



QikVid

**Video Processing and
Distributing Application**

DES424

Cloud-based Application Development
Final Presentation



Overview and Background



Current video sharing platforms like TikTok have closed source code and unclear video recommendation algorithms for which they already have been under criticism multiple times. Furthermore they display ads users are annoyed by.

Problem Statement



Free & Open Source

free open source
cloud-based application



Cloud-based Video Platform

that allows users to upload videos on a cloud server and
have access to them later on to view, edit, or delete
them



Video Encoding Algorithm

efficient video encoding algorithms



Optimization

cloud server optimization to effectively
provide the service to the users

Key Users/Stakeholders

01

Video Uploader

Content creators and people who love to make short videos.

02

Video Viewer

People who enjoy watching the videos uploaded by other users



Admin

03

Staff who oversee the content on the application.

Functional Requirements

- 1 **User Management System** which admins can view and deactivate user accounts on the application
- 2 Videos get distributed to each user **randomly** and play one at a time
- 3 **Like counter**, that increases by one every time a user clicks on it



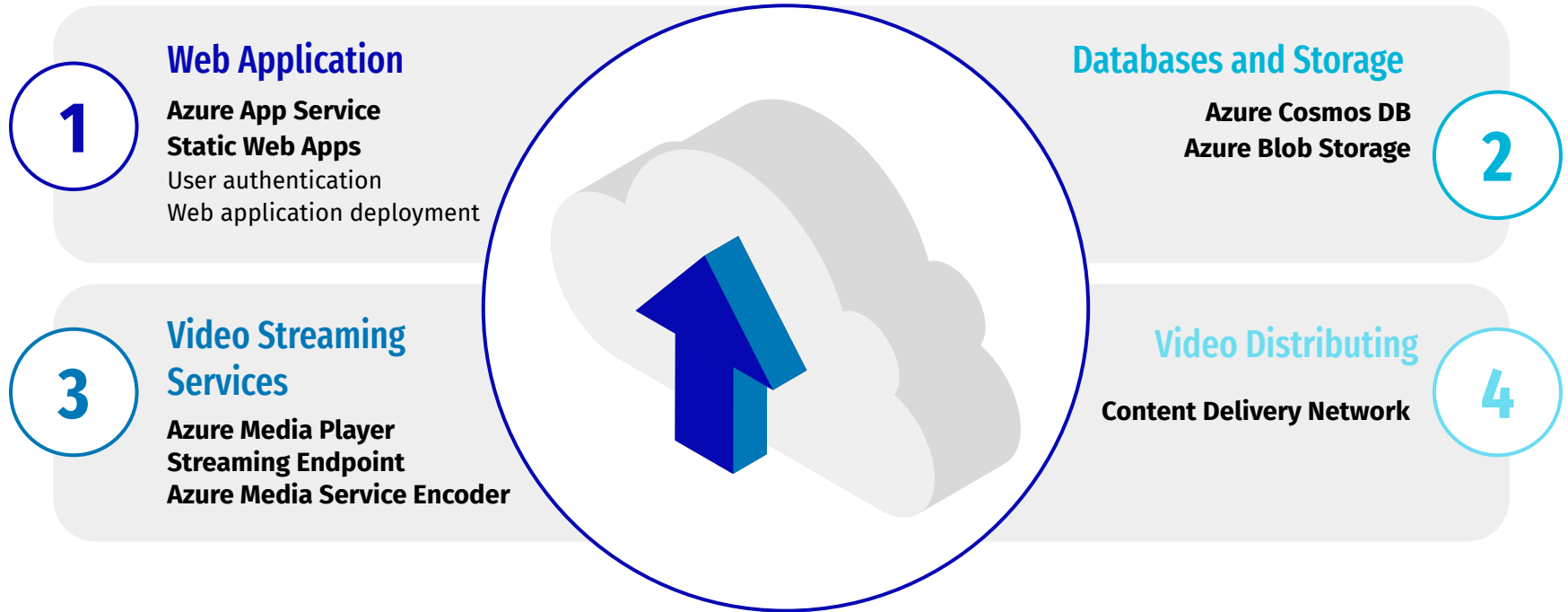
Non-Functional Requirements



Programming Languages



Cloud Technology and Components Microsoft Azure



Cloud Technology and Components

Microsoft Azure

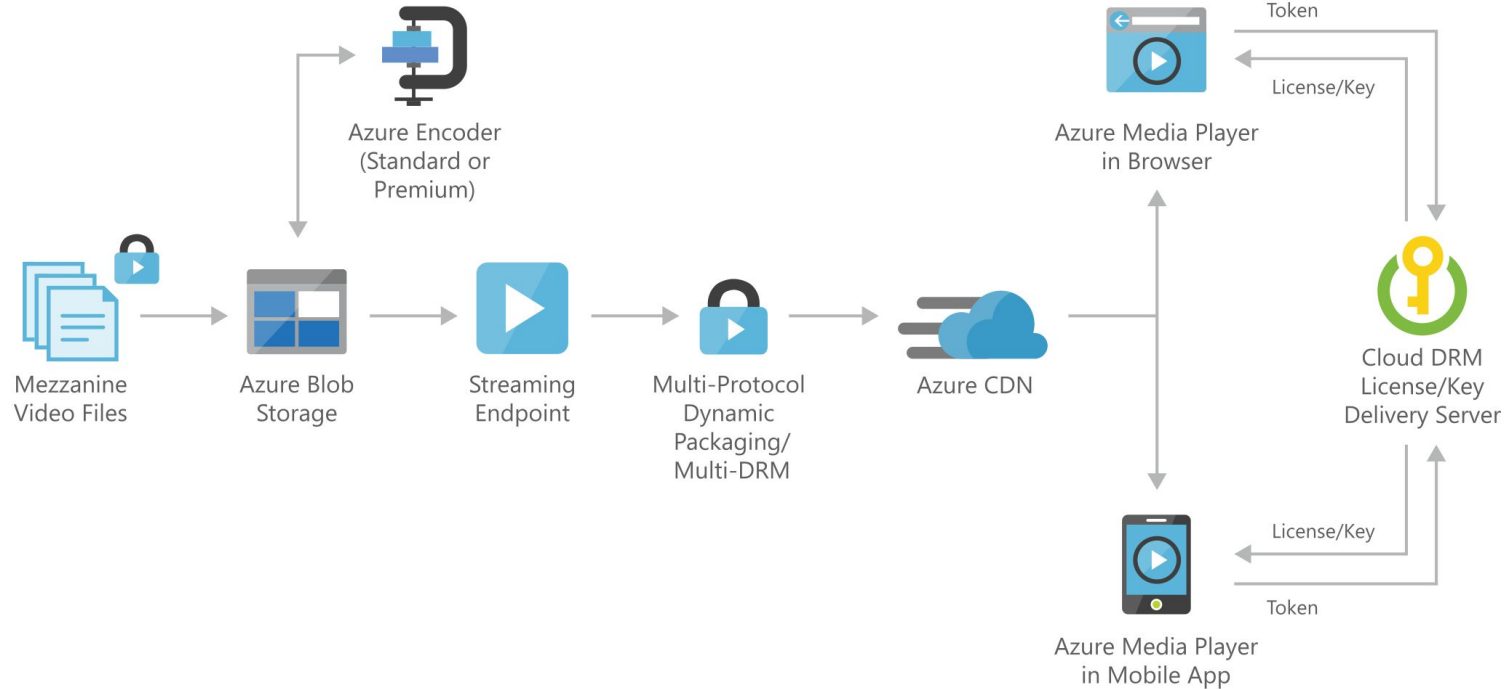


Figure 1: Architecture of the video streaming and distributing application
(Reference: Video-on-demand digital media, Microsoft Azure)

