Project SRS Document

Project Title: Bingescape (Web Streaming Service)

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1.   Introduction

1.1   Purpose

This document is prepared in order to determine a software requirement specification for Bingescape. BINGESCAPE is a social video streaming website on which people can watch the videos, share videos, like/dislike and comment on the videos etc. In order to gain an overview about the report, firstly, the purpose and scope of this document will be given, and the overall description of BINGESCAPE system is followed. In addition to these, system feature such as uploading video, watching video, sharing video, subscribe etc. are described deeply. After mentioning about the introduction of the websites, the specific requirements will be addressed for it. In the final part, functional and non-functional requirements will be addressed.

1.2   Document Conventions

This Document was created based on the IEEE template for System Requirement Specification Documents.

1.3   Intended Audience and Reading Suggestions

Typical Users, such as students , teachers or anyone who has internet and gadgets to use Bingescape for watching online movies.

1.4   Product Scope

People love TV content, but they don't love the linear TV experience, where channels present programs only at particular times on non-portable screens with complicated remote controls. Now internet TV - which is on-demand, personalized, and available on any screen - is replacing linear TV. Changes of this magnitude are rare. Linear video in the home was a huge advance over radio, and very large firms emerged to meet consumer desires over the last 60 years. The new era of internet TV, which began a decade ago, is likely to be very big and enduring also, given the flexibility and ubiquity of the internet around the world. The project aims to provide all the content from all the streaming services and makes them readily available to our customers GLOBALLY, all under a single platform.

The project aims to greatly reduce the hassle of buying and maintaining several subscriptions, by bundling all the content from different streaming services into one, and thus the customer only needs to buy one subscription to watch it all.
Especially targeted towards but not limited to the GEN-Z, the project aims to benefit from the limitations of the other streaming services, and during these difficult times when the world is confined to their houses, the entertainment industry only seems to grow exponentially, thus leaving a great scope for growth of our project/service.

1.5   References
IEEE Software Requirements Specification Template
 https://web.cs.dal.ca/~hawkey/3130/srs_template-ieee.doc

SRS Example – Computer Science and Engineering
https://www.cse.msu.edu/~cse435/Handouts/SRSExample-webapp.doc

2.   Overall Description

2.1   Product Perspective

Bingescape is developed to allow our customers to watch a wide variety of award-winning TV shows, movies, documentaries, and more on thousands of internet-connected devices, without the hassle of managing multiple subscriptions. Also, our product allows the customer to binge watch content from several other streaming services, all under one app, hence reducing the struggle of wasting time to find the perfect content to watch. With **Bingescape**, you can enjoy unlimited viewing of our content without having to watch a single commercial.

2.2   User Classes and Characteristics

There will be two levels of users for our system. The first will be the general user that will be using our software to find their movies or stream television. They will only see the front end of the system. The second level will be the system developers. They will be able to edit which sites the system will search, depending on whether they think the site is safe, compatible with respective software, the speed at which the site can be searched, and how useful the site is to users,i.e. how many results have come back from that site.

2.3   Operating Environment

PC or Laptops :
- Windows 8 or Newer
- Mac OS X
- Linux
- Chrome OS
- Cellphones , Tablets (Android or IOS) etc.

2.4   Design and Implementation Constraints

Server capacity is how many users can access or can be online once. More is the number of users more will be the network traffic and hence the server comes in a down state. Personal firewall and updating is a tough task, it should be such that it should not block the network traffic, making the system slower. Firewall of the server should not collide with the firewall of the user system.

2.5   Assumptions and Dependencies

- Media streams are working fine.
- Streams and server have enough bandwidth.
- System has low latency.
- Video processing and networking libraries are available on the system.

3.   External Interface Requirements

3.1   User Interface

Using a Google Chrome cast:
Connect the Chromecast to an HDMI port on your TV. The Chromecast is a small dongle. It has an attached cable that connects to an HDMI port on your TV. The HDMI ports on your TV are usually numbered. Make a note of which numbered HDMI port you are connecting to. You can use the included extender if the cable isn't long enough.


