



Youtube-com-srs - project in software engineering

Software Engineering (Lovely Professional University)

Requirement Specification
For
Video Streaming Website



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1. Introduction

1.1. Purpose

The purpose of this document is to present the detailed description of the YouTube. It will explain the purpose and features of the system, the interfaces of the system, and constraints that it must operate.

1.2. Document Conventions

This document uses the following conventions:

MHZ -Megahertz

SDLC - Systems Development Life Cycle

MB – Megabytes

KB - Kilobytes

HD- Hard

Disk

1.3. Project Scope

This is a video streaming site name – “YouTube”

YouTube is a website designed for sharing video. Millions of users around the world have created accounts on the site that allow them to upload videos that anyone can watch. Through YouTube people can watch videos, share videos, Upload videos and can even download them.

1.4. Reference

<http://www.google.com>.

<http://www.slideshare.net>

<http://www.youtube.com>

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2. Overall Description

2.1. Productive Perspective

YouTube is an American video-sharing website headquartered in San Bruno, California. YouTube allows users to upload, view, rate, share, add to favourites, report, comment on videos, and subscribe to other users. It offers a wide variety of user-generated and corporate media videos. Available content includes video clips, TV show clips, music videos, short and documentary films, audio recordings, movie trailers, live streams, and other content such as video blogging, short original videos, and educational videos.

The program is a new self-contained product. It has come about due to the demand for such a product being identified in Activities like Studies, Entertainment, Music, Comedy, Adventures. From these activities we saw that the main activity people used video for was the watch content found online. These people would regularly spend periods of time searching websites to try and find the videos they wanted to watch, either somewhere to stream the video from or the files to download the video.

2.2. OPERATING ENVIRONMENT

YouTube can be operated by any system which has a browser and a decent internet connection. For example – Windows, Mac, Linux, Android, IOS.

FOR PC/Laptop:

Ram: 512 MB

Space: 80 GB HD Drive

Core: Pentium IV MHZ or more

Cache: 512kb

For Android/IOS:

Ram: 512 Mb

Space: 500MB

Cache: 200kb



3. Functional Requirement

3.1 Sign Up/Sign In

3.1.1. Description: Allows user to sign up / sign in

3.1.2. Input: E-mail Id, Password

3.1.3. Output: Allows user to register their account on sign up and allows user to access on signing in.

3.1.4. Processing: When user sign up, system create new database and register that user and when user sign in it matches the login credentials from the database and if matches grant the access.

3.2. Search

3.2.1. Description: Allows user to search any video through entering keyword.

3.2.2. Input: Input Keyword

3.2.3. Output: Display videos related to keywords.

3.2.4. Processing: Matches the keyboard in the database and display videos according to that.

3.3. Share Videos

3.3.1. Description: Allows user to share Videos with friends and family.

3.3.2. Input: Click on share button and select the person from friend list.

3.3.3. Output: Popup appeared = “Video shared Successfully”

3.3.4. Processing: When the user click share button, it send the video to the user friend account.



Download Videos

3.4.1. Description: Allows user to download videos

3.4.2. Input: Click on the download button

3.4.3. Output: Popup appeared that video has been downloaded.

3.4.4. Processing: Fetch the video from server that has been store database and transfer the video file to user device through download.

3.5. Upload Videos

3.5.1. Description: Allows user to upload their videos into his account/channel.

3.5.2. Input: Click on Upload Button.

3.5.3. Output: New window popup asking to select the file to upload.

1. 3.5.1. Select File

2. 3.5.1.1. Input: Select the file you want upload.

3. 3.5.1.2. Output: Popup appear that file has been uploaded.

4. 3.5.1.3. Processing: When the user uploaded the file, the file has been uploaded goes to the server and get saved in the database.