Framework and Tools



Source and version control

- Git
- GitHub



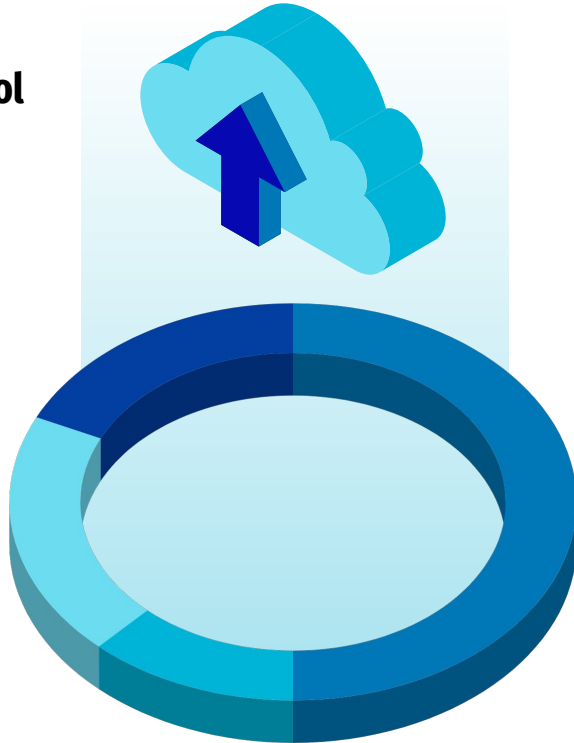
Back-end Development

- Node.js
- Express.js



Software Testing

- Robot Framework
- Selenium Library



Front-end Development

- React
- Tailwind CSS



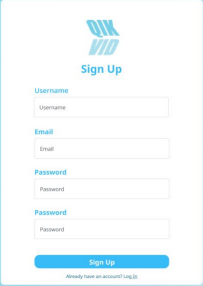
Databases and Storage

- Azure Cosmos DB
- Azure Blob Storage



Prototype

User Application Interface



Sign Up

Username

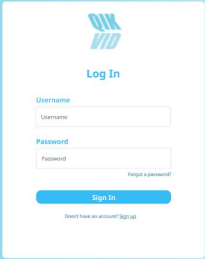
Email

Password

Password

Sign Up

Already have an account? [Log In](#)



Log In

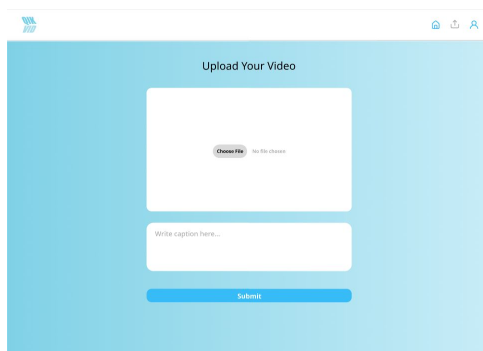
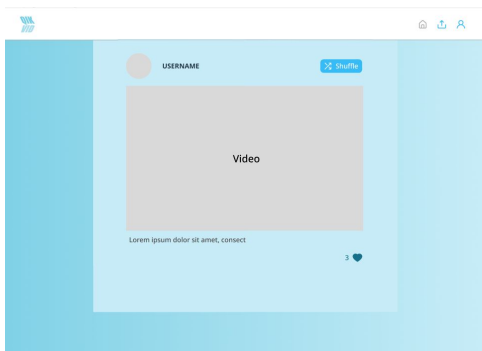
Username

Password

Forgot a password?

Log In

Don't have an account? [Sign Up](#)

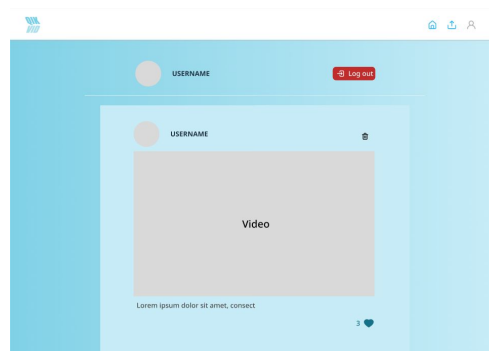


Upload Your Video

[Choose File](#) No file chosen

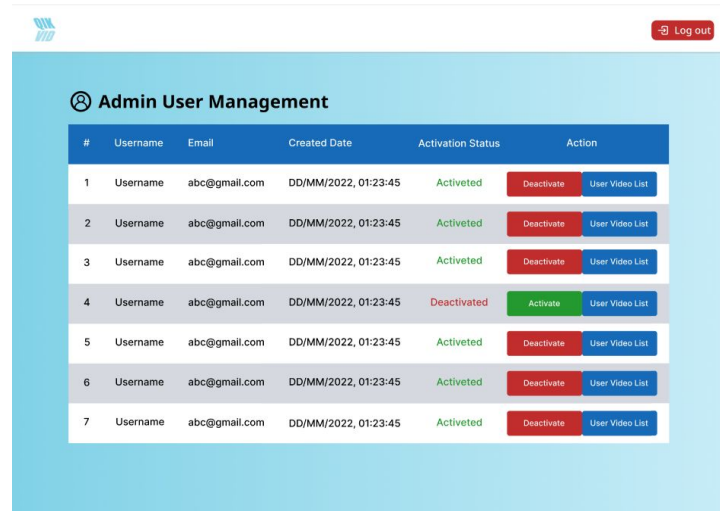
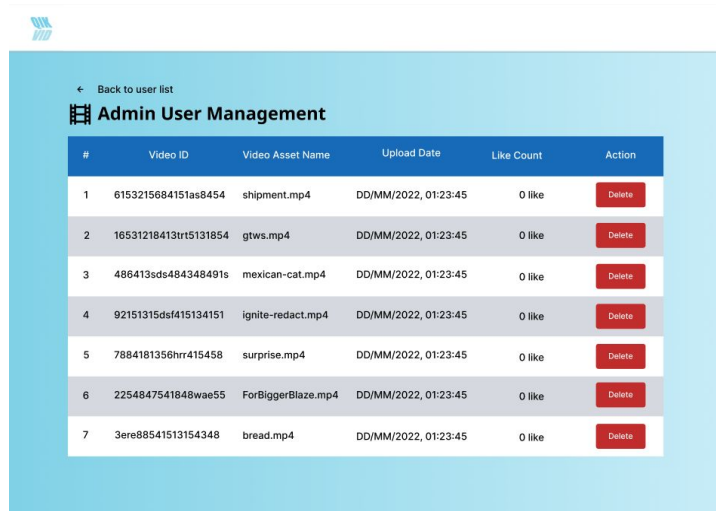
Write caption here...

