ViewMe
Software Requirements Specification

Video Hosting Web Application

Prepared for

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Revision History

Date	Revision by:	Actions:
Sept 30, 2015	Catherine Do	Table of Contents, Purpose, Document Convention
Oct 2, 2015	Catherine Do	Project Scope, Overview, Product perspective
Oct 2. 2015	Holly Do	Created table of Definitions, acronyms, and abbreviations. Defined user classes and characteristics
Oct 3, 2015	Holly Do	Operating Environment, Design and Implementation Constraints, and System Features
Oct 14, 2015	Catherine Do	Section 5, ERD, Use Case diagram
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Nov 26, 2015	Holly Do	Change uploaders to users
Dec 6, 2015	Holly Do	Fix and update data dictionary
Dec 7, 2015	Holly Do	Added availability
Dec 7, 2015	Catherine Do	Update overall section

Table of Contents

1.0 Introduction

1.1 Purpose

The purpose of this Software Requirements Specification (SRS) document is to provide a complete description of the requirements for a video hosting web application. It will present the scope of the system, the constraints, the interfaces of the system, and the features of the system. The intended audience of this document is for all the stakeholders for this video hosting web application. This includes, the software developers, the project managers, and the users.

1.2 Document conventions

This SRS document will be explained by textual descriptions of the concepts, diagrams to illustrate relationships, and tables to present information.

1.3 Project scope

ViewMe is a web hosting application that will let the user register, upload, share, view, and search videos. The main goal is to create an innovative product that the user will want to use and provide a better alternative to hosting videos such as Youtube. ViewMe will have a unique rating system that will allow the user to rate videos. In addition, users will be able to subscribe to their favorite videos and get premium accounts through purchasing a subscription. Premium members will have the ability to remove ads from the video that they are viewing.

Another important objective of this web hosting application is that it will provide a secure and safe way for users to share and host videos. To achieve this, users have to register to ViewMe and be hold accountable for what they uploaded.

This application is currently only available in the United States but will hopefully expand to the rest of the world in the future. ViewMe can only be accessed through the internet, therefore, users must have a reliable internet to use ViewMe.

1.4 Definitions, acronyms, and abbreviations

Terms	Acronyms	Definition
Software Requirement Specification	SRS	A document that contain details about how a software is to be developed and includes the

		software's functional and nonfunctional requirements.
Application	app	A software program
Stakeholder		Any person with a vested interest in the project.
Advertisement	ad	A notice for the users, used to encourage people to buy goods or services.
Developer		A person involved in the creation of the product
Video user		A person who upload video to ViewMe
Video Viewer		A person who can only search and view videos on ViewMe
Administrator	Admin	A person who is responsible for maintaining ViewMe website
Scouting Agent		A person who watches videos posted on ViewMe in search of talented people to sign them to a company
Integrated Development Environment	IDE	A software that provide the tools necessary to help programmers develop software.
MySQL Database		MySQL Database will store uploaded videos and user information

1.5 References

Wiegers, Karl, *Software Requirements (3rd Edition)*, Microsoft Press 2013.

1.6 Overview

The next section, section 2 contains the general description of this system. This includes: the product perspective, user classes and characteristics, operating environment, design and implementation constraints, and assumptions and dependencies. Section 2 is good for the users to read.

Section 3 contains the functional requirements of this system. This section is written for developers and testers since it contains details about the product.

Section 4 contains various aspects of data that the system uses and a data dictionary to define the composition of data structures and its meanings. There is also a diagram that shows the logical data model of the ViewMe system. This section is good for developers and testers to read.

Section 5 contains the external interface requirements which provides information about the interactions between the system and the users in regards to the external hardware interfaces, software interfaces, and communication interfaces.

Section 6 contains the quality attributes that are specific, verifiable, and quantitative nonfunctional requirements. These quality attributes includes usability requirements, performance requirements, and security requirements. This section is good for developers to read.

Section 7 contains detailed use case descriptions which are beneficial for users and developers to read.

Section 8 contains the dialog map which provides a high-level view of the user interface. The dialog map shows possible navigation pathways and interactions between the user and the system.

2.0 Overall Description

2.1 Product Perspective
The product is an internet-based system that will interact with users and other systems in the following ways:

Viewer
Viewers are non-registered users who can register to this system. In addition, Viewers can view and search any public videos on the system. The system will interact with the viewer by first showing advertisement and then the actual video contents .

user
user is a registered user who will interact with the system similarly to a Viewer except they will be able to upload videos to the system and subscribe to their favorite videos.

Administrator   Admin interacts with the system by maintaining it and
                                  making sure everything on the system is working
                                  properly. Admin has Admin rights which includes the
                                  rights to ban users, issue warnings and remove contents.

Advertiser   The web hosting application will interact with the
                                  advertiser by adding ads to videos. Uploaded
                                  videos will be analyzed and matched with the relating ad
                                  video. The advertiser will pay for each ad that are added to
                                  a video.

Payment System   The payment system interacts with the system
                                  by paying users for the amount of views they have and
                                  receiving payments from Advertisers.

2.2 User Classes and Characteristics

Viewers are considered the favored user class of the ViewMe system. Anyone who watches videos on ViewMe is considered a viewer. Viewers do not have to register to watch any videos on the website. ViewMe is available to the public and anyone can access the videos unless the video is set to private. Viewers are considered the most valuable user because they will generate revenue for the company through ads. The data that viewers provide will also provide sources of information and income.

Common video users are users who are interested in uploading their private videos onto the ViewMe application. users must register for an account on ViewMe before being allowed to upload videos. By registering an account, users agree to obey ViewMe's user agreements and refrain from copyright infringements. Videos uploaded onto ViewMe remain the property of the user. The video user must be an adult over the age of 18. The user should be the owner of the video that was being uploaded or have the permission of the owner to upload. There are many types of video users, common video users refer to people who are not professional and are just common public people uploading their videos.

Advertisement companies would be interested in ViewMe because they can use ViewMe to post ads and draw potential customers. The ads will be tailored to the video contents so

advertisers should be reassured that their ads is targeted toward the right audience. Advertisers could either post a video ad or a banner on ViewMe to attract customers.

Scouting agents are people who look for talented individuals who had demonstrated their talent in a video. Many people enjoy sharing their talents with the world. Often, they would capture a video of themselves performing their talent. Scouters can look through amature videos in search for talent and seek to sign new artists to their label.

Music labels could use ViewMe to post videos of their artists to spread their influence. Music labels are a type of users; however, they are professionals and can upload their copyrighted materials. Music labels could post music videos of their artists to promote the artists. In addition, music labels could upload clips of their artists' concerts for the artists' fans. Thus, ViewMe would be a useful promotional tool for music labels.

Instructors are people who upload videos with the purpose of teaching the viewer something. Instructors are also another type of video users. Unlike, the common video users, instructors' videos are educational. Instructors could include teachers, professors, or any other person who uploaded a video with the sole purpose of education. Videos uploaded by instructors are usually lectures.

Administrators are users who are ViewMe's employees. Admins have special authorities that other users do not. These authorities include: ability to remove unauthorized or illegal contents, ban user's accounts, and issue warnings. One of the admin's primary duty is to review flagged contents and determine its validity.

2.3 Operating Environment

ViewMe is a video sharing web application. ViewMe operating environment will be hosted on a cloud server. Microsoft's Azure will be used as ViewMe's platform. Azure is capable of handling many different types of programming languages, it can automatically scale, and it have a secure cloud platform. The ViewMe application will be compatible across many different web browsers including: Google Chrome, Mozilla Firefox, Internet Explorer, Safari, and Opera. Moreover, ViewMe will be available across different operating systems such as: Windows OS, Mac OS, Linux OS or any other operating system. The hardware needed to create

this application would be the computers that is used to program the application and the physical servers from Microsoft to host the application.

2.4 Design and Implementation constraints

CO-1 The web browser for the ViewMe system must use 256-bit encryption for all secure transactions.

CO-2 All HTML codes shall adhere to the HTML 5.0 standard.

