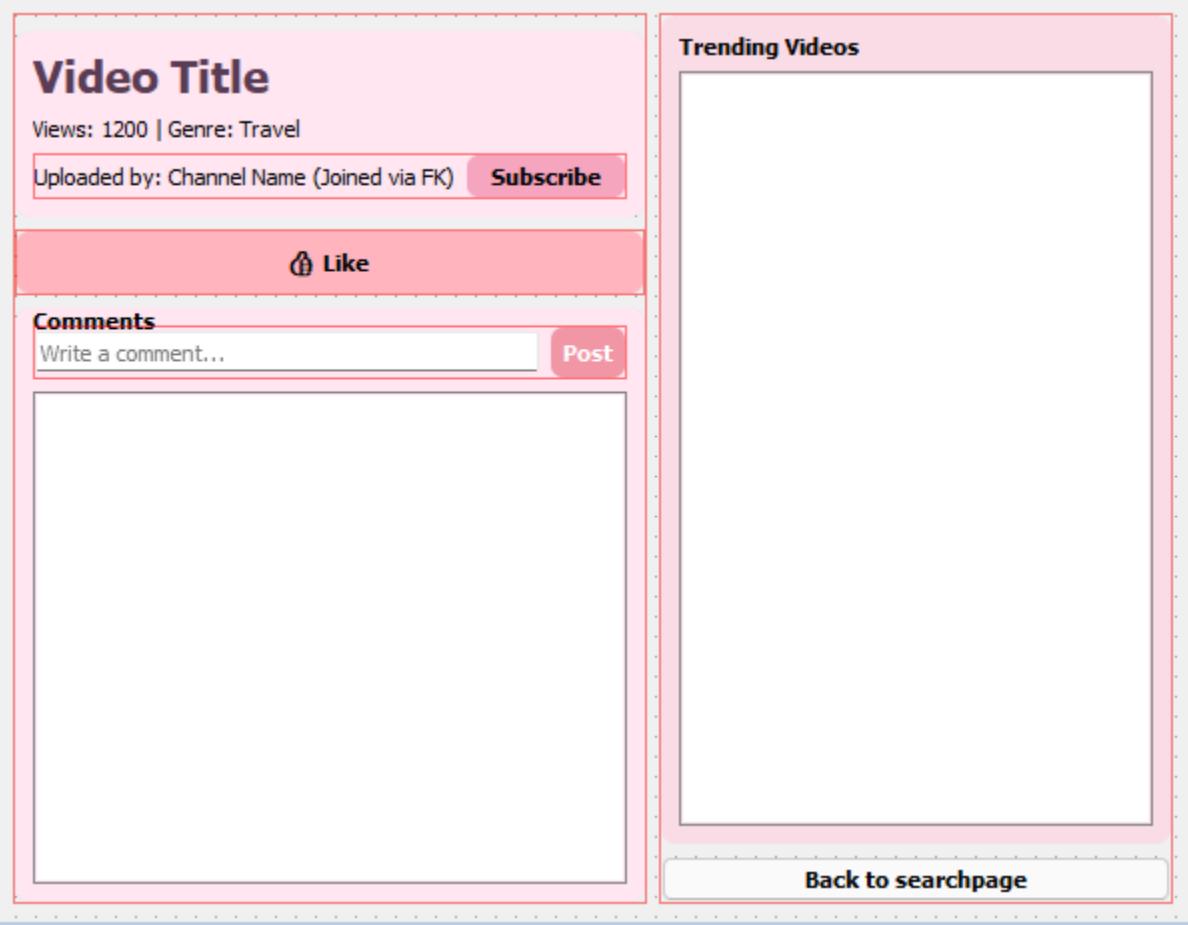
The system shall allow a Viewer to see trending videos based on the highest number of likes and views.