Submit



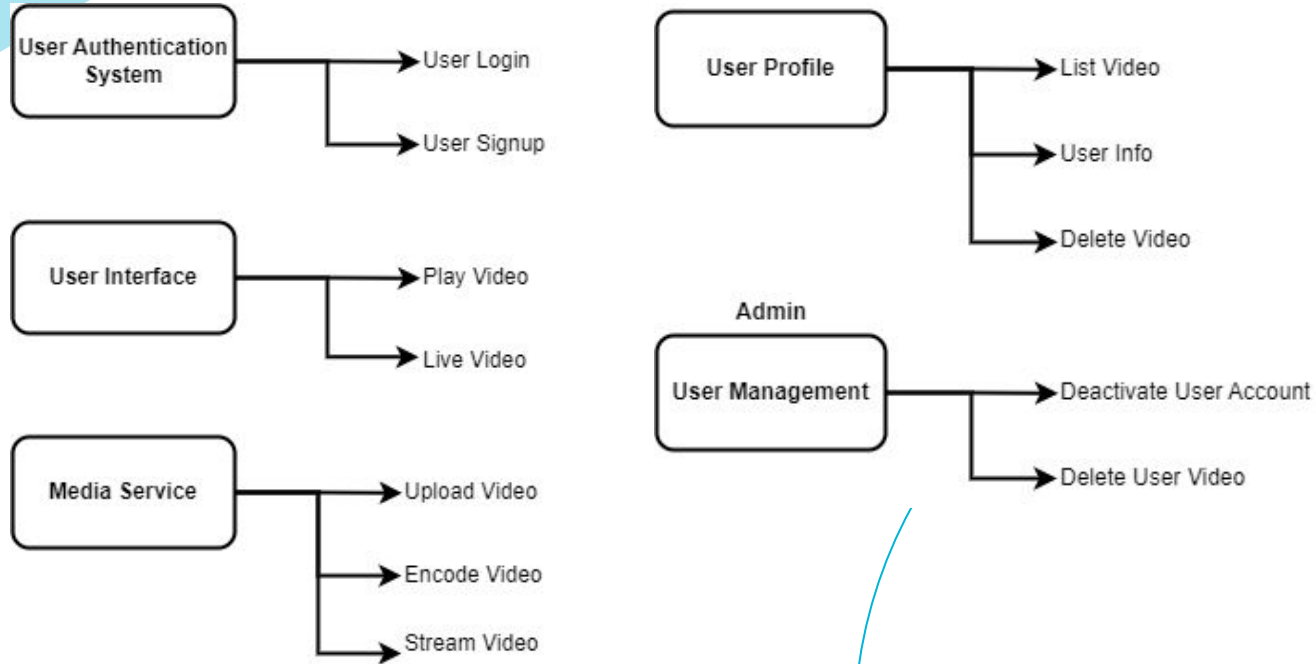
Prototype

Admin Application Interface

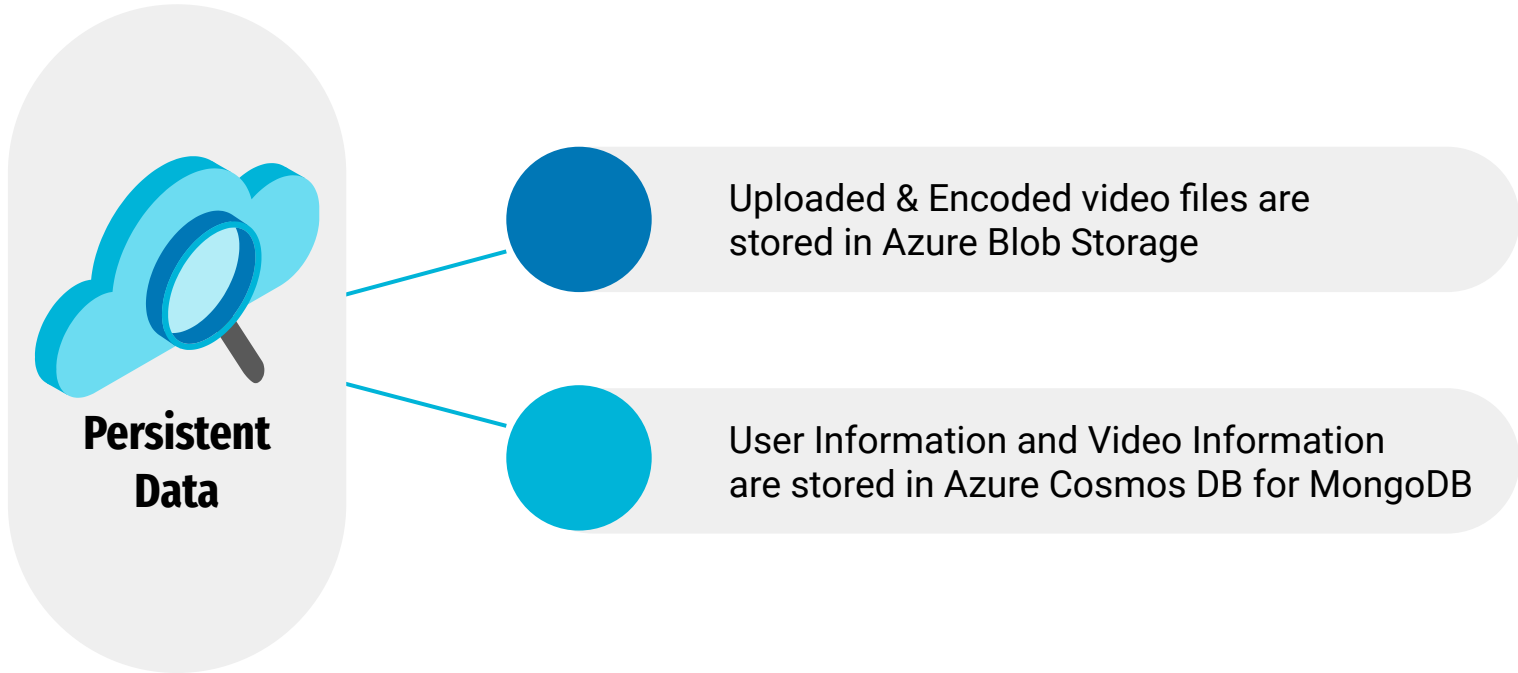


Software Architecture

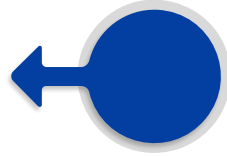
Admin Application Interface



Data Management

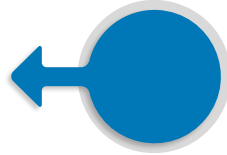


Boundary Condition



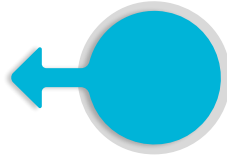
Initialization

Send HTTP request (GET/fetchVideo) when user access the web app. This request then retrieves a video which then displays a loading element to the screen.



Termination

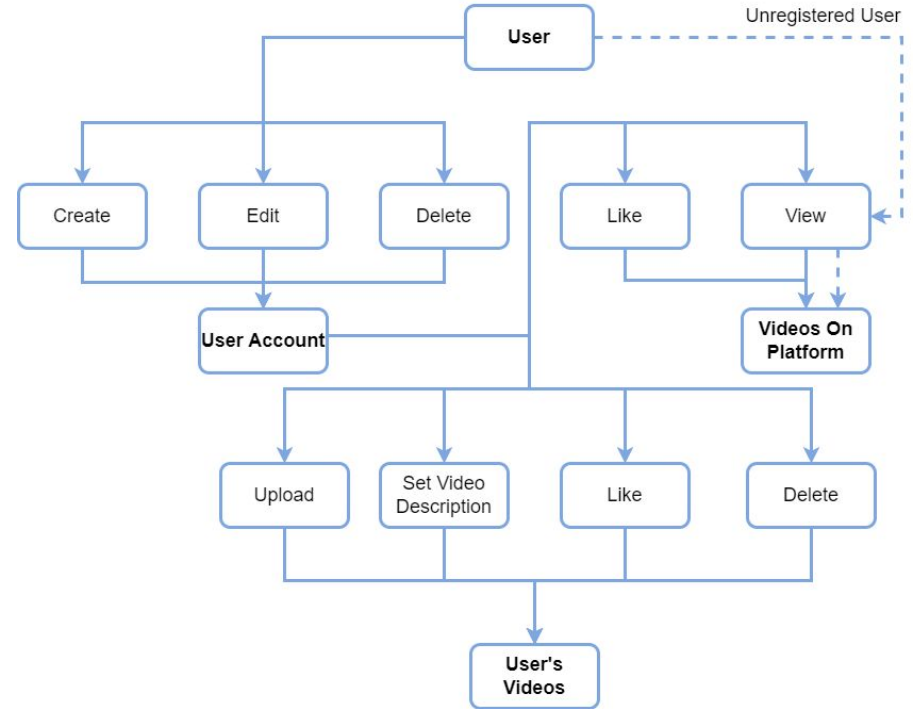
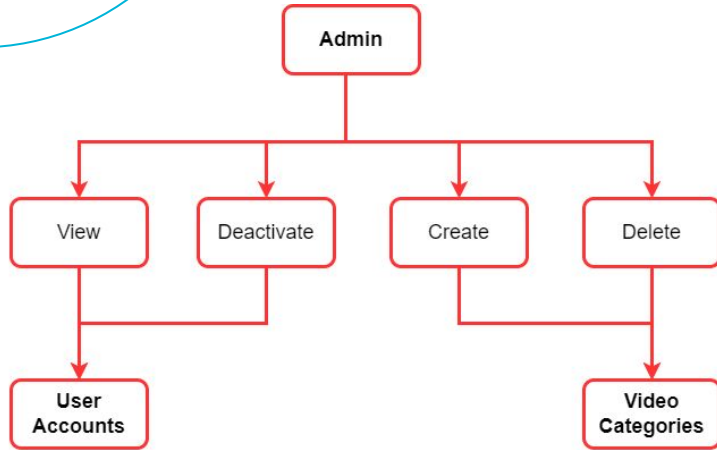
Termination only occurs when a user logs out. No single subsystem that is allowed to be terminated.



