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The Scene- Interactive Video Scene Controller

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The Scene- Interactive Video Scene Controller

by

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Committee Approval

Mike Strobert   **Date**
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Committee Member/Department Chair/Associate Professor

Abstract

In modern society, people spend much time watching videos to meet their emotional and social needs. Movies and TV shows increasingly contain violence and sexuality to catch the eye. In addition to this trend, the current age-based rating becomes more and more lenient than the one in the past. As a result, the content rating system does not provide a clear standard about the level of graphic intensity anymore. This situation prevents a particular group of viewers from fully enjoying the video contents: parents and highly sensitive people. Whenever these two groups watch movies or live TV, they need to be careful about undesirable videos or scenes to stay safe. The Scene is an interactive video scene controller and informational community for those who feel uncomfortable about specific scenes. It provides clear standards on rating issues by using categorized and visualized symbols. Besides, the viewers can skip or hide unpleasant scenes with filters function in real-time or in advance. The Scene also functions as an informational community where the user can get useful information and share their thoughts about the video experience. This application is intended to protect those who are vulnerable to aggressive and suggestive videos and give a right not to expose unwanted images and sounds. For these users' better experience, it can also be a proposal to the video streaming providers.

Keywords

Critical Analysis and Summary

Problem Statement

The movie or tv is an essential medium for modern people to satisfy emotional and social needs. They relieve stress, experience a new world and keep up with trends by watching videos (Thinkbox 2018). Therefore, people spend a lot of time watching movies or TV. According to the first-quarter 2018 Nielsen Total Audience Report, US adults now spend nearly 6 hours per day watching the video(Nielsen 2018). Moviemakers create more aggressive and suggestive scenes these days than ones in the past to catch the eye. Over the decade, there has been a considerable growth of violence, sex and profanity in movies(Harvard School of Public Health 2004).

There are two types of content rating systems in the US. One is the Motion Picture Association film rating system and the other is TV Parental Guidelines. Both of them simply classify the type of video into age. However, today's PG-13 movies contain more violence and sexuality than the one in the past and this is coming close to the R-rated movie a decade ago(Waxman 2004). This means as the current system is becoming more and more lenient, there is no practical way for the viewer to avoid uncomfortable scenes in advance. Two groups of people, in particular, can feel uncomfortable with this trend: parents and highly sensitive people. For those people, problems can happen anywhere, such as at the theater or home, whenever they watch a movie or live TV. However, with the rising popularity of video streaming services(Alexander 2020), people can control where and when to watch the movie and TV. Applying the current available technology to streaming services can help the target audience find a way to build a personal viewing experience to effectively avoid unwanted scenes.

Solution

The Scene is an interactive video scene controller and informational community for parents and highly sensitive people. This application allows them to effectively check the rating issues, control uncomfortable scenes, and share their opinions. There are three objectives to achieve for this application. To begin with, **The Scene** provides clear criteria for rating issues using categories and visualized symbols. In addition, the viewers can directly control uncomfortable scenes by applying filters during or before watching a video. Finally, **The Scene** helps the user get sufficient information and share their opinions about the rating issues with reviews and rating function. The insight into these three objectives came from the interview process. To get qualitative answers, four participants who can be prospective users interviewed their thoughts and behavior on undesirable scenes while watching movies or TV. Their thoughts and needs gave insight into an alternative content rating system which is categorized, informational and digital.

The Scene has visual and interactional approaches used to achieve these objectives. Categorized and symbolized rating issues can make up for the flaw of the age-based rating system. The MPAA film rating system and TV Parental Guide evaluate and classify the rating issues in consideration of language, sexuality, and violence(Motion

Picture Association, 2020)(TV Parent Guidelines, n.d). The application divided these criteria into details and added new categories by analyzing existing competitive products and interview answers. Finally, The Scene uses thirteen detailed categories: language, sexual contents, alcohol, drug, smoking, bloody, severe violence, mutilation, horror, suicide, child abuse, sexual abuse and photosensitive. These categorized issues were visualized with a simple icon and vivid orange color to effectively warn the problem and call to action.

Participants in the interview said they usually use physical ways such as closing or hiding their eyes when they encounter uncomfortable scenes. Filters are digitized solutions to block unpleasant images and sounds. Connected to subscribed streaming services, Filters can be applied in real-time and in advance. This function is influenced by the current technology of photo filters on the camera application, interactive movie and parental control monitoring app. There are five filters used in the application: Skip, Blur, Lower Brightness, Mute, Beep. While Blur and Lower Brightness control the visual aspect, Mute and Beep control sound aspect. Skip filter gives the user a choice not to watch unwanted scenes. Basically, the Lower brightness filter only appears on the filter controller in the photosensitive issue. The reason why the application provides minimal filter options is to prevent unnecessary interruption. There is also an error prevention function that helps users avoid selecting incompatible filters. For example, if the user taps the Skip button, the other buttons become disabled to prevent confusion.

The Scene functions as an informative community for users of similar concerns. Parents and highly sensitive people need a platform to get sufficient information on rating issues and share their opinion with each other. In the interview, all participants have used other sources like reviews or trailers rather than the rating system to get the right information about unwanted scenes. They thought that this process was time-consuming. **The Scene** offers overall ratings, emotional keywords and optional writing reviews for the movie and TV. Participation in the reviews is essential for the app to collect sufficient information and for the user to obtain helpful information. Therefore, minimal questionnaires were designed to increase user participation by using a click or swipe interaction.

Conclusion

The Scene creates a personal viewing environment for those who cannot enjoy videos that contain specific scenes for educational, mental, physical and empirical reasons. It is not only a tool to control unpleasant images and sounds but also an informational community that can get useful information and share their opinions with others. In the current trend, movies and TV shows contain many violent and suggestive sequences and the content rating becomes more lenient than the one in the past. **The Scene** contributes to protecting the users, from the children to highly sensitive people who are vulnerable to these kinds of video, and not experiencing undesirable images and sounds. Moreover, for the video streaming providers, The Scene can be a proposal for better service to give a quality experience to their subscribers.