UI Screen 5.A: Viewer Homepage showing trending videos

SQL Query 5.A.1: Trending Videos

```
SELECT TOP 10 v.video_id, v.title, g.genre_name, c.channel_name, v.views, v.likes_count
FROM Videos v
JOIN Genres g ON v.genre_id = g.genre_id
JOIN Channels c ON v.channel_id = c.channel_id
ORDER BY v.views DESC, v.likes_count DESC;
```



The image shows a user interface for a video details page. On the left, there's a large video thumbnail with the title "Video Title". Below it, the text "Views: 1200 | Genre: Travel" and "Uploaded by: Channel Name (Joined via FK)". There are "Subscribe" and "Like" buttons. A comment section allows users to "Write a comment..." and has a "Post" button. On the right, there's a sidebar titled "Trending Videos" which currently displays a large empty rectangular area. At the bottom of the page is a "Back to searchpage" button.

UI Screen 5.B: Video details page showing trending videos on the right

SQL Query 5.B.1: Trending Videos (Same query as 5.A.1 because the trending videos are just appearing in two places in UI for enhanced user experience but they display the same result)

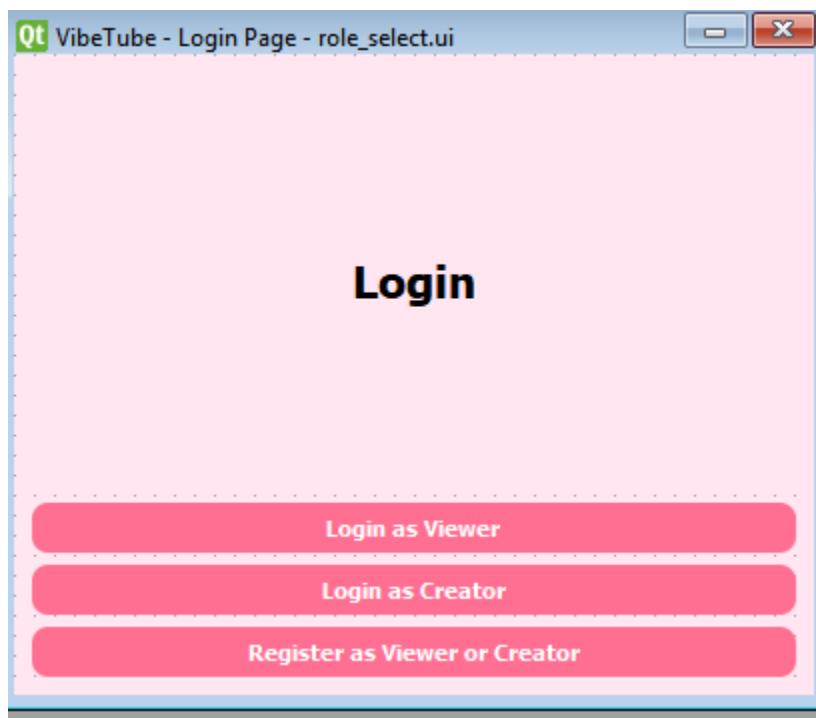
```
SELECT TOP 10 v.video_id, v.title, g.genre_name, c.channel_name, v.views, v.likes_count
FROM Videos v
JOIN Genres g ON v.genre_id = g.genre_id
JOIN Channels c ON v.channel_id = c.channel_id
ORDER BY v.views DESC, v.likes_count DESC;
```



7. Final Demo Screenshots

Functional Requirement 1: Register and Login Bushra

The system shall allow Viewers and Creators to Register and Login.



Demo Screenshot 1 A: Login Screen (First Screen)

Upon pressing Register as Viewer or Creator, they get to the following screen:



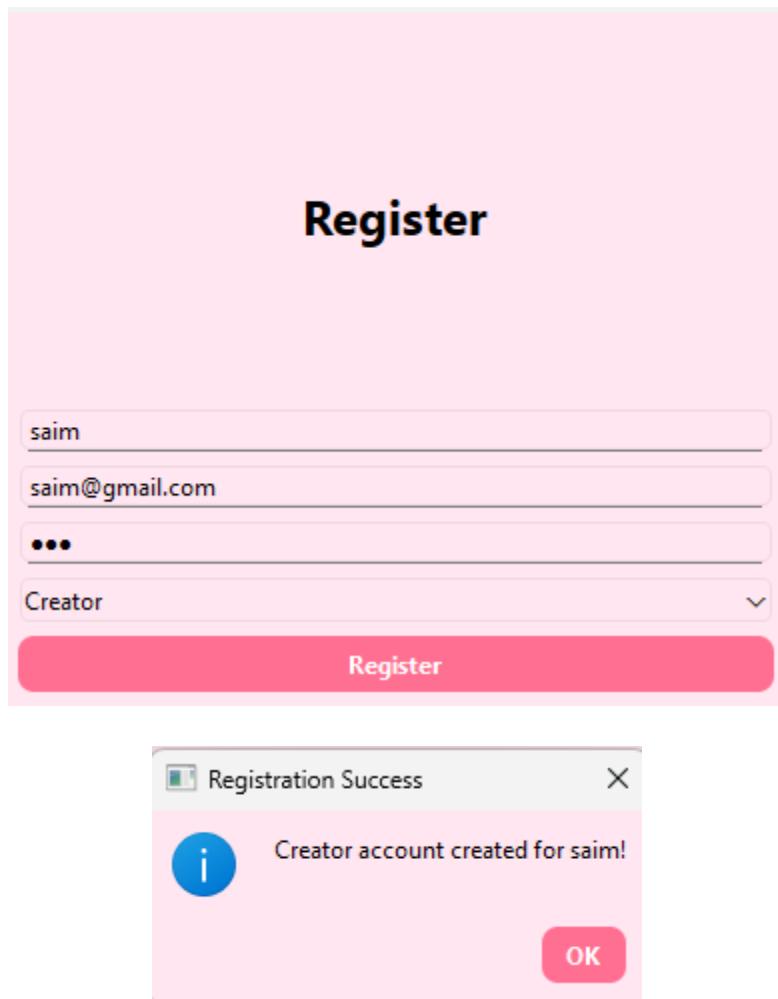
The screenshot shows a registration form with the following fields:

- First Name: mariam
- Email: mariam@gmail.com
- Password:
- Role: Viewer

A large red "Register" button is at the bottom.

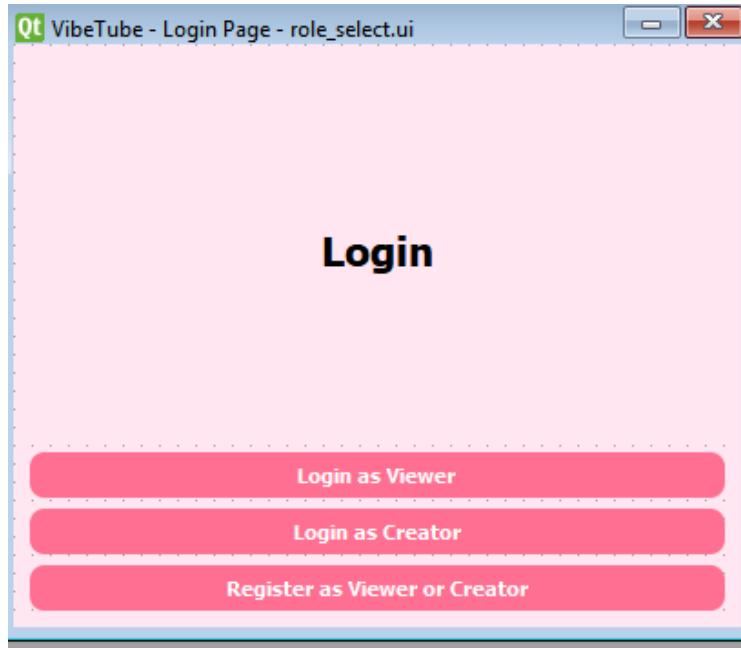
A modal dialog titled "Registration Success" displays the message: "Viewer account created for mariam!" with an "OK" button.