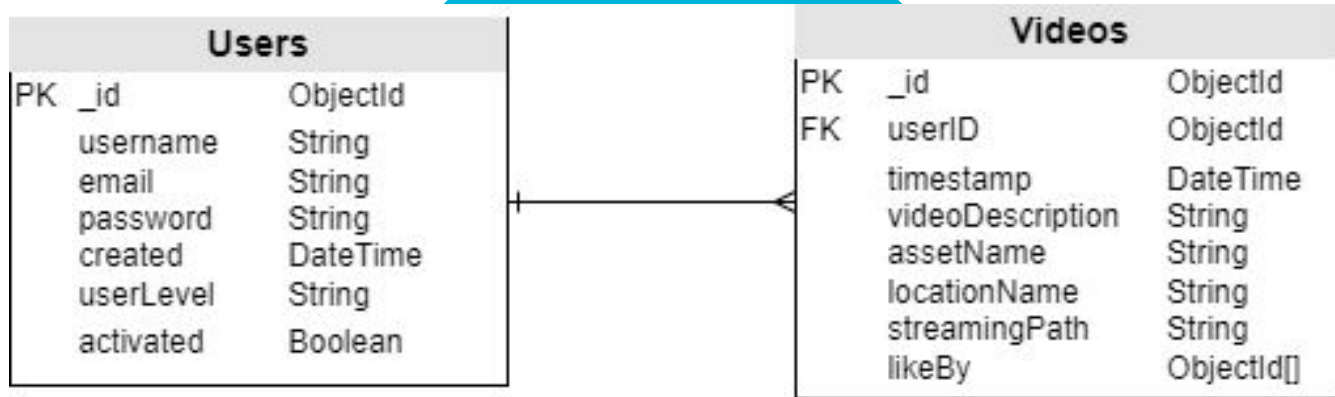
Failure

Alert popup window display when error occurs. If the application fails, the system will try to restart.