3.6. Navigation Section

3.6.1. Description: When user click the navigation section then three options appeared.

3.6.2. Input: Select Navigation

3.6.3. Output: 3 options appeared:

1. Home

2. Trending

3. Subscription



3.7. Home

3.7.1. Description: This is the user main page

3.7.2. Input: Click on Home.

3.7.3. Output: Search based/ history based/ Subscription based videos showed up.

3.7.4. Processing: A list of videos based on user history, subscription and search has been displayed.

3.8. Trending

3.8.1 Description: Show video on location.

3.8.2. Input: Click on Trending.

3.8.3. Output: Location based most popular videos display.

3.8.4. Processing: System check the location of the user and then display the top most popular videos of that region.

3.9. Subscription

3.9.1. Description: It displays all the channel subscribed by user.

3.9.2. Input: Click on subscription

3.9.3. Output: Display all the channel video that user subscribed.

3.9.4. Processing: System check what channels user has subscribed from the database and display the videos of their channel.

3.10. Library

3.10.1. Description: This section contains 3 options

3.10.2. Input: Click on Library



3.10.3. Output: Display 3 option:

1. History
2. Watch Later
3. Liked Videos

3.11. History

3.11.1. Description: it shows all the History of all the videos that the user watched so far.

3.11.2. Input: Click on History

3.11.3. Output: Shows all the videos that user sees so far.

3.11.4. Processing: Check user data in database and display the videos that has been watched by the user.

3.12. Watch Later

3.12.1. Description: It shows all the videos that the user has added to watch later category.

3.12.2. Input: Click On watch later

3.12.3. Output: Display all the videos (add to watch)

3.12.4. Processing: Check user data in the database and display all the videos that has been added by the user in add to watch later section.

3.13. Liked Videos

3.13.1. Description: It shows all the liked videos that the user liked so far

3.13.2. Input: Click on Liked Videos

3.13.3. Output: List of liked videos appeared.

3.13.4. Processing: System check the user account and display all the liked videos by the user so far.



4. NON-FUNCTIONAL REQUIREMENTS

4.1. Performance Requirements

- The user must have a device which is at least to play a 144p resolution video.
- The user must have at least 500kbps of net connection in order to play the video without buffering.

4.2. Safety Requirements

If there is extensive damage to a wide portion of the database due to catastrophic failure, such as a server crash, the recovery method restores a past copy of the database that was backed up to archival storage (typically tape) and reconstructs a more current state by reapplying or redoing the operations of committed transactions from the backed-up log, up to the time of failure. And in the meanwhile, the server switch to the backup servers to keep the site working.

4.3. Security Requirements

Security systems need database storage just like many other applications. However, the special requirements of the security market mean that owner must choose their database partner carefully. All the Private data uploaded by the user is absolutely confidential to the other users. User can also report if the find any suspicious activity in the YouTube, so the security department can take care of that.

4.4. Software Quality Attributes

- **AVAILABILITY:** The site is available for the users 24x7.
- **MAINTAINABILITY:** The developers and a team of software engineers work on the maintenance and the updates of the site.
- **USABILITY:** The site can be used anywhere if the connectivity to the internet and a device.

5. DESIGN Phase:

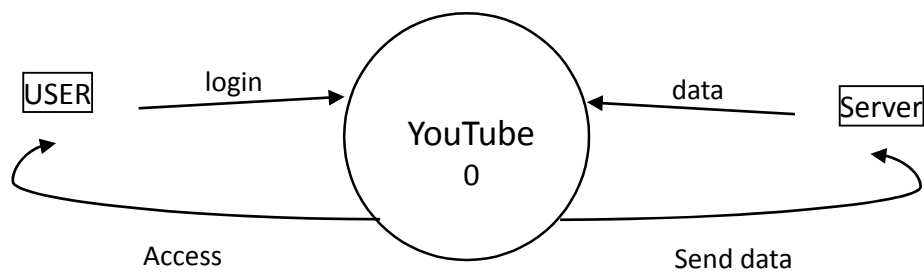
Design phase deals with transforming the requirements, as described in the SRS document into a form that can be used while programming. In design phase of SDLC based on requirement captured in SRS.