Demo Screenshot 1.B: Register New Account Screen (Viewer)



Demo Screenshot 1.B: Register New Account Screen (Creator)

After pressing register, they get back to Screen 1.A:

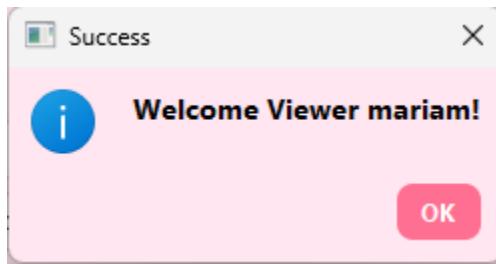


Demo Screenshot 1.A: Login Screen (First Screen)

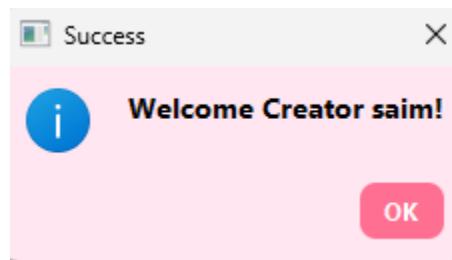
Upon pressing login as viewer or login as creator, they get to the following screen:



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Demo Screenshot 1.C: Viewer Login Screen



Demo Screenshot 1.D: Creator Login Screen



Functional Requirement 2: Video Upload and Management by Creator Bushra

The system shall allow a Creator to upload, view analytics and delete/edit uploaded videos.

Creator Dashboard - saira

Subscribers: 5						
	Title	Genre	Upload Date	No. of Views	No. of Likes	No. of Comments
1	day in my life ...	Lifestyle	2025-11-16	11	2	2
2	come with me t...	Travel	2025-11-16	13	4	1
3	vlog for back in...	Lifestyle	2025-11-30	1	1	0

[Upload New Video](#)[Edit Selected Video](#)[Delete Selected Video](#)

[Logout](#)

Demo Screenshot 2.A: Main Creator dashboard



Upload New Video

fun day at uni with friends<3

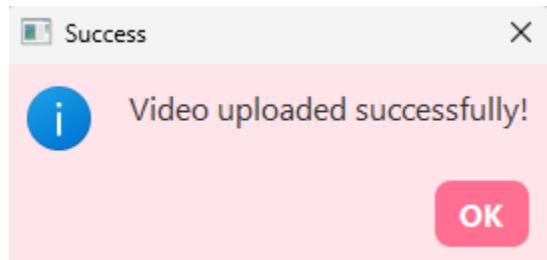
hi guys i hope u enjoy this video pls like and subscribe<3

Lifestyle

30/11/2025

Submit

Back



1	day in my life ...	Lifestyle	2025-11-16	11	2	2
2	come with me t...	Travel	2025-11-16	13	4	1
3	vlog for back in...	Lifestyle	2025-11-30	1	1	0
4	fun day at uni ...	Lifestyle	2025-11-30	0	0	0

Demo Screenshot 2.B: Uploading a video



Edit Video Details

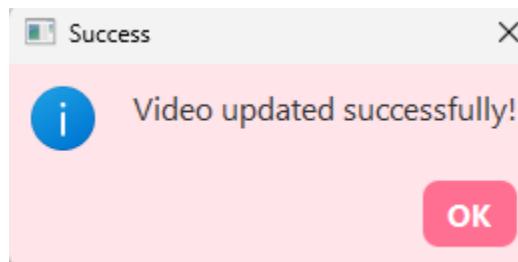
fun day at uni studying<3

hi guys i hope u enjoy this video pls like and subscribe<3

Study

Save Changes

Cancel



1	day in my life ...	Lifestyle	2025-11-16	11	2	2
2	come with me t...	Travel	2025-11-16	13	4	1
3	vlog for back in...	Lifestyle	2025-11-30	1	1	0
4	fun day at uni ...	Study	2025-11-30	0	0	0

Demo Screenshot 2.C: Editing a video



Deleting a Video:

The screenshot shows a two-step confirmation dialog for deleting a video. The first window, titled 'Delete Video', asks 'Are you sure you want to delete 'fun day at uni studying<3'?'. It has 'Yes' and 'No' buttons. The second window, titled 'Deleted', confirms 'Video deleted successfully!' with an 'OK' button. Below these windows is a table of video entries:

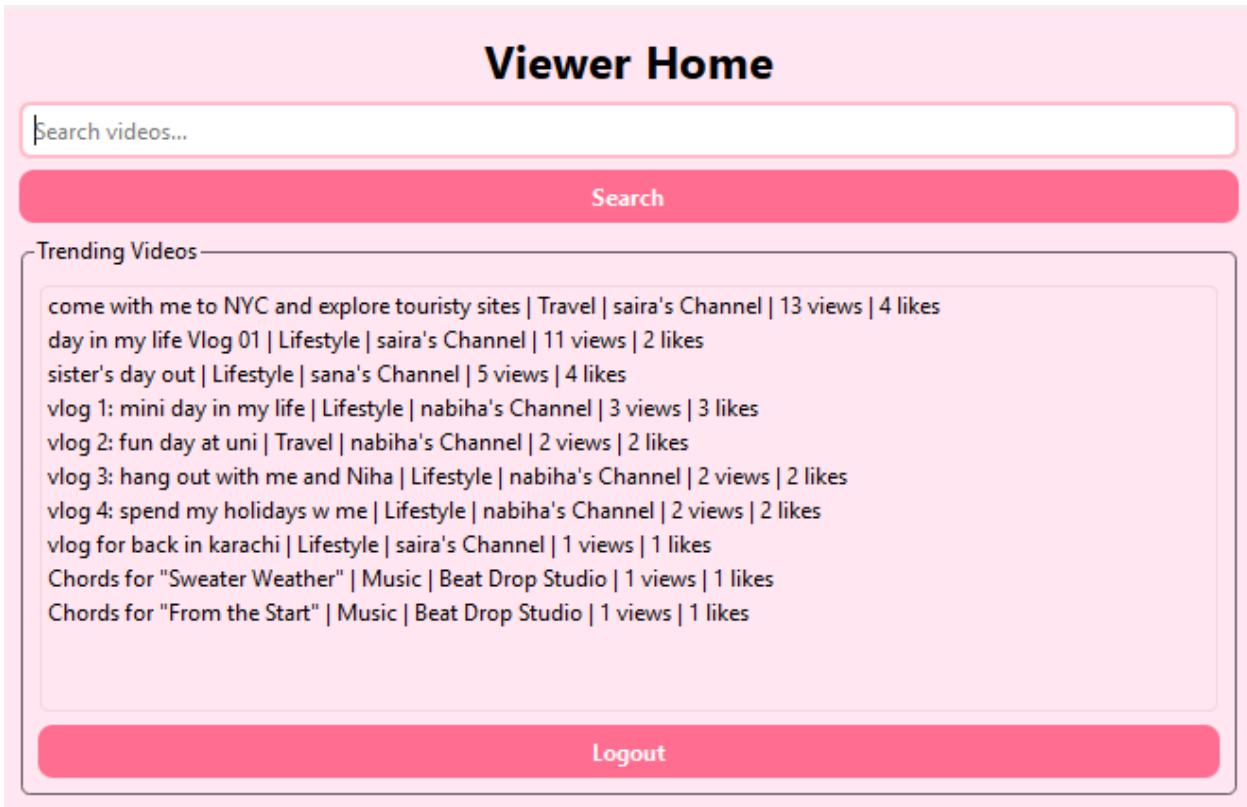
1	day in my life ...	Lifestyle	2025-11-16	11	2	2
2	come with me t...	Travel	2025-11-16	13	4	1
3	vlog for back in...	Lifestyle	2025-11-30	1	1	0

Demo Screenshots 2D: Deleting a Video

Functional Requirement 3: Browsing on main page by Viewer Nabiha

The system shall allow a Viewer to browse/search for videos uploaded by different Creators channels.

Note: The following screen will also show trending videos (Functional Requirement 5).



Viewer Home

Search videos...