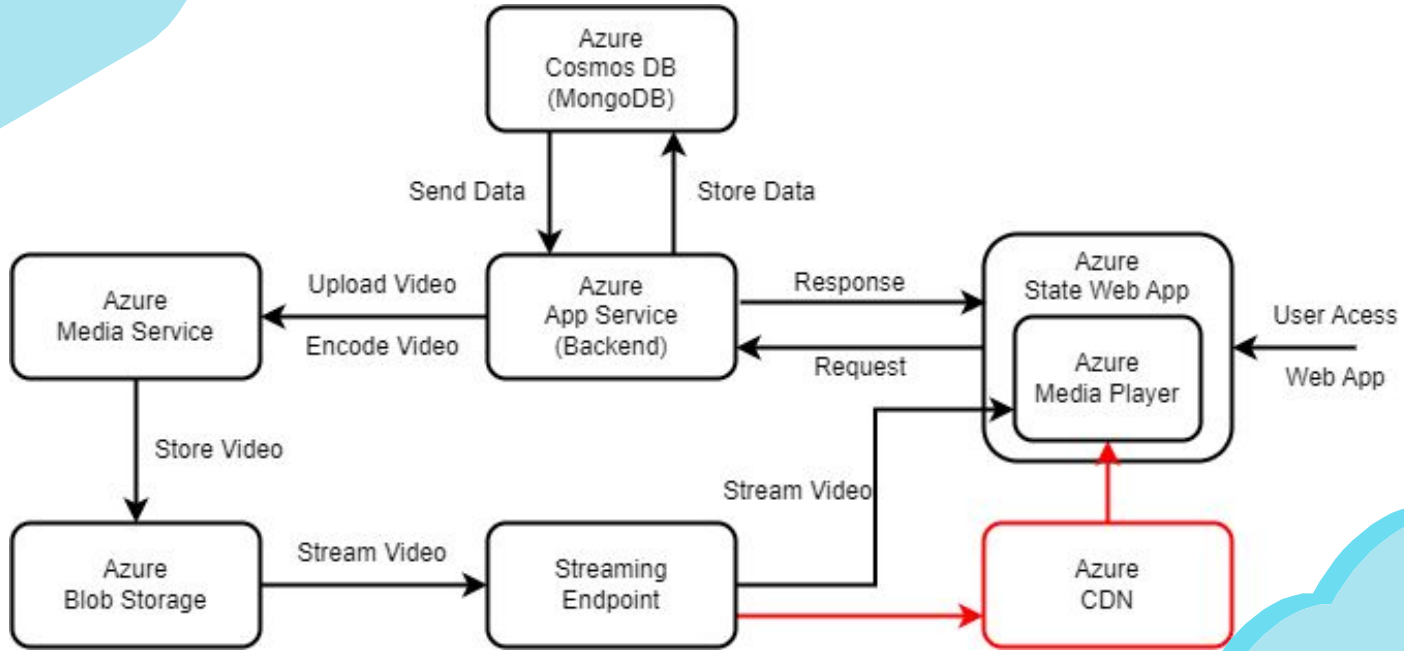
Access Control & Security



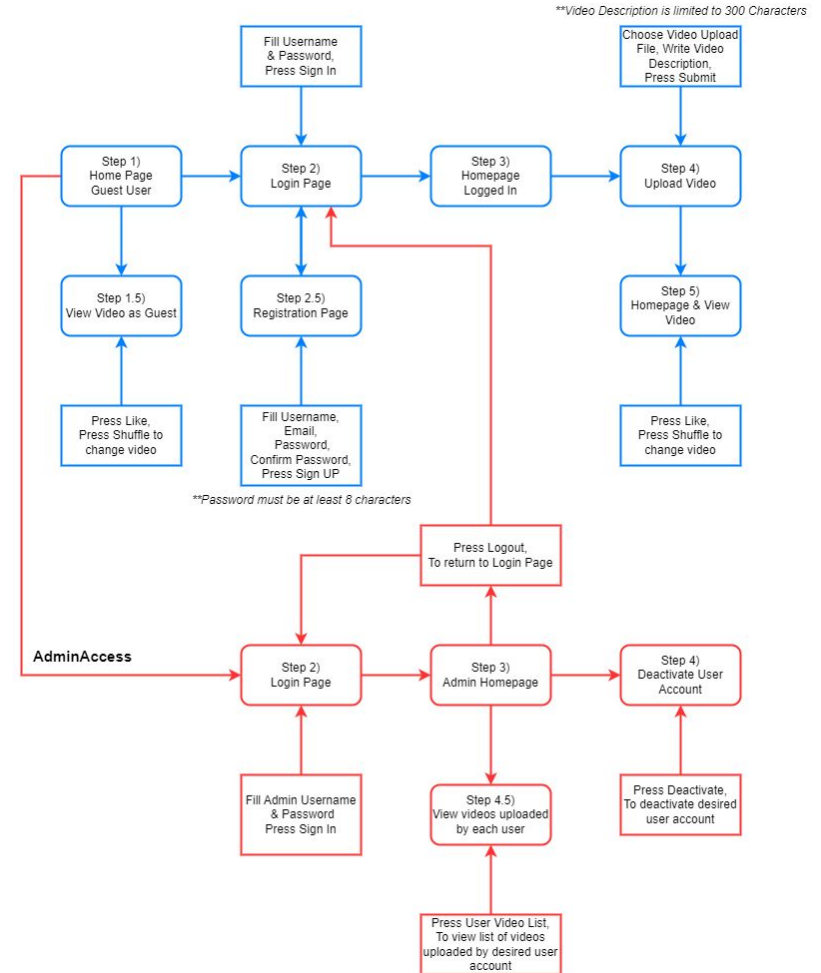
ER Diagram



System Architecture Diagram with Cloud

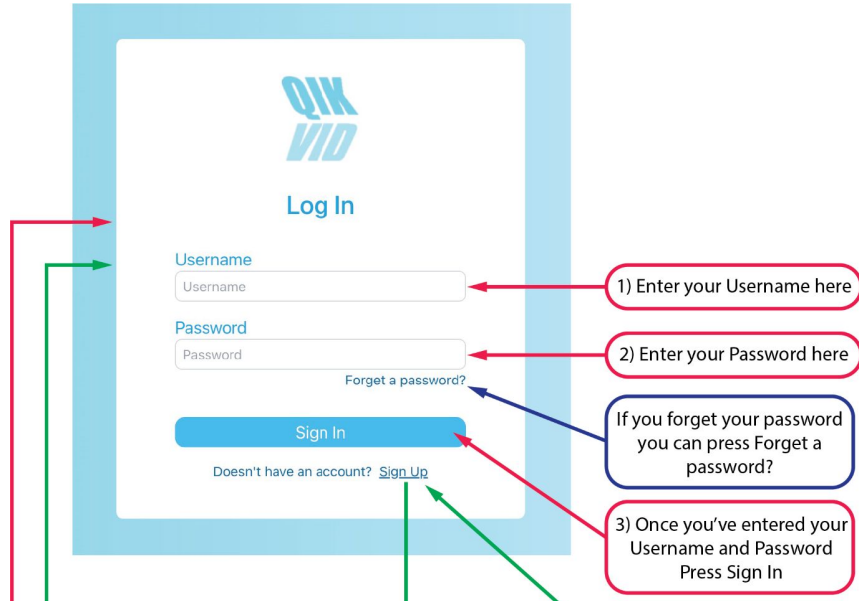


Workflow of the system



User Manual

Login Page



The Login Page diagram shows a light blue rectangular frame containing the QIK VID logo at the top. Below the logo is the text "Log In". There are two input fields: "Username" and "Password". Below the "Password" field is a link "Forget a password?". At the bottom is a blue "Sign In" button. Below the button is a link "Doesn't have an account? Sign Up". Colored arrows point from numbered instructions to these elements: a red arrow from instruction 1 to the Username field, a red arrow from instruction 2 to the Password field, a blue arrow from instruction 3 to the "Sign In" button, and a green arrow from instruction 3 to the "Sign Up" link. A red line and a green line also point to the top of the frame.

QIK VID

Log In

Username

Username

Password

Forget a password?

Sign In

Doesn't have an account? [Sign Up](#)

- 1) Enter your Username here
- 2) Enter your Password here
- 3) Once you've entered your Username and Password Press Sign In

SignUp Page



The SignUp Page diagram shows a light blue rectangular frame containing the QIK VID logo at the top. Below the logo is the text "Sign Up". There are four input fields: "Username", "Email", "Password", and "Confirm Password". Below the "Confirm Password" field is a blue "Sign Up" button. Below the button is a link "Already have an account? Log In". Colored arrows point from numbered instructions to these elements: a green arrow from instruction 1 to the top of the frame, a green arrow from instruction 2 to the Username field, a green arrow from instruction 3 to the Email field, a green arrow from instruction 4 to the Password field, a green arrow from instruction 5 to the Confirm Password field, and a green arrow from instruction 6 to the "Sign Up" button. A red line and a green line also point to the top of the frame.

QIK VID

Sign Up

Username

User Name

Email

Email

Password

Confirm Password

Confirm Password

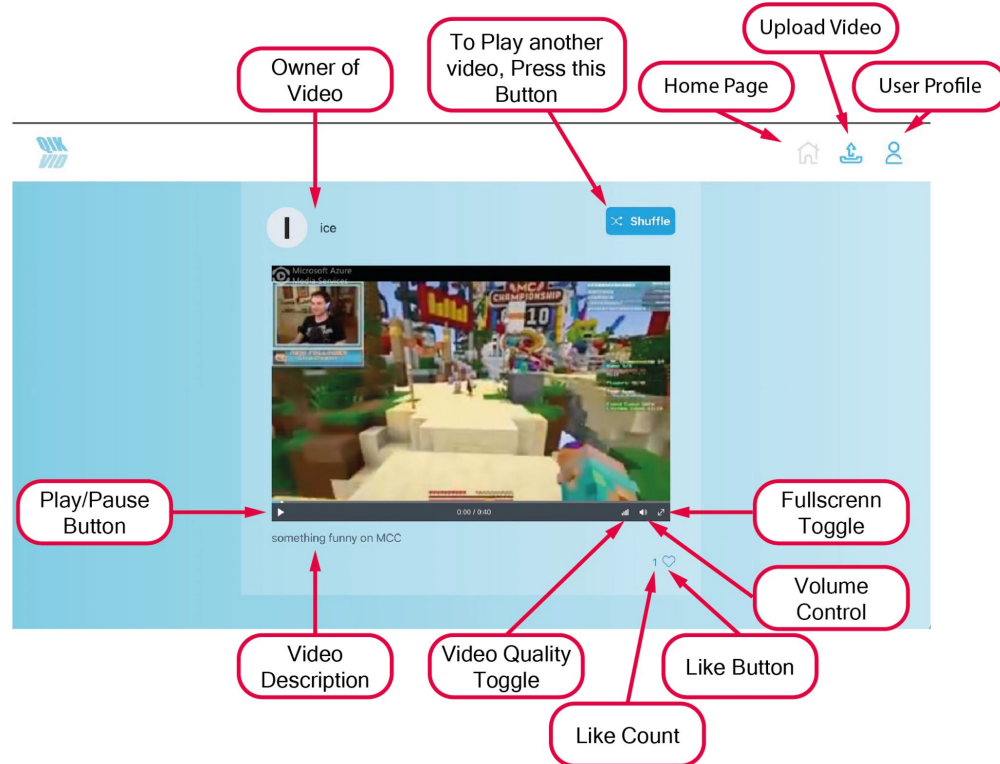
Sign Up

Already have an account? [Log In](#)

- 1) If you don't have an account, you can press Sign Up to register an account
- 2) Enter your Username here
- 3) Enter your Email here
- 4) Enter your Password here
- 5) Confirm your Password here
- 6) Once you've entered your Username and Password Press Sign Up