CO-3 The Navigational menu tool bar shall be available on all ViewMe's web page.

CO-4 Online payments may only be made through PayPal or direct deposit.

CO-5 For data storage, the ViewMe system shall only use the Azure cloud.

CO-6 The ViewMe app must use HTML, PHP, ASP.NET, Node.js, and Python.

2.5 Assumptions and Dependencies

AS-1 Registered users are actual people and not robots

AS-2 Uploaded videos belonged to the user and contained permission from the owner/participants

AS-3 Viewers have the plugins that are required to watch videos

AS-4 Viewers and users have internet connection to access the application

AS-5 Viewers' and users' internet connection is fast enough to stream/upload videos

DE-1 Microsoft .NET Framework 4.5 or more recent must be installed

3.0 System Features

3.1 Register Users
3.1.1 Description
Users who wants to upload videos shall register for an account before access is granted. User shall provide their personal information to create an account.
3.1.2 Functional Requirements
Inputs
- User input their name, birthdate, gender, email address, password, and re-enter password again.
- User must also pass a captcha test to verify that they are not a robot
- User must agree to the terms and conditions before registration is complete.

Processing
- System shall check user's email address with database to ensure that no duplicate account was being created.
- System shall also calculate the user's age based on his/her birthdate to make sure that the user is an adult over the age of 18.
- System shall detect captcha input and verify that user is not a robot
- System shall detect that user had agreed to the terms and conditions
- System shall also detect that all required fields were filled out
- System shall check that the password and the re-entered password matched

Output

User is temporarily registered and the system automatically set a confirmation email to the user's email address.

Error Handling
- If the user typed an email address that is already registered in the database; then the system shall display an error message to inform the user that the email was used.
- If the captcha does not match; the system shall create a new captcha and ask the user to type in the captcha again.
- If the user's age is less than 18 years; then the system shall display a message that said registered users must be over 18 years old.
- If the password and the re-entered password do not match; the system shall display an error message that said the password does not match and ask the user to re-enter the password.

3.2 Upload Videos

3.2.1 Description

This feature shall allow a registered user to upload a video that does not exceed 30 minutes in length.

3.2.2 Functional Requirements

Input
- Registered users can drag and drop their videos into a designated area that would automatically upload the video onto ViewMe
- user can type in a video description to be shown underneath the video
- user set video to private or public

Processing
- System shall check that the video is in a format supported by the application
- System shall check that the video length is less than 30 minutes long

Output
- Video is uploaded onto the web and can be accessed by the user and the public if the video is set to public

Error Handling
- If a user is not registered; the system shall display an error message and ask the user to sign in or register for an account in order to upload videos.
- If the video is longer than 30 minutes; the system shall display an error to inform the user that the video needs to be under 30 minutes in length.
- If the video format is not supported; the system shall display an error message to inform the user that the format is not supported.

3.3 Search Videos
3.3.1 Description
This feature shall allow a user to search ViewMe for a video that they want.
3.3.2 Functional Requirements
Input
- Viewer type in the video's name or an user's name onto the search bar to find the video they want.

Processing
- System shall check for matches based on the title of the video, video description, and user's name.

Output
- The system shall display a list of possible video results to the viewer.

Error Handling
- If there are no matches; the system shall display an error message that no videos matches
- If there are spelling errors; the system shall display a message that said "Did you mean…" and provide a list of possible searches that are close to the user's input.

3.4 Open Videos
3.4.1 Description
This feature will allow a user to open a video and watch it.
3.4.2 Functional Requirements
Input
- Viewer click on the video's title to open the video

Processing
- System shall access the server to retrieve the video
- System shall check that viewer have the required plugins to watch the video

Output
- System shall open the video that the viewer chose

3.5 View Video
3.5.1 Description
This feature shall allow a user to view a video.

3.5.2 Functional Requirements

Input
- Viewer click play to watch the video.
- Viewer can hit pause to stop the video.
- Viewer can fast forward by clicking on the status bar

Processing
- System shall detect which button is pressed

Output
- System shall play the video after ad is finished or when the viewer press the play button
- System shall pause the video if the pause button is pressed
- System shall skip to a certain section of the video when viewer click on the status bar

Error Handling
- If the user does not have the required plugin to watch the video; the system shall display an error message and ask the user to download the necessary plugin to watch the video.

3.6 Add video to favorites

3.6.1 Description

This feature shall allow registered users to add a video to their favorites list.

3.6.2 Functional Requirements

Input
- Viewer click on the favorite button located on the video's screen.

Processing
- System shall detect favorite button is pressed.
- System shall check that the viewer is a registered user
- System shall detect if video was already in the user's favorite list

Output
- System shall store the video's link to the registered user's account
- System shall display the video in the user's favorite list

Error Handling
- If the viewer was not signed in; the system shall display a message asking the user to sign in or register for an account
- If the video was already favorited; the system shall display a message to inform the user that the video was already favorited.

3.7 Remove Video

3.7.1 Description

This feature shall allow registered users to remove a video from their account.

3.7.2 Functional Requirements

Input
- Registered user click on the delete button next to the video's name.

Processing

- System shall detect delete button is pressed.
- System shall check that the video is in the database

Output
- System shall remove video from the database.
- System shall display message to say that video had been deleted.
- System shall remove video from the favorite list of other users.

Error Handling
- If a viewer is about the watch the video that was being deleted; the system shall display an error message saying that the video has been deleted.

3.8 Delete Registered Account
3.8.1 Description
This feature shall allow registered users to delete their account from the ViewMe system.
3.8.2 Functional Requirements
Input
- Registered user click on the delete account button located in their profile.
- Registered user click the OK button the confirm that he wants to delete the account.

Processing
- System shall detect the delete account button is pressed.
- System shall check that the user had clicked the OK button to confirm.

Output
- System shall delete the registered user's account information from the database.
- System shall also delete all the videos that was linked to the user's account from the database.
- System shall remove video from the favorite list of other users.

Error Handling
- If some of the videos that were linked to the deleted account was favorited by another user; the system shall display a message to the user who favorited the video that the video had been deleted.
- If a viewer is about to watch the video that was being deleted; the system shall display an error message saying that the video has been deleted.

3.9 Unfavorite a Video
3.9.1 Description
This feature shall allow registered users to unfavorite a video from their account.
3.9.2 Functional Requirements
Input
- Registered user click on the unfavorite button located next to the video's name.

Processing
- System shall detect unfavorite button was pressed. .

Output

- System shall remove the unfavorited video from the registered user's account.

4.0 Data Requirements
4.1 Logical Data Model

Password
username
Email
Total number of Unique Views

Search
View
Uploads

User

Video

Analyzed by
Application System
match

Managed by
Administrator
password
username
Email

has
Advertisement

has
My favorite list

Created by

Fees
Pays
Advertiser
email
username
password

Key

Entity
Actions
Attributes

1 to many
1 to 1
0 to many
0 to 1
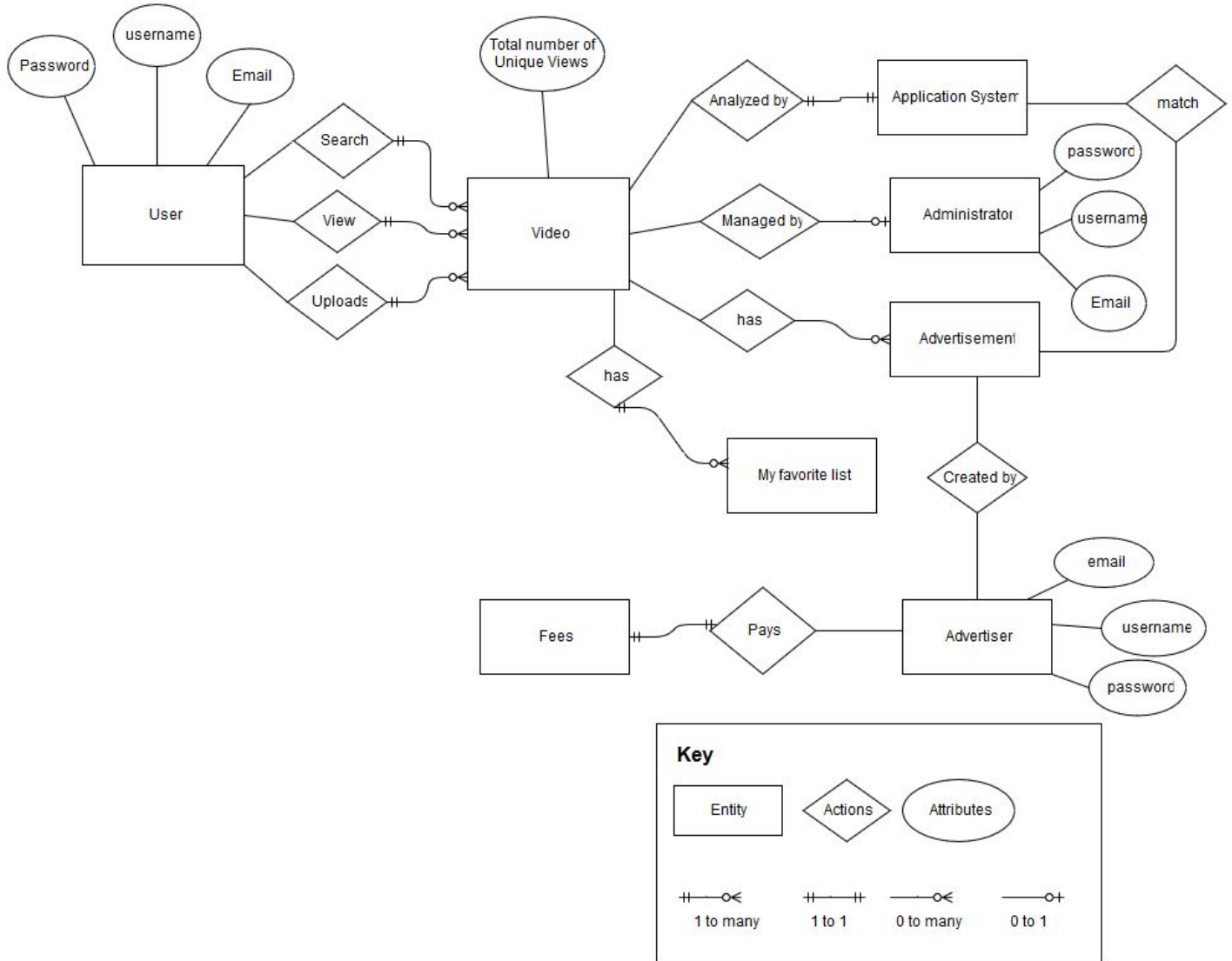
Figure 1: Entity Relationship Diagram (ERD)

4.2 Data Dictionary

Data Element	Description	Composition or Data Type	Length
Video Content	Users can upload videos	Video format: mp4, mov, avi, mkv, wmv, flv Audio format: wma, m4p, m4a, aiff, 3gp,	30 mins
Upload Date	The date that the video was uploaded	Date MM/DD/YYYY	10
User	A person who is authorized to upload, delete, and view videos on ViewMe	User's name +User's email address +User's birthdate	
User's Username	Username of the user	Alphanumeric	30
User's Email Address	Email address of the user	Alphanumeric	50
User's Birthdate	Birthdate of the user	Date MM/DD/YYYY	10
Video length	The length of a video	Integer	30 mins
Video Description	Description about the video	Alphabetic	100
Video Title	The title of the video	Alphabetic	30
Ad Payment	Information about ads' payment from ViewMe system to the user	Payment amount +Payment method +Transaction number	
Payment Amount	Total price of a video ad payment based on BR-7 in dollars and cents.	Numeric, dollars, and cents	dddddd.cc
Payment Method	How the ViewMe system pays the user for the number of views on the uploaded video	Alphabetic	16
Transaction Number	ViewMe system assigned a unique number for each payment transaction	Integer	12

4.3 Reports

4.3.1 New User Registered Report

Report ID	ViewMe RPT-1
Report Title	New users registered
Report Purpose	Management shall review the new user registered report to determine if business objectives has been reached. Advertisers shall review this report to access the numbers of new users registered to determine if they want to create ads for the system.
Priority	High
Report Users	Management and Advertisers
Data Sources	Account database
Frequency and Disposition	Report is generated on the last week of the month and sent automatically to management and advertisers once a month. Data in this report are dynamic. At the request of either user, the system may generate extra reports at anytime. Reports are sent through emails and can be view on desktops, smartphones, tablets, and may be printed if the display device permits printing.
Latency	A complete report is displayed within 3 seconds after request or it is automatically sent on Monday of the last week of the month.
Visual Layout	Portrait mode
Header and Footer	Report header shall contain the report title and the date and year. The footer shall contain the page number
Report Body	Fields shown and column headings: ● Number of new registered users for the month ● Total number of new registered users for the year ● A list of new registered users with their usernames
End-of-Report Indicator	A line that reads: "This concludes the total number of new registered users for the month: and year: time stamped:"
Interactivity	user may see previous month reports. User may also view a list of usernames of new registered users
Security Access Restriction	Only management with access and advertisers may view this report

4.3.2 Numbers of Unique View on Each Video Report

Report ID	ViewMe RPT-2
Report Title	The number of unique views on each video
Report Purpose	users shall use this report to know how many views their video have accumulated. Advertisers shall use this report to know how popular a video is so they can decide if they want to put an Ad on the video
Priority	Normal
Report Users	Users and Advertisers
Data Sources	ViewMe video database
Frequency and Disposition	At the request of users or advertisers, this report shall be generated. Data in this report is dynamic. Report is displayed on the user's web browser.
Latency	complete report is displayed on user's web browser within 3 seconds
Visual Layout	portrait mode
Header and Footer	Header contains the title and the current date of when the reported is generated. Nothing is at the footer
Report Body	Fields shown and column headings: ● Name of the video ● Username of user ● Total number of unique views for all time
End-of-Report Indicator	none
Interactivity	none
Security Access Restriction	no restriction, available to the public

4.3.3 Number of New Videos Uploaded Report

Report ID	ViewMe RPT-3
Report Title	The number of new videos uploaded
Report Purpose	Management shall use this report to determine if the success criteria have been met. Advertisers shall use this report to determine if they want to create ads for this application.

Priority	Normal
Report Users	Management and Advertisers
Data Sources	ViewMe video database
Frequency and Disposition	Automatically sent to management each month in an email. This report shall be generated at the requests of advertisers. Data in this report is dynamic. This report shall be viewed on the user's web browser and may be printed.
Latency	Must be displayed in 3 seconds or less.
Visual Layout	portrait mode
Header and Footer	Header contains the report title and date. Footer contains the page number
Report Body	Fields shown and column headings: ● Total number of new videos uploaded for the month ● Total number of new videos uploaded for the year ● Total number of videos uploaded for all time
End-of-Report Indicator	A line that reads: "This concludes the total number of new videos uploaded for the month: and year: time stamped:"
Interactivity	User may see previous month reports
Security Access Restriction	Only management and advertisers may view this report

4.3.4 Total Amount of Money Videos Made Through Ads Report

Report ID	ViewMe RPT-4
Report Title	Amount of money each video made through Ads
Report Purpose	Management shall use this report to determine if the organization's business goal have been achieved.
Priority	High
Report Users	Management
Data Sources	Payment system
Frequency and Disposition	Automatically sent a report on the last week of the month to management. Management may also request for a report to be

	generated. This report shall be viewed on the user's web browser and a printed report shall be printed and filed.
Latency	Completed report shall be displayed in 3 seconds on the user's web browser.
Visual Layout	landscape mode
Header and Footer	Header contains the report name and date. Footer contains the page number.
Report Body	Fields shown and column headings: ● Name of video ● Username of user ● Name of ad in video ● Total amount of money made from ads in current month ● Total amount of money made from ads for the year
End-of-Report Indicator	A blank page with a note stating that this page indicates the end of the report with the date and time that it was generated.
Interactivity	Previous months reports may be viewed and compared.
Security Access Restriction	Only individuals in management with access may view this report

4.4 Data acquisition, integrity, retention, and disposal

4.4.1 Acquisition

Data is stored in the database. Access of data is through the Internet.