Search

Trending Videos

- come with me to NYC and explore touristy sites | Travel | saira's Channel | 13 views | 4 likes
- day in my life Vlog 01 | Lifestyle | saira's Channel | 11 views | 2 likes
- sister's day out | Lifestyle | sana's Channel | 5 views | 4 likes
- vlog 1: mini day in my life | Lifestyle | nabiha's Channel | 3 views | 3 likes
- vlog 2: fun day at uni | Travel | nabiha's Channel | 2 views | 2 likes
- vlog 3: hang out with me and Niha | Lifestyle | nabiha's Channel | 2 views | 2 likes
- vlog 4: spend my holidays w me | Lifestyle | nabiha's Channel | 2 views | 2 likes
- vlog for back in karachi | Lifestyle | saira's Channel | 1 views | 1 likes
- Chords for "Sweater Weather" | Music | Beat Drop Studio | 1 views | 1 likes
- Chords for "From the Start" | Music | Beat Drop Studio | 1 views | 1 likes

Logout

Demo Screenshot 3.A: Homepage for Viewers



Search Results for: 'saira'

****Title:** come with me to NYC and explore touristy sites** Views: 13
Channel: saira's Channel

****Title:** day in my life Vlog 01** Views: 11
Channel: saira's Channel

****Title:** vlog for back in karachi** Views: 1
Channel: saira's Channel

[Back to Homepage](#)

Demo Screenshot 3.B: Search Results for Viewers (channel name)



Search Results for: 'lifestyle'

****Title:** day in my life Vlog 01** Views: 11

Channel: saira's Channel

****Title:** sister's day out** Views: 5

Channel: sana's Channel

****Title:** vlog 1: mini day in my life** Views: 3

Channel: nabiha's Channel

****Title:** vlog 3: hang out with me and Niha** Views: 2

Channel: nabiha's Channel

****Title:** vlog 4: spend my holidays w me** Views: 2

Channel: nabiha's Channel

****Title:** vlog for back in karachi** Views: 1

Channel: saira's Channel

[Back to Homepage](#)

Demo Screenshot 3.C: Search Results for Viewers (genre)



Search Results for: 'vlog'

Title: vlog 1: mini day in my life Channel: nabiha's Channel	Views: 3
Title: vlog 2: fun day at uni Channel: nabiha's Channel	Views: 2
Title: vlog 3: hang out with me and Niha Channel: nabiha's Channel	Views: 2
Title: vlog 4: spend my holidays w me Channel: nabiha's Channel	Views: 2
Title: vlog for back in karachi Channel: saira's Channel	Views: 1
Title: gilgit travel vlog Channel: Global Journeys	Views: 0
Title: sweden northern lights vlog Channel: Global Journeys	Views: 0

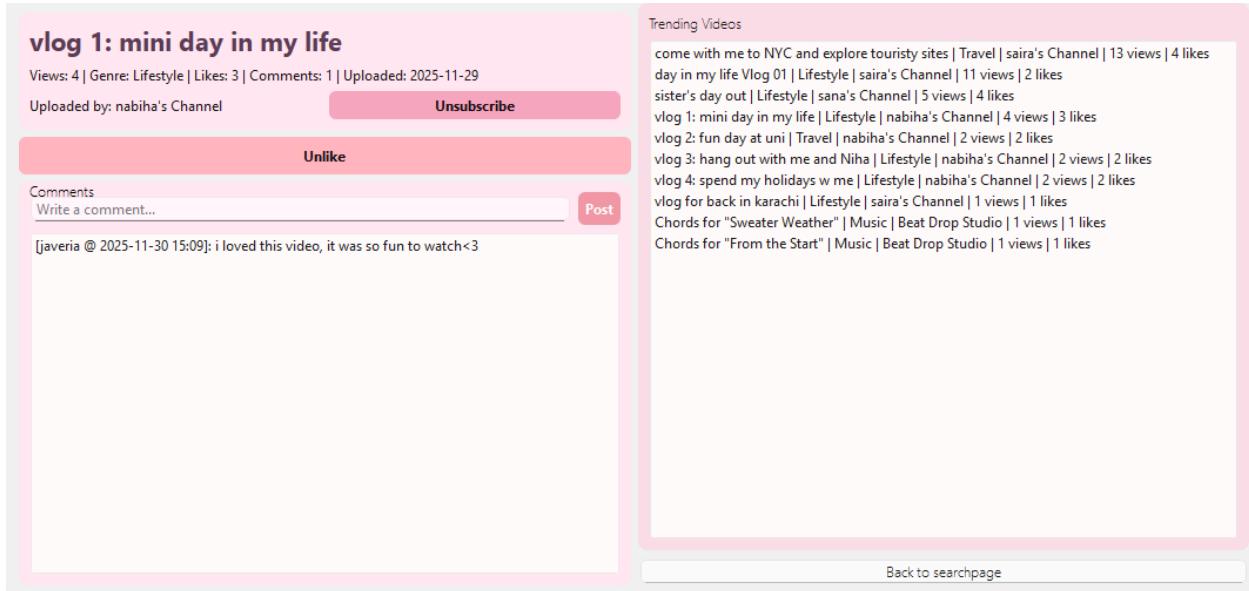
[Back to Homepage](#)

Demo Screenshot 3.D: Search Results for Viewers (video title)

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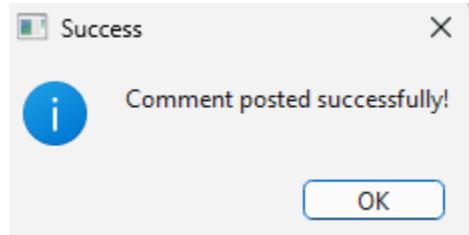
Functional Requirement 4: Liking, commenting and subscribing by Viewer Nabiha

The system shall allow a Viewer to **view, like and comment on videos** uploaded by different Creators, and also **subscribe** to the channel in this manner.



The screenshot shows a video player interface. At the top, it displays the video title "vlog 1: mini day in my life", views (4), genre (Lifestyle), likes (3), comments (1), and upload date (2025-11-29). Below the title, it says "Uploaded by: nabiha's Channel" and has a "Unsubscribe" button. A large pink bar contains the word "Unlike". Below this bar is a "Comments" section with a text input field containing "Write a comment..." and a "Post" button. A comment from "[javeria @ 2025-11-30 15:09]: i loved this video, it was so fun to watch<3" is visible. To the right of the video player is a sidebar titled "Trending Videos" listing several other vlogs with their details. At the bottom right of the main area is a "Back to searchpage" link.

Demo Screenshot 4.A: Viewer Screen when clicked on a video

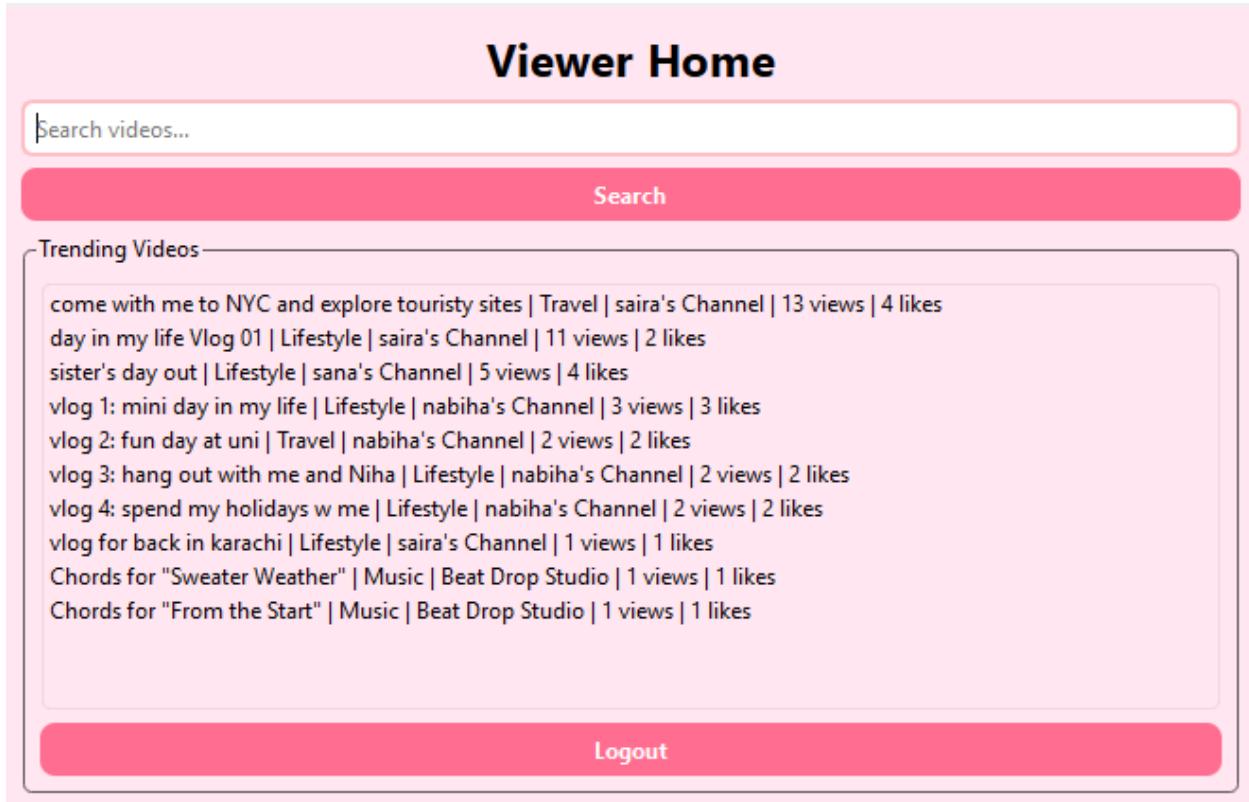


[bushra @ 2025-11-30 16:58]: great video<3
[javeria @ 2025-11-30 15:09]: i loved this video, it was so fun to watch<3

Demo Screenshot 4.B: Viewer Screen when commenting on a video

Functional Requirement 5:Trending Videos_ Both

The system shall allow a Viewer to see trending videos based on the highest number of likes and views.



The screenshot shows the 'Viewer Home' interface. At the top, there is a search bar with the placeholder 'Search videos...' and a red 'Search' button. Below the search bar, the title 'Trending Videos' is displayed. A list of video thumbnails is shown, each with a title, category, channel name, views, and likes. The videos listed are:

- come with me to NYC and explore touristy sites | Travel | saira's Channel | 13 views | 4 likes
- day in my life Vlog 01 | Lifestyle | saira's Channel | 11 views | 2 likes
- sister's day out | Lifestyle | sana's Channel | 5 views | 4 likes
- vlog 1: mini day in my life | Lifestyle | nabiha's Channel | 3 views | 3 likes
- vlog 2: fun day at uni | Travel | nabiha's Channel | 2 views | 2 likes
- vlog 3: hang out with me and Niha | Lifestyle | nabiha's Channel | 2 views | 2 likes
- vlog 4: spend my holidays w me | Lifestyle | nabiha's Channel | 2 views | 2 likes
- vlog for back in karachi | Lifestyle | saira's Channel | 1 views | 1 likes
- Chords for "Sweater Weather" | Music | Beat Drop Studio | 1 views | 1 likes
- Chords for "From the Start" | Music | Beat Drop Studio | 1 views | 1 likes

At the bottom of the page is a red 'Logout' button.

Demo Screenshot 5.A: Viewer Homepage showing trending videos



CS355 – Database Project Submission Template

vlog 1: mini day in my life

Views: 4 | Genre: Lifestyle | Likes: 3 | Comments: 1 | Uploaded: 2025-11-29

Uploaded by: nabiha's Channel

[Unsubscribe](#)

[Unlike](#)

Comments

Write a comment...

[Post](#)

[javeria @ 2025-11-30 15:09]: i loved this video, it was so fun to watch<3

Trending Videos

come with me to NYC and explore touristy sites | Travel | saira's Channel | 13 views | 4 likes

day in my life Vlog 01 | Lifestyle | saira's Channel | 11 views | 2 likes

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vlog 2: fun day at uni | Travel | nabiha's Channel | 2 views | 2 likes

vlog 3: hang out with me and Nisha | Lifestyle | nabiha's Channel | 2 views | 2 likes

vlog 4: spend my holidays w me | Lifestyle | saira's Channel | 2 views | 2 likes

vlog for back in karachi | Lifestyle | saira's Channel | 1 views | 1 likes

Chords for "Sweater Weather" | Music | Beat Drop Studio | 1 views | 1 likes

Chords for "From the Start" | Music | Beat Drop Studio | 1 views | 1 likes

Demo Screenshot 5.B: Video details page showing trending videos on the right