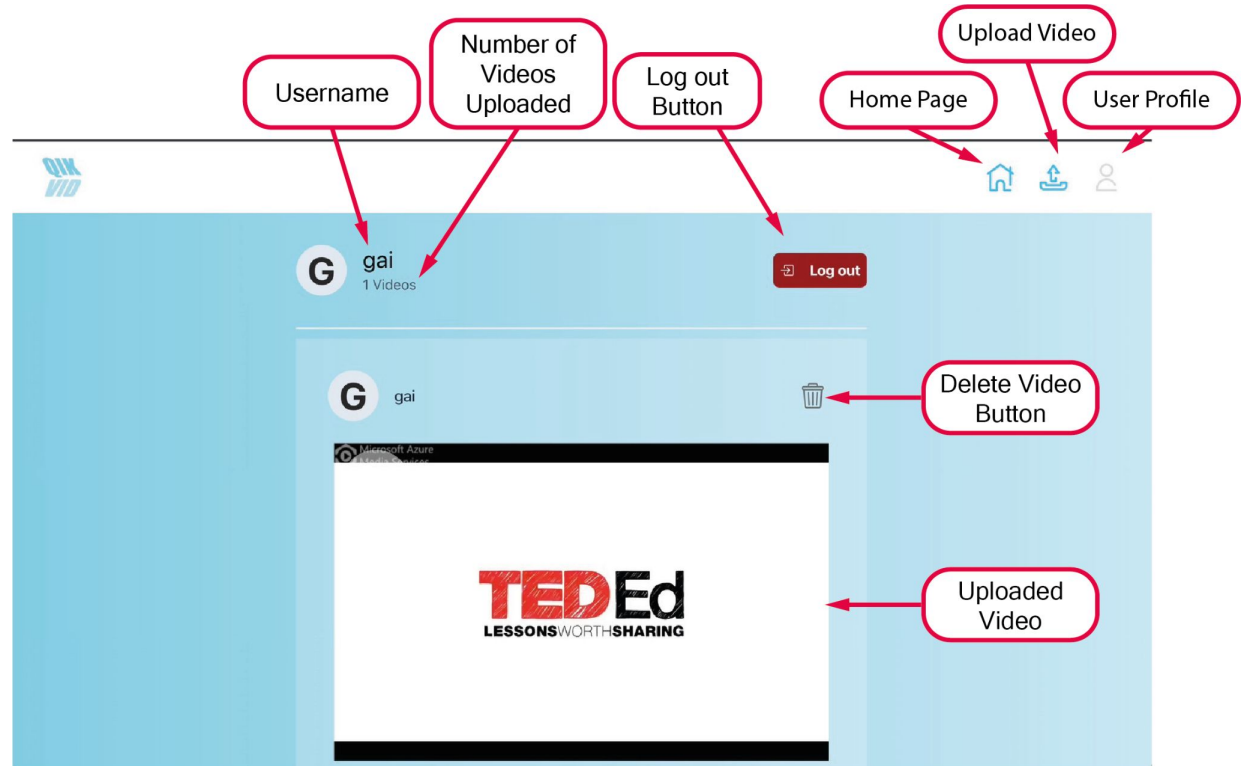
User Manual

Homepage



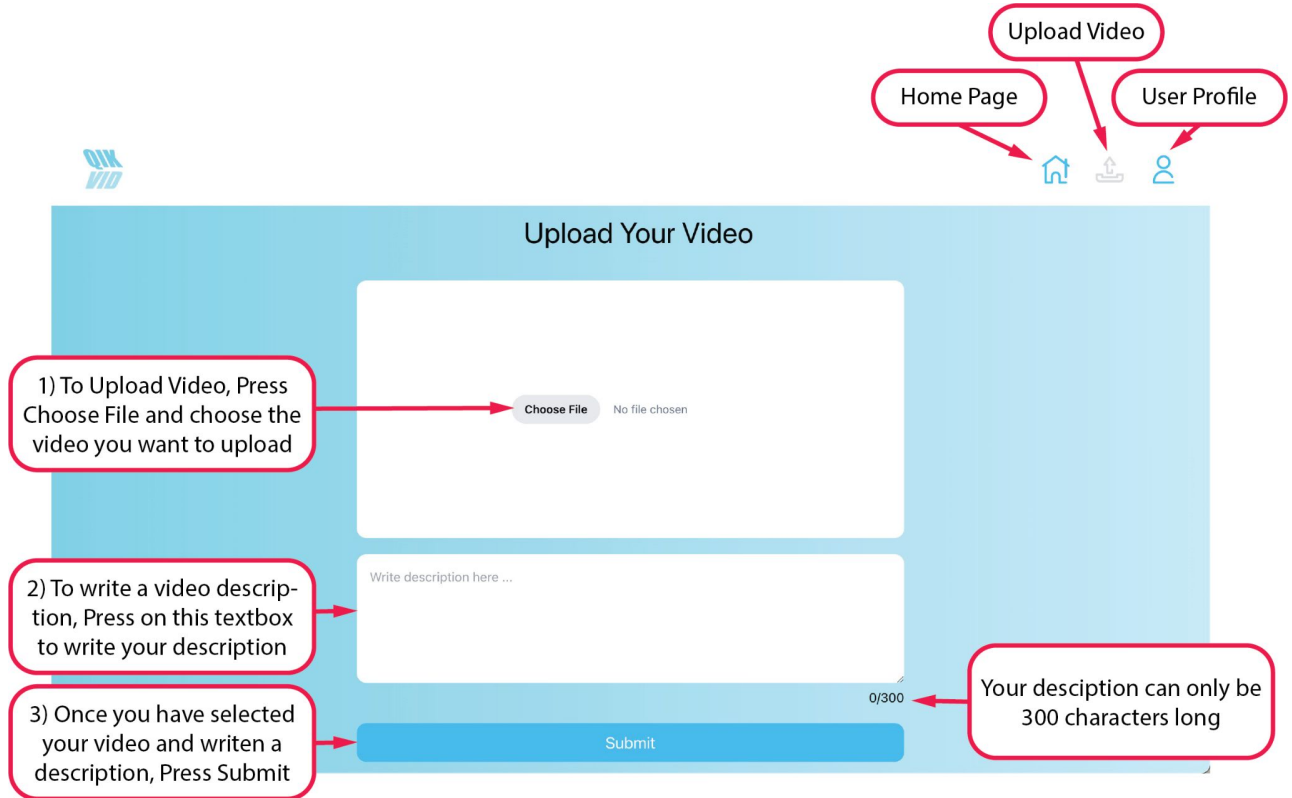
User Manual

User Profile Page



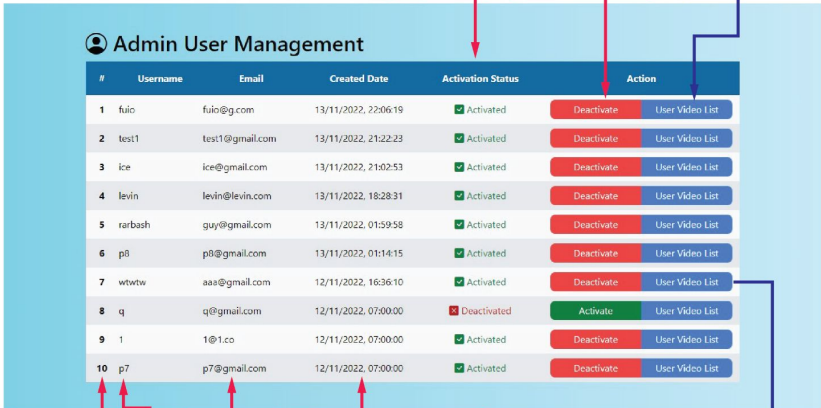
User Manual

Upload Video Page



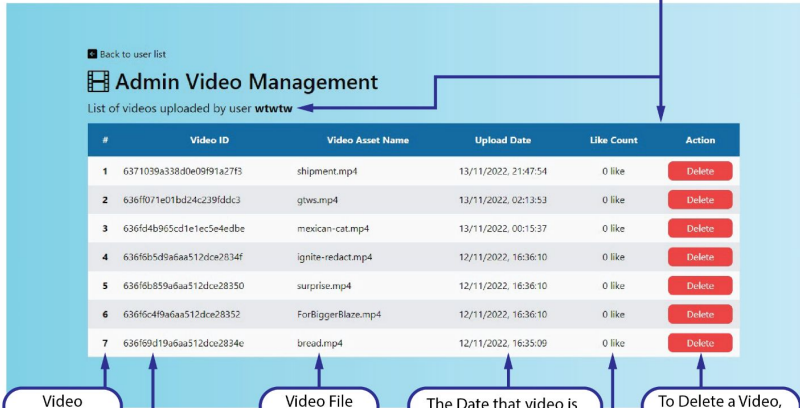
User Manual (Admin)