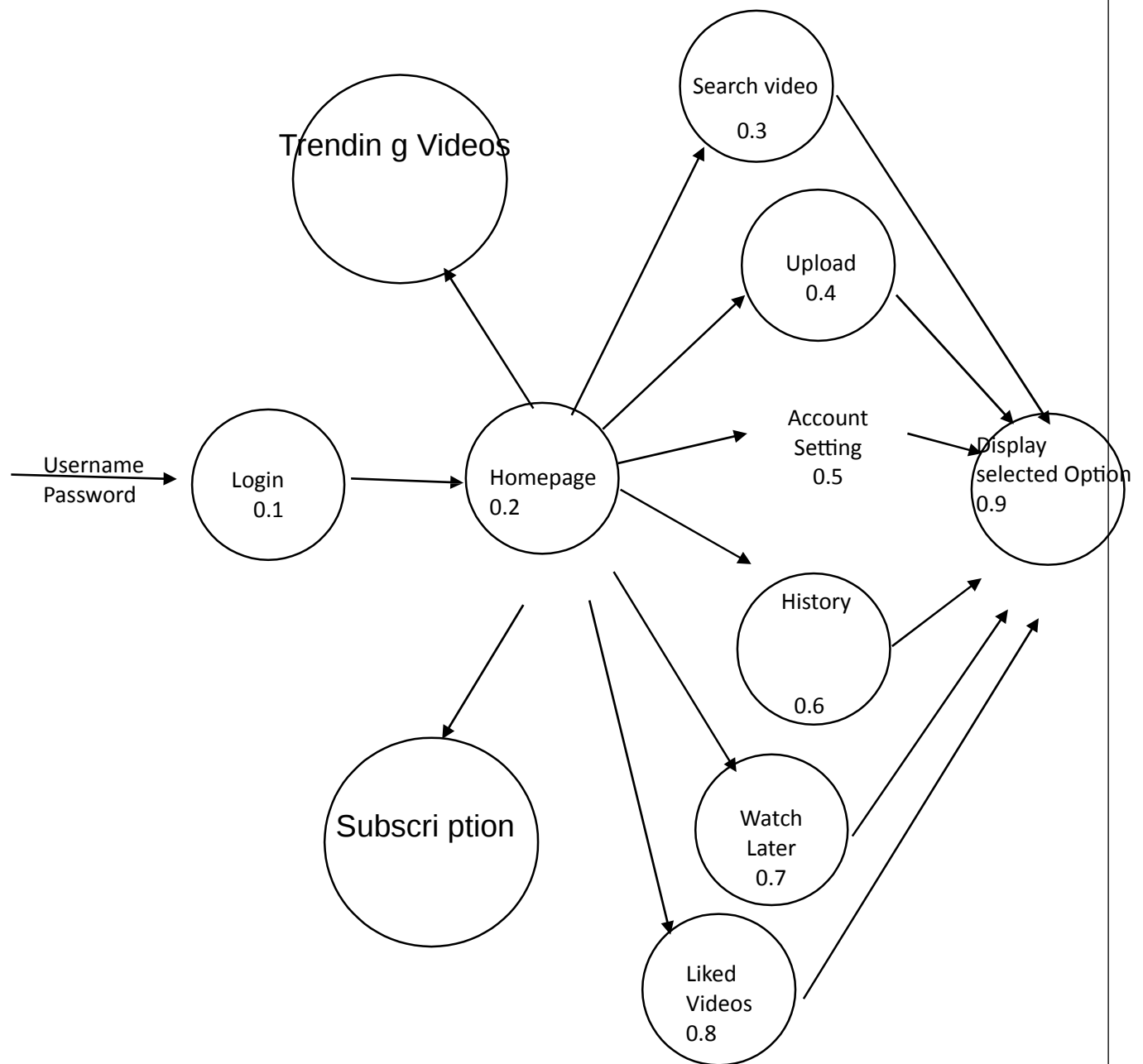
DFD (Data Flow Diagram)

A data flow diagram (DFD) maps out the flow of information for any process or system.

Level 0

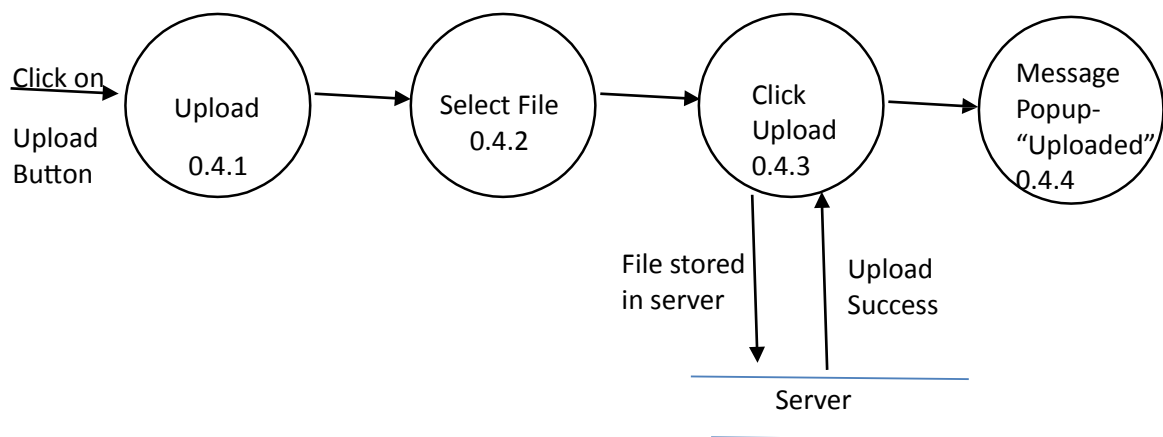
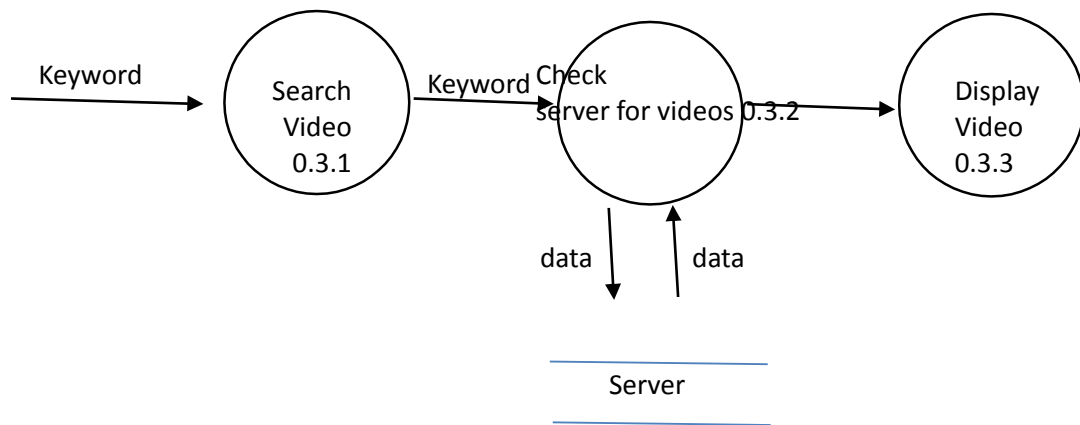


