

## 1. Introduction

**Propose:** This document provides functional documentation for the core user features of the YouTube web application. It describes how key functionalities work from an end-user perspective, including user interactions, system behavior, and expected outcomes.

**Audience:**

This document is intended for product managers, developers, QA engineers, Business analyst, and technical writers who need a clear understanding of YouTube's core user functionalities.

The document focuses on commonly used features and does not cover advanced creator or administrative functionalities.

## 2. Application overview

YouTube is a web-based video sharing platform that allows users to search, view, and interact with video content published by creators across various categories. The application provides an intuitive interface for discovering videos, consuming content, and engaging with channels.

The primary purpose of YouTube is to enable users to access video content for entertainment, education, and information easily. Users can explore videos through search, recommendation, recommendation and subscription, and making content discovery simple and personalized.

This document covers the core user features of the YouTube web application, including user login, video search, video playback, liking or disliking videos, and subscribing to channels. Advanced creator-specific feature such as video uploads, analytics, and monetization are outside the scope of this document.

## 3. User roles

The YouTube web application supports different types of users based on their level of access and interaction with the platform.

### 3.1. Viewer

A viewer is any user who accesses YouTube without signing in. Viewers can search for videos, watch public videos, and view channel information. However, they can't like or dislike videos, subscribe to channels, or access personalised recommendations.

### 3.2. Logged-in users

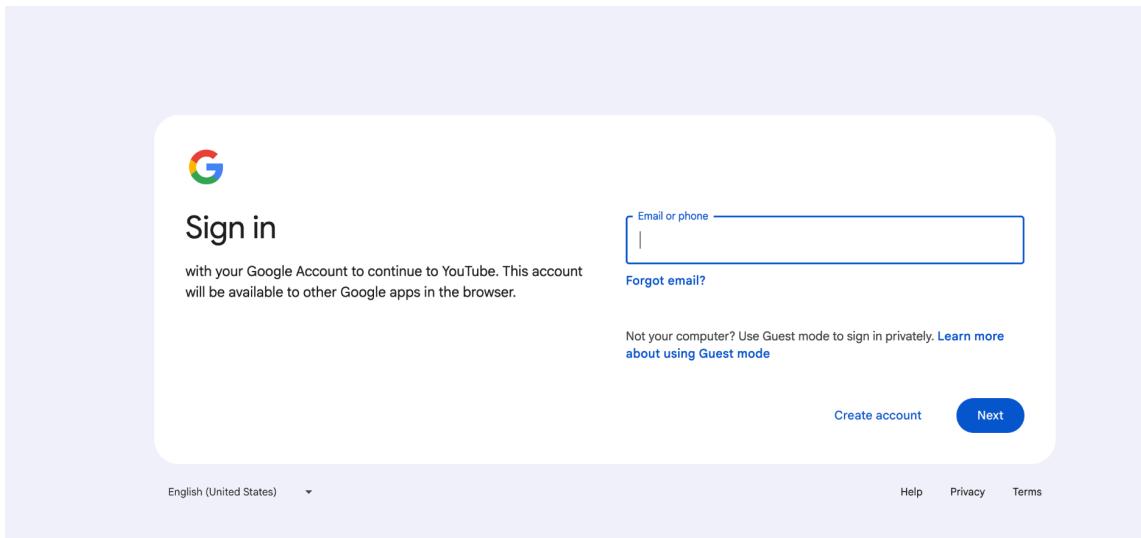
A logged in users is a registered user who signs in using a Google account. Logged-in users can watch videos, like or dislike content, subscribe to channels, and receive personalised recommendations based on their viewing activity.

## 4. User login

The user login features allow registered users to sign in to the YouTube web application using their Google account credentials in order to access personalised features.

### Preconditions

- User must have a valid Google account.
- User must have an active internet connection.



#### Functional flow:

1. User opens the YouTube web application
2. User clicks on the sign-in button
3. System redirects the user to the Google Sign-In page
4. User enters their email address and clicks "Next."
5. User enters their password and clicks "Next."
6. System validates the credentials
7. System logs the user in successfully
8. User is redirected to the YouTube homepage

#### Success Scenario:

- User is logged in successfully
- Personalized homepage and recommendations are displayed

#### Failure Scenario:

- Invalid email or password entered
- Network or authentication error

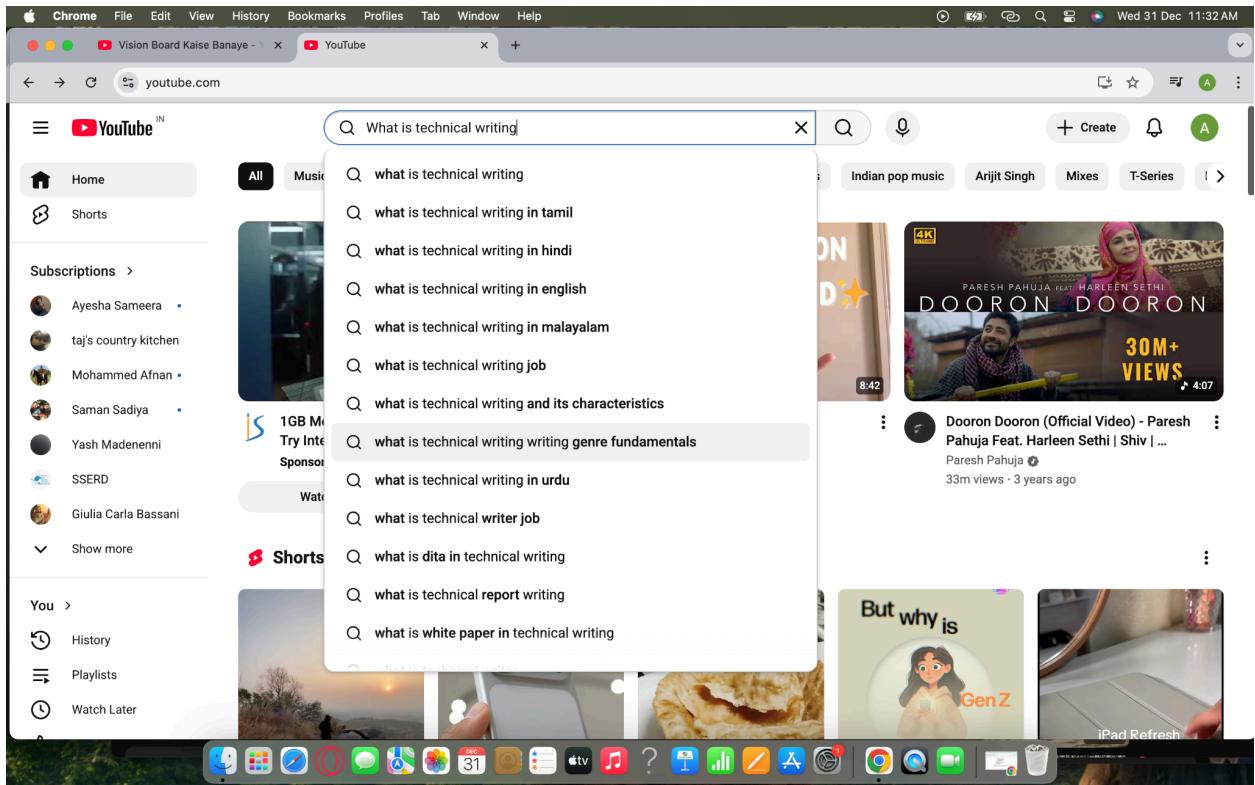
## 4.2 Search videos

#### Description:

The Search Videos feature allows users to find video content on YouTube by entering keywords in the search bar. The system retrieves and displays relevant videos based on the user's search query.

#### Preconditions:

- User must have internet connectivity
- User may be a Viewer or a Logged-in User



### Functional Flow:

1. User opens the YouTube web application
2. User enters a keyword or phrase in the search bar
3. User clicks the Search icon or presses Enter
4. System processes the search query
5. System displays a list of relevant videos
6. User scrolls and selects a video from the results

### Success Scenario:

- Relevant video results are displayed
- The user can select and open a video

### Failure Scenario:

- No results found for the entered keyword
- Network or server error

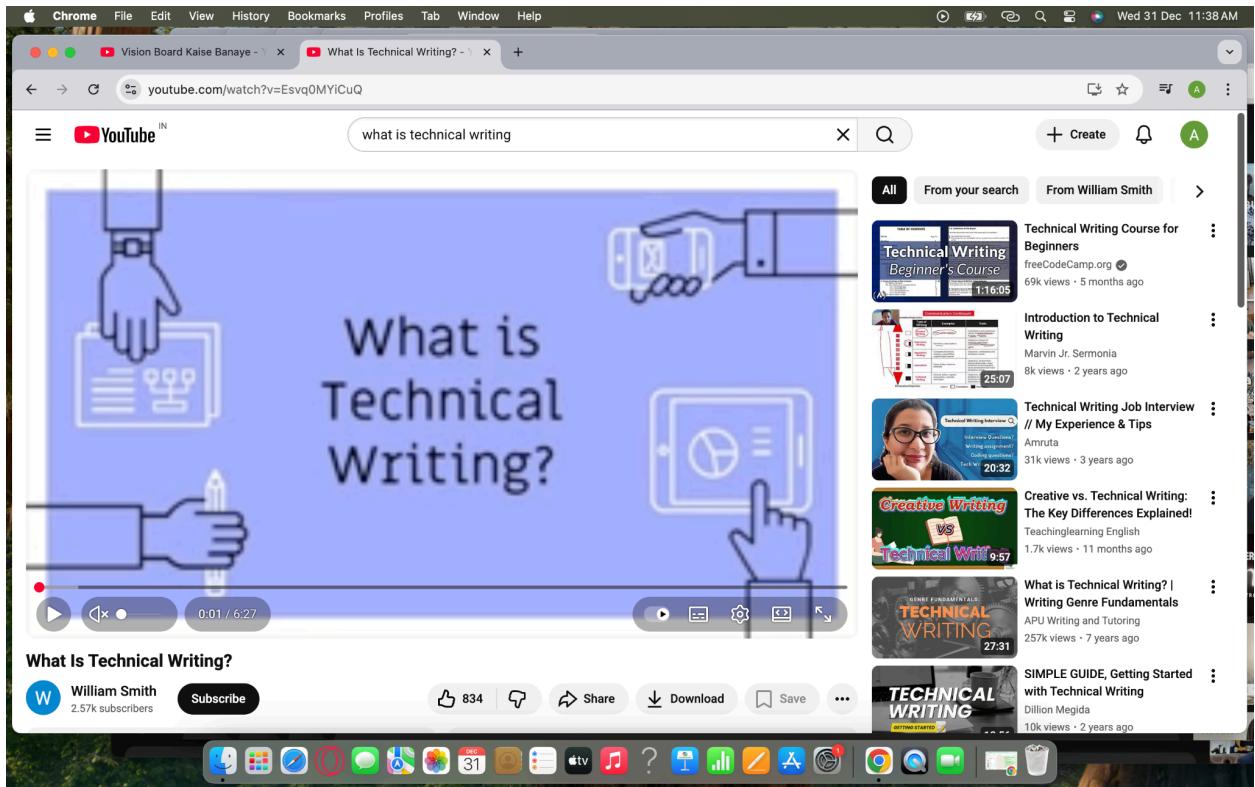
### 4.3 Watch video

#### Description:

The Watch Video feature allows users to play and view selected video content on the YouTube web application. Users can control playback and view video details while watching.

#### Preconditions:

- User must have internet connectivity
- Video must be publicly available



### Functional Flow:

1. User selects a video from the homepage or search results
2. System opens the video playback page
3. Video starts playing automatically
4. The user can use playback controls such as play, pause, volume, and fullscreen
5. System displays video title, channel name, and view count
6. User continues watching or navigates to another video

### Success Scenario:

- Video plays smoothly with audio and visuals
- Playback controls function as expected

### Failure Scenario:

- Video fails to load due to network issues
- Video is unavailable or restricted

### 4.4 Like/dislike video

The Like / Dislike feature allows logged-in users to express their feedback on a video by selecting either the Like or Dislike option.

### Preconditions:

- User must be logged in
- User must be watching a video



#### Functional Flow:

1. User plays a video
2. User clicks the Like or Dislike button
3. System records the user's feedback
4. System updates the like or dislike count
5. Selected option is highlighted

#### Success Scenario:

- User feedback is recorded successfully
- Like or Dislike count is updated

#### Failure Scenario:

- User is not logged in and is prompted to sign in
- Network error prevents action

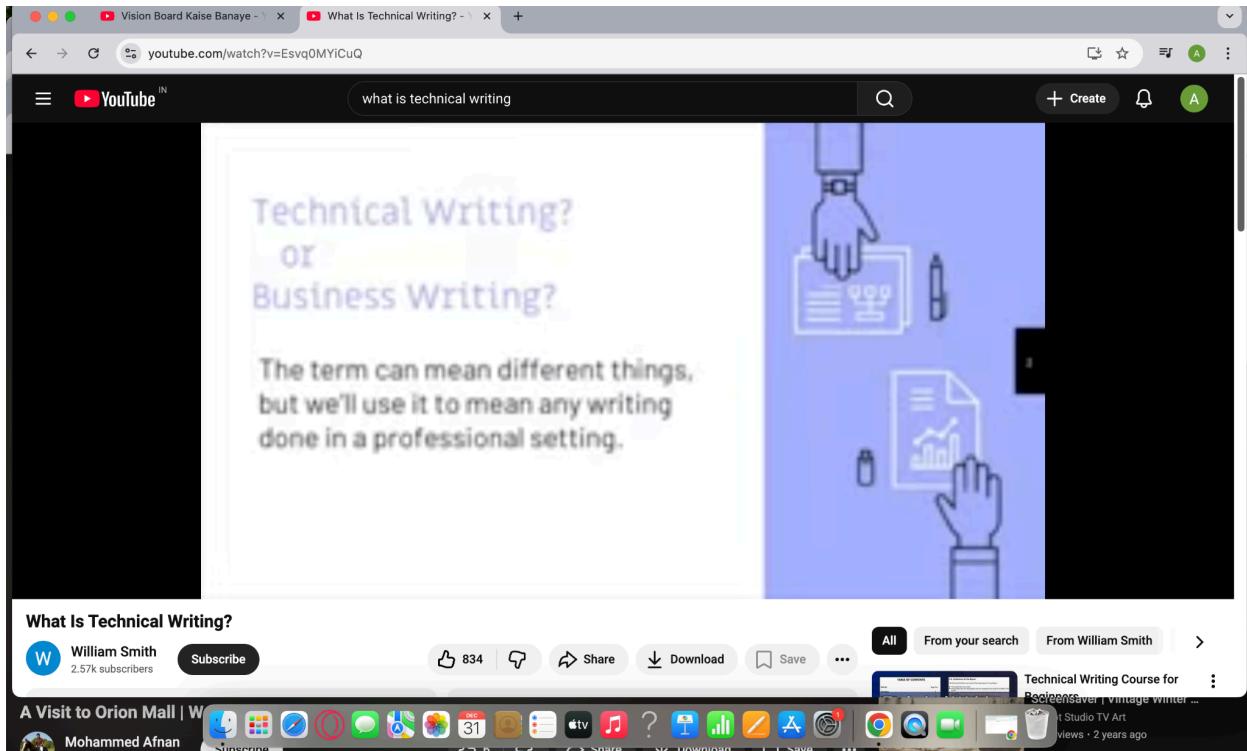
#### 4.5 Subscribe to Channel

##### Description:

The Subscribe feature allows logged-in users to subscribe to a channel in order to receive updates and new video notifications from that channel.

##### Preconditions:

- User must be logged in
- Channel must be active



## 5. Non-Functional Requirements

The non-functional requirements describe the quality attributes of the YouTube web application that ensure a smooth and reliable user experience.

### Performance:

- Videos should start playing within an acceptable loading time under normal network conditions
- Search results should be displayed quickly after a user submits a query

### Usability:

- The user interface should be intuitive and easy to navigate
- Icons, buttons, and labels should be clearly visible and understandable

### Security:

- User authentication should be handled securely through Google Sign-In
- User data and activity should be protected against unauthorized access

### Reliability:

- The application should be available with minimal downtime
- Video playback should resume or fail gracefully in case of temporary network issues

## 6. Assumptions and Limitations

### Assumptions:

- Users have access to a stable internet connection
- Users are accessing YouTube through a supported web browser
- All videos referenced in this document are publicly available

### Limitations:

- This document covers only core user features of the YouTube web application
- Creator-specific features such as video uploads, analytics, and monetization are not included
- Mobile application functionality is outside the scope of this document