Connect the Chromecast to a power source. The Chromecast includes a USB power cable that you can plug into either the included A/C adapter or into a USB port on your TV. Some USB ports on TVs will not provide enough power to turn the Chromecast on, in which case you'll need to use the wall adapter

Press the power button on your TV. The power button typically has an icon that resembles a circle with a line through the top.


Select the HDMI source you connected the Chromecast to. Press the **Source** or **Input** button on your TV to select the video source.
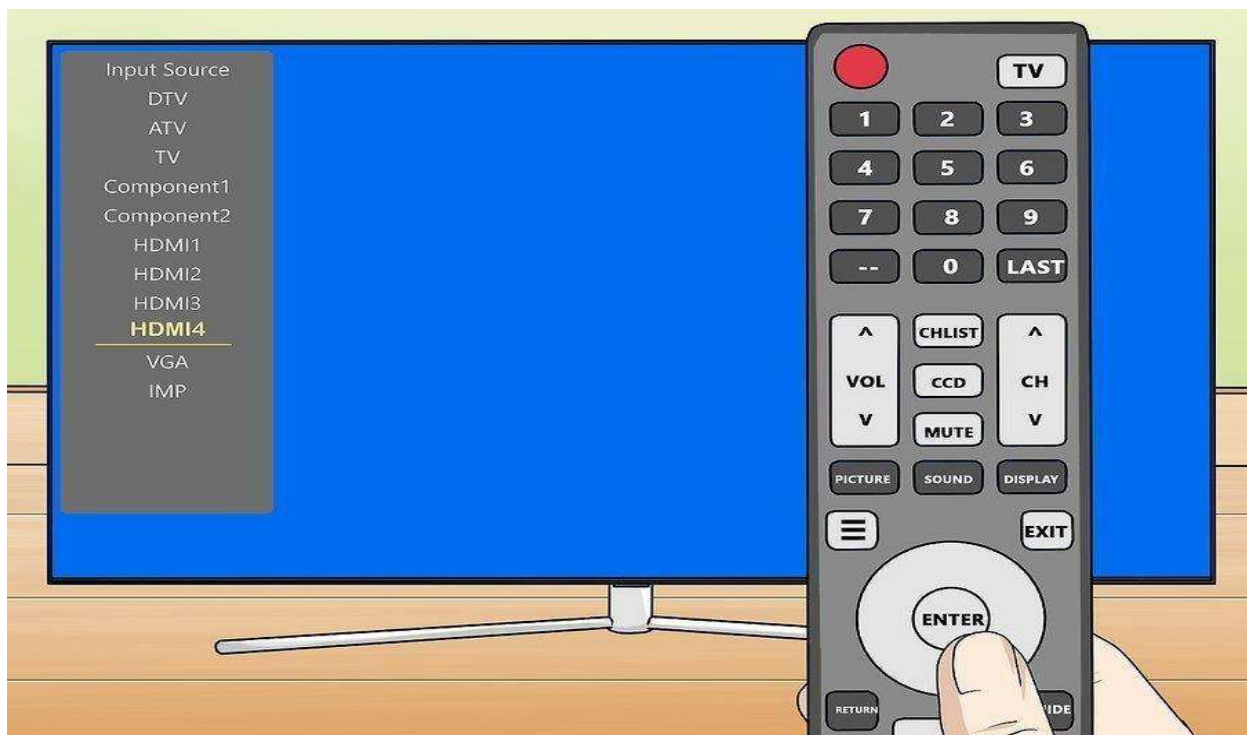
If you have not yet done so, you'll need to set up your Google Chromecast. Use the following steps to setup your Google Chromecast:

