CSE – 3212 Team: 2

Dhaka University


# YouTube Implementation: "MovieCart"

Services performed by:

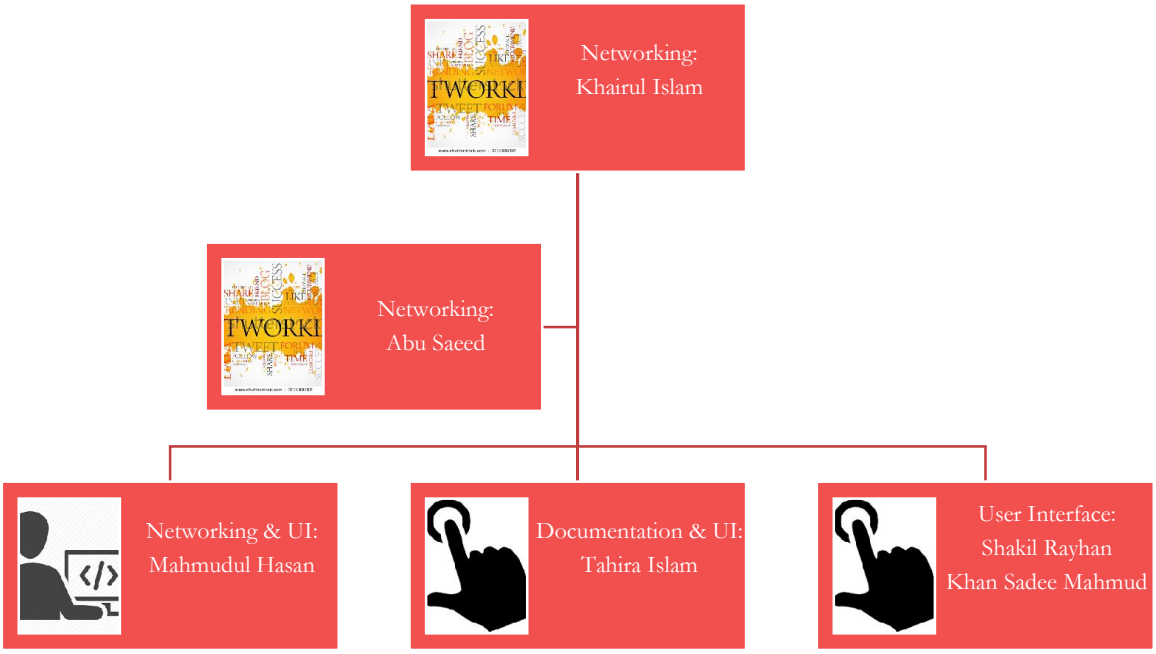
| | |
|---|---|
| Mahmudul Hasan | Roll: 5 |
| Khairul Islam | Roll: 15 |
| Tahira Islam | Roll: 21 |
| Khan Sadee Mahmud | Roll: 33 |
| Abu Saeed | Roll: 35 |
| Shakil Rayhan | Roll: 49 |

Services performed for: Md. Tawfiqul Islam

Mahmood Jasim

Date: October 22, 2015

# Organogram




# Task Assignment List

In developing the application "MovieCart", the associated tasks have been divided into three parts:

1. Networking:

This part includes the task of figuring out the way YouTube works and implementing the major features to the application. The base standard is Popcorn Time.

The tasks will be implemented by:

| | |
|---|---|
| Khairul Islam | Roll: 15 |
| Abu Saeed | Roll: 35 |
| Mahmudul Hasan | Roll: 5 |

2. User Interface:

To make the application more user friendly and accessible, a suitable user interface will be implemented. A user interface is the means by which a user and computer system interact.

The tasks will be implemented by:

| | |
|---|---|
| Mahmudul Hasan | Roll: 5 |
| Tahira Islam | Roll: 21 |
| Khan Sadee Mahmud | Roll: 33 |
| Shakil Rayhan | Roll: 49 |

3. Documentation:

There are documents that needs to be prepared and submitted for the project.

The task will be implemented by:

| | |
|---|---|
| Tahira Islam | Roll: 21 |

# Design

The application to be developed will provide live streaming movies to be watched by multiple clients. The standard that is to be followed is Popcorn Time. The original Popcorn Time software was a multi-platform, free software BitTorrent client that included an integrated media player. The program and its forks of the same name are free alternatives to subscription-based video streaming services (such as Netflix).

The Popcorn Time interface presented thumbnails and film titles in a manner similar to Netflix. This list of media can be searched and browsed by genres or categories. When a user clicked on one of the titles, the film was downloaded via the BitTorrent protocol. As with other BitTorrent clients, as soon as Popcorn Time started to download a film, it also started to share the downloaded content with other users (in technical terms, it seeded the torrent to others in the BitTorrent swarm). It continued to make the downloaded content available to others until the movie is deleted, which was normally done automatically when the application was closed.

"MovieCart" best features will be its interface and its media library. Initially it will stream videos and will have the following features.

"Click and Watch"

This design allows user to click on the movie button and then sit back and enjoy the movie without having to download it.

"Pause"

The movie being watched can be paused using the pause button to enable user to switch to other tasks. The user will be able to resume playing the movie by clicking the pause button again.

"Scroll"

There will be a scrolling option through the menu which enables user to select the movie of his choice to watch.

Possible upgrades:

"Browse"

The browse option enables user to type the desired movie name to find the movie quickly and easily.

"Download"

User will be able to download movies to his personal devices to watch it at a leisure time.

## Implementation Approach

User Interface Part:

1. Swing: Creating window using JFrame container. Different components like button label on the window will be added. In that case absolute layout manager will be used. Each button's actionListener will handle all the task of that particular button. Media player will be created using javax media API. This player can only start a video and stop it. In the future the media player will have all the features like VLC player.

Networking Part:

1. RTP (Real-time Transfer Protocol) is being used for real time transmitting video. The Real-time Transport Protocol (RTP) is a network protocol for delivering audio and video over IP networks. RTP protocol has state. We will use Session as a state in RTP packet. An RTP session will be established for each multimedia stream.

2. Video File Type: MJPEG (Motion JPEG) format. The server streams a video which has been encoded into a proprietary MJPEG file format. This format stores the video as concatenated JPEG-encoded images, with each image being preceded by a 5-Byte header which indicates the bit size of the image. The server parses the bit stream of the MJPEG file to extract the JPEG images on the fly. The server sends the images to the client at periodic intervals. The client then displays the individual JPEG images as they arrive from the server.

3. Server: At first a file system will be used in storing the movies but a server system can be implemented if time and resources allow.