Appendix A: References & Bibliography

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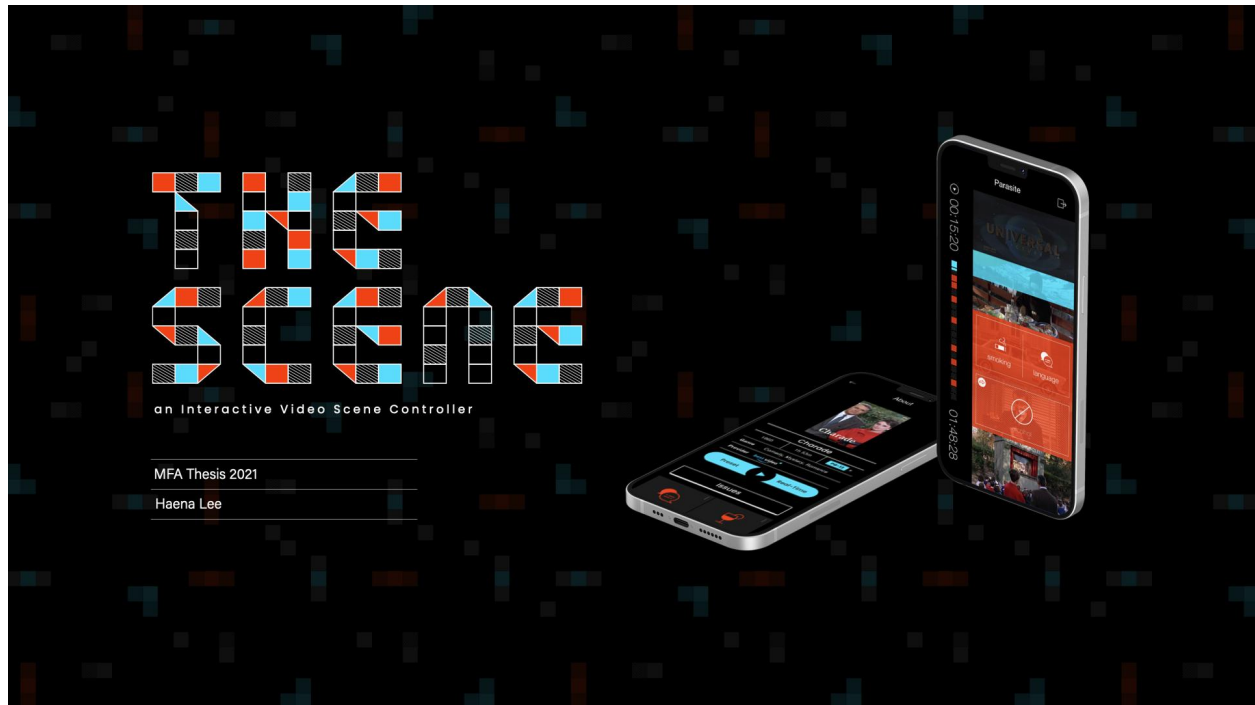
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Waxman, Sharon. 2004 "Study Finds Film Ratings are rowing More Lenient," *New York Times,* July 14, 2004. https://www.nytimes.com/2004/07/14/movies/study-finds-film-ratings-are-growing-more-lenient.html#:~: text=A%20new%20study%20from%20the,more%20lenient%20in%20their%20standards.

Appendix B: Thesis Defense Presentation

Figure 1. Watching TV with Children(Adobe Stock n,da.)

As the current content rating system is becoming more and more lenient, there is no practical way for the viewer to avoid uncomfortable scenes in advance.
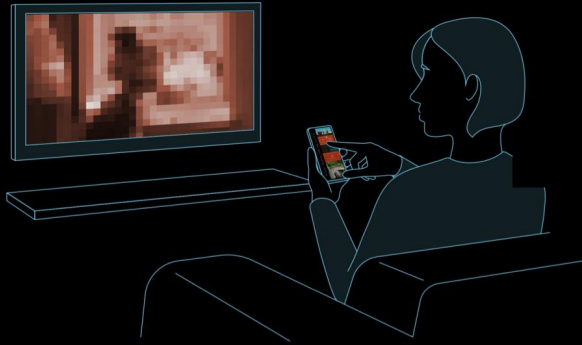
Build a personal viewing experience
that allows viewers to effectively check
the rating issues, control uncomfortable
scenes, and share their opinions.

Figure 2. Solution Illustration

Figure 3. Objectives

Clear Criteria

The project provides detailed categories of
the rating issues that may cause anxiety in
the video with visualized symbols.

Controllable Scenes

The users can easily control uncomfortable
scenes by applying filters before or during
watching a video.
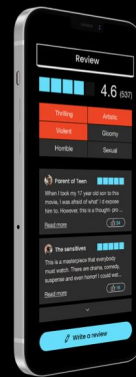
Informative Community

Reviews and ratings help the user get
sufficient information and share their
opinion about the rating issues.

1 People spend a lot of time watching movies and TV.
According to the first-quarter 2018 Nielsen Total Audience Report, U.S. adults now spend nearly 6 hours per day watching the video(Nielsen 2018).

2 Movies and TV show have become graphic.
Moviemakers create more aggressive and suggestive scenes these days to catch the eye. A study found a considerable growth of violence, sex and profanity in movies over the 11 years(Harvard School of Public Health 2004).

3 The content ratings are growing more lenient.
Today's PG-13 movies contain more violence and sexuality than the one in the past and this is coming near to the R-rated movie a decade ago(Waxman 2004).

The current rating system doesn't provide a clear standard of content to viewers.

There are two types of content ration system in the US: Motion Picture Association of America(MPAA) Film Rating System and TV Parental Guide. Both system simply classifies the type of video into age.

" Movies with the same rating can differ significantly in the amount and type of potentially objectional content. Age-based ratings alone do not provide good information about the depiction of violence, sex, profanity and other content (Waxman 2004).
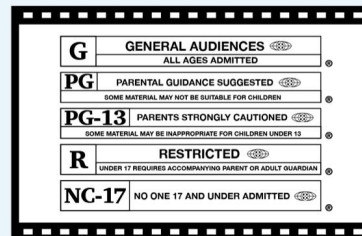

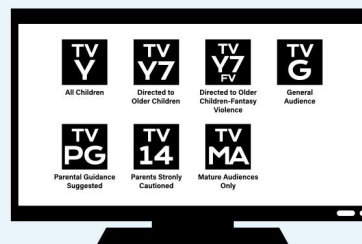Figure 4. MPAA Film Rating System

Figure 5. TV Parental Guide

Based on the research, I figured out two groups of people feel uncomfortable with this current rating system: parents and highly sensitive people. These people can be prospective users of this project.

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*Highly Sensitive Person (HSP) is someone who is easily overwhelmed by physical, mental, or emotional stimulus and responds to them acutely. They are approximately 15 to 20% of the population(Aron 2020).
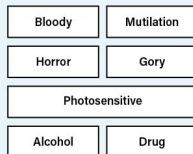
Parents
- Parents who want to watch the movie peacefully with his children
- Parents who want to control children watching a movie without her knowing

Highly Sensitive People*
- The person who is terribly scared of the gory or horror scene
- The person who has a trauma of violence, abuse or accident
- The person who is highly sensitive to light and sound

---

To get qualitative answers, four participants who could be prospective users had an interview. This process gave insight into how the user needed a new content rating system categorized, informational and digital.

Figure 6. Interview Illustration 1

Bloody	Mutilation
Horror	Gory
Photosensitive	
Alcohol	Drug

Figure 7. Interview Illustration 2

Genre

▶ Trailer

Poster

Review

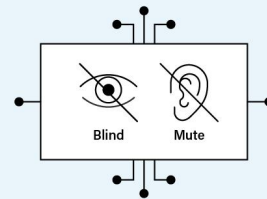Figure 8. Interview Illustration 3

Blind   Mute

Need to be categorized

Each interviewee has different scenes that they didn't want to see or show their children. Considering they're all adults, They need an alternative rating system that is not classified by age but categorized by content.
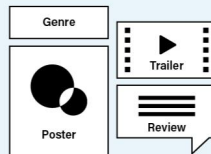
Need to be informational

All Interviewees think the current rating system isn't enough to get information to avoid scenes they feel uncomfortable about. They use other sources before they watch the movie and feel that this is time-consuming.

Need to be digital

When they watch uncomfortable scenes, they usually use physical ways such as closing or hiding their eyes. Currently, there are no faster ways than these basic actions to control uncomfortable scenes.

Figure 9. Father and Daughter(Pexels n,da.)

Figure 10. Mother and Son(Pexels n,db.)

Figure 11. Highly Sensitive Person(Pexels n,dc.)

"As *a father*, I want to **block inappropriate scenes in real-time** so that *I can watch videos peacefully with my daughter*."

"As *a mother*, I want to **control videos my son watches at any time** so that *he can stay safe from inappropriate videos without my guide*."

"As *a sensitive* viewer, I want to **know content issues in detail** so that *I can easily avoid uncomfortable videos*."

Content Perspective

Common Sense Media details the rating issues from an educational perspective so that parents can properly guide their children.

1 Category and Level
Categorized rating issues and intensity level help parents can clearly understand inappropriate content in the video.

2 Issue Detail
Common Sense Media describe the situation in which problems arise. It can help parents' decisions but this can be a spoiler to potential viewers.

3 Reviews
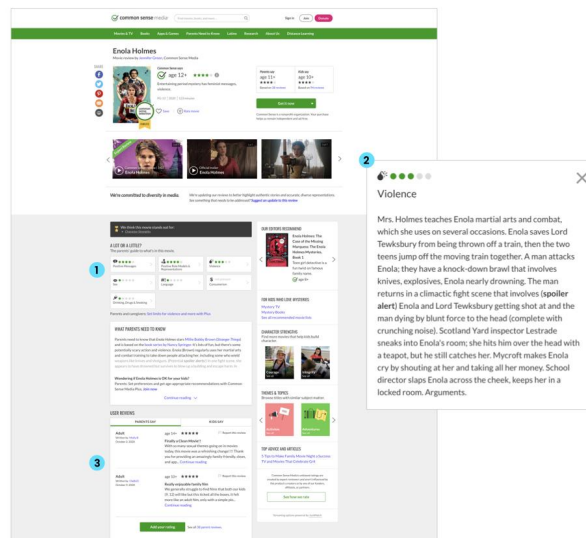The review function helps parents make decisions by letting them know the opinions of other similar users.

Figure 12. Common Sense Media Example(Common Sense Media 2020)

Technical perspective

The current existing technology has helped predict the applicable technology that can solve the thesis's problems.

1 Interactive Movie

The interactive movie lets the viewer control the video's flow and the video streaming service has the advantage of applying this function. With this function, the viewer can skip or control the particular scene.

2 Photo Filter

By simply tapping the icon, the user can apply various effects to the photo or video in real-time. This function can be used to relieve graphic scenes.

3 Parental Control

Parental Control app can monitor children's media activity and alert the connected parent's app. A video can also be monitored in real-time by connecting a streaming service and mobile device and controlled by the user.

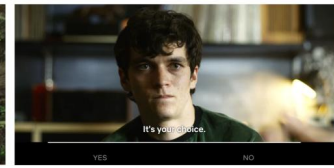Figure 13. You vs Wild Still Cut(Grylls 2019)

Figure 14. Black Mirror: Bandersnatch Still Cut(Slade2018)

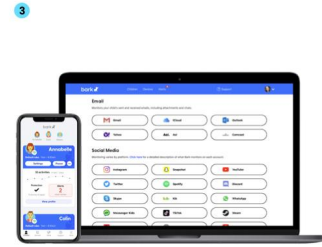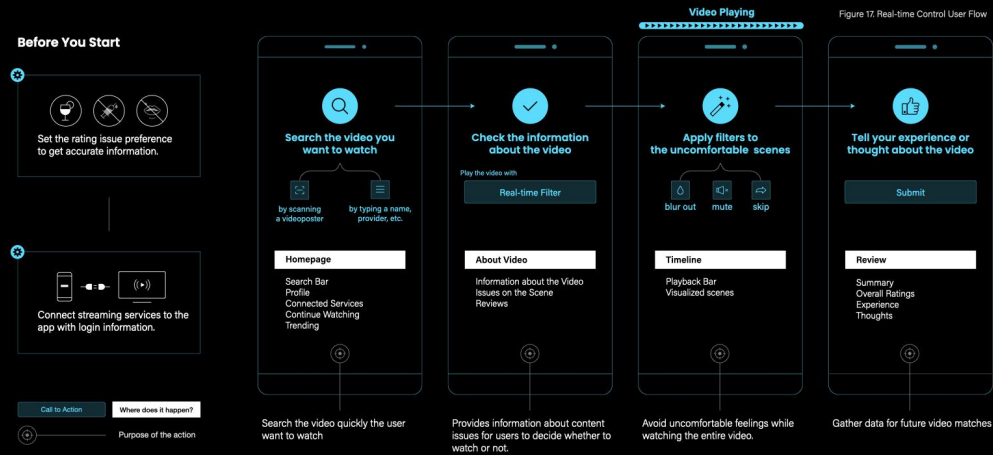Figure 15. Photo Filter Example(App store 2020)

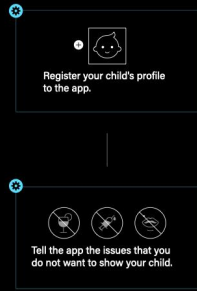Figure 16. Parental Control Example(Bark 2020)

Real-time Control

- The flow shows how the user controls uncomfortable scenes in real-time.
- This function gives users the flexibility to apply filters while watching videos.
- It is suitable for parents watching a video with their child together and highly sensitive people.
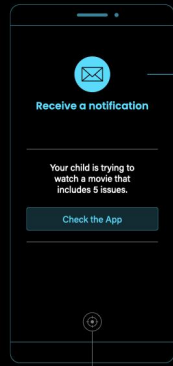
Video Playing

Figure 17. Real-time Control User Flow

Before You Start

Set the rating issue preference to get accurate information.

Connect streaming services to the app with login information.

| Call to Action | Where does it happen? |

Purpose of the action

Search the video you want to watch

by scanning a videoposter

by typing a name, provider, etc.

Homepage

Search Bar
Profile
Connected Services
Continue Watching
Trending

Search the video quickly the user want to watch

Check the information about the video

Play the video with

Real-time Filter

About Video

Information about the Video
Issues on the Scene
Reviews

Provides information about content issues for users to decide whether to watch or not.

Apply filters to the uncomfortable scenes

blur out   mute   skip

Timeline

Playback Bar
Visualized scenes

Avoid uncomfortable feelings while watching the entire video.

Tell your experience or thought about the video

Submit

Review

Summary
Overall Ratings
Experience
Thoughts

Gather data for future video matches

Presettable Control

- The user can apply filters to the uncomfortable scene before watching the video.
- The one who wants to enjoy the video without interruption.
- Parents who want to control the video their children watch can use this function.
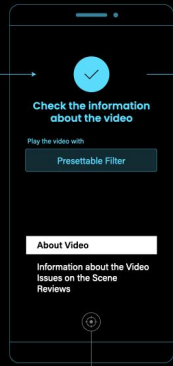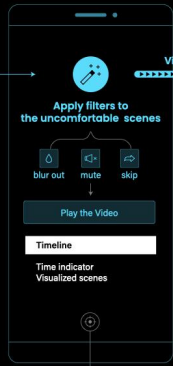- The flow on the next page is an example of remote parental control.

Figure 18. Presettable Control User Flow

Before You Start

Register your child's profile to the app.

Tell the app the issues that you do not want to show your child.

| Call to Action | Where does it happen? |

Purpose of the action

Receive a notification

Your child is trying to watch a movie that includes 5 issues.

Check the App

Notify parents whenever children access a video with issues

Check the information about the video

Play the video with

Presettable Filter

About Video

Information about the Video Issues on the Scene Reviews

Provide information that allows parents to decide whether to show their children a video

Apply filters to the uncomfortable scenes

blur out   mute   skip

Video Playing

Play the Video

Timeline

Time indicator
Visualized scenes

Prevent children from being exposed to inappropriate scenes

View summary of filtered issues

Exit

Summary

Summary of Filtered Issues
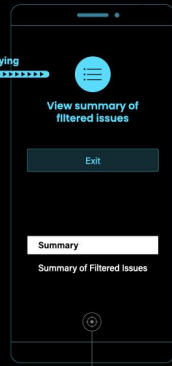
Report to parents how the app worked during the running time.

Because the timeline screen is key to this project, I focused on designing a significant and creative interaction. There is no existing product I can get inspiration from so I sketched many ideas and digitally explored possible layout and style.
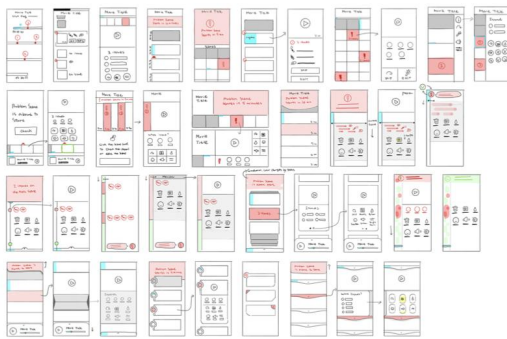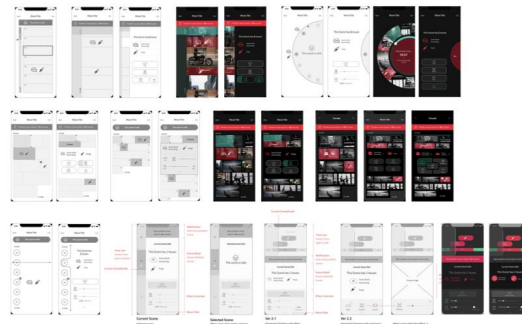

Figure 19. Sketches

Figure 20. Digital Exploration

New inspiration

After several explorations, I wanted to approach the timeline screen with a completely different style. Inspired by various graphic works like posters, I studied how to apply their visually impressive and creative style to the screen.

Iteration Point

- Taking layout, color, typography and symbols from posters.
- Various playback bar styles by exploring tools such as rulers and controllers.

Figure 21. Iteration 1

The Current Scene(Safe)   The Current Scene(Issue)   Filter Controller   Filter Applied
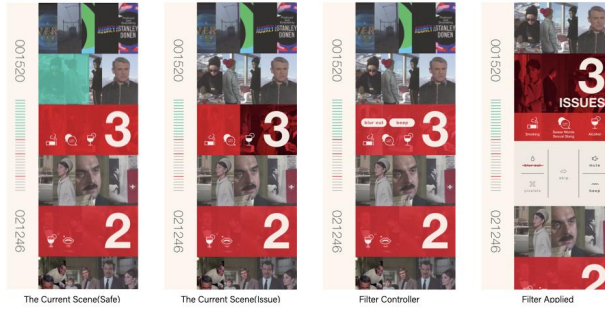
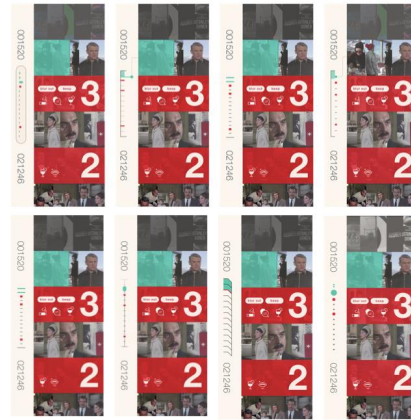Figure22. Iteration 1_original flow

Figure23. Iteration 1_playback bar exploration

Figure22. Iteration 1_original flow

Figure23. Iteration 1_playback bar exploration

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Contrast

I was satisfied with the layout but the background was too bright to focus on watching a video and the colors needed contrast more. In this step, I thought about how to make the screen stand out without disturbing the viewers.

Iteration Point

- Dark background.
- The color contrast between the safe scene and problem scene.
- Exploring various playback bars.
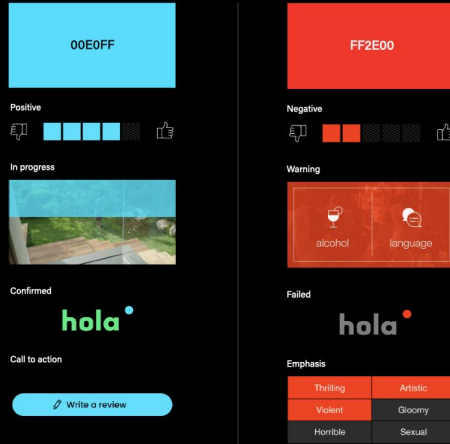
Figure 24. Iteration 2
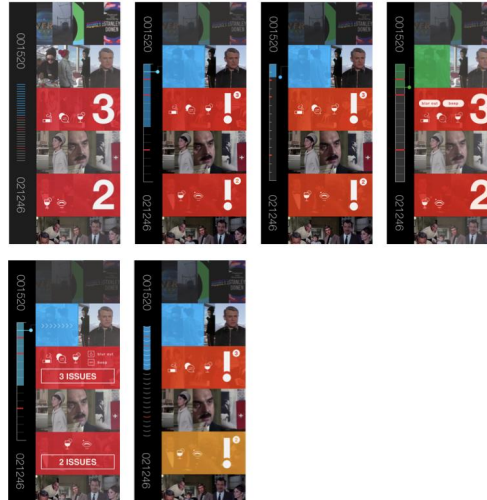
- **Inspiration**

  Traffic lights and traffic signs have inspired the colors and style because they effectively tell people about safety and danger.
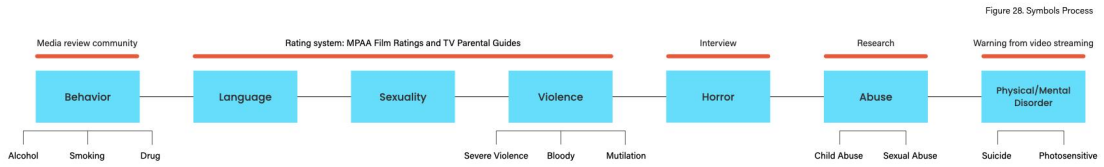
- **Strong & Simple**

  The Scene uses minimal complement colors so that the issues stand out of the scenes and easy to understand.

Figure 27. Colors

00E0FF

FF2E00

Positive

Negative

In progress

Warning

alcohol   language

Confirmed

hola

Failed

hola

Call to action

✎ Write a review

Emphasis

Thrilling	Artistic
Violent	Gloomy
Horrible	Sexual

Thirteen issue categories come from research on existing system products. The current rating system evaluates and classifies rating issues in consideration of language, sexuality, and violence. The scene divided them into details and added new categories inspired by various sources based on this system.

Figure 28. Symbols Process

| Media review community | Rating system: MPAA Film Ratings and TV Parental Guides | | | Interview | Research | Warning from video streaming |

| Behavior | Language | Sexuality | Violence | Horror | Abuse | Physical/Mental Disorder |

Alcohol   Smoking   Drug   Severe Violence   Bloody   Mutilation   Child Abuse   Sexual Abuse   Suicide   Photosensitive

Final Issue Categories

Figure 29. Final Issue Category

Alcohol   Smoking   Drug   Language   Sexuality   Severe Violence   Bloody   Mutilation   Horror   Child Abuse   Sexual Abuse   Suicide   Photosensitive

Initial Exploration

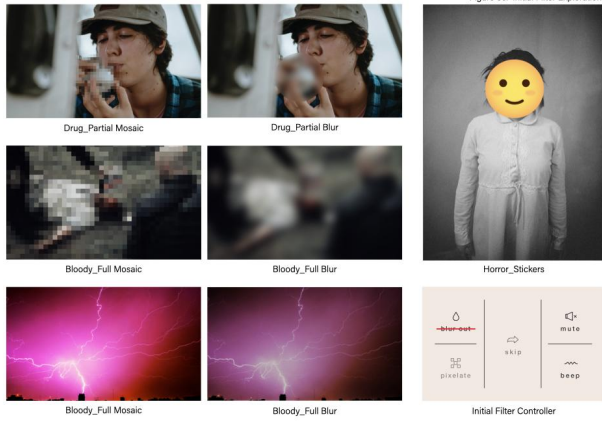Initially, there were seven filters in exploration: Skip, Blur(full), Pixelate(partial), Lower Bright, mute and beep.

Figure 30. Initial Filter Exploration

Drug_Partial Mosaic   Drug_Partial Blur

Bloody_Full Mosaic   Bloody_Full Blur

Bloody_Full Mosaic   Bloody_Full Blur

Horror_Stickers

Initial Filter Controller

Final Categories

Filters are narrowed down to five options to prevent unnecessary disruption. 'Skip,' 'blur,' 'mute' and 'beep' are basic functions that always appear in the controller. 'Lower brightness' filter appears when a scene has photosensitive issues.
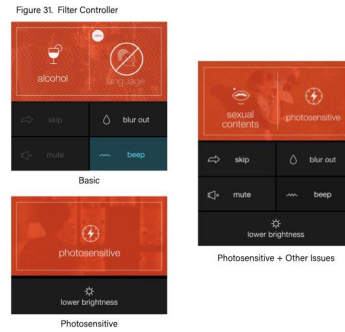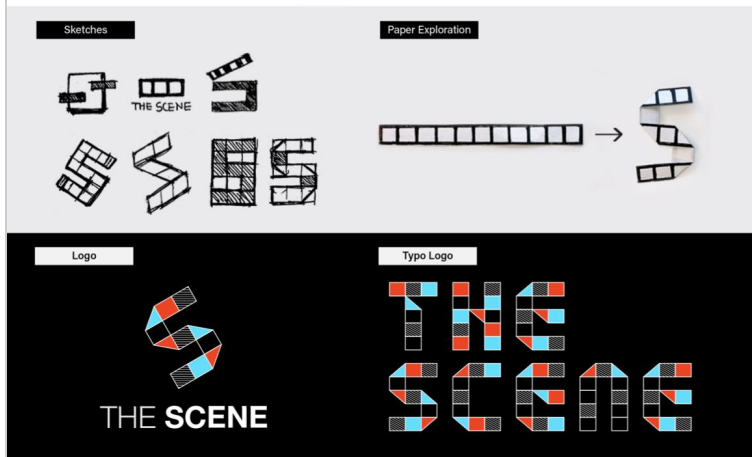
Figure 31. Filter Controller

Basic

Photosensitive

Photosensitive + Other Issues

Sketches

Paper Exploration

Logo

Typo Logo

THE SCENE

Figure 32. Logo Design

- **Concept**

  The collection of visually distinct scenes is the most crucial feature of this thesis. Inspired by the shape of the film, these scenes have been described as a collection of squares.

- **Shape & Color**

  The main shape has been decided after paper exploration with the concept above. Using the color and patterns used in the app, the logo builds and expresses the entire project's brand identity.

Overview

Timeline is the most crucial screen of this project and consists of three sections: header, playback bar and scene gallery.

1 Header
The header shows the movie title and Exit icon. This hides upward when the user starts to scroll down.

2 Playback Bar
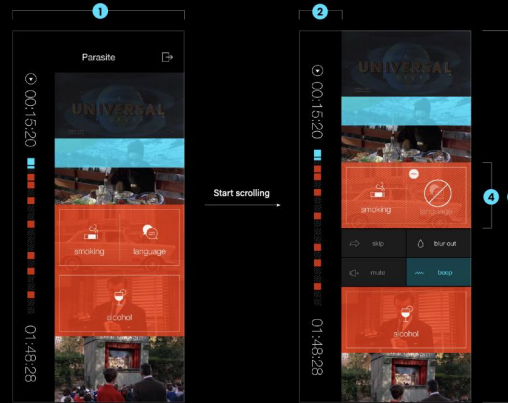
3 Scene Gallery

4 Filter Controller

Figure 33. Timeline Overview

Playback Bar

The Playback bar is designed to allow users to conveniently control the video and check the time of the problem scene. The number of squares equals the number of whole scenes. The video on the right shows four functions of the Playback bar.

Features

- The current time and ending time
- Play/Pause Button
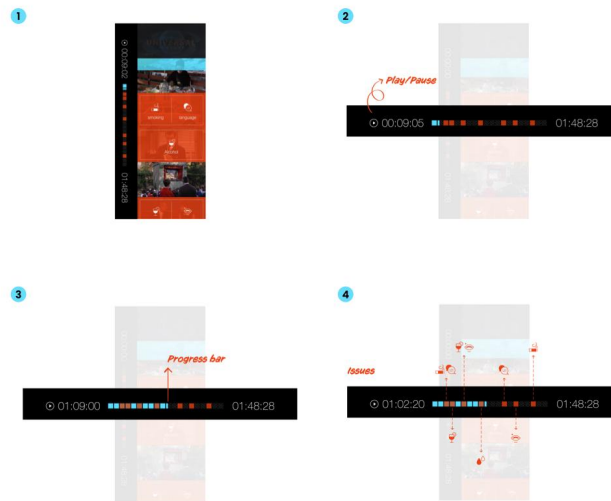- Draggable progress bar
- Issue marking

Figure 34. Playback Bar Animation Still Image

Scene Gallery

The Scene divides the entire video into several scenes. Each scene has a distinct color setting depending on its state to easily understand the app's system.

Features

- The past scene: gray out
- The safe scene: photo
- The problem scene: orange with problem symbols
- The current problem scene: orange moving bar
- The current safe scene: cyan moving bar

The Past Scene

The Current Scene

The Current Problem Scene

The Problem Scene

The safe Scene

Figure 35. Scene Gallery Animation Still Image

Real-time Control

The Scene has five filters to control the uncomfortable scenes. While Blur and Lower Brightness control the video's visual aspect, Mute and Beep control the sound aspect.

5 Filters

- Skip: skip to the next scene
- Blur: blur out the problem partial or the entire scene.
- Mute: turn off the sound of the entire scene.
- Beep: replace the problem sound with beep sound.
- Lower Brightness: only appears on Photosensitive issue.

Error Prevention

- It helps users avoid selecting incompatible filters.
- For example, if the user taps the Skip button, the other buttons are disabled to prevent confusion.
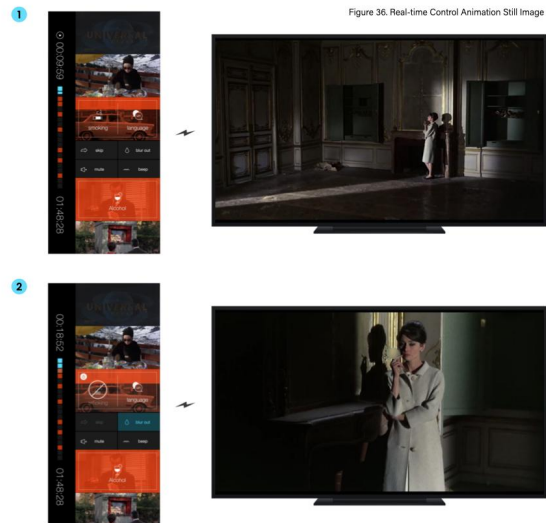
Figure 36. Real-time Control Animation Still Image

Presettable Control

The user can control uncomfortable scenes before they play the video using the presettable control. This feature allows users to watch videos without interruption. The user can also use this feature as a remote parent control.

Remote Parental Control

- The parent registers their children's profiles to the parental control setting.
- The app sends a push notification whenever children approach inappropriate content.
- The parent can apply a filter in advance then approve of children's watching the video.
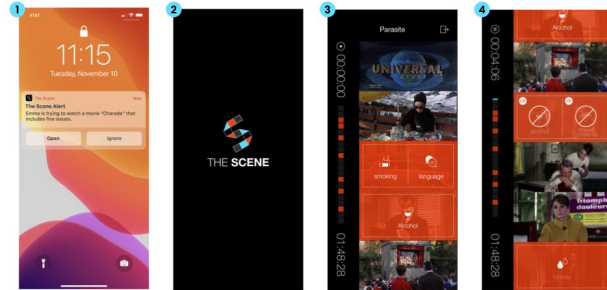

Figure 37. Presettable Control Animation Still Image

Overview

The Scene categorizes the various scene issues with intuitive symbols. When the user selects the issues that can make them feel uncomfortable, the app carefully recommends the videos based on their preference and similar users.
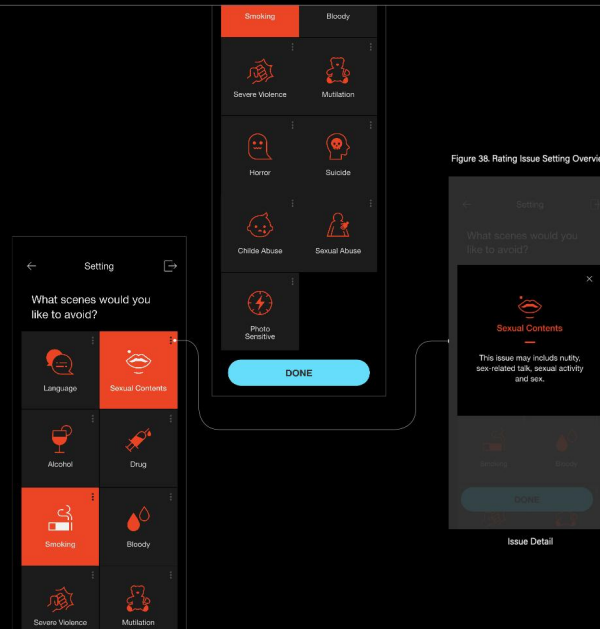
Figure 38. Rating Issue Setting Overview

Issue Detail

Overview

The user can easily connect streaming services to the app using their login information.

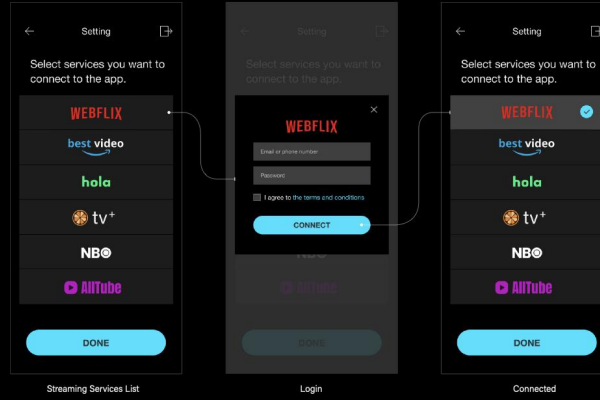Figure 39. Connection Setting Overview

Streaming Services List   Login   Connected

Overview

The homepage uses search-based interaction because when users open the app, they will want to search for the video they want to watch.

1. **Type and Search**

2. **Scan and Search**
   Users can go directly to the information page when they scan a movie or TV show poster.

3. **Connection State**

Figure 40. Homepage Overview
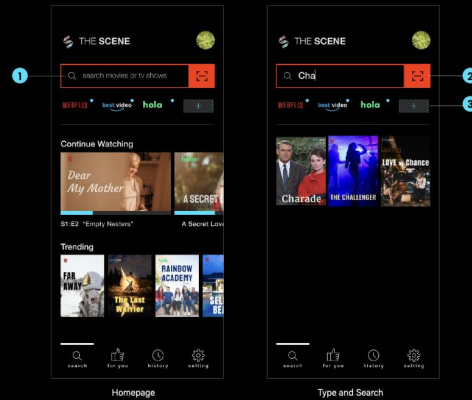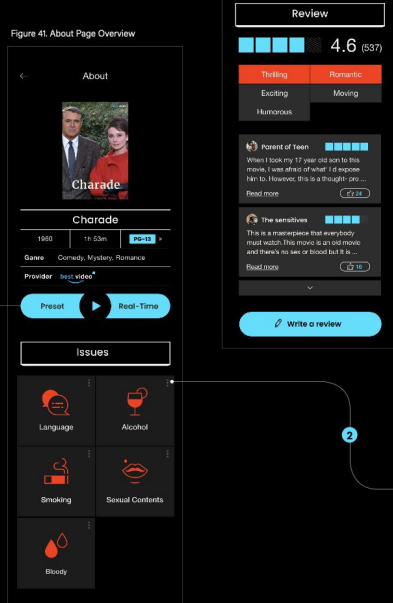

Homepage   Type and Search

Figure 41. About Page Overview

Overview

The About page focuses on providing useful information about rating issues so that users can decide whether to watch the video or not.

1 Play the Video

The user can play the video in two ways using the app.

Preset

Users can check for problems first and apply filters before watching the video. This function can be used in remote parental control.

Real-time

Users can check for problems in real-time and apply filters. This feature gives users flexibility in making decisions.

2 Issue Details

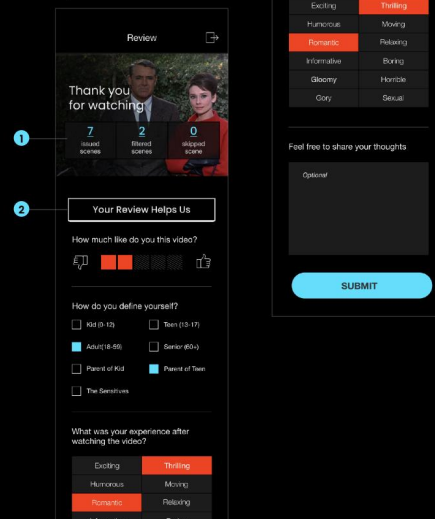Spoiler Covered   Spoiler Uncovered

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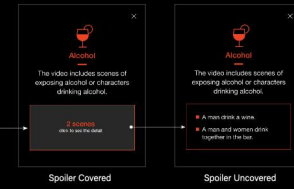
Overview

After the video ends, the user can see how the app worked during playback time. They can also write reviews, which helps the app provide them with more customized services.

1 Summary

2 Reviews

Questionnaires were designed to increase user participation by using a click or swipe interaction.
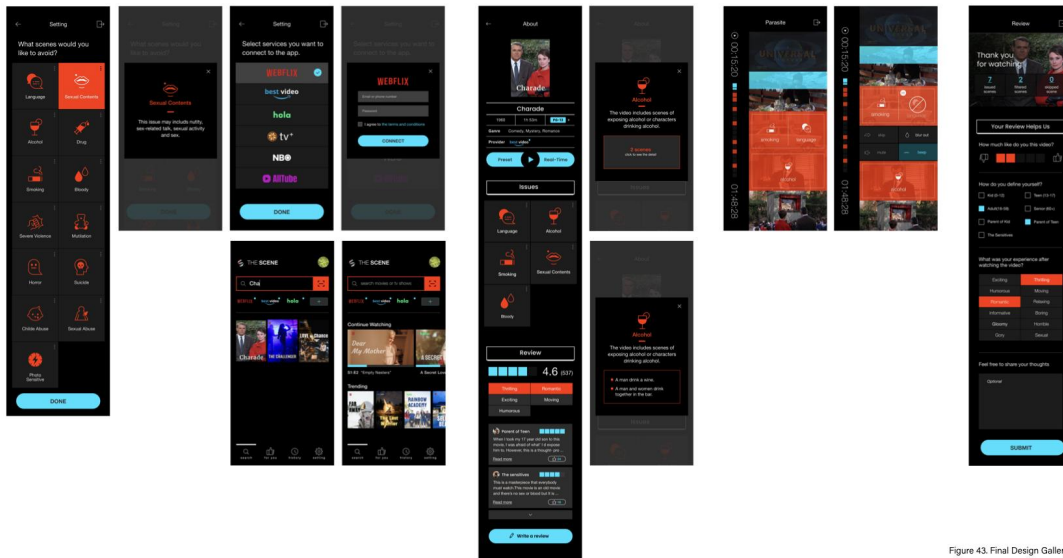
Figure 42. Review Overview

Figure 43. Final Design Gallery

1 Lack of inspiration source

Overall, it was hard to get inspiration directly from existing products because there was no right example of this topic. Therefore, I learned to get inspiration from other areas such as graphic works to develop them for digital product work.

2 Simplifying layout

For effective interaction, the timeline screen needs a playback bar, scene gallery and filters controller. To make it easier for users to understand the functions, each function needs to be rightly divided on the screen. For this process, I studied a lot of different layouts and interaction, and try to delete or merge less necessary functions.

3 Visualization of data

There are many informational components in a single Timeline screen and these had to stand out by the hierarchy of importance. Therefore, I had a chance to explore various icon styles, color contrasts and patterns in harmony.

Figure 44. Happy Family(Adobe Stock n,db.)

The Scene provides an effective way for viewers to check and avoid uncomfortable scenes in a data-based and digitalized form. The Scene is also a good community to share the necessary information for those vulnerable to graphic images or sound. It can be an alternative way to enjoy a movie or TV show without anxiety in the current age-based rating system.

Adobe Stock. n,da. "Family watching TV with popcorn in room." Accessed November 29,2020. https://stock.adobe.com/search?filters%5Bcontent_type%3Aphoto%5D=1&filters%5Bcontent_type%3Aillustration%5D=1&filters%5Bcontent_type%3Azip_vector%5D=1&filters%5Bcontent_type%3Avideo%5D=1&filters%5Bcontent_type%3Atemplate%5D=1&filters%5Bcontent_type%3A3d%5D=1&filters%5Bcontent_type%3Aimage%5D=1&order=relevance&safe_search=1&serie_id=218134923&limit=100&search_page=1&search_type=autosuggest&k=scary+watching&acp=0&aco=watching+scary&get_facets=0&asset_id=218495095

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        a8fc-4bdb-880d-9cadc64c5925-60536392%2C6467aa02-6860-46ca-
        a764-7349ac62a648_12879438X3XX1606287545365%2C6467aa02-6860-46ca-
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Appendix C: Website Screen Capture