- Download the **Google Home** app from the Google Play Store on Android, or App Store on iPhone or iPad.
- Open the **Google Home** app.
- Tap the **Add** icon with the plus (+) sign.
- Tap **Set up device**.
- Tap **Set up new devices in your home**.
- Tap your home name and then tap **Next**.
- Tap your Chromecast device name that is displayed on your TV screen and tap **Next**.
- Confirm the code on your smartphone matches the code on your TV and tap **Yes**.
- Select a room for the device and tap **Next**.
- Select your wireless network and tap **Next**.
- Tap Bingescape and other streaming services and tap **Next**.
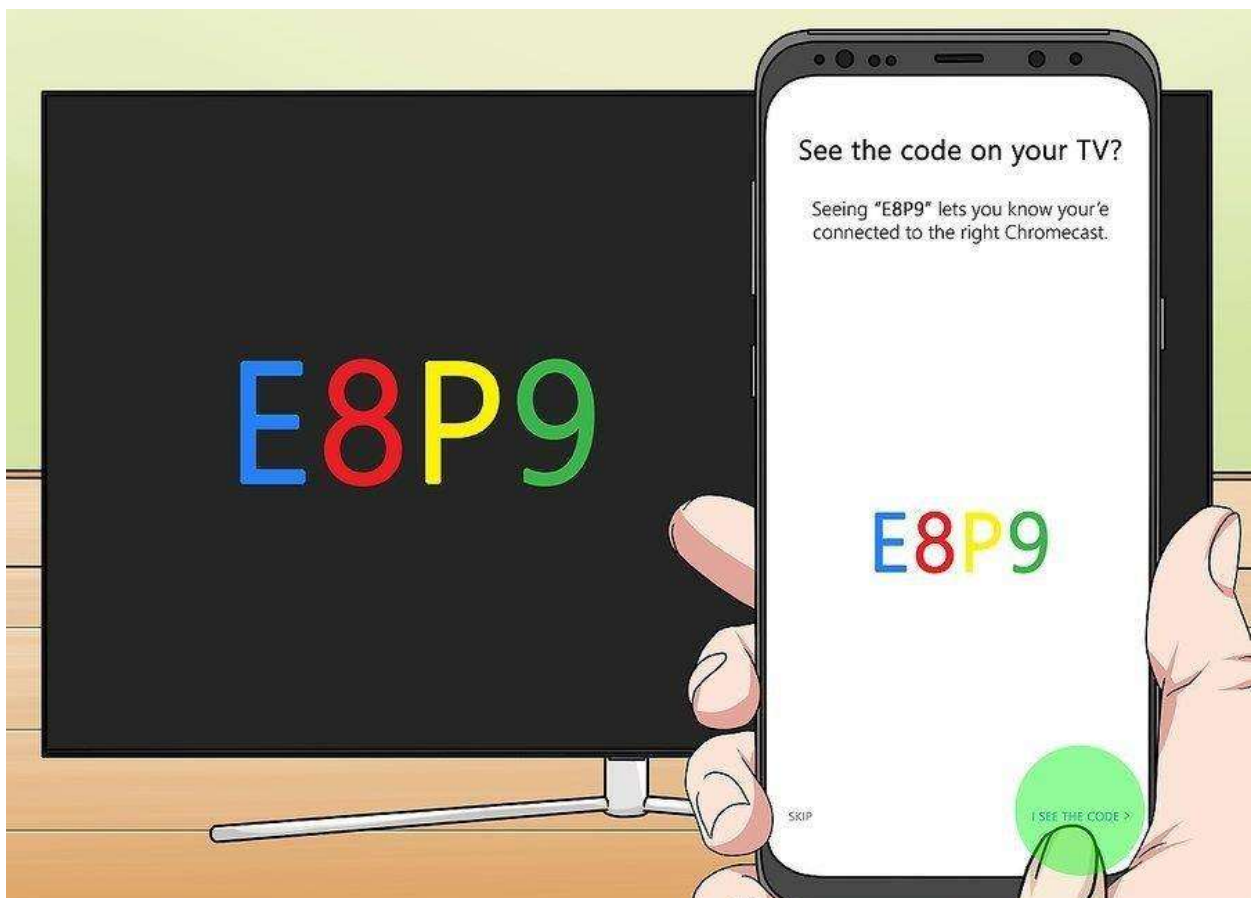
- Tap **Continue** and then **Continue** again.

- **Open the Bingescape website on your smartphone or tablet.** It's has a black icon that says "Bingescape" in red letters.

- If you are not automatically logged in to Bingescape, enter the email address and password associated with your Bingescape account and sign in.

- **Select a video to play.** When you find a video you want to play, tap the video image.

- **Tap the Play icon .** It's over the video image at the top of the information page, or to the right of an episode in the episode list.

- **Tap the cast button .** The button is located in the upper-right corner of the video. A list of devices.
- **Tap your Chromecast device.** This casts the video you are playing on your
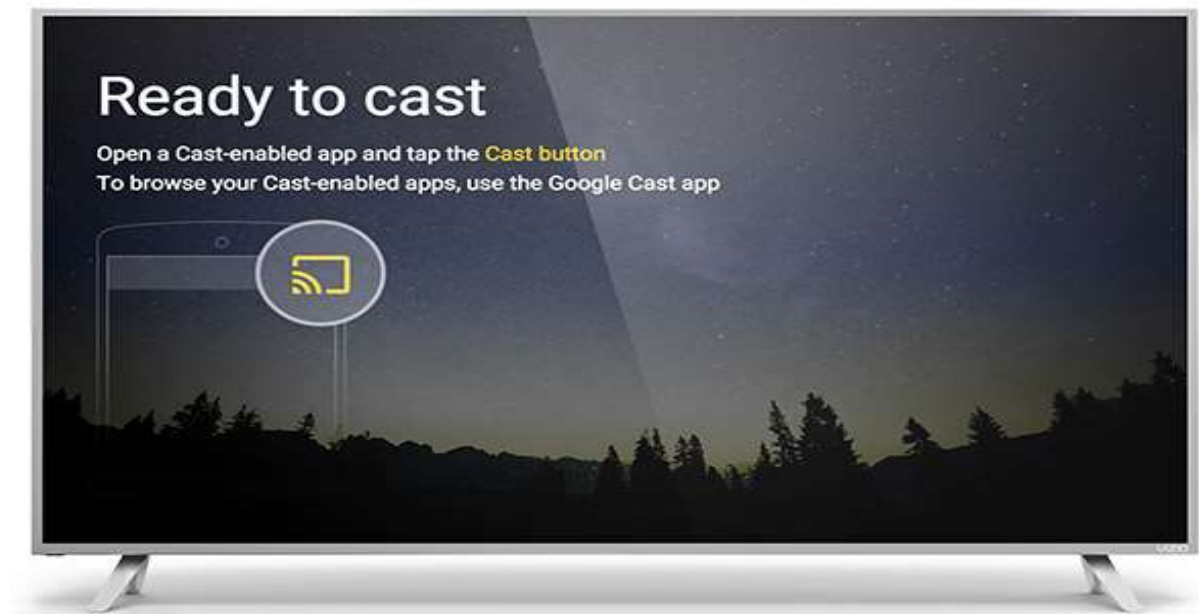
  smartphone or tablet to your TV.
- Make sure your smartphone or tablet is connected to the same wi-fi network as your Chromecast device.
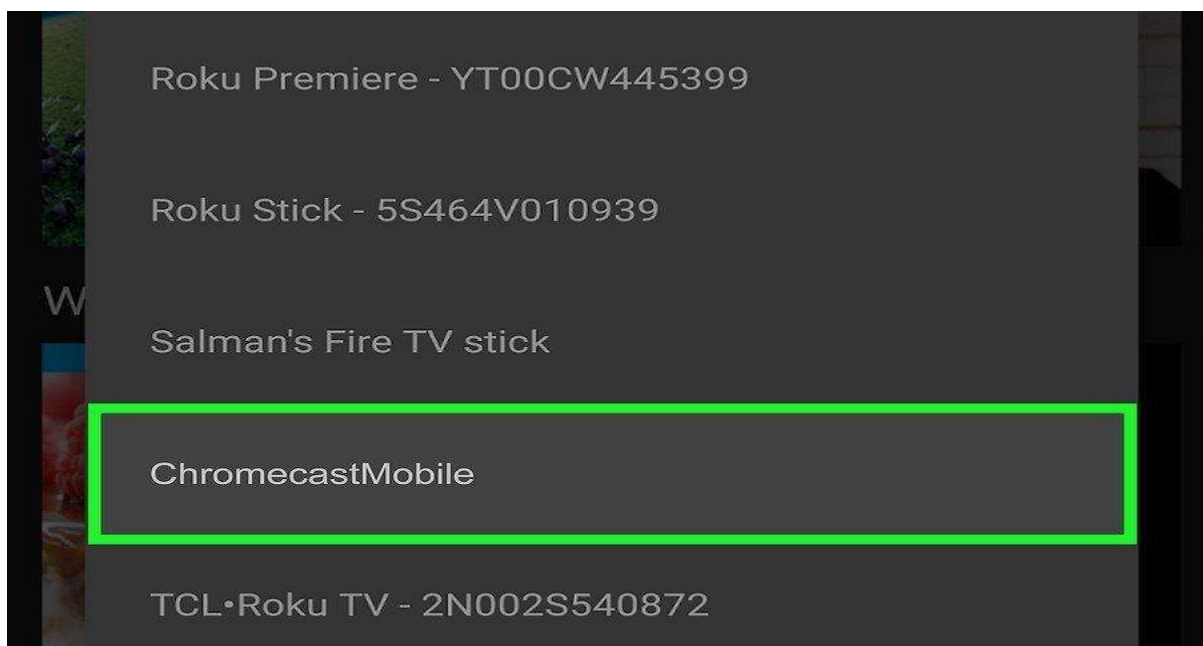
- Make sure your smartphone or tablet is connected to the same wi-fi network as your Chromecast device.

- **Control playback using the Bingescape app.** You can pause and seek using your Bingescape app. You don't have to keep Bingescape open on your smartphone to keep playing video on your TV. Playback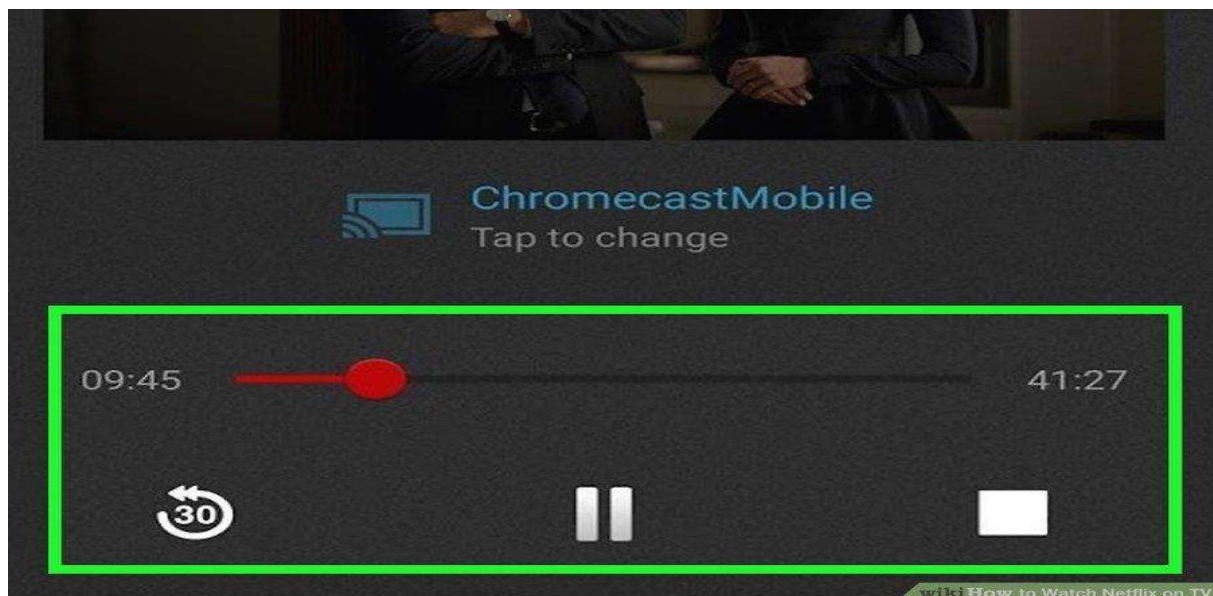 controls will also be available in your Notification Panel. Once your Chromecast is all set up, you won't have to go through all of these steps every time you want to watch.

  Just turn on your TV and switch to the Chromecast input, then load the Bingescape website on your phone and cast to your chromecast device.[1]

- If you want to watch a TV series, you can select a specific episode you want to watch. Use your TV remote to select "Seasons" and then select a season. Select an episode from the list and press **Enter** or **Ok** on your TV remote.

