

## User Interfaces - Case Study (group 10)

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## **1. Introduction**

This practice consists on the design, implementation and analysis of a video stream web page. To do so, we will create a prototype with some online tools, implement it writing code and analyzing the heuristic and the patterns used, and all will be reported in this document.

This document is organized into several parts. The first one is an introduction, which explains the practice and the organization of the document. The second one specifies the main goal of the system, providing a full description of the web page and the functionalities that the web page has. In the third part, which is the analysis and evaluation part, the end users are described with the illustration of three personas, and the heuristics and patterns of similar websites in which ours is based on are explained. The fourth part is where the design and the main goal of the two previous prototypes are shown, where the fifth one specifies the reasons of the design of the new prototype, as well as the Nielsen's heuristics and Van Duyne patterns that have been applied. In the sixth part, the technology used to implement the webpage is explained, and in the seventh part, the whole implementation process is described. Finally, a final conclusion and personal opinion is given in the eighth part.

## **2. Main Goal of the System**

### **2.1. Description**

The webpage implemented is a video streaming web page. Therefore, the main goal of the system is to provide to the end users an online service in which they can watch series and movies, most of them oriented to kids, so that all the family sit together to watch a film or a movie whenever they want. Also, the end users will have the possibility to create playlists, in which they can store their favorite episodes and movies, and share them with other users.

### **2.2. Functionalities**

### 3. Analysis and Evaluation

#### 3.1. End Users Description

User 1: Lucas

**BACKGROUND**

- 11, male.
- Studying in elementary school.
- Uses his parents' tablet to play games and watch cartoons.
- Meets with friends after school.

**MOTIVATIONS**

- Watch cartoons on TV and on the tablet.
- Wants to be a policeman in the future.
- Play games his parents let him to on the tablet.

**FRUSTRATIONS**

- Making a lot of homework sometimes.
- Having to eat some type of vegetables.
- Not playing the games his parents don't allow him to have.

**LUCAS**

He is going to elementary school. He likes watching cartoon on TV and playing with his friends at the park and in school during breaks.



He loves watching cartoons on TV and on his parents' tablet. He likes to spend time with his friends playing during breaks in school, and in child parks after classes when he has not much homework. He also likes playing games with the applications that his parents have in the tablet. He says he wants to be a policeman when he grows up.





User 2:

User 3:

#### 3.2. Analysis and Evaluation of Similar Web Pages

##### 3.2.1. Site 1: Youtube

**A) Context** YouTube is an American video-sharing website which allows users to upload, view, rate, share, add to favorites, report, comment on videos, and subscribe to other users. It offers a wide variety of user-generated and

corporate media videos. Available content includes video clips, TV show clips, music videos, short and documentary films, audio recordings, movie trailers, live streams, and other content such as video blogging, short original videos, and educational videos. Most of the content on YouTube is uploaded by individuals, but other media corporations offer some of their material via YouTube.

Unregistered users can only watch videos on the site, while registered users are permitted to upload an unlimited number of videos and add comments to videos. Videos deemed potentially inappropriate are available only to registered users affirming themselves to be at least 18 years old. YouTube earns advertising revenue from Google AdSense, a program which targets ads according to site content and audience. The majority of its videos are free to view, but there are exceptions.

## B) Nielsen's Heuristics

### 1. Visibility of system status

Progression bar with different colors. Black for unloaded content, gray for loaded, red for reproduced content and yellow for advertising parts. There is also a bar showing the like-dislike rate.