User Management Page

The screenshot shows the 'Admin User Management' page. It features a table with columns: #, Username, Email, Created Date, Activation Status, and Action. There are 10 rows of user data. Annotations include: 'Status of User' pointing to the 'Activation Status' column; 'To Change User's Status Click on the Deactivate/Activate Button of each User' pointing to the 'Deactivate' and 'Activate' buttons in the 'Action' column; 'To View User's Video List Click on the User Video List Button of each User' pointing to the 'User Video List' button in the 'Action' column; 'User Number' pointing to the '#' column; 'User Email' pointing to the 'Email' column; 'Date that User registered on Website' pointing to the 'Created Date' column; and 'User name' pointing to the 'Username' column.

| # | Username | Email | Created Date | Activation Status | Action |
|----|----------|-----------------|----------------------|-------------------|----------------------------|
| 1 | fuio | fuio@g.com | 13/11/2022, 22:06:19 | Activated | Deactivate User Video List |
| 2 | test1 | test1@gmail.com | 13/11/2022, 21:22:23 | Activated | Deactivate User Video List |
| 3 | ice | ice@gmail.com | 13/11/2022, 21:02:53 | Activated | Deactivate User Video List |
| 4 | levin | levin@levin.com | 13/11/2022, 18:28:31 | Activated | Deactivate User Video List |
| 5 | rarbash | guy@gmail.com | 13/11/2022, 01:59:58 | Activated | Deactivate User Video List |
| 6 | p8 | p8@gmail.com | 13/11/2022, 01:14:15 | Activated | Deactivate User Video List |
| 7 | wrtwtw | aaa@gmail.com | 12/11/2022, 16:36:10 | Activated | Deactivate User Video List |
| 8 | q | q@gmail.com | 12/11/2022, 07:00:00 | Deactivated | Activate User Video List |
| 9 | 1 | 1@1.co | 12/11/2022, 07:00:00 | Activated | Deactivate User Video List |
| 10 | p7 | p7@gmail.com | 12/11/2022, 07:00:00 | Activated | Deactivate User Video List |

Video Management Page

The screenshot shows the 'Admin Video Management' page. It features a table with columns: #, Video ID, Video Asset Name, Upload Date, Like Count, and Action. There are 7 rows of video data. Annotations include: 'Video Number' pointing to the '#' column; 'Video ID' pointing to the 'Video ID' column; 'Video File Name' pointing to the 'Video Asset Name' column; 'The Date that video is upload onto website' pointing to the 'Upload Date' column; 'Video Like Counts' pointing to the 'Like Count' column; and 'To Delete a Video, Press this button' pointing to the 'Delete' button in the 'Action' column.

| # | Video ID | Video Asset Name | Upload Date | Like Count | Action |
|---|--------------------------|--------------------|----------------------|------------|--------|
| 1 | 6371039a338d0e09f91a27f3 | shipment.mp4 | 13/11/2022, 21:47:54 | 0 like | Delete |
| 2 | 636ff071e01bd24c239fddc3 | gtws.mp4 | 13/11/2022, 02:13:53 | 0 like | Delete |
| 3 | 636fd4b965cd1e1ec5e4dbe | mexican-cat.mp4 | 13/11/2022, 00:15:37 | 0 like | Delete |
| 4 | 636f6b5d9a6aa512dce2834f | ignite-redact.mp4 | 12/11/2022, 16:36:10 | 0 like | Delete |
| 5 | 636f6b859a6aa512dce28350 | surprise.mp4 | 12/11/2022, 16:36:10 | 0 like | Delete |
| 6 | 636f6c4f9a6aa512dce28352 | ForBiggerBlaze.mp4 | 12/11/2022, 16:36:10 | 0 like | Delete |
| 7 | 636f69d19a6aa512dce2834e | broad.mp4 | 12/11/2022, 16:35:09 | 0 like | Delete |

Testing Report

Login - Logout

| | | |
|---------------------------------------|---|--|
| Testlogin Report | | 2022/11/16 16:54:15 Generated: 7 seconds ago |
| Summary Information | | |
| Status: | All tests passed | |
| Start Time: | 2022/11/16 16:53:32 424 | |
| End Time: | 2022/11/16 16:54:15 180 | |
| Elapsed Time: | 00:00:42.755 | |
| Log File: | log.html | |
| Test Statistics | | |
| Total Statistics | | Total: 6, Pass: 6, Fail: 0, Skip: 0, Elapsed: 00:00:42 |
| All Tests | | 6, 6, 0, 0, 00:00:42 |
| Statistics by Tag | | Total: 6, Pass: 6, Fail: 0, Skip: 0, Elapsed: 00:00:42 |
| No Tags | | 6, 6, 0, 0, 00:00:42 |
| Statistics by Suite | | Total: 6, Pass: 6, Fail: 0, Skip: 0, Elapsed: 00:00:42 |
| Testlogin | | 6, 6, 0, 0, 00:00:42 |
| Test Details | | |
| All Tags Suites Search | | |
| Suite: | [Testlogin - x] | |
| Status: | 6 tests total, 6 passed, 0 failed, 0 skipped | |
| Start / End Time: | 2022/11/16 16:53:32 424 / 2022/11/16 16:54:15 180 | |
| Elapsed Time: | 00:00:42.755 | |
| Log File: | log.html:1 | |
| Name | | Documentation Tags Status Message Elapsed Start / End |
| Testgroup 1. Open Browser | | [PASS] 00:00:06.625 2022/11/16 16:53:32.889 |
| Testgroup 2. Go to Log In Page | | [PASS] 2022/11/16 16:53:39.614 |
| Testgroup 3. Go to Sign Up Page | | [PASS] 00:00:05.155 2022/11/16 16:53:39.617 |
| Testgroup 4. Fill in Sign Up Form | | [PASS] 2022/11/16 16:53:44.772 |
| Testgroup 5. Check Alert Text Message | | 00:00:14.175 2022/11/16 16:53:44.775 |
| Testgroup 6. Check User Name | | [PASS] 2022/11/16 16:53:58.860 |
| Testgroup 7. Go To Profile Page | | [PASS] 00:00:07.664 2022/11/16 16:53:58.864 |
| Testgroup 8. Log out | | [PASS] 00:00:05.110 2022/11/16 16:54:06.620 |
| Testgroup 9. Close Browser | | [PASS] 2022/11/16 16:54:11.730 |
| | | 00:00:03.445 2022/11/16 16:54:11.733 |
| | | 2022/11/16 16:54:15.170 |

Signup

| | | |
|---------------------------------------|---|--|
| Summary Information | | |
| Status: | All tests passed | |
| Start Time: | 2022/11/16 17:28:30 663 | |
| End Time: | 2022/11/16 17:29:06 099 | |
| Elapsed Time: | 00:00:35.436 | |
| Log File: | log.html | |
| Test Statistics | | |
| Total Statistics | | Total: 9, Pass: 9, Fail: 0, Skip: 0, Elapsed: 00:00:35 |
| All Tests | | 9, 9, 0, 0, 00:00:35 |
| Statistics by Tag | | Total: 9, Pass: 9, Fail: 0, Skip: 0, Elapsed: 00:00:35 |
| No Tags | | 9, 9, 0, 0, 00:00:35 |
| Statistics by Suite | | Total: 9, Pass: 9, Fail: 0, Skip: 0, Elapsed: 00:00:35 |
| Testsignup | | 9, 9, 0, 0, 00:00:35 |
| Test Details | | |
| All Tags Suites Search | | |
| Suite: | [Testsignup - x] | |
| Status: | 9 tests total, 9 passed, 0 failed, 0 skipped | |
| Start / End Time: | 2022/11/16 17:28:30 663 / 2022/11/16 17:29:06 099 | |
| Elapsed Time: | 00:00:35.436 | |
| Log File: | log.html:1 | |
| Name | | Documentation Tags Status Message Elapsed Start / End |
| Testgroup 1. Open Browser | | [PASS] 00:00:04.910 2022/11/16 17:28:31.140 |
| Testgroup 2. Go to Log In Page | | [PASS] 2022/11/16 17:28:36.050 |
| Testgroup 3. Go to Sign Up Page | | [PASS] 00:00:02.194 2022/11/16 17:28:38.052 |
| Testgroup 4. Fill in Sign Up Form | | [PASS] 2022/11/16 17:28:38.246 |
| Testgroup 5. Check Alert Text Message | | 00:00:02.140 2022/11/16 17:28:38.250 |
| Testgroup 6. Check User Name | | [PASS] 2022/11/16 17:28:40.380 |
| Testgroup 7. Go To Profile Page | | [PASS] 00:00:09.380 2022/11/16 17:28:40.384 |
| Testgroup 8. Log out | | [PASS] 2022/11/16 17:28:49.774 |
| Testgroup 9. Close Browser | | [PASS] 00:00:02.017 2022/11/16 17:28:49.777 |
| | | 2022/11/16 17:28:51.784 |
| | | 00:00:05.884 2022/11/16 17:28:51.787 |
| | | 2022/11/16 17:28:57.681 |
| | | 00:00:03.170 2022/11/16 17:29:00.858 |
| | | [PASS] 2022/11/16 17:29:02.970 |
| | | 00:00:02.111 2022/11/16 17:29:02.981 |
| | | 2022/11/16 17:29:02.981 |
| | | 00:00:03.113 2022/11/16 17:29:06.084 |

Testing Report

Play/Like Video

Testplayandlike Report

2022/11/18 18:10:53 (UTC+08:00) Generated
1 minute 37 seconds ago

Summary Information

Status: All tests passed

Start Time: 2022/11/18 18:10:15.335

End Time: 2022/11/18 18:10:57.403

Elapsed Time: 00:00:42.068

Log File: log.html

Test Statistics

Total Statistics

All Tests

Total

8

Pass

8

Fail

0

Skip

0

Elapsed

00:00:42

Pass / Fail / Skip

Statistics by Tag

No Tags

Total

8

Pass

8

Fail

0

Skip

0

Elapsed

00:00:42

Pass / Fail / Skip

Statistics by Suite

Testplayandlike

Total

8

Pass

8

Fail

0

Skip

0

Elapsed

00:00:42

Pass / Fail / Skip

Test Details

AllTagsSuitesSearch

Status8 tests total, 8 passed, 0 failed, 0 skipped

Total Time:00:00:41.505

Name

Documentation

Tags

Status

Message

Elapsed

Start / End

Testplayandlike. 1. Open Browser

Pass

00:00:04.818

2022/11/18 18:10:15.878

Testplayandlike. 2. Go to Log In Page

Pass

00:00:02.179

2022/11/18 18:10:20.699

Testplayandlike. 3. Enter Log In Account

Pass

00:00:06.030

2022/11/18 18:10:26.999

Testplayandlike. 4. Click Play Video

Pass

00:00:06.113

2022/11/18 18:10:22.878

Testplayandlike. 5. Click Shuffle to Play Next Video

Pass

00:00:07.149

2022/11/18 18:10:35.035

Testplayandlike. 6. Click Like Video

Pass

00:00:06.196

2022/11/18 18:10:42.180

Testplayandlike. 7. Click Unlike Video

Pass

00:00:06.142

2022/11/18 18:10:48.378

Testplayandlike. 8. Close Browser

Pass

00:00:02.878

2022/11/18 18:10:54.522

Upload/Delete Video

Testuploadvideo Report

2022/11/18 18:47:24 (UTC+08:00)
22 seconds ago

Summary Information

Status: All tests passed

Start Time: 2022/11/18 18:46:04.688

End Time: 2022/11/18 18:47:24.117

Elapsed Time: 00:01:19.429

Log File: log.html

Test Statistics

Total Statistics

All Tests

Statistics by Tag

No Tags

Statistics by Suite

Testuploadvideo

Test Details

All

Tags

Suites

Search

Status: 11 tests total, 11 passed, 0 failed, 0 skipped

Total Time: 00:01:14.107

| Name | Documentation | Tags | Status | Message | Elapsed | Start / End |
|--|---------------|------|--------|---------|--------------|-------------------------|
| Testuploadvideo. 1. Open Browser | | | Pass | | 00:00:04.878 | 2022/11/18 18:46:09.932 |
| Testuploadvideo. 10. Log out | | | Pass | | 00:00:02.115 | 2022/11/18 18:46:19.035 |
| Testuploadvideo. 11. Close Browser | | | Pass | | 00:00:02.962 | 2022/11/18 18:47:21.180 |
| Testuploadvideo. 2. Go to Log In Page | | | Pass | | 00:00:02.126 | 2022/11/18 18:46:15.113 |
| Testuploadvideo. 3. Enter Log In Account | | | Pass | | 00:00:06.873 | 2022/11/18 18:46:17.174 |
| Testuploadvideo. 4. Go to Upload Page | | | Pass | | 00:00:03.492 | 2022/11/18 18:46:22.087 |
| Testuploadvideo. 5. Upload Video | | | Pass | | 00:00:03.492 | 2022/11/18 18:46:25.582 |
| Testuploadvideo. 6. Watch Video to be Upload | | | Pass | | 00:00:04.487 | 2022/11/18 18:46:29.579 |
| Testuploadvideo. 7. Verify Video | | | Pass | | 00:00:07.378 | 2022/11/18 18:46:31.103 |
| Testuploadvideo. 8. Delete Video | | | Pass | | 00:00:03.308 | 2022/11/18 18:47:00.064 |
| Testuploadvideo. 9. Verify Video Deleted | | | Pass | | 00:00:03.983 | 2022/11/18 18:47:12.289 |
| | | | | | | 2022/11/18 18:47:16.868 |
| | | | | | | 2022/11/18 18:47:19.033 |

Links and Repository

Github

<https://github.com/waterthatfrozen/DES424-Term-Project>

Jira

<https://paphana.atlassian.net/jira/software/projects/DTP/boards/1/radmap?shared=&atlOrigin=eyJpIjoiNjQzZDhhOTQxZGY3NDdhMGE5ODQzZDAzYjMzY2E1YmYiLCJwIjoiaj9>

Figma

https://www.figma.com/file/8Uzeeffa4MnTeymIMiBaDt/QikVid_Prototype?node-id=0%3A1&t=d8ekP5OuM5jG9Ij-1

QikVid on Azure App Services

<https://qikvid.azurewebsites.net/login>

QikVid on Azure Static Web App

<https://yellow-island-01d23da00.2.azurestaticapps.net/>




References

Microsoft. (2022). Video-on-demand digital media - Azure Solution Ideas.

Retrieved September 8, 2022, from Microsoft Azure Documentation website:

<https://docs.microsoft.com/en-us/azure/architecture/solution-ideas/articles/digital-media-video>



QikVid - Members

| | |
|------------|---------------------------|
| 6222770313 | Thanyachanok Rachavongsuk |
| 6222780379 | Paphana Yiwsiw |
| 6222782425 | Kawiya Pholjaroen |
| 6222790345 | Time Kitilimtrakul |
| 6522808210 | Levin Kaus |