2. <u>Using PC/Laptops:</u>

Connect an HDMI cable from your laptop to your TV. If your laptop has an HDMI out port, connect one end of an HDMI cable to it, and the other to an available port on your TV. Make note of which HDMI port you connect to.

- If your computer doesn't have an HDMI out port, check to see if it has a DisplayPort or Micro HDMI port. You may need an adapter to connect these ports to your TV. You may also be able to connect to a TV using Bluetooth, but there may be a lag between the video and audio.

- For older computers, you may be able to connect your laptop to your TV using the DVI or VGA port and an HDMI adapter. These connections do not carry an audio signal. To get audio, you will most likely need to use a 3.5mm stereo-to-RCA cable to connect to the headphone port on your computer to an RCA input that corresponds to the video in on your TV.

Turn on your TV and select the HDMI source. Press the **Input** or **Source** button on your TV remote to select a video source. Once you select the right port, you should see your laptop screen mirroring to your TV. **Go to https://www.Bingescape.com in a browser on your laptop.** If you're not already signed in to your Bingescape account, click **Sign In** at the top-right corner to sign in now.

Click a video you want to watch. This opens the video's info page.

Click the Play icon. It's over the video image. This plays the video, you can control the video playback in the web browser.

- If you want to watch a TV series, you can select a specific episode you want to watch. Click to select "Seasons" and then select a season. Select an episode from the list and press **Enter** or **Ok** on your TV remote.

- You can also use Screen mirroring to watch videos from your laptop on your TV.

3.2   Hardware Interfaces

The devices featured in this list feature hardware that is compatible for streaming Bingescape:

- All Amazon Fire TV & Kindle Devices.
- Android smartphones and tablets (in SD, or more correctly 480p, while "HD, QHD, 4K UHD playback is available on select Android devices")
- Android TV devices(Android TV 9 and Above.)
- All Apple Devices: iPhone & iPad(Running iOS 11 & Above), iPod, Apple TV & MacBooks(Running MacOS Sierra & Newer)
- Google Chromecast can receive a Bingescape stream from a supported mobile device or Chrome
- LG Electronics: some Blu-ray Disc players, TVs, and home theater systems
- Microsoft: All Devices Running Windows 8 or Newer
- Panasonic: some Blu-ray Disc players, televisions and home theater systems
- Philips: some Blu-ray Disc players and TVs
- Roku streaming player
- Samsung: some Blu-ray Disc players, home theater systems, smartphones, TVs, and tablet.
- Sharp: some LED/LCD TVs and Blu-ray Disc players
- Sony Blu-ray Disc players, televisions, PlayStation 3, PlayStation Vita and PlayStation 4
- Several other Devices.

3.3   Software Interfaces

Compatible web browsers by platform:

- **macOS:**
  Hardware Requirement: Intel Core Duo 1.83-gigahertz (GHz) or higher
  processor; 512MB RAM
  Microsoft Silverlight player: Intel-based Macs running OS X 10.4.11 or
  later. Compatible browsers are Safari 3 (or higher), Firefox 3 (or higher).
  HTML5 player: Intel-based Macs running OS X 10.6 or later. Compatible browsers are
  Safari 8* (or higher), Google Chrome 37 (or higher).
  *Note: Using HTML5 player with Safari 8 (or higher) requires certain late Intel Sandy
  Bridge or any Intel Ivy Bridge or later generation processor Macs running OS X 10.10.
- **Microsoft Windows:**
  Hardware Requirement: x86 or x64 (64-bit mode used by Internet Explorer only)
  1.6- gigahertz (GHz) or higher processor; 512MB RAM
  Microsoft Silverlight player: Windows XP Service Pack 3 or later. Compatible browsers
  are Internet Explorer 6 (or higher), Firefox 3 (or higher), Google Chrome 4 (or higher).
  HTML5 Player: Windows XP Service Pack 2 or later. Compatible browsers are Internet
  Explorer 11* (or higher), Microsoft Edge, Google Chrome 37 (or higher).
  *Note: Using HTML5 player with Internet Explorer 11 (or higher) requires Windows
  8.1 or later. 4K playback requires a 4K display, an Intel Kaby Lake or later
  generation processor, Windows 10 or later, and either Microsoft Edge or the UWP
  Bingescape app.
- **Linux:**
  HTML5 Player: Ubuntu 12.04 LTS, Ubuntu 14.04 LTSm and
  later. PCLinuxOS supported after October 10, 2014. Compatible browsers are
  Google Chrome 37 (or higher).
  In addition to official support in Chrome, unofficial support is provided for other
  browsers such as Firefox to Ubuntu-based distributions with the use of Wine and
  other community maintained packages.

Other software options:
- **Android**: Version 4.0.4 and above. (HDR playback is available on selected devices
  due to hardware limitations)
- **Google Chrome OS**: Any Chrome OS device works. Previously, ARM based
  Chromebooks were not compatible because of a plugin issue. However, with
  the introduction of the HTML5 Player, even such devices are now work.
- **iOS**: iPad, iPhone, iPod Touch, Apple TV (HDR playback is available on the iPhone 8,
  or later, and the 2nd-gen iPad Pro or later running iOS 11 or later)
- **tvOS**: Apple TV (4K and HDR playback is available on the Apple TV 4K and newer)
- **Windows Media Center**: Windows 8 or Newer. (Home, Pro and Enterprise
  editions), Xbox One

3.4   Communications Interfaces:

Bingescape requires an internet connection to install new plugins,

update already installed ones and update some of its components.

4.   System Features and Data Description:

4.1   System Feature 1:
- The project is specifically crafted for young customers who do not want to pay for different streaming services and instead want to have it all bundled into one. This project intends to license content from other OTT services and merge them into our own product to create a unified and hassle-free viewing experience. This project is not to be mistaken as a cheap alternative streaming service. It may need to process licensing and other legal procedures to procure content from other platforms.

4.2   System Feature 2:

Our project aims to make every bit of content globally available, given that the content does not violate regulatory norms in the region. Since this is one of the limitations of every significant streaming service available today, as most platforms refrain from pursuing licensing and legal procedures, we aim to play this aspect to become one of our distinguishing features, not to be mistaken as our USP.
Our project also aims to create a special section to promote locally sourced content in a philanthropic effect to promote indigenous artists and provide them with a global platform, something that is not that prevalent with other streaming platforms which promote global content in a rather brazen manner.

4.3   Data Description:
Video File: Media Server records the video streams while serving them to users. As video files are relatively large, recording should occur after encoding the systems with appropriate codex. Furthermore, array of storage discs should be managed to ensure concurrent recording of multiple video streams. RAID 0 architecture can be employed on the discs for fast retrieval of video files.
User Information: Reaching the video streams are restricted to authorized users. Therefore, it is obligatory to store user information and authorization. Storage could be implemented in a file or relational database system, database system is chosen for performance concerns, as simple file system does not perform well in cases where user pool is relatively large.
Stream: Each video stream has its own unique ID in the SVSPS. This ID is used as an identifier at both stream processing and stream retrieval processes. Each stream source has several attributes related to it such as IP etc.
Format of the streamed video. MPEG4 is the usual format which is widely used by security streams; however other formats like MJPEG could be received.

5.   Other Nonfunctional Requirements:

5.1   Performance Requirements:

- For any streaming at all, you'll need a minimum of 0.5 megabits per second (Mbps), but Bingescape recommends 1.5 Mbps.
- For DVD quality (480p SD), you will need 3.0 Mbps.
- For HD quality(720p), you will need 8.0 Mbps.
- For Full HD and 4K UHD quality, you'll need around 20 Mbps.

5.2   Security Requirements:

We know you care about the security of your Bingescape account. So do we. Whether you received an email from us encouraging you to change your password or you've noticed suspicious activity, here are our top recommendations for keeping your account and personal information safe.

- Use a password unique to Bingescape and change it periodically
- Add a phone number to your account for additional security
- Sign out of unused devices
- Be aware of possible phishing attempts
- Keep your computer safe
- Report fraudulent or suspicious activity
- Report security flaws to us

5.3   Software Quality Attributes:

Bingescape provides the users with both simple and advanced features. Due to its well designed and easy to use interface it can be used by both experts and typical users. However, users must already have a basic knowledge of streaming before using it.