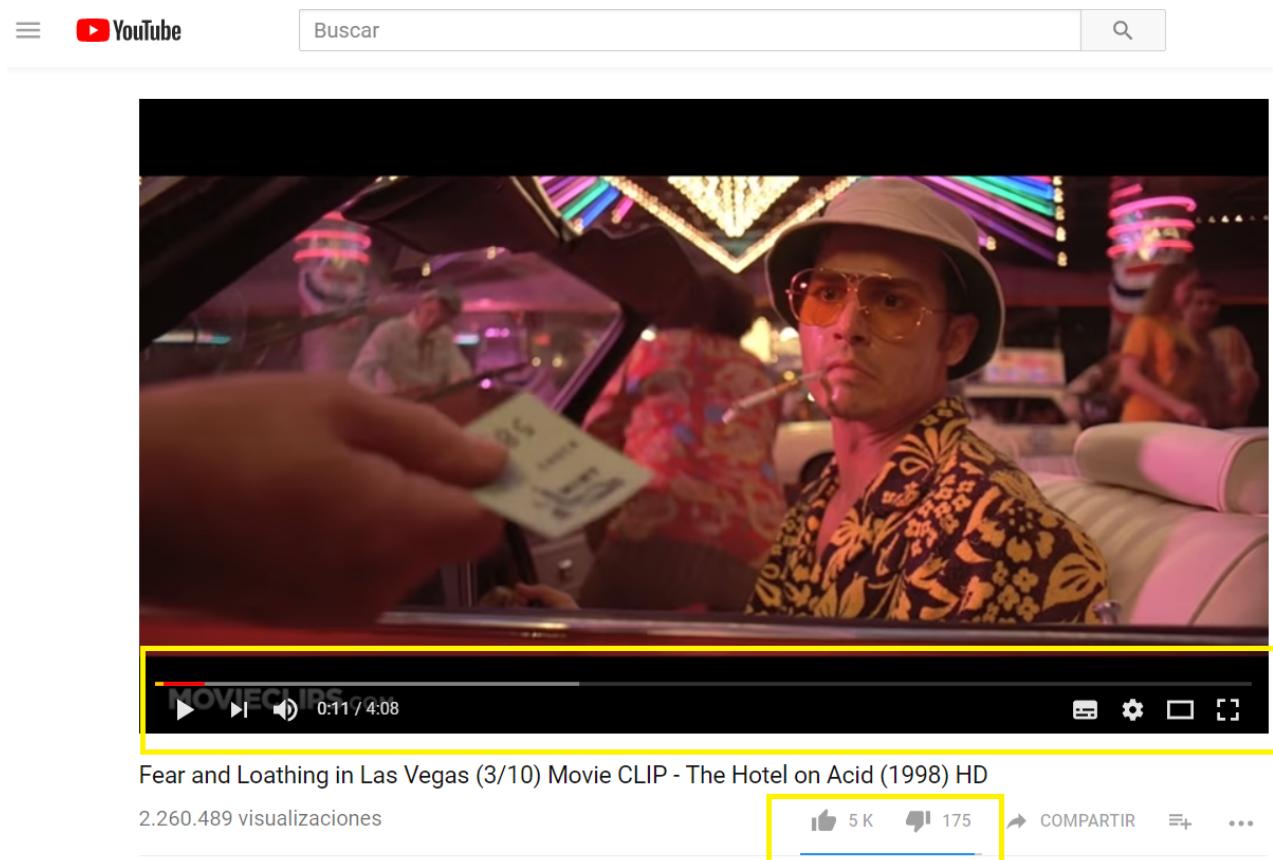


Figure 1: Visibility of system status

### 2. Match between system and real world

The system uses common expression for describing categories, which helps the user to understand what the links do.

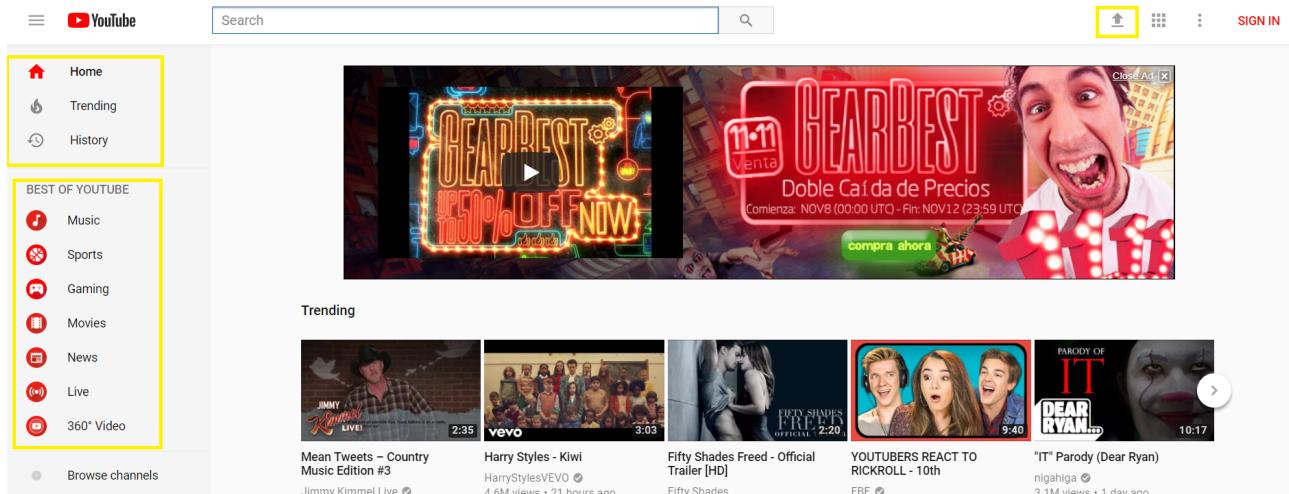


Figure 2: Match between system and real world

### 3. User control and freedom

There is a clearly marked “emergency exit” buttons for important actions. The action button is more hidden in order to prevent unintended consequences.

