The Sustainable Ecosystem for Censor and Video Alarm System

Ariesta SATRYOKO[1], David Ronald TAIRAS[2]

[1]*SKSG Universitas Indonesia, Indonesia*
[2]*SKSG Universitas Indonesia, Indonesia*

Corresponding author: aries.satryoko@ses.com

ABSTRACT

The purpose of this Journal is to develop an ecosystem of censorship method at an affordable cost, that censorship can be carried out massively, and children can enjoy shows without inappropriate scenes. As censor used to be done by a department point by the nation, LSF Indonesia (Lembaga Sensor Film – Movie Censor Department, www.LSF.GO.ID), doing the censor all kind of movie for cinema, television, billboard and radio, but still, inappropriate scene is subjective to every family. As we know, that movie can easily access through the variety of Media, such as online, Video On Demand, and Television (cable and Satellite). It is god to have the LSF doing the censor, but it is also importance to have tools for family or parents to do their own censor for their kids to watch, since many movie that LSF can not handle. We build this application for families and parent as a tool to do the self censor.

INTRODUCTION

Based on Cisco VNI Global Traffic Forecast 2017-2022, Internet Video still the most biggest content among the others, and it will reach to 71% of the usage bandwidth.
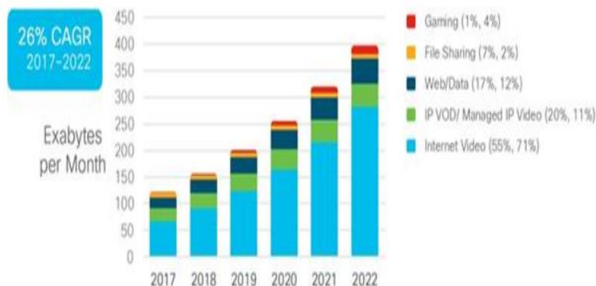

Figure 1. Traffic Share (Source : Cisco VNI Global IP Traffic 2017-2022)

Between the Internet Video, Long Form Internet Video on Demand (VoD), is the highest usage for
bandwidth that the user access.
" With the exception of short-form video and video calling, most forms of Internet video do not have a large upstream component. As a result, traffic is not becoming more symmetric, a situation that many expected when user-generated content first became popular. The emergence of subscribers as content producers is an extremely important social, economic, and cultural phenomenon, but subscribers still consume far more video than they produce" [1]
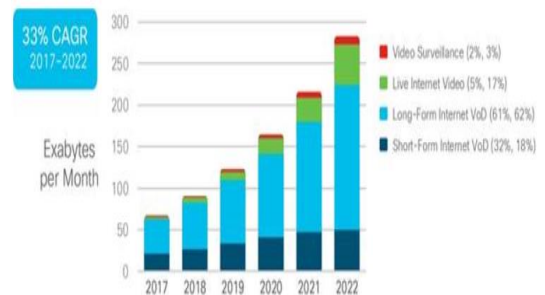

Figure 2. Traffic Share (Source : Cisco VNI Global IP Traffic 2017-2022)

As the Internet Video grows faster and bigger compare to another content, then a new problem for censoring will be face by the Department such as www.LSF.go.id, because LSF do not censor the Internet Video.
A proposed sketch a comprehensive attack model to set out the censor's capabilities, coupled with discussion on the scope of censorship, and the dynamics that influence the censors decision [2], but it censor more on the internet content but not the movie.
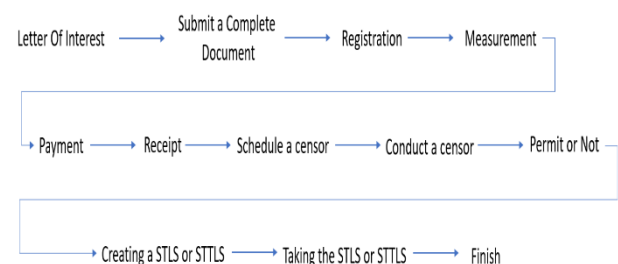

Figure 3. Procedure conducting a censor in LSF (www.lsf.go.id/publik/content/58124793710b3)

From the Figure C, conducting a censor in LSF take many process that parents will not take only to have a censor a certain part in movie that their children want to watch[3]. To deal with self censor tool, we build a mobile application that is easy to use for parents conduct a self censor.

RELATED WORK

Censorship and video alarm is an early prevention system for children to see inappropriate scenes in movies. According to Douglas A. Gentile (2014), in his research children more often use their time with electronic media compared to other activities.

To eliminate the scene that is not suitable for children to watch in a movie, it is usually done by the Censors in each country[5]. However, this is very limited, because: (i) Expensive, (ii) Time Consuming

Meanwhile, movies can easily be watched. Through a variety of the latest media such as Cable Television, Satellite Television, Online Movie, Movie On Demand [4]. Censorship cannot touch these movie . If parents want to do it, it is also very difficult and take a lot of effort, to eliminate 15 to 60 seconds of the scene from 120 minutes of film. By using this Censor tool system, inappropriate scenes can be removed by:
1. No need to cut the original source of the film
2. No need to render the results of cutting the film (which will require large storage, and strong computing)
3. Can be done fast
4. Costs are affordable / cheap.

To be able to do all the above :
1. Android Mobile Application System. This application, can be downloaded by the public to be able to censor a movie.
2. Application Framework. Framework to support application, such as Cloud Services, Database Connections, and Servers to hold data.

PROPOSED FRAMEWORK

The use of the Framework need to sustain by the support of communities. Framework can be explained as shown below :
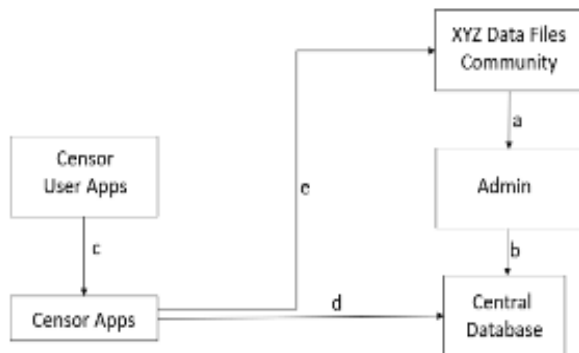

Figure 4. Framework Self Censor Life Cycle

3.1. *The community watch the movie, and Mark scenes which is inappropriate using the pre installed mobile application. Data files will be inputted and provide information on the movie.*

3.1.1 Data File Format

The data file consists line of code. The code will activate the feature of the sensor application. In Figure 2, the censor status will be recorded by actions made by the public on a particular movie, if the is censor then it will access the video player to skip.

Figure 5. Data File Format

Example in Figure 2 :
- skip will be made at 00:03 - 00:08, or for 5 seconds. At this time, the application will access the Video Player for "Fast Forward" movies from 00:03 to 00:08, or for 5 seconds. Thus, at that time the scene will not be seen.
- Audio mute will be done at 00:13 - 00-20, or for 7 seconds. At this time, the application will access the Video Player for "Mute Audio" movies from 00:13 to 00:20, or for 7 seconds. Thus at that time, the sound cannot be heard.

3.1.2. *Interface Data File Format. This interface is an image that link to the specific time format. Facilitated users in finding and recognizing the movie that will be seen. The Interface Form Data File Format is as follows.*

Figure 6. Interface Data File Format

1. All specific time will be save as a text file in XYZ extension. The text file using XYZ for certain reason : So is not exchanged with other applications in any operating system, there are only a few applications that use this XYZ extension.
2. This is all data and information is stored. This file was generated previously by the viewers themselves using the aplication.

3. Can be easily recognize for searching.

3.1.3 *Admin.*

For user that saving the Data File Format to online Censor tool Database. The results are stored into Database, and Admin will check the information in a Data File that have created by the community, is in align with the movie or not. If it is align, the admin can approve it, so that the Data File Format is entered into the database that can be used by the user. If it is not align with the movie, the admin can refuse, or delete the Data File Format.

3.1.4 *User.*

For user that saving the Data File Format to local device, the Data File format will be stored into the device, and will link to the Interface Data File Format, so the user can use it privately.

3.1.5 *Censor App*

When User has selected a movie in the Interface Data File Format, the application will automatically download the file needed to perform the operation. Files are stored on the device's internal storage.
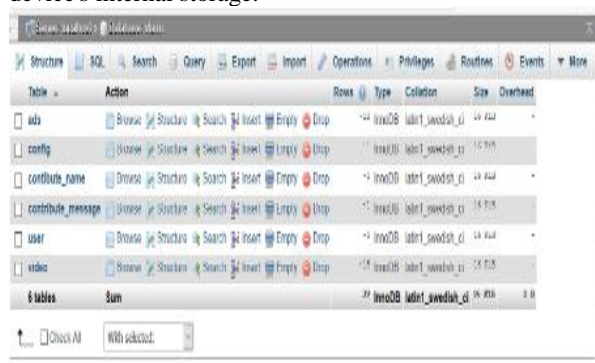

Figure 7. Central Database

3.1.6 *Censor App Reward*

Every interface chosen and used by the another user (for online saving censor), the Censor App will reward the user who creates a Data File and uploaded to the central Database. These Reward Points are to increase the desire of users in the community to make Data Files on other movies.
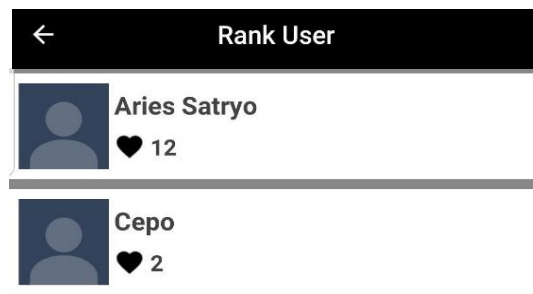

Figure 8. Reward Colletion

3.2 *Aplication System Prototype*

System Prototype built to evaluate the framework. There are consist of 2 parts :

3.2.1 *Censoring.*

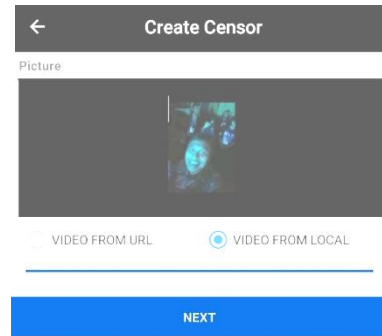To make a censor on a movie, run the application, and click Alarm-Censor

Figure 9. Create Censor

1. Choose an image to use, as an Interface Data File
2. Choose a movie, whether the movie is stored local at the device, or online.
3. Enter Title, and Latency (Latence use to reduce the marking time when user doing marking). For example, If user doing Censor by pressing video at 00:40 seconds, and you put 3 in latency, then Censor will start at 00:37 seconds.
4. Enter movie description
5. Click Next

For example, in a movie, there is a scene that User don't want to show. It is open by a FilmoraGO Video Editor (No need this application, author only want to shaw the video example)
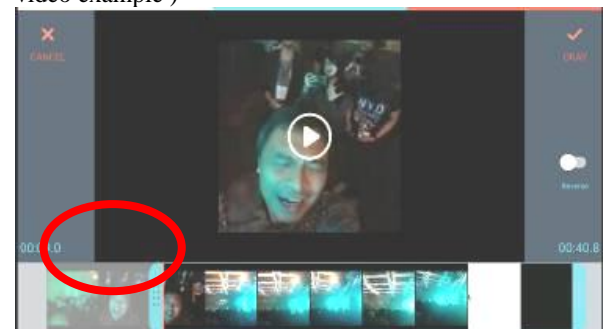

Figure 10. Movie show the scene that want to delete. It is between 00:03 – 00:14 seconds.

When user use Censor tool,The movie will play, then you will be asked to press the Video Button to Mark In, and Mark Out

Figure 11. Movie show the scene that want to delete. It is between 00:03 – 00:14 seconds.

1. Press "Video" to Mark In, if you want to eliminate the scene. It will change to Stop with Red Button, press it to Mark Out when the scene has passed.
2. Press "Audio", to Mark In if you want to mute the sound. It will change to Stop with Red Button, press it to Mark Out when if the sound scene has passed.
3. When the movie is finished, then click "Save File"

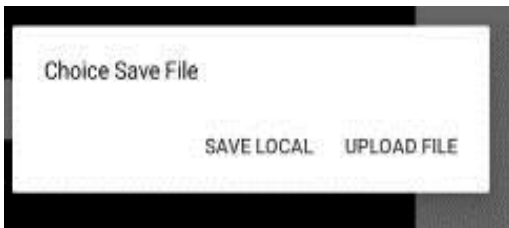User can use 2 (two) ways to make the censor available.

Figure 12. Local save or Online Save

a. Save Local. When the censor process is finish, Data File Format is stored on the local device. Thus, the sensor results can only be enjoyed by himself.

b. Upload File. When the censor process is finished, the Data File Format is sent to the Central Database, and admin will determine, whether the Data File Format, is suitable to be stored in the core Database. If Admin approve the users Data File Format, then it can be used by all users of the Censor Application. Only online movie can using this feature.

Playing a censored movie
User can use 3 (Three) features to play the censored movie. :

1. Using Censored Feature. To play a censored movie is easy. Just choose the Interface Data Files of the movie user want to watch. When you watch, all the scene that is mark in and mark out, will be disappeared from the movie. It will use Skip feature in the movie player, so you will not see the scene. It is only for user that have the movie store in their device, or user play for a movie in the ip network.
2. Using Alarm feature. If user play a movie in external device, such as watching movie in cinema, in a DVD player for Home theatre, alarm mode feature will vibrate the smartphone. It is a sign that an inappropriate scene will show up, and

it will stop vibrating after the scene passing by. It is only for user that is watching movie in external player, such as watching cinema, or using DVD player. User only have the vibration feature if an inappropriate scene show up.

3. Using Dedicated Censor. It is the same with Censored Feature, but the movie will be provided by the OTT company that is using our framework. The movie encrypt by certain of DRM (Digital Rights Management).
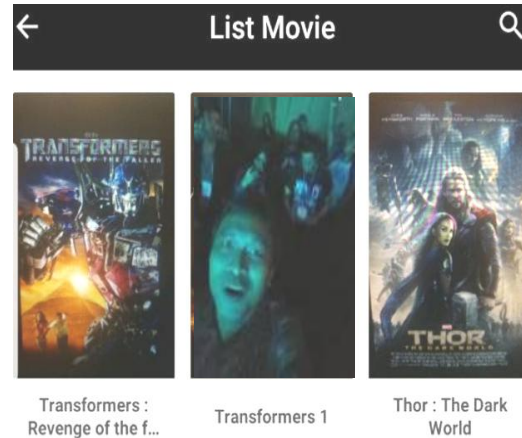

Figure 13. Choose Movie in Censor tool Application (using Interface Data Files). You can use Censor feature or Alarm feature.

CONCLUSION

Hyperactive, aggressive, high sexual thoughts, and other misbehaviour can be prevented by eliminating scenes that are not suitable for children. The characters in the movie can easily emotionally bound, and when the characters commit actions that do not appropriate, it must be eliminated from the movie. While the Film Industry massively includes scenes that are inappropriate for the child to see. We as parents must have the ability to eliminate it.
For the next step,

1. This framework can be a standard tool to eliminate scenes that are not suitable for children to see,
    other than censorship from state institutions and ratings [6]

2. Can be done by anyone, easily, and affordable.

3. Being a tool that can be used by parents when they want to watch with children. Both on Cable
    Television, Satellite Television, Cinema, and even on internet streaming.

4. Become a unifying tool of caring parents, so diligently to make sensors and share them with all
    users throughout the world.

5. Working closely with the Cinema, so the Cinema can recommend this application to parents when
    watching.

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