LEVEL 1

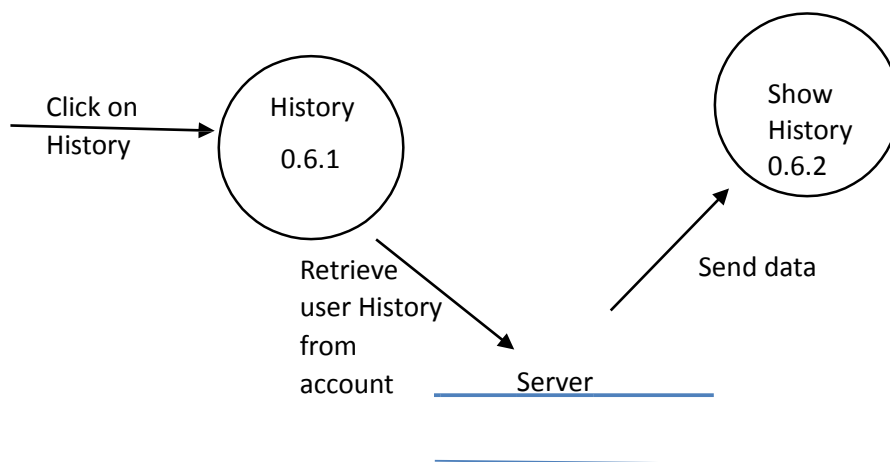
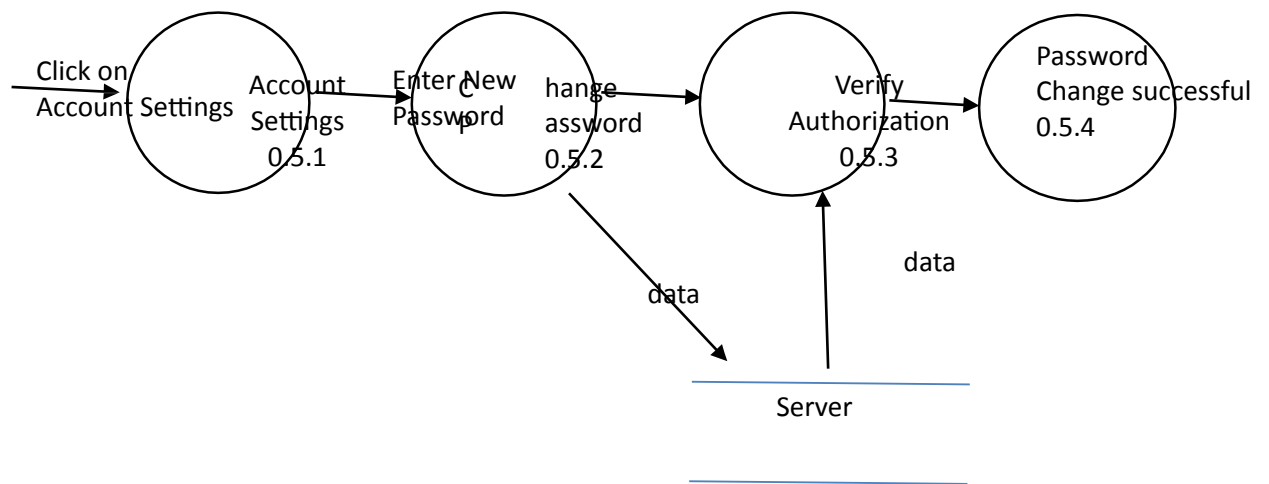