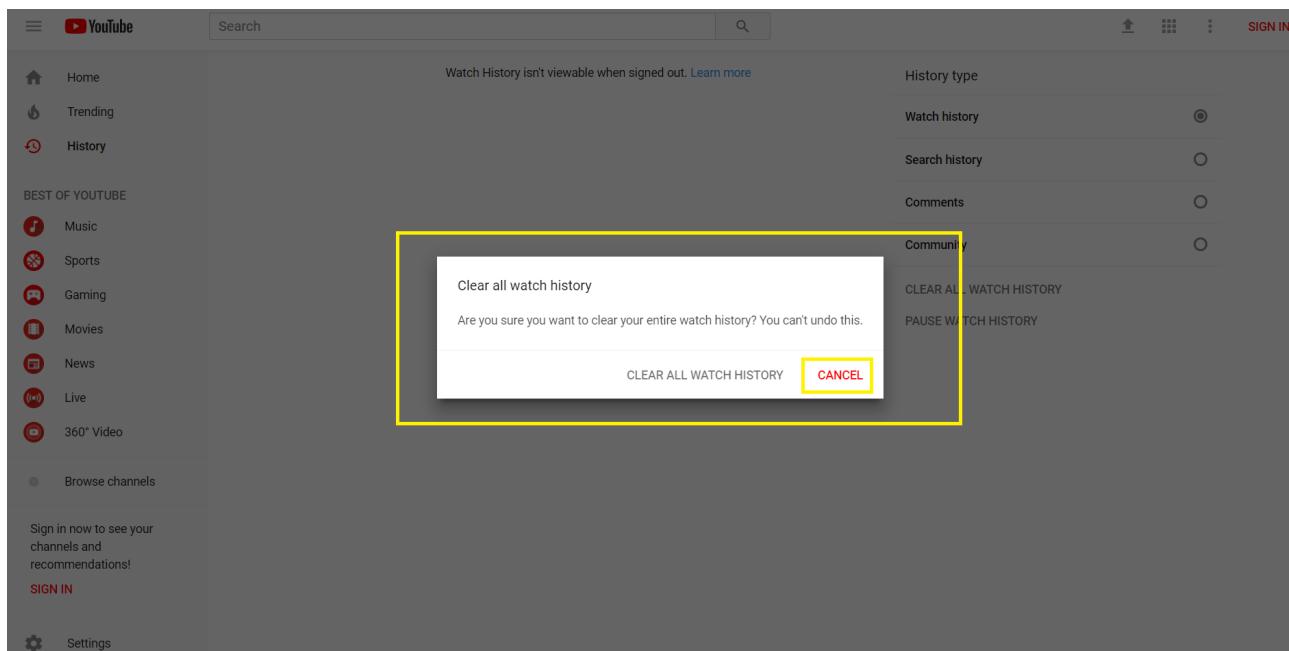


Figure 3: User control and freedom

### 4. Consistency and standards

Significant inconsistencies were not found

### 5. Error prevention

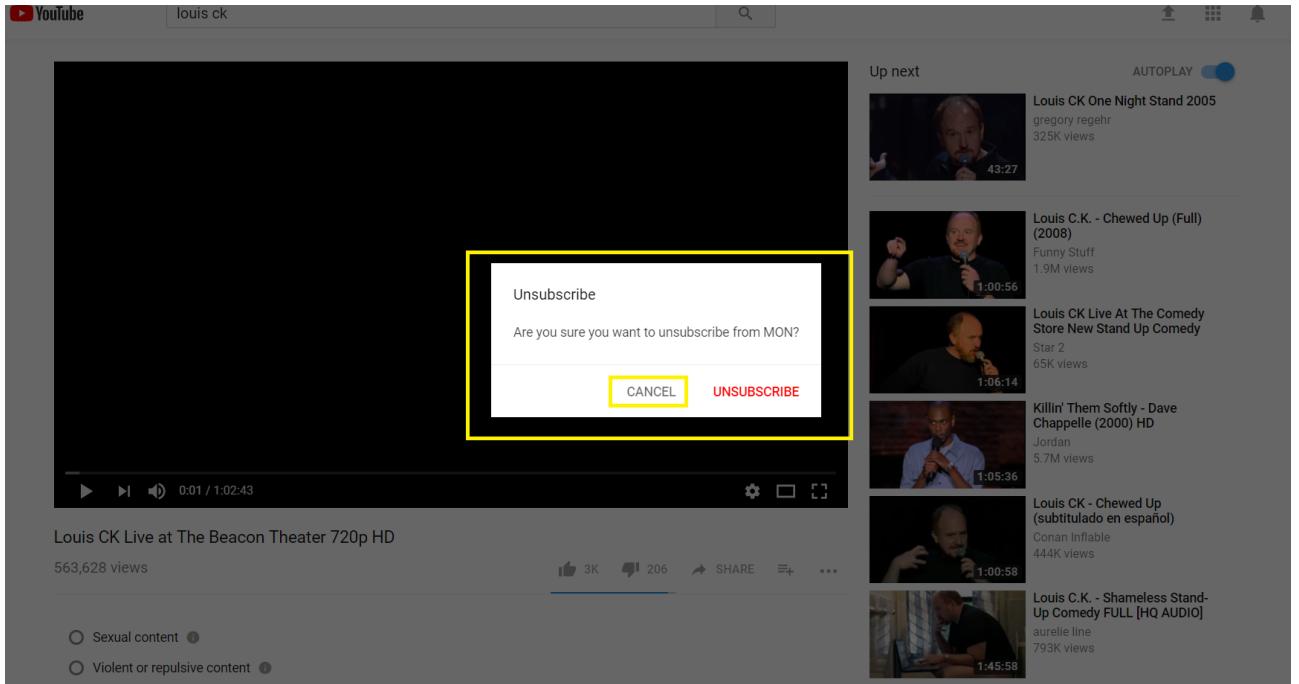


Figure 4: Error prevention

## 6. Recognition rather than recall

Predictive options on search.

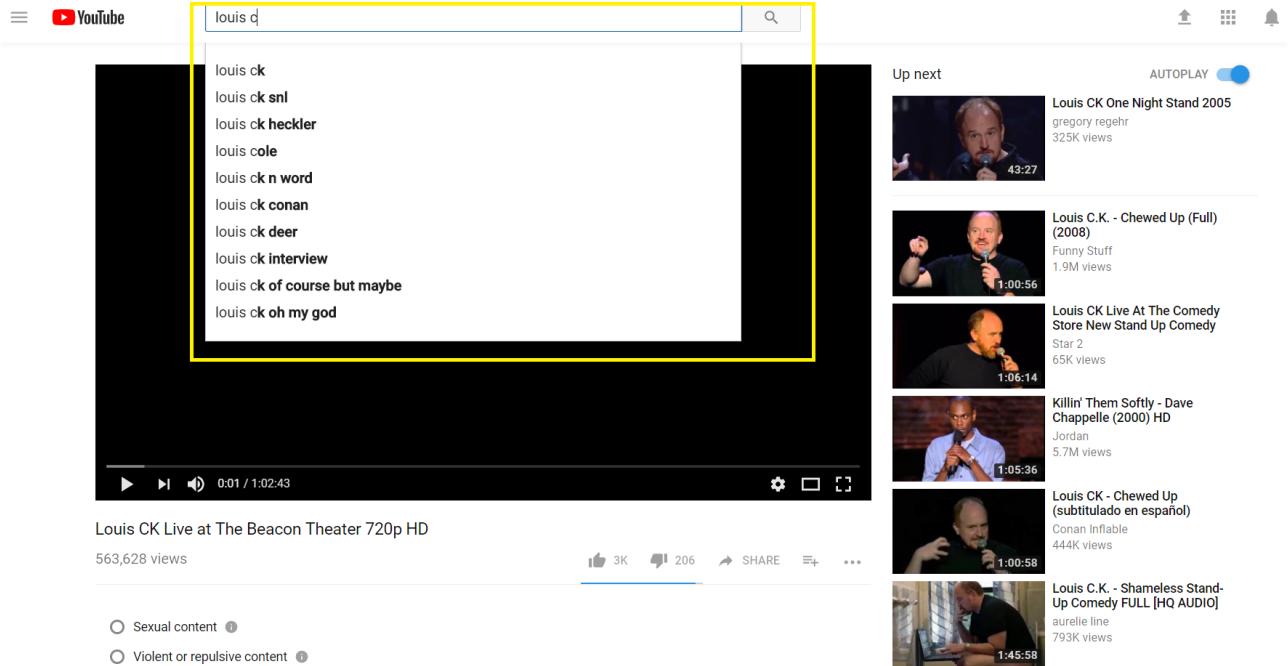


Figure 5: Recognition rather than recall

## 7. Flexibility and efficiency of use

Many options for customizing your youtube channel or account. There is no need to customize your account for a nice use of the system, but the settings add a lot of functionalities for experienced and professional users.

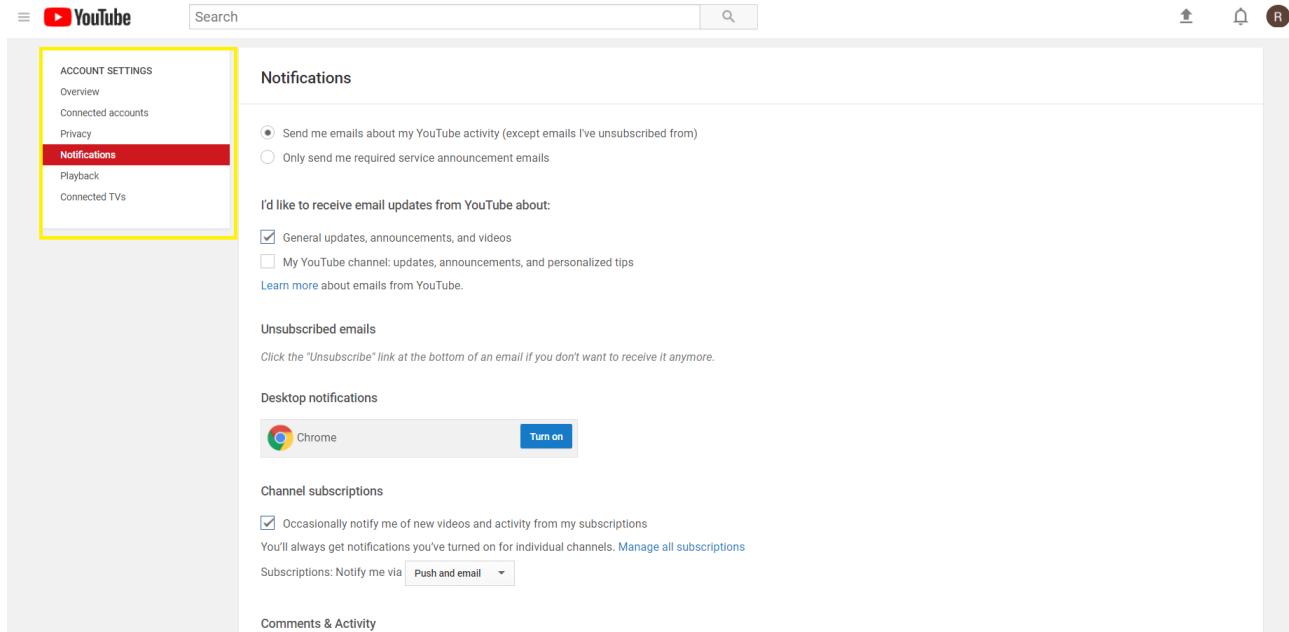


Figure 6: Flexibility and efficiency of use

## 8. Aesthetic and minimalist design

Minimalist design that makes it easy for the user to navigate the website.

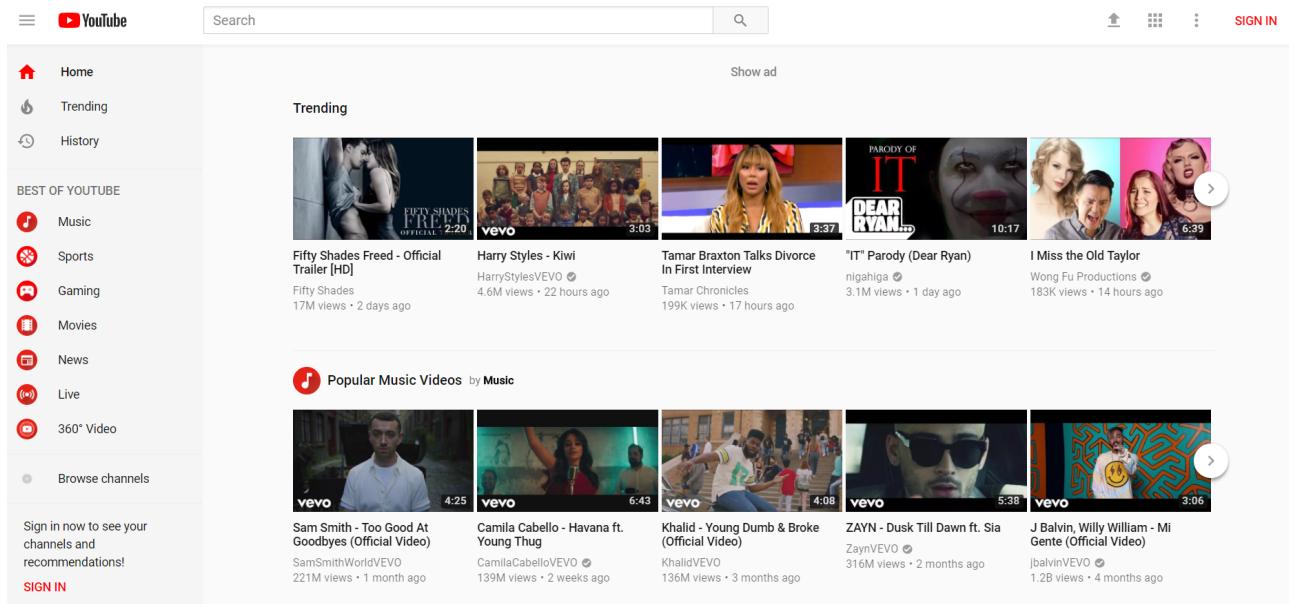


Figure 7: Aesthetic and minimalist design

## 9. Help users recognize, diagnose, and recover from errors

The system shows descriptive error messages in a natural way. But it does not show how to recover from that error, like showing a message saying that you can search for similar videos.

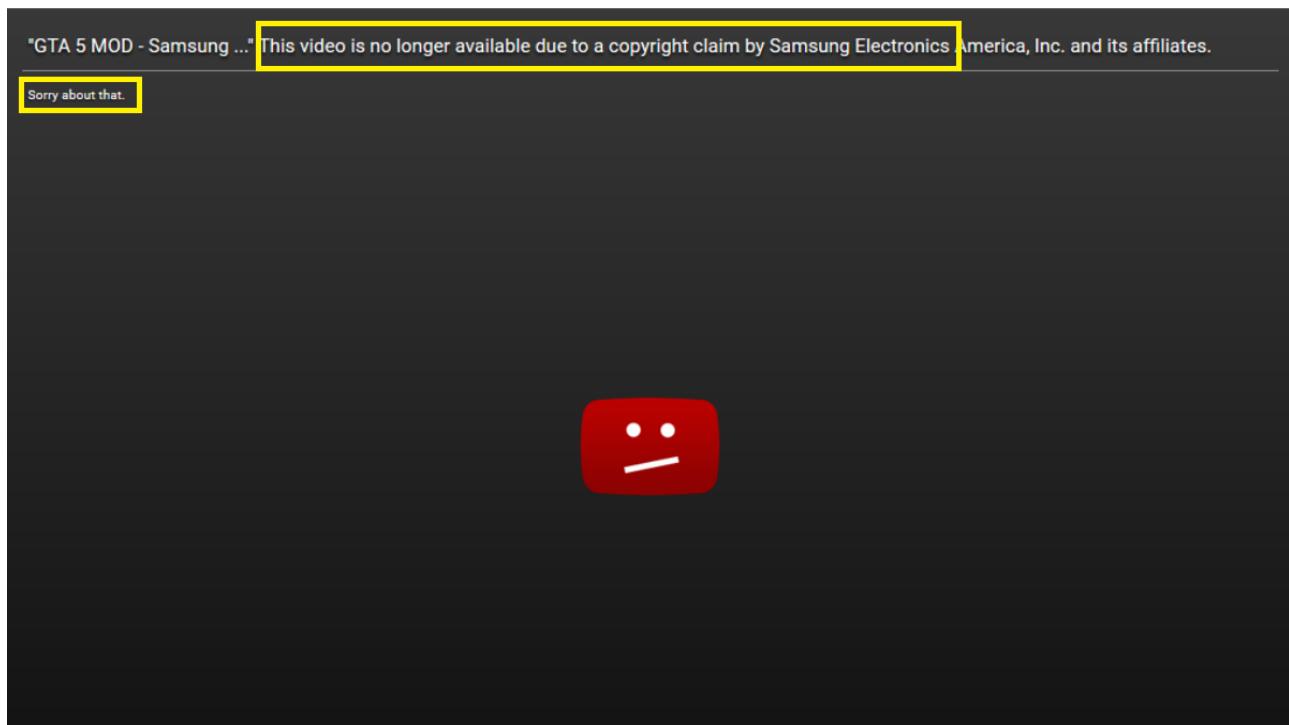


Figure 8: Help users recognize, diagnose, and recover from errors

## 10. Help and documentation

Help button is in the settings menu, not particularly easy to find for inexperienced users.

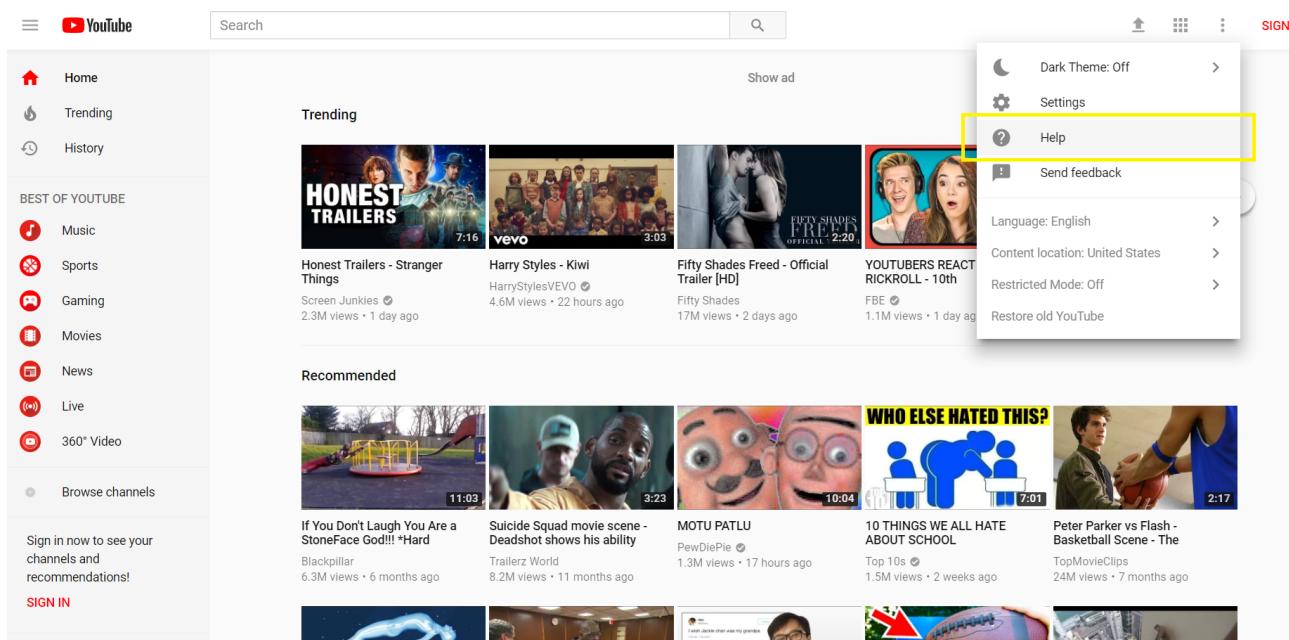


Figure 9: Help and documentation

## C) Van Duyne Patterns

### 1. B: Navigation Framework

- *B1: Multiple ways to navigate.* There is Search System, which is located at the top and start of the page. There is also a menu , which include everything what you need(of course, if the user is registered there is more options), for example: History, Watch Later, Liked videos, Subscriptions etc. So the navigation is really understandable and give the opportunity to find the corresponding information and content.
- *B7: Popularity-based organization.* We can see and easy to find which content is the most popular. It has on the navigation on the left a field which is called TRENDING, where the user can find out a list of top content, and check how it was rated and over what period. And that is really useful information which is given in appropriate way.
- *B8: Category pages.* The category sections are introduced with a consistent layout. The website has a really lovely design which help us to understand where the user is now by the switching colors of image to corresponding fields. For example, if we have red color which corresponds to Watch Later field , we now that we now are located inside of. If we aren't, it has a grey color. Easy and understandable.

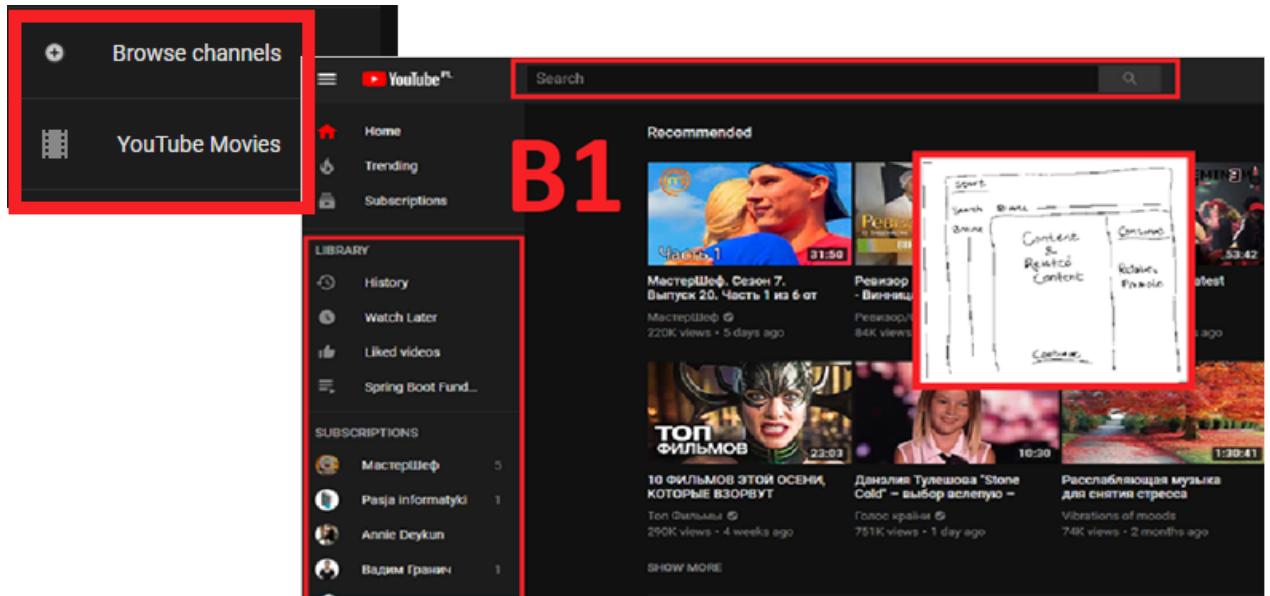


Figure 10: Van Duyne Pattern B1

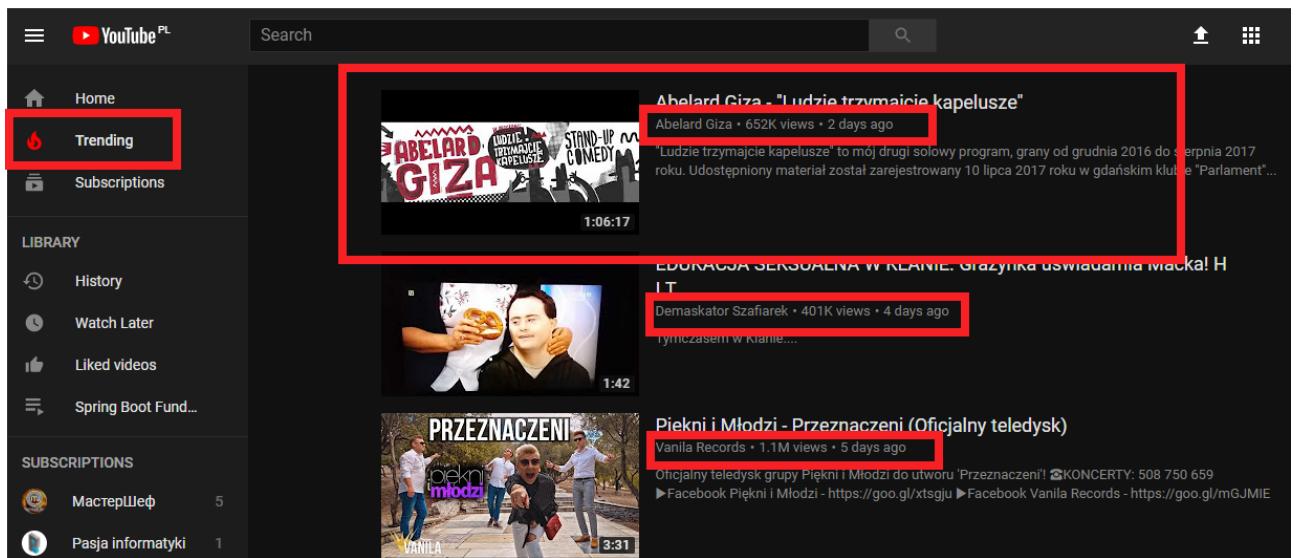


Figure 11: Van Duyne Pattern B7

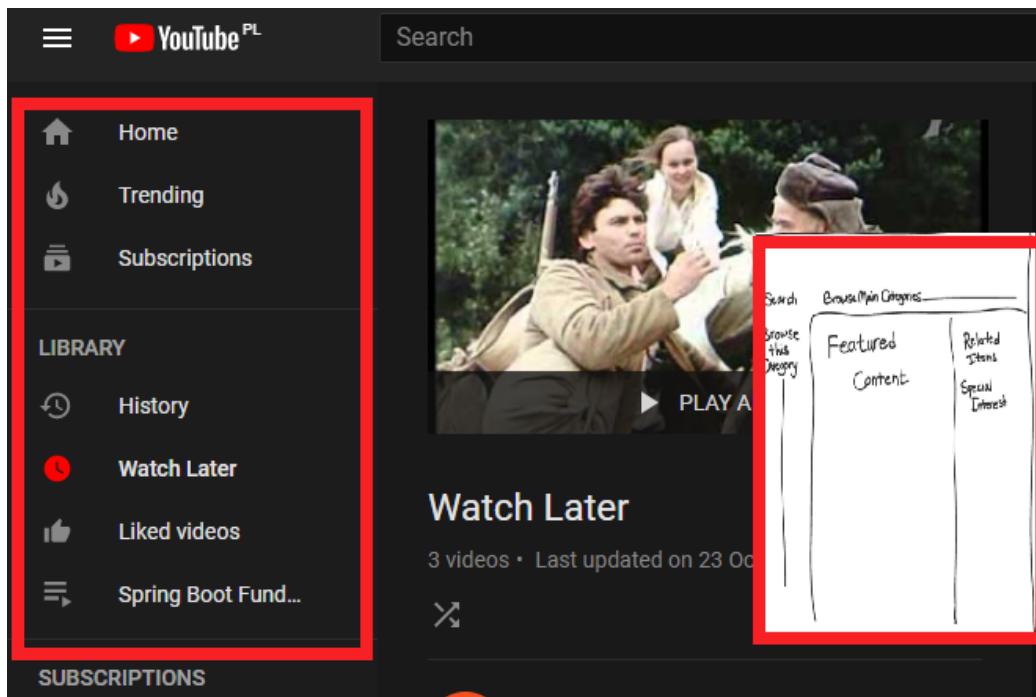


Figure 12: Van Duyne Pattern B8

## 2. D: Writing and Managing content

- *D1: Page Templates.* It defines an individual template that specifies content size limits for images and text. YouTube uses a very good template (GRID LAYOUT) and it demonstrates us the basic navigation elements just in three main content areas.
- *D3: Headlines and blurbs.* It has short and distinctive headlines and blurbs to hook customers into clicking for more content deeper on the site. Each headline indicates why the context is important to visit corresponding page of the website. It is built comprehensible and quite naturally.
- *D5: Message Box.* The message boards are really easy to find and use just by clicking on the related video or another kind of content. Also, there is an opportunity to save favorite boards in the customer profile, but that option just is enabled, when the user is REGISTERED. Everywhere people have the ability to read posts before signing in or signing up. It provides a simple form to post a new message or a reply.

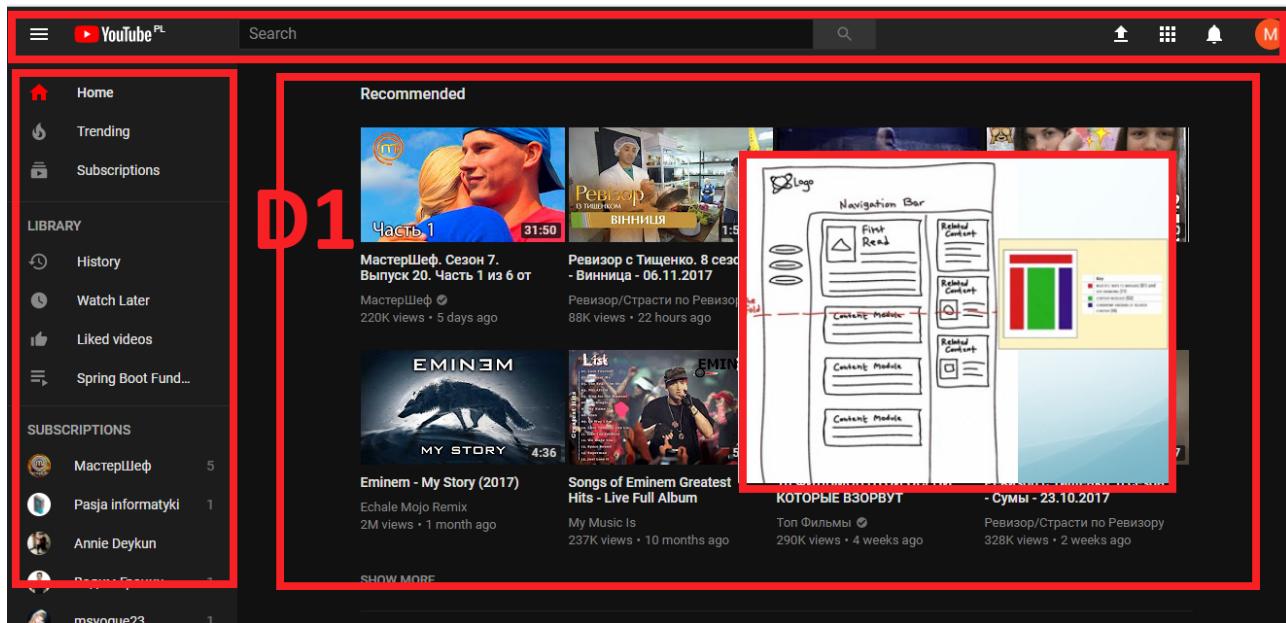


Figure 13: Van Duyne Pattern D1

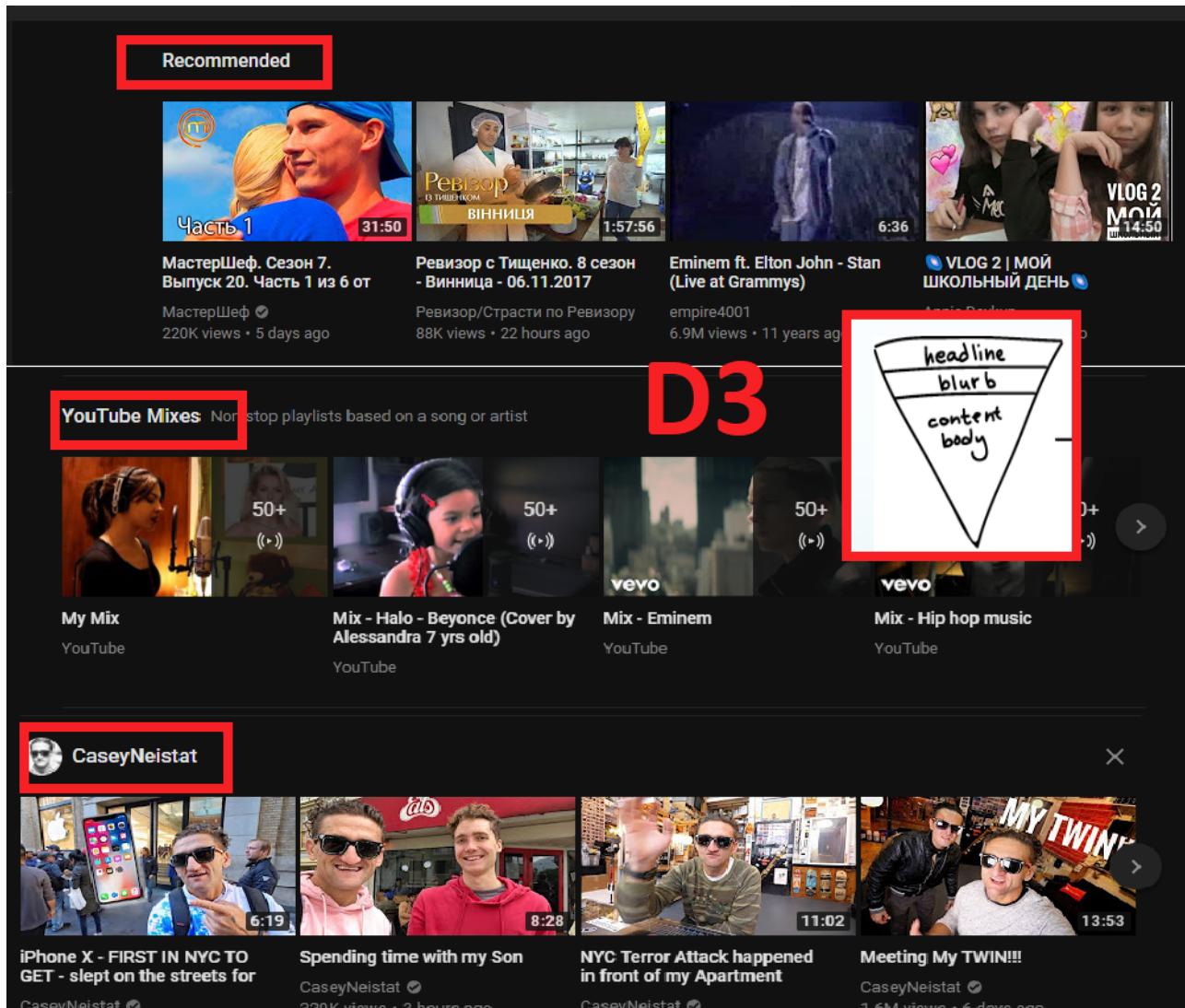


Figure 14: Van Duyne Pattern D3

☰ YouTube<sup>PL</sup> Search

кино, которое вