



Freelancers
SOFTWARE SOLUTIONS



ENHANCING MOTION FROM VIDEO

Team Leader : Sean Aleman

**Team Members : Sean Aleman, Ravishka
Rathnasuriya, Gayal
Hewakuruppu**

USE CASE LIST



U1: Enter Information

U2: Upload a video

U3: Select filters and Algorithms

U4: Get confirmation

U5: View Magnified Video

U6: Access information

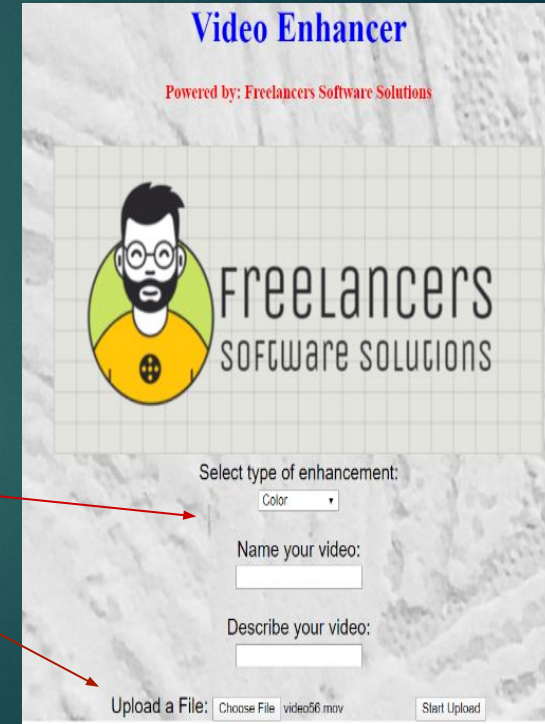
U7: Add algorithms

U8: Authorize videos

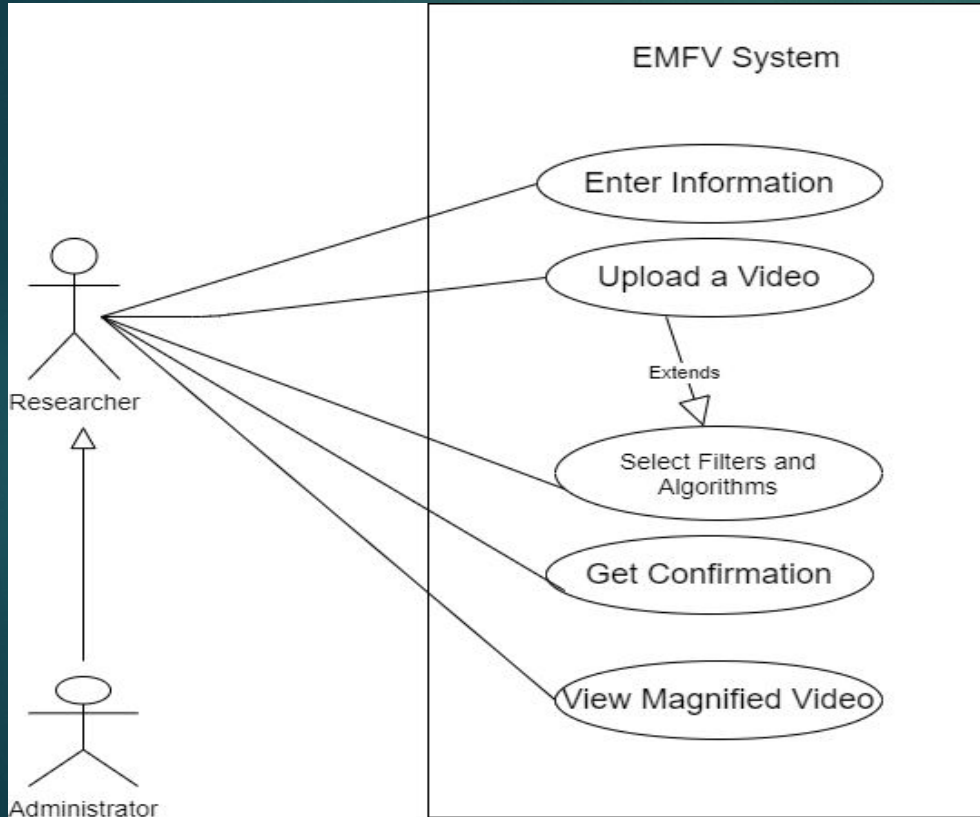
U9: Maintain Page

Expanded Use Case for Upload Video

Actor: Researcher	System: EMFV System
	0)System Displays GUI