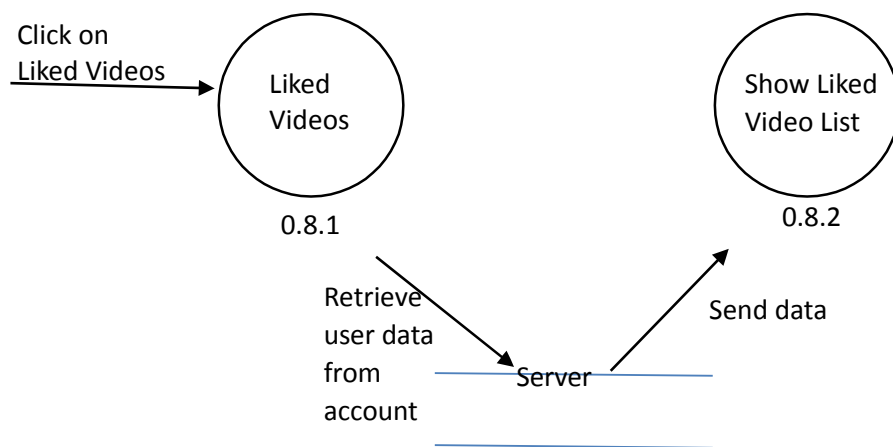
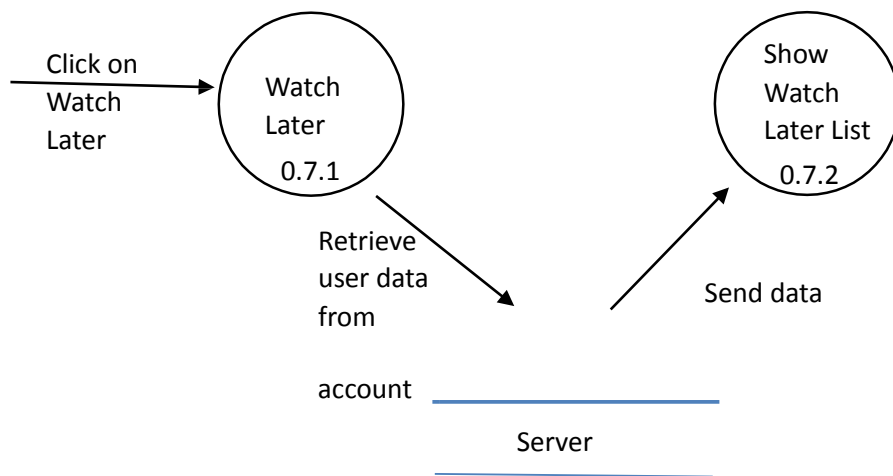
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LEVEL 2



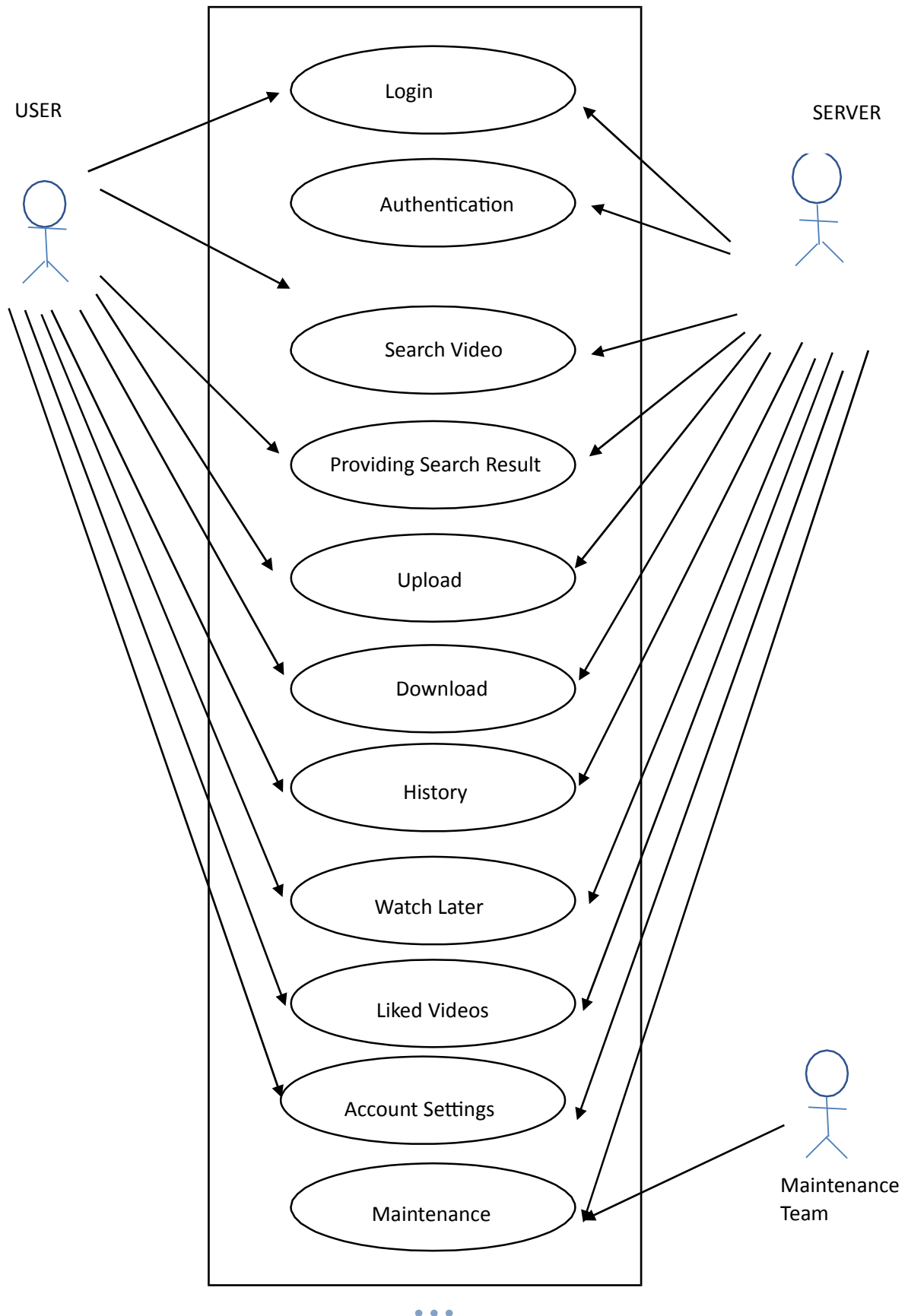
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Use Case Diagram:



phase is a very important for a successful system. In this phase before implementing the new system into operation, for eliminating bugs a test run of the system is done. After completing codes for the whole programs of the system, a test plan should be developed and run one given set of test data.

Function Testing:

Test Cases:

TC ID	TC Name	Objective	Steps to Follow	Expected Result	Actual Result	Status
TC_01	Valid search	To check whether the search box is searching for the YouTube site when search for YouTube	Write something in search box and click search	It should search for the data filled by the user	It is searching the data	Pass
TC_02	Homepage	To check whether homepage is working or not	Click on the youtube.com	Homepage of YouTube is displayed	Homepage is been displayed	Pass
TC_03	Sign Up	To register the new user to the system	Enter all the necessary info after clicking sign up	User registered In the system	User has been registered	Pass
TC_04	Sign In	To grant access to the user to his account	Enter e-mail and password	User access his account	User is able to access his account	Pass
TC_05	Search	Search any video in YouTube search box to watch videos	Write the keyword in the search box and click search	Videos shows up depending on the searched keyword	Videos of searched keyword displayed	Pass
TC_06	Share Videos	User is able to Share videos	Click on share	Video is been shared	Video shared	Pass
TC_07	Download	User is able to	Click on	Video is	Video is	Pass
		download videos	download	downloaded	downloaded	

TC_08	Upload	User is able to upload videos	Click on upload	Video is uploaded	Video is uploaded	Pass
TC_09	Navigation	User will able to access to 3 more option	Click on Navigation icon	3 options appeared	3 options appeared	Pass
TC_10	Home	This take the user back to the homepage	Click on the Home button	User is on the homepage	User has been redirected to homepage	Pass
TC_11	Trending	To take the user to a list of trending videos	Click on the Trending button	User is being redirected to trending page	User is been redirected to trending page	Pass
TC_12	Subscription	To take the user to a list of Subscription page	Click on the subscription button	User is on the subscription page	User has been redirected to Subscription page	Pass
TC_13	Library	User will be able to access options – history, watch later and liked videos	Click on the Library button	User is able to access options	User can access the option	Pass
TC_14	History	User will able to see the history	Click on the history button	User is on the history page	User is able to access his history	Pass
TC_15	Watch_Later	User can see a list of videos that he/she added in watch later	Click on the watch later button	User is on the watch later page	User is on the watch later page	Pass
TC_16	Liked_Videos	User can see the videos that he liked so far	Click on the liked videos button	User is on the liked video page	User is able to see the liked videos	Pass

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