4.4.2 Data Integrity

DI-1: Only Administrators shall be able to remove videos

DI-2: Only registered users shall be able to upload videos

DI-3: Only an advertiser user shall be able to request the system to add advertisements to the system

4.4.3 Retention

RET-1 When a user uploaded a video; the video shall be retained in the database

RET-2 The user's search history is retained in the database

RET-3 The user's viewing history is retained in the database

RET-4 The user's account information shall be retained in the database

4.4.4 Disposal

DIS-1 When the user confirmed that he wants to delete a video; the system shall delete the video permanently from the database

DIS-2 When the user wants to delete his account; the system shall delete all the user's information and videos from the database permanently

5.0 External Interface Requirements
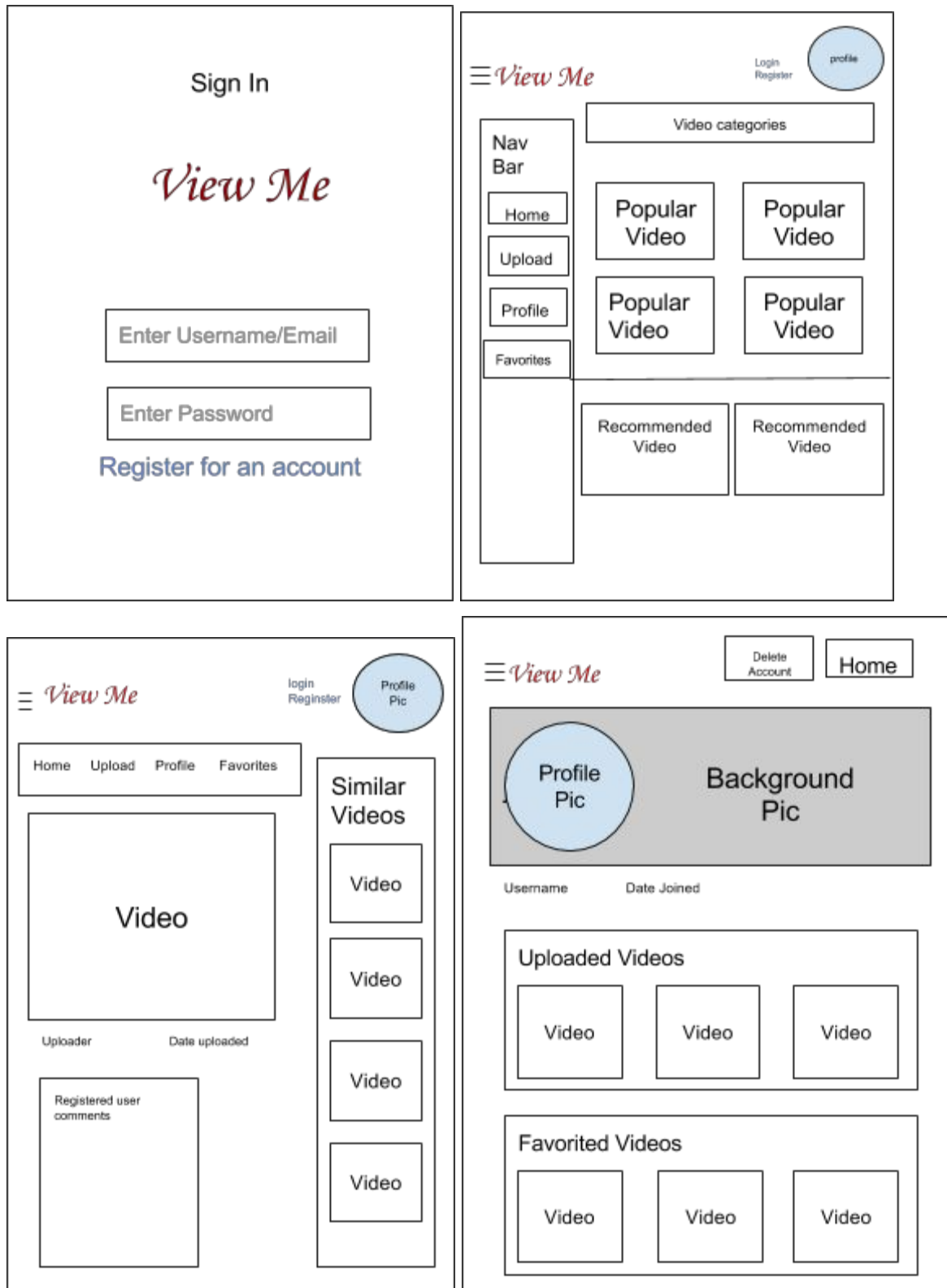## 5.1 User Interfaces

Figure 2: user interfaces

5.2 Software Interfaces
5.2.1 Advertisement System
- Analyzes videos to match user uploaded video with the appropriate Ad video
- Add Advertisement videos to the system and keep an inventory of the current Advertisement videos
- Sends payment to Payment System to pay for Advertisement fees

5.2.2 Payment System
- Pays user $90 per 1,000 views in a 45/55 split.
- Receives $0.20 per view from advertiser.
- Sends invoice total for Advertisement fees to Advertisement system on the last Monday of each month

The web hosting application shall have a web server and a MySQL server. The web server purpose is to host the ViewMe application interface and retrieve information from the database. The MySQL server shall host all data needed for processing and displaying videos in the ViewMe application web server.

5.3 Hardware Interfaces
No hardware interface has been identified.
5.4 Communications Interfaces
5.4.1 ViewMe Communication interface
CI-1 The ViewMe communication interface shall send a verification email to confirm that the user had registered at ViewMe.

CI-2 The ViewMe communication interface shall send an email to the user if there are any suspicious activities such as three failed login attempts.

CI-3 The ViewMe communication interface shall send a message when a video is successfully uploaded. Else, the ViewMe communication interface shall send a message that said video was not successfully uploaded.

CI-4 The ViewMe communication interface shall send a message with the video link attached to other users when a user chooses to share the video.

CI-5 The ViewMe communication interface shall send a message when a video is successfully favorited. Else, the ViewMe communication interface shall send a message that said video was not successfully favorited.

CI-6 The ViewMe communication interface shall return the searched video results to the user. Else, the ViewMe communication interface shall send a message to the user to say that the searched video was not found.

6.0 Quality Attributes

6.1 Usability

USE-1 There shall be a navigation bar to the left that have the following viewing history, favorites, and upload button.

USE-2 The search bar shall be available on all the pages

USE-3 There shall be a FAQ page to provide answers to commonly asked questions. There shall be at least 10 FAQ with answers displayed.

USE-4 There shall be a help button so a user could contact an admin for any assistance

USE-5 ViewMe's home page is navigable

6.2 Performance

PER-1 When the user click on a video link; the video page shall load within 1 second or less

PER-2 The ad shall start to play within 0.5 sec or less when the video page had loaded

PER-3 After the ad had finished; the video shall play within 0.5 sec or less

PER-4 When the user click the pause button; the system shall pause the video within 0.1 sec or less

PER-5 The video shall continue to load as the viewer is watching the video

6.3 Security

SEC-1 If the user typed in his password wrong after 3 times; the account shall be locked

SEC-2 Only the user and the admin can remove the user's video

SEC-3 The user could change his password after he re-enters the old password

SEC-4 Only the registered user could see his account information

SEC-5 The system shall detect if a virus is attached to the uploaded video

SEC-6 The web system shall have anti-virus and malware protection

SEC-7 Password must be at least 8 digits/letters in length, and a suggestion shall be displayed to ask users to include numbers, special characters, and capital letters

SEC-8 User must be signed into the ViewMe system for all operations except video viewing

6.4 Availability

AVA-1 The ViewMe system shall be available 99% of the time everyday except for maintenance windows. Maintenance should be performed between 12AM - 2AM local time

7.0 Use Case

7.1 Use Case Descriptions

Primary Actor	Use Cases
Viewer	UC-1. Search for videos UC-2. Play/Watch Videos
user/Registered User	UC-3. Register for account UC-4. Uploads video UC-5. Add video to My Favorite UC-6. Shares video UC-7. Removes video UC-10 Delete account
Advertiser	UC-8. Pay fees for advertisement
Administrator	UC-9. Checks flagged videos

ID and Name:	UC-1 Search for Videos
Created by:	Catherine Do Date created: October 19,2015
Primary Actor:	Viewer, User Secondary Actor: ViewMe system
Description:	The user(viewer/user) access ViewMe website from the internet. The user click on the search bar and enter a video title that he/she wants to search for and either click the search button or press enter.
Trigger:	The user enter a video title in the search bar.
Preconditions:	PRE-1 User have access to the internet PRE-2 User access the ViewMe website
Postconditions:	POST-1 ViewMe system return the searched videos based on keywords that the user have entered
Normal Flow:	**1.0 Searched video by title name** 1. User enter video title name in search bar 2. User click search or press enter 3. The ViewMe system shall return a list of videos that contain key phrases from the user searched input. 4. The most matched video to the user searched phrases shall be at the top of

	the list.
Alternative Flow:	**1.1 Searched video by artist name** 1. User enter artist name in search bar 2. User click search or press enter 3. Return to step 3 of normal flow **1.2 Searched video by keywords** 1. User enter keywords in search bar 2. User click search or press enter 3. Return to step 3 of normal flow
Exceptions:	1.0, 1.1, 1.2 E1 Video is not found in the system's database
Priority:	High
Frequency of Use:	Millions of users everyday. Peak usage for this user case are during the weekdays and in the hours of 2pm-6pm
Business Rules:	BR-5
Other information:	User shall be able to view searched video suggestions
Assumptions:	Assumes that user have internet access and an operating system that could run ViewMe.

ID and Name:	**UC-2 View Videos**
Created by:	Catherine Do Date created: October 19, 2015
Primary Actor:	Viewers, User Secondary Actor: ViewMe system
Description:	The user(viewer/user) clicks on a video link through the ViewMe website, shared link, or through a search list on ViewMe.
Trigger:	User clicked on a video link.
Preconditions:	PRE-1 User accessed ViewMe. PRE-2 User clicked on a video link through search list or shared link PRE-3 User clicked on play button
Postconditions:	POST-1 System plays Ad POST-2 System plays video
Normal Flow:	**2.0 View Videos**

	1. User click on video link 2. User press play 3. System shall show advertisement first 4. System shall play video
Alternative Flow:	none
Exceptions:	2.0 E1 Video content is not available due to copyright infringement 2.0 E2 Video content is no longer available 2.0 E3 Video content is flagged for removal due to inappropriate content
Priority:	High
Frequency of Use:	Approximately millions of users. Peak hours on weekdays during 2pm-6pm.
Business Rules:	BR-5
Other information:	1. User can pause, fast forward, or go back on a video 2. User can mute the volume of a video
Assumptions:	Assumes user have the necessary plugins to view the videos

ID and Name:	**UC-3 Register for an Account**
Created by:	Catherine Do Date created: October 19, 2015
Primary Actor:	user Secondary Actor: ViewMe system
Description:	The user shall register for an account on ViewMe by clicking on the Sign-Up button on the ViewMe website. The user must enter in their email address, username, and a password to register. For security purposes, the user shall enter in the captcha character to verify that the user is not a robot.
Trigger:	User accessed ViewMe website and click on Sign-Up to register for an account.
Preconditions:	PRE-1 User must have a valid email address PRE-2 Username must be available PRE-3 Password must be at least 8 characters long with numbers or a special character
Postconditions:	POST-1 ViewMe system shall send a verification email to the user's email address POST-2 The user shall clicked on the verification link in the email to verify

	their email address and the account shall be made POST-3 User's account informations shall be stored in the ViewMe system database
Normal Flow:	**3.0 Register for an Account** 1. User click on Sign-Up button on ViewMe website 2. User enter a valid Email address 3. User enter a Username that is available 4. User enter a password that is at least 8 characters long with numbers or a special character 5. User enter the correct captcha and press Confirm button to complete registration 6. System shall display a confirmation screen that tell the user to check their email for verification
Alternative Flow:	**3.1 Sign-in to a registered account** 1. User with an account shall sign into their account 2. User sign in using either email or username with the correct password
Exceptions:	3.0 E1 Invalid Email address 3.0 E2 Username is taken 3.0 E3 Password is not long enough or does not have a number or a special character 3.1 E4 Email address or username is incorrect 3.2 E5 Password is incorrect
Priority:	High
Frequency of Use:	At least hundreds of users a day.
Business Rules:	BR-12, BR-13
Other information:	1. If user input the wrong information (email, username, or password) after five failed attempts, the system shall send an email to the user to report that suspicious activity have been detected.
Assumptions:	Assumes user have an email address Peak usage when application first become available

ID and Name:	**UC-4 Upload Video**
Created by:	Holly Do Date created: October 19, 2015
Primary Actor:	User Secondary Actor: ViewMe system

Description:	Users who want to upload a video must be registered and signed into the ViewMe system.
Trigger:	Registered user had clicked on the upload button
Preconditions:	PRE-1 User must have a registered account PRE-2 User must be signed into account
Postconditions:	POST-1 ViewMe system shall send an email to the user's email address to inform the user that the video upload was a success
Normal Flow:	**4.0 Uploading a video by dropping video into the upload box** 1. User click on upload button on ViewMe website 2. User choose privacy setting 3. User drop video into upload box 4. User click publish to make video available for other viewers 5. System shall store the video into the ViewMe's database
Alternative Flow:	**4.1 Uploading a video by browsing through the computer** 1. User clicked on browse button 2. User select video he wanted to upload from the computer 3. User click publish to make video available for other viewers 5. System shall store the video into the ViewMe's database **4.2 Uploading multiple videos** 1. User is asked to upload another video 2. Return to step 1 of normal flow
Exceptions:	4.0 and 4.1 E1 Video length exceeded 30 minutes 4.0 and 4.1 E2 Video format was not supported
Priority:	High
Frequency of Use:	At least hundreds of users a day.
Business Rules:	BR-1, BR-2
Other information:	1.User may cancel in the middle of uploading a video 2.User may delete his or her own uploaded video
Assumptions:	Video format is supported by the ViewMe system Video does not violate copyright infringement Video belonged to the user

ID and Name:	**UC-5 Favorite a Video**

Created by:	Holly Do Date created: October 19, 2015
Primary Actor:	Registered User Secondary Actor: ViewMe system
Description:	Users who want to favorite a video must be registered and signed into the ViewMe system.
Trigger:	Registered user had clicked on the upload button
Preconditions:	PRE-1 User must have a registered account PRE-2 User must be signed into account
Postconditions:	POST-1 ViewMe system shall store the favorite video into the user's account
Normal Flow:	**5.0 Favoriting a video** 1. Click on favorite button while on the video's page
Alternative Flow:	None
Exceptions:	5.0 E1 Video was removed 1. System shall display an error message to inform the user that the video is no longer available
Priority:	Normal
Frequency of Use:	At least hundreds of users a day.
Business Rules:	BR-3
Other information:	Registered user could access his favorite list and see all the favorited videos
Assumptions:	Videos were not removed by their user or an admin

ID and Name:	**UC-6 Share Video**
Created by:	Holly Do Date created: October 19, 2015
Primary Actor:	User Secondary Actor: ViewMe system
Description:	Users who want to share a video must be registered and signed into the ViewMe system.
Trigger:	User had clicked on the share button
Preconditions:	PRE-1 User must have a registered account PRE-2 User must be signed into account

Postconditions:	POST-1 ViewMe system shall send video link to the person who the user want to share the video with
Normal Flow:	**6.0 Sharing another user's video** 1. Click on share button while on the video's page 2. User type in the username or email address of the person he wants to share the video with 3. User click confirm to send the video link to the recipient 4. ViewMe system send email with the video link to the recipient
Alternative Flow:	**6.1 Sharing own video** 1. When the user uploaded a video; the system shall ask the user if he wants to share the video 2. User type in the recipient's username or email address to share the video 3. The system shall send an email to the recipient with the video's link
Exceptions:	6.0 and 6.1 E1 Recipient's username or email address was not found. 1. System send an email to the user to inform the user that the attempt at sharing failed because the username or email address was not found 2. System ask user to retype the username or email address
Priority:	Normal
Frequency of Use:	At least hundreds of users a day.
Business Rules:	BR-2
Other information:	User may unshare a video
Assumptions:	Videos were not removed by their user or an admin

ID and Name:	**UC-7 Remove Video**
Created by:	Holly Do Date created: October 19, 2015
Primary Actor:	User Secondary Actor: ViewMe system Administrator
Description:	Users who want to delete a video must be registered and signed into the ViewMe system.
Trigger:	user or admin had clicked on the delete button
Preconditions:	PRE-1 User must have a registered account PRE-2 User must be signed into account

Postconditions:	POST-1 ViewMe system system shall send an email to the user's email address to inform the user that the video deletion was a success
Normal Flow:	**7.0 Deleting a video by the user** 1. Click the delete button on ViewMe website 2. The system shall ask the user for confirmation 3. The system shall delete the video from the database and the favorite list of all the users whom had favorited the video
Alternative Flow:	**7.1 Deleting a video by an administrator** 1. Admin shall go into the flagged video and review the contents 2. If the contents violate terms of service; the admin shall delete the video 3. The system shall display a list of reasons why the admin has chosen to delete the video 4. The system shall send an email to the user to inform him that the video was deleted for the selected reason 5. The video shall be removed from the database **7.2 Deleting multiple videos** 1. User is asked to delete another video 2. Return to step 1 of normal flow
Exceptions:	7.0 E1 Video was already deleted by an Admin due to terms and agreement violation. 1.System displays error message that video is unavailable
Priority:	High
Frequency of Use:	At least hundreds of videos a day.
Business Rules:	BR-4, BR-5
Other information:	User may un-delete a video unless if it was removed by an Admin
Assumptions:	The video had violated a business rule

ID and Name:	**UC-8 Pay for Advertisement**
Created by:	Holly Do Date created: October 20, 2015
Primary Actor:	Advertiser Secondary Actor: ViewMe system, Payment system
Description:	The advertiser pays 0.20 cents per view on the ad video that are displayed on the ViewMe system.

Trigger:	User click on a video link and an Ad video is viewed
Preconditions:	PRE-1 Advertiser sends Ad video to ViewMe system PRE-2 ViewMe system matches Ad with a relevant video PRE-3 User clicks on the video and views the Ad
Postconditions:	POST-1 The ViewMe system keeps track of how many Ads are viewed POST-2 ViewMe system sends a report on the number of Ad views to the payment system POST-3 Payment system sends an invoice to the Advertiser
Normal Flow:	**8.0 Pays for ad fees monthly** 1. ViewMe system sends a report on the number of ad views to Payment system 2. Payment system sends invoice to advertiser 3. Advertiser sends payment to Payment system 4. Payment system shall send a receipt and confirmation email to the advertiser
Alternative Flow:	**8.1 Pays for multiple ads** 1. Advertiser choose ads to pay for 2. Click on pay now 3. Enter payment information 4. Click submit payment 5. Payment system shall send a receipt and confirmation email to the advertiser
Exceptions:	8.0 E1 Payment is overdue 1. Payment system send a notice to Advertiser's email 2. Advertiser pays for ad or ad is cancelled
Priority:	High
Frequency of Use:	Monthly
Business Rules:	BR-7, BR-10
Other information:	Ad videos are 15-20 seconds long
Assumptions:	Users watch the full Ad videos

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ID and Name:	**UC-9 Checks flagged videos**
Created by:	Catherine Do Date Created: November 2, 2015

Primary Actor:	Administrator Secondary Actor: ViewMe System
Description:	Administrator shall review videos that are flagged by users as inappropriate, copyright infringement or any other videos that violates the terms of service.
Trigger:	Users flags inappropriate, copyright infringement videos, or any videos that violates the terms and agreement.
Preconditions:	PRE-1 User flags video
Postconditions:	POST-1 Admin removes video that violate the terms of service UC 4.1 POST-2 Admin sends an email to user warning the user about the violation POST-3 In the case of multiple violations, Admin shall ban the user from ViewMe POST-4 Removed videos and banned users are stored in the database an explanation
Normal Flow:	**9.0 Checking a flagged video that violates the terms of service** 1. Administrator clicks on flagged video 2. View flagged video 3. Removes flagged video from the system's database 4. Sends message to user stating that the video had violated the terms of service and that the video has been removed 5. Reviews user's account for past violations 6. Stores the user's violation in the system's database as a first offense.
Alternative Flow:	**9.1 Checking a flagged video that does not violate the terms of service** 1. Admin clicks on flagged video 2.View flagged video 3. Determines that video does not violate terms of service so the flagged video is unflagged in the system **9.2 Checking a flagged video from a user that had violated the terms of service before** 1.Admin reviews flagged video 2. Determines that the video has violated the terms of service. 3. Removes the video from the system database 4. Reviews user's account for past violations 5. Removes user's account from the system database 6. Stores user's information with reason for ban in the system 7. Sends email to banned user stating that the account has been banned with the reasons of why it was banned.
Exceptions:	9.0 E1 user unflagged video 1. System removes flagged video from list that Admin needs to check

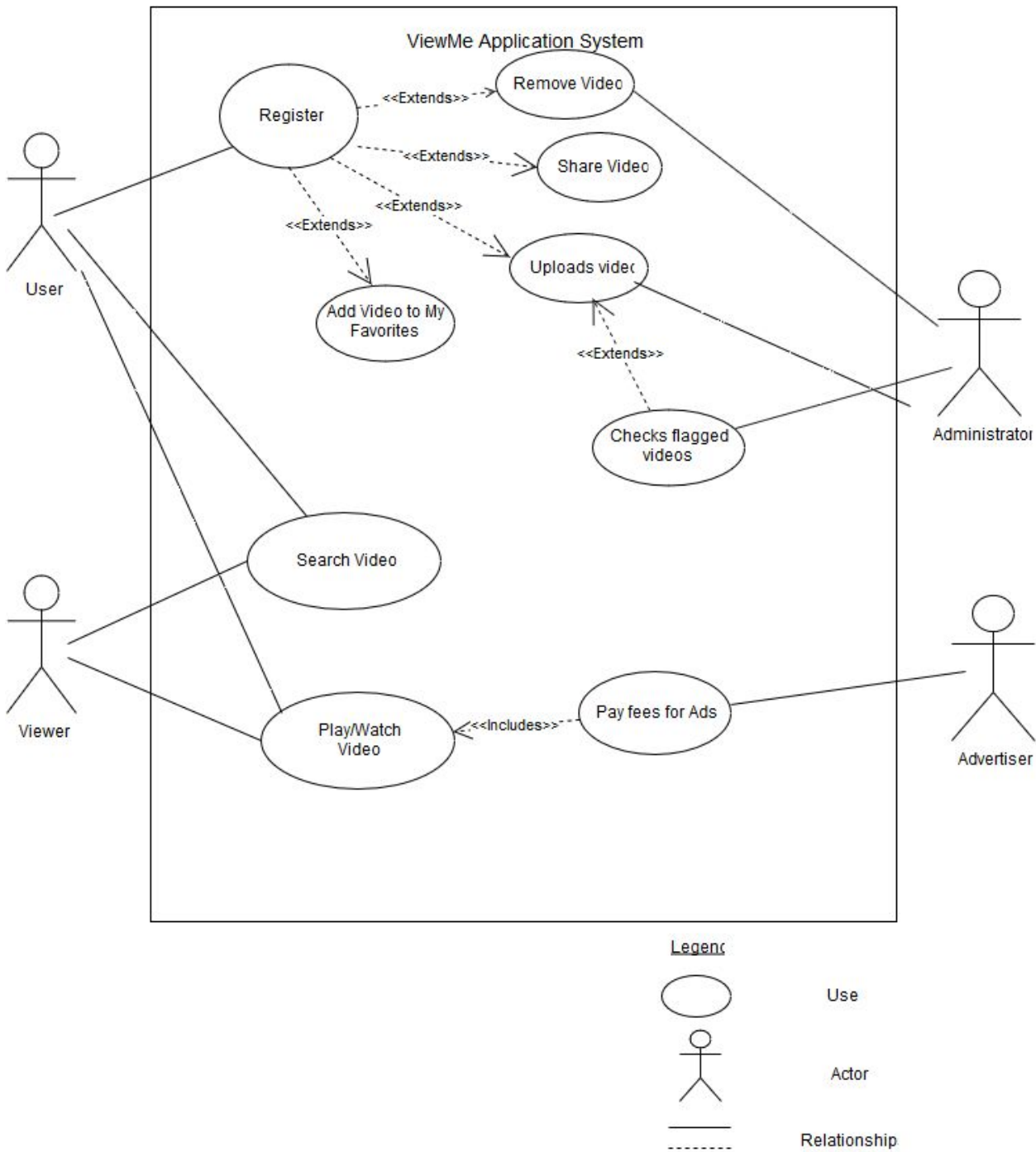| Priority:	Normal
Frequency of Use:	At least thousands of videos a day
Business Rules:	BR-9, BR-11
Other information:	1.Flagged videos are made unavailable until an Admin reviews it 2.Users of banned account may not create another account on ViewMe
Assumptions:	Video is still available and not already taken down by user

ID and Name:	**UC-10 Delete Account**
Created by:	Holly Do Date created: November 01, 2015
Primary Actor:	User Secondary Actor: ViewMe system Administrator
Description:	Registered user who want to delete his account shall be able to delete his whole account from the database
Trigger:	Registered user or admin had clicked on the delete profile button
Preconditions:	PRE-1 User must have a registered account PRE-2 User must be signed into account
Postconditions:	POST-1 ViewMe system shall send an email to the user's email address to inform the user that the account deletion was a success
Normal Flow:	**10.0 Deleting an account by the registered user** 1. User click the profile page 2. User click on delete profile button 3. The system shall ask the user for the password 4. The system shall ask for a confirmation 4. The system shall delete the account from the database. All the user's videos and personal information shall also be removed from the database.
Alternative Flow:	**4.1 Deleting an account by an administrator** 1. If the user had violated the terms and conditions 3 times, the admin shall go into the user's account and delete the account 2. The system shall send an email to the user to inform him that his account was deleted for violating the terms and conditions 3 times. 3. The system shall remove the account from the database
Exceptions:	4.0 E1 Account was already deleted by an Admin due to 3 times terms and agreement violation.

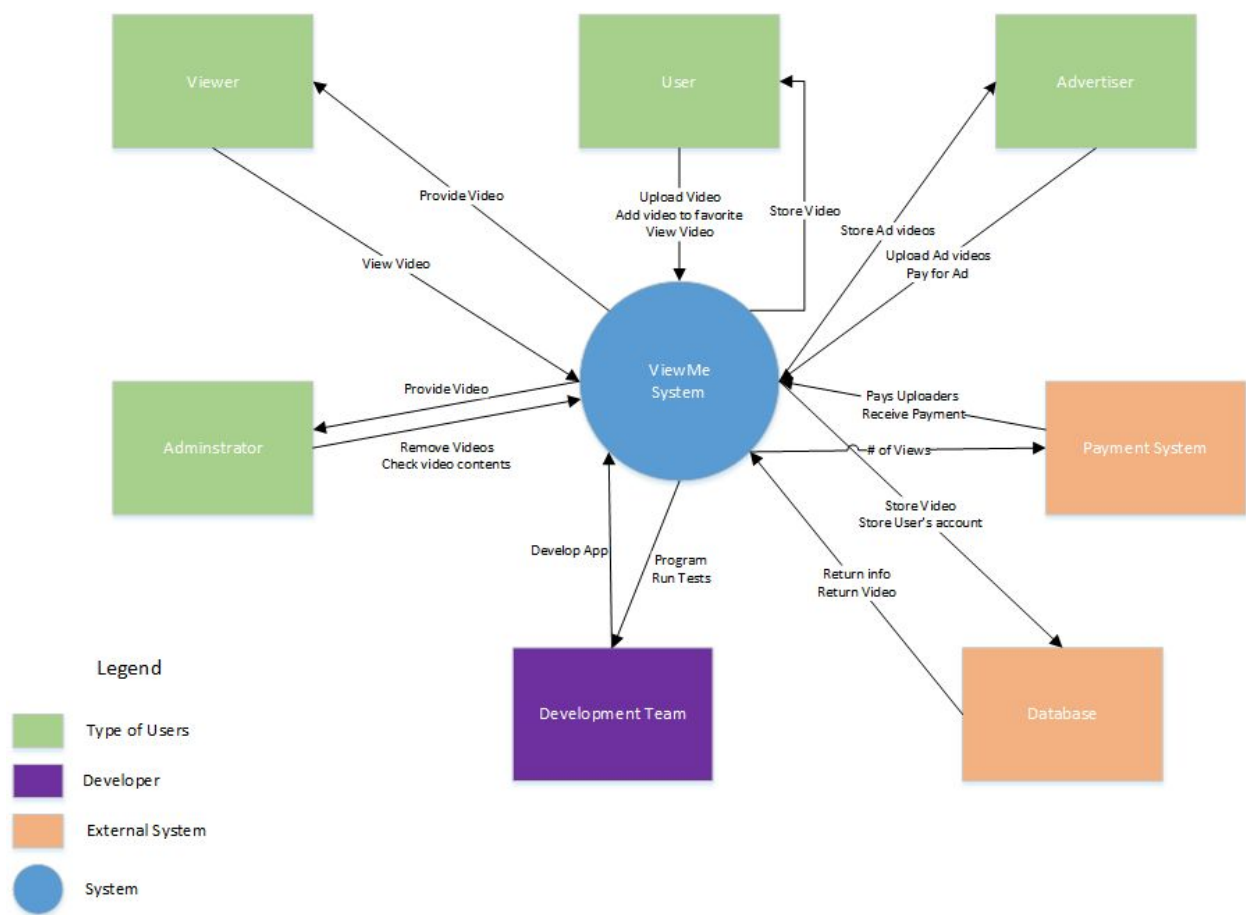|	1.System shall display an error message to inform the user that the account is unavailable
Priority:	Normal
Frequency of Use:	At least hundreds of accounts a month.
Business Rules:	BR-4, BR-5
Other information:	User may un-delete an account within 1 week unless if it was removed by an Admin
Assumptions:	The registered user had violated a business rule 3 times. The account belonged to the user whom had requested the account deletion

8.0 Dialog Map
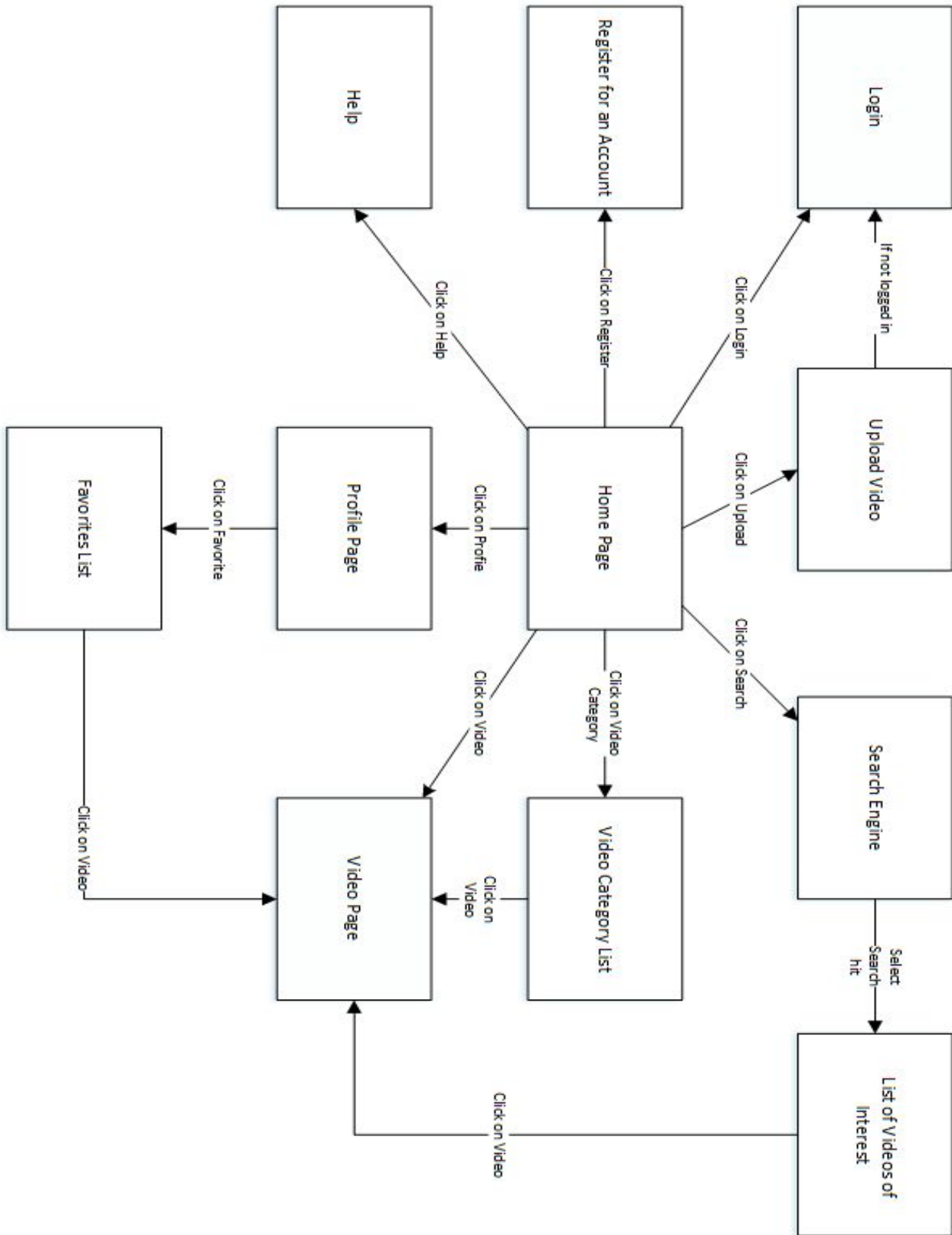
Appendix A: Use Case Diagram

Appendix B: Data Flow Diagrams

    Level 0 Data Flow Diagram

Level 1 Data Flow Diagram

Payment Info
Cash Amt

11. Pay for Advertisement Video

Cash Amt

Payment System

Cash Amt

12. Pay for Views

55 % of Cash Amt

Registered User

Advertiser

Receipt

Name
Username
Password
Email
Company's Name

Name
Username
Password
Email

1. Register for Account

Captcha

Valid

2. Verify Acct Info

Acct Info

Advertisement Video

Advertisement Video

10. Post Advertisement Video

Username
Password

Video's Name
Video's Link

Username
Password

Video File

Video's Name
Video's Link

4. Upload Video

7. Add Video to Favorite

Video's Name
Video's Link

Account Database

Video File

5. Verify Video

Valid

Valid
Username
Password

3. Log In

Username
Password

Administrator

Username
Password

Video's Name
Link

8. Remove Video

Video's Name
Link

Video Query

9. Check Video For Appropriate Contents

Video's Name
Link

Valid

Video File

Video Database

Video's Name

6. Search Video

Video Query

Viewer

List of Video

Legend

Process

External Entity

Data Flow

Data Store

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Appendix C: Analysis Model

Analysis Model for when
a user uploads
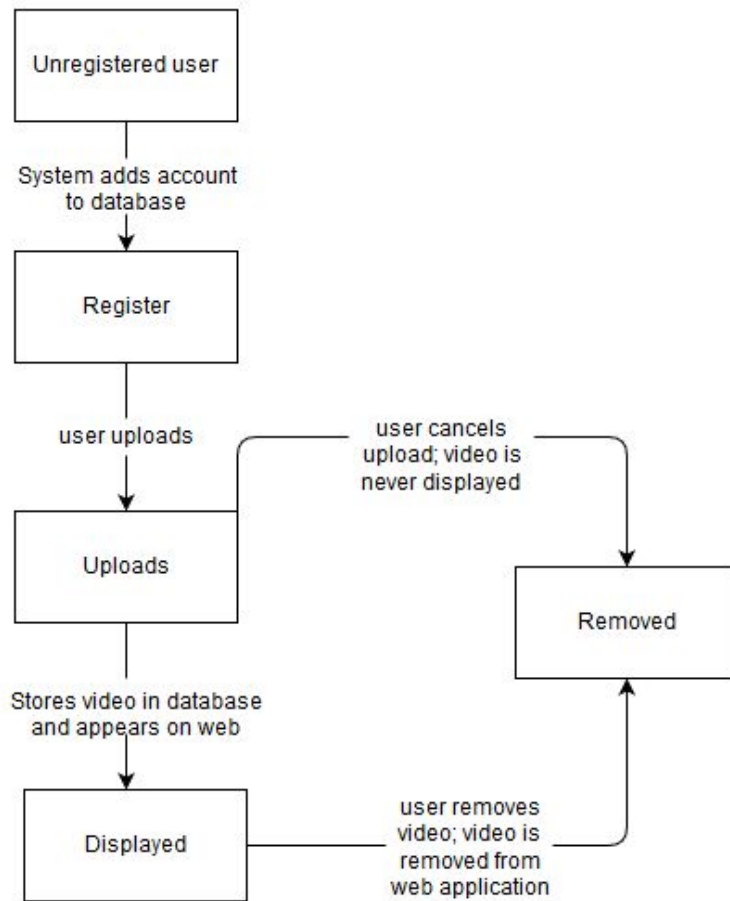
State Transition Diagram for uploading a video.

Appendix D: Business Rules

ID	Rule Definition	Type of Rule	Static or Dynamic	Source
BR-1	Uploaded video length is less than 30mins	Constraint	Dynamic	ViewMe policy
BR-2	Only registered user may upload and share videos	Constraint	Static	ViewMe policy
BR-3	Only registered user may add videos to My Favorites	Constraint	Static	ViewMe policy
BR-4	Registered user may only remove videos that they have uploaded	Constraint	Static	ViewMe policy
BR-5	Any user may view and search videos on the ViewMe system	Fact	Dynamic	ViewMe policy
BR-6	Only Administrator could remove any videos that violates the terms of service	Constraint	Static	ViewMe admin policy
BR-7	The total amount paid for each Ads are calculated as the sum of views multiply by 0.20	Computation	Dynamic	corporate accounting manager
BR-8	The ViewMe system counts the number of unique views based on the number of times the video was played	Computation	Dynamic	ViewMe policy
BR-9	Only Administrator may check flagged videos to review it for terms of service violation	Constraint	Static	ViewMe system policy
BR-10	If advertiser does not pay for ads, then the ads shall be taken down from videos	Inference	Dynamic	Corporate policy
BR-11	If a video is in violation of terms of service, then admin shall notify the user of the	Action Enabler	Dynamic	ViewMe admin policy

	violation			
BR-12	User shall enter a captcha when registering for an account	Fact	Static	ViewMe security policy
BR-13	The system shall send an email to the user after 5 failed login attempts	Action Enabler	Dynamic	ViewMe security policy