1)TUCBW The user selects a video	2)The GUI displays the address of the selected video
3)TUCCW The user selects type of enhancement, filters, and algorithms	5)GUI shows the upload successful/failed message
4) The user names and describes video and hits the upload button	
6)TUCEW The user sees the message	



USE CASE DIAGRAMS PART 1



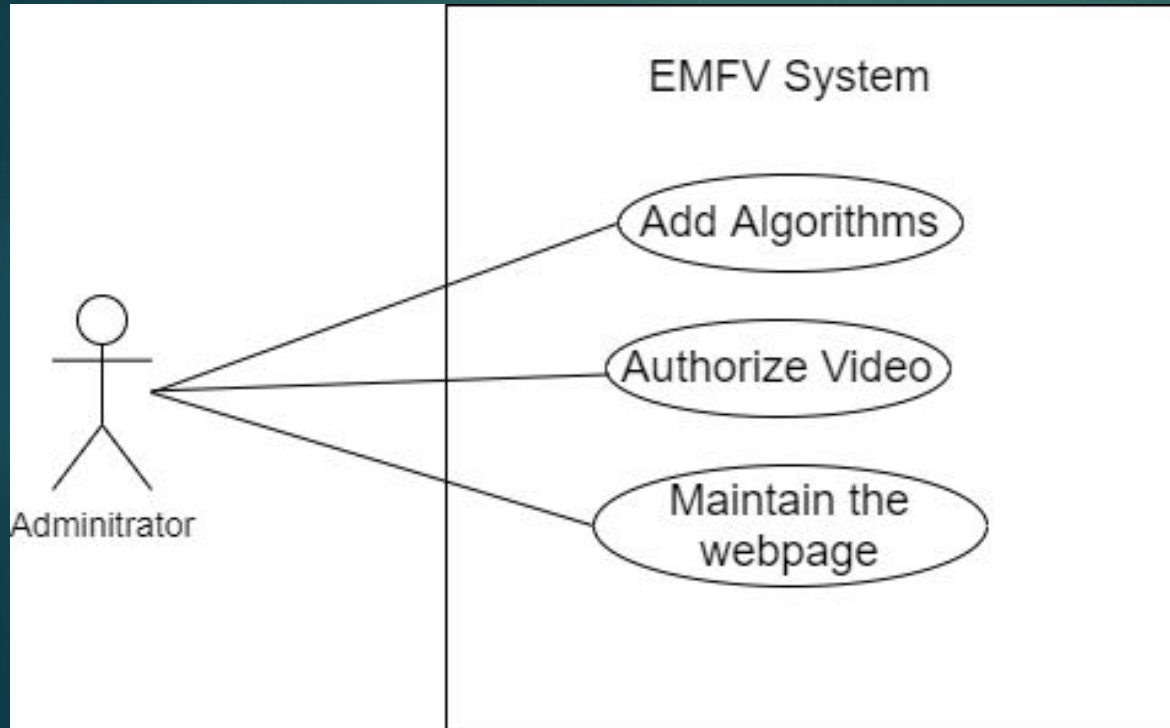
Use case diagram:
Actor: Researcher,
Administrator

System: Enhancing motion
from video (EMFV)

Use cases:
Enter information, Upload a
video, select filters and
algorithms, get confirmation,
view magnified video.

Administrator IS A researcher

USE CASE DIAGRAMS PART 2



Use case Diagram;
Actor: Administrator

System: EMFV System

Use cases;:
Add Algorithms,
Authorize video, Maintain
the web page.

Scenario - 1

S1:User uploads a video through home page

- 1) User hits the upload button in the Upload GUI
- 2) The Upload controller creates a blank message
- 3) The Upload Controller fetches the video from the computer.
- 4) The controller checks the size of the video file.
- 5) *If the size > 25MB*
 - a) The controller writes “Video too large” to message.
- 6) *Else*
 - a) The upload Controller creates a video object and stores the video along with the name and description
 - b) The controller saves the new video object in the Database with the DBMgr
 - c) The controller writes “Upload successful” to message.
- 7) Upload controller returns message to upload GUI
- 8) Upload GUI displays the message to the user

Scenario -2



S2: User enters information through home page

- 1.1) User enters to EMFV system's home page.
- 1.2) User adds information from the home page.
 - 1.2.1) Enter Name
 - 1.2.2) Enter Institute
 - 1.2.3) Enter video name
 - 1.2.4) Enter video Description
- 1.3) The controller fetches the information to the database.
- 1.4) The database stores the information in the tables.
- 1.5) The database controller returns back to the home page.

Scenario-3

S3: Administrator adds new algorithms to the MATLAB program

1.1) Administrator views the MATLAB program.

1.2) Administrator reviews the new algorithms from the MATLAB program

1.3) Administrator adds the new algorithm through program controller

1.4) Administrator adds a new function through the program controller

1.5) Administrator changes the filters in the home page through GUI controller

1.6) The network controller connects the filters to the MATLAB program

1.7) Administrator returns to the home page.

1.8) Administrator tests a new video through home page.

1.9) The controller layer displays the new magnified video in the video's page

Scenario - 4



S4: Administrator authorizes the videos

1.1) Administrator views the database

1.2) Administrator checks for the videos stored in the database.

1.3) *If video is appropriate*

1.3a) approve the video

1.3b) make available for the public through controller layer

1.4) *else*

1.4a) decline the video

1.4b) delete the video from the database.

1.5) Administrator confirms the videos through the network layer

1.6) approved videos display in the magnified video page

Other Scenarios



S5: The users view the magnified videos through the magnified video page

S6: The users get the confirmation of the videos through the home page

S7: The administrators access the information through the database controller layer

S8: The administrators maintain the EMFV system web page

Scenario Table for Scenario-1

User uploads a video through home page

	Subject	Action of Subject (Message)	Other Data/Objects	object acted upon
1)	User	Hits upload	Home page	Upload GUI
2)	Upload GUI	Sends	Video	Upload Controller
3)	Upload Controller	Creates		Message
4)	Upload Controller	Fetches	Video	Computer Memory
5)	<i>If size > 25MB</i>			
5) a)	Upload Controller	Appends	"Video too Large"	Message
6)	<i>Else</i>			
6) a)	Upload Controller	Creates	Video	Video Object
6) b)	Upload Controller	Saves	Video Object	DBMgr
6) c)	Upload Controller	Appends	"Upload Successful"	Message
7)	Upload Controller	Returns	Message	Upload GUI
8)	Upload GUI	Displays	Message	User

Scenario Table for Scenario-2

User enters information through home page

	Subject	Action of Subject (Message)	Other Data/Objects	object acted upon
1.1)	User	enters	Home page	Home page
1.2)	User	adds information	Home page	database controller
1.2.1)	User	enters	name	database controller
1.2.2)	User	enters	institute	database controller
1.2.3)	User	enters	Video name	database controller
1.2.4)	User	enters	description	database controller
1.3)	Controller	Fetches	information	database
1.4)	database	stores	Information	Tables
1.5)	Databse Controller	returns	Home page	Controller

Scenario Table for Scenario-3

Administrator adds new algorithms to the MATLAB program

	Subject	Action of Subject (Message)	Other Data/Objects	object acted upon
1.1)	Administrator	view		MATLAB program
1.2)	Administrator	review	new algorithm	MATLAB program
1.3)	Administrator	add	new algorithm	program controller
1.4)	Administrator	add	new function	program controller
1.5)	Administrator	change	filters	GUI controller
1.6)	Network Controller	connect	filters	MATLAB program
1.7)	Administrator	return		home page
1.8)	Administrator	tests	video	home page
1.9)	Controller	display	video	video page

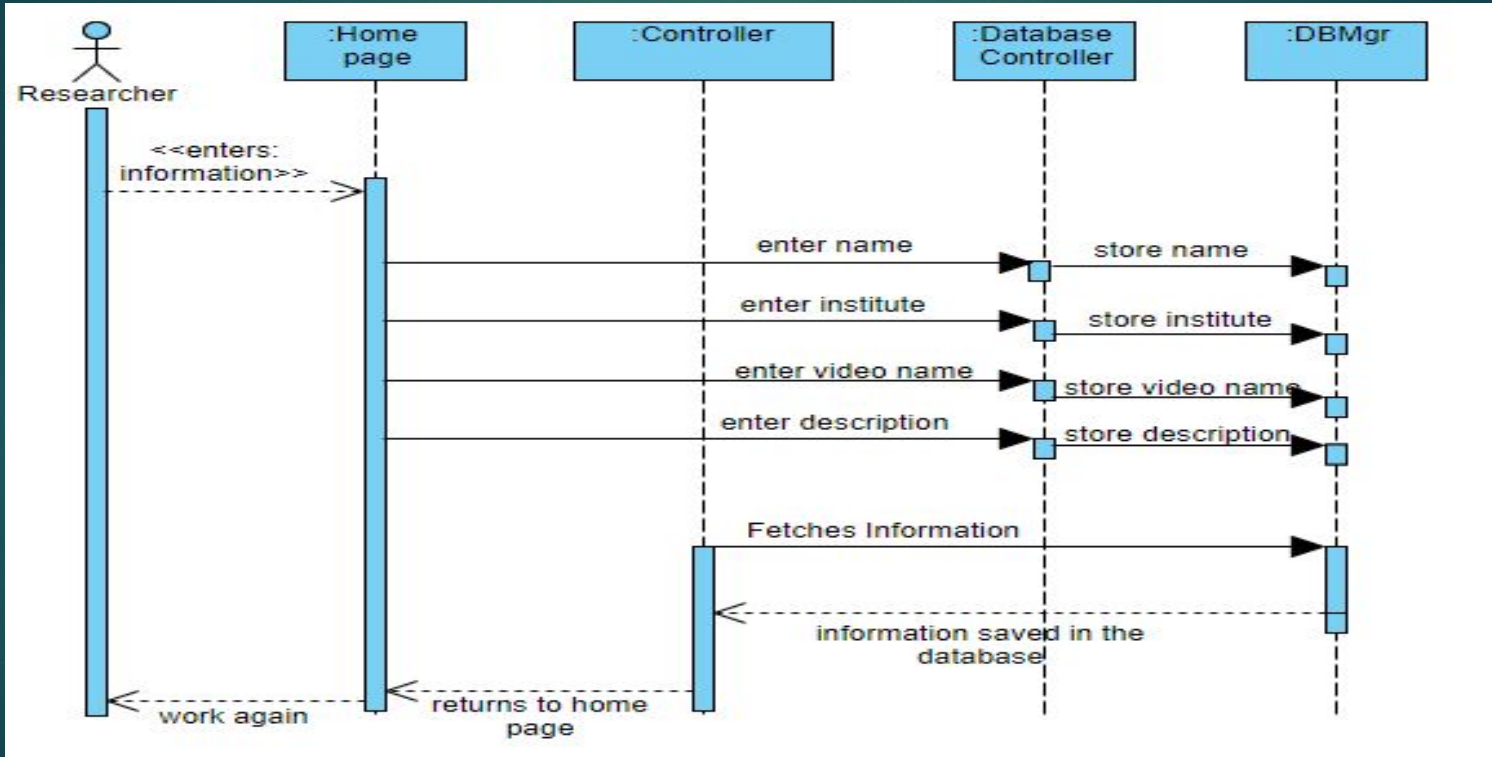
Scenario Table for Scenario-4

Administrator authorizes the videos

	Subject	Action of Subject (Message)	Other Data/Objects	object acted upon
1.1)	Administrator	views		database
1.2)	Administrator	checks	videos	database
1.3)	<i>if video is appropriate</i>			
1.3a)	Administrator	approve	videos	database controller
1.3b)	Controller layer	make available	videos	controller layer
1.4)	<i>else</i>			
1.4a)	Administrator	decline	videos	database controller
1.4b)	Controller layer	delete	videos	controller layer
1.5)	Administrator	confirm	videos	network layer
1.6)	Controller layer	display	videos	magnified video page

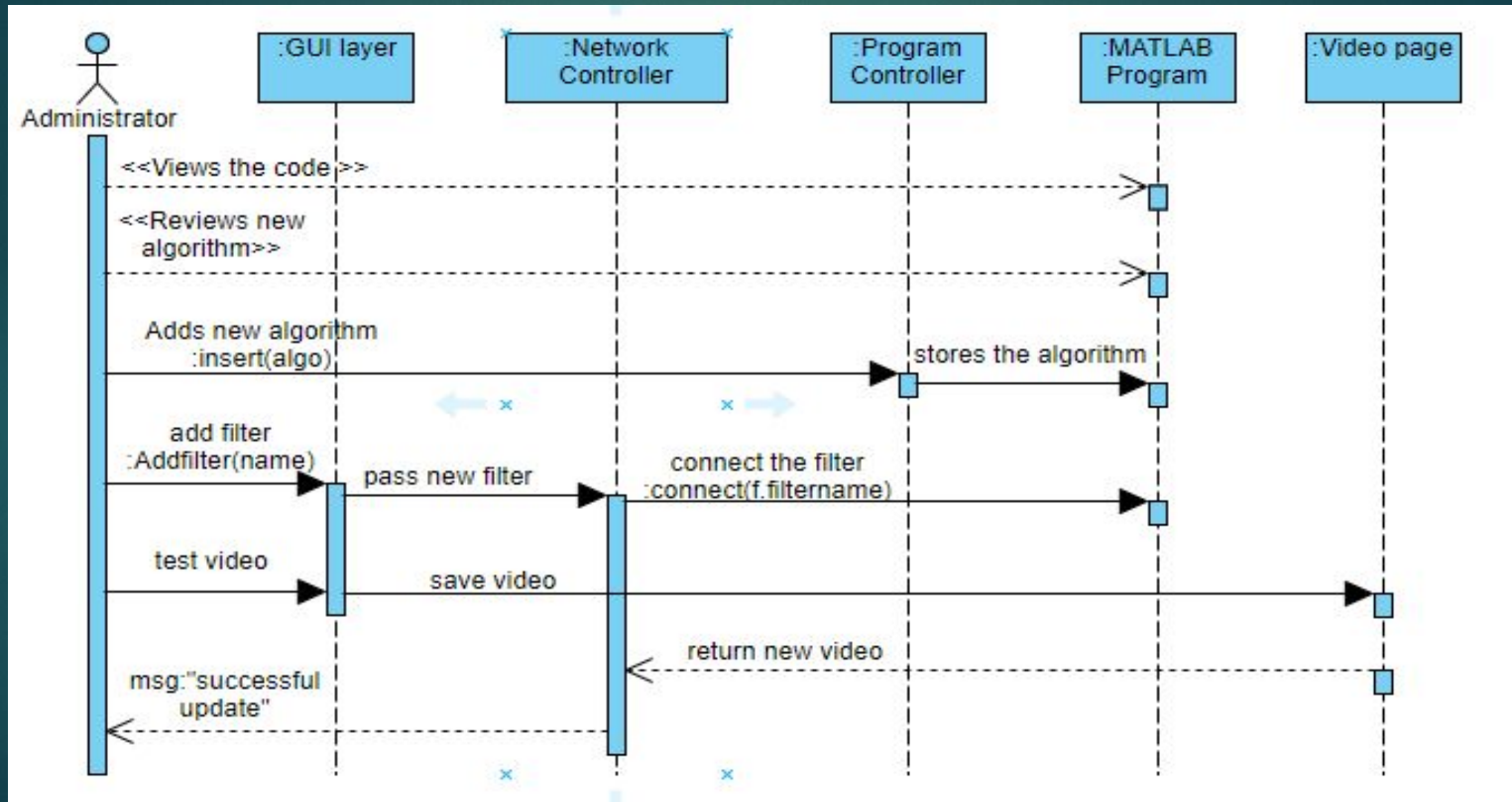
Informal Sequence Diagram for Scenario-2

User enters information through home page



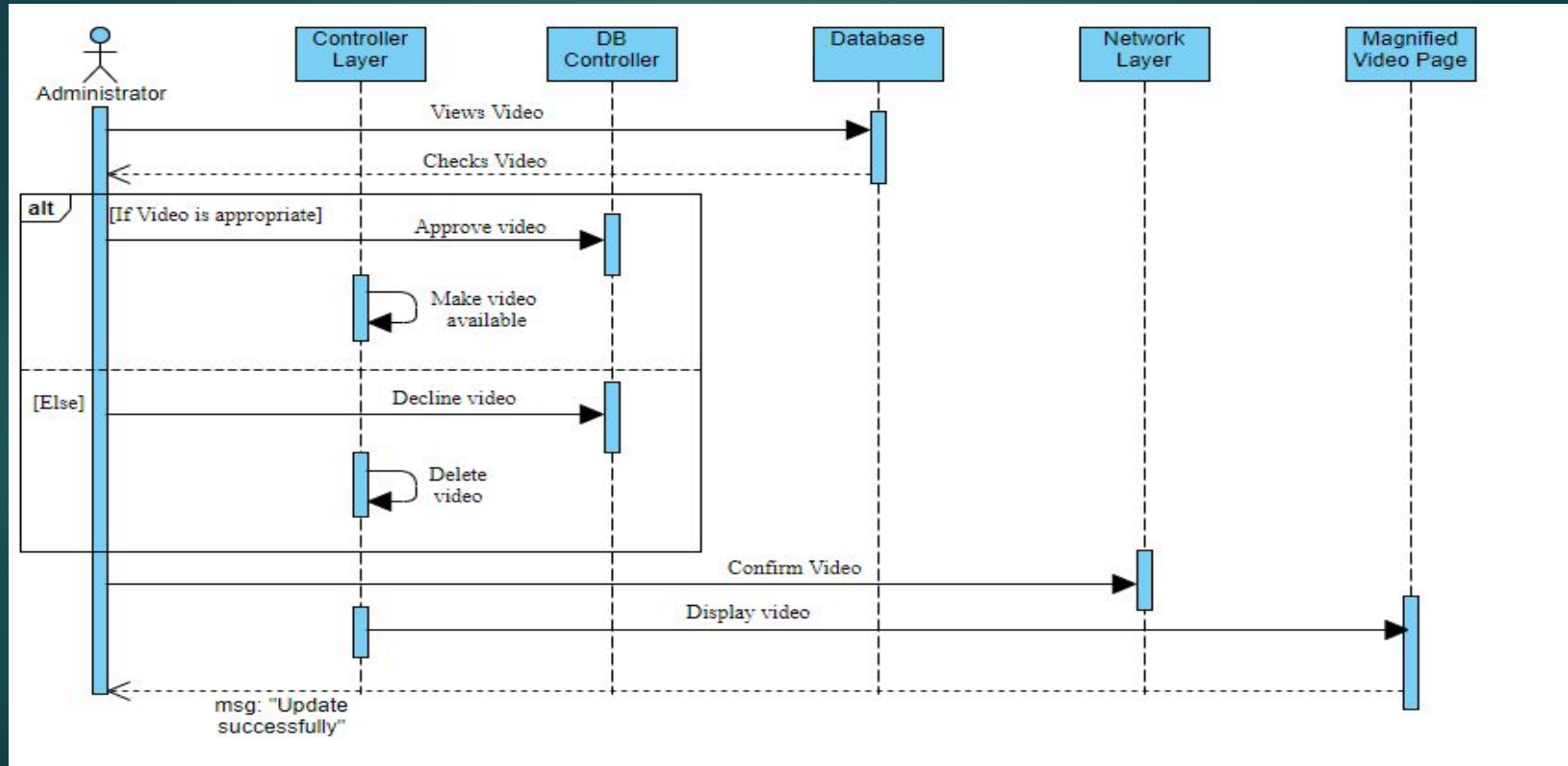
Informal Sequence Diagram for Scenario-3

Administrator adds new algorithms to the MATLAB program



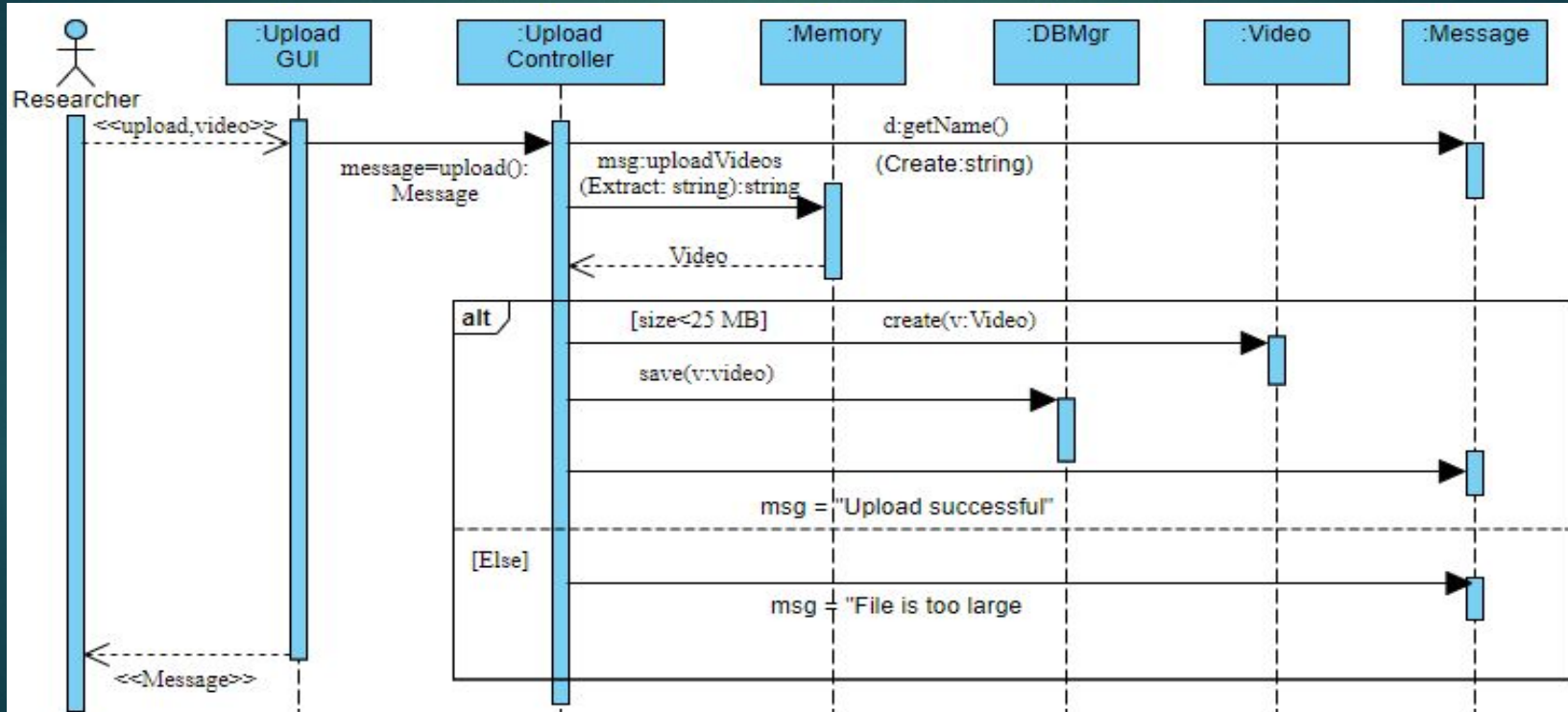
Informal Sequence Diagram for Scenario-4

Administrator authorizes the videos



Formal Sequence Diagram for Scenario-1

User uploads a video through home page



TEAM MEMBER WORK ACCOMPLISHED

<u>Sean Aleman</u>	<u>Ravishka Rathnasuriya</u>	<u>Gayal Hewakuruppu</u>
<ul style="list-style-type: none">● Installing MATLAB to the server● Testing Video● UI/GUI● Database and connecting to server● Handle get and post request	<ul style="list-style-type: none">● OOP in MATLAB● In charge of SRS● Domain Design● Architectural Design● Requirements	<ul style="list-style-type: none">● Begin creating a database● Build the GUI

TEAM MEMBER WORK ACCOMPLISHED

<u>Sean Aleman</u>	<u>Ravishka Rathnasuriya</u>	<u>Gayal Hewakuruppu</u>
<ul style="list-style-type: none">• Work on GUI• Demo and testing video• Work on the server• Use cases, Use case diagrams, sequence diagrams	<ul style="list-style-type: none">• Responsibility on use case diagrams, scenario tables, sequence diagrams.• Designed the diagrams• Worked on the OOP program	<ul style="list-style-type: none">• Use case• Designed the sequence diagrams• Scenario tables

SCHEDULE UPDATE

Sean Aleman	Ravishka Rathnasuriya	Gayal Hewakuruppu
<ul style="list-style-type: none">• Work on server• UI / GUI	<ul style="list-style-type: none">• Make the program to allow users to add new algorithms	<ul style="list-style-type: none">• Work on GUI• Public Video Display page

VERSION CONTROL



To access the code,

<https://github.com/Ravishka123/Software-Engineering->

Test:

Different Types and Lengths of Videos

Video Name	Size of Video	Type of video	Did Upload Work?	Upload Time	Did Motion Enhancement with Matlab Work?	MATLAB Processing Time
Video56	628 kb	MOV file	Y	5s	Y	<5min
NewVideo	1,432kb	MOV file	Y	5s	Y	15min
Star Trails	2,686kb	VLC file	Y	10s	Y	29min
Sun	1,345kb	VLC file	Y	5s	Y	15min
Lion-sample	3,810 kb	AVI file	Y	10s	Y	35min
Dog	1,345kb	AVI file	Y	5s	Y	15min
Catherine	920kb	WMV file	Y	5s	N	N/A
GRB	1027kb	WMV file	Y	5s	N	N/A
Small	853kb	WMV file	Y	5s	N	N/A

After testing several different WMV file types of different sizes, it has been determined that there is a problem processing WMV files. Attempts to debug have so far proven unsuccessful.

PROJECT DEMO

The demo video is available from Dropbox:

<https://drive.google.com/file/d/1wPMm5GdXwXDrlhpLN0gzg3ofLn4ZU4SW/view>

Video Enhancer

Powered by: Freelancers Software Solutions

Freelancers
SOFTWARE SOLUTIONS

Select type of enhancement:
Color

Name your video:

Describe your video:

Upload a File: No file chosen

small.wmv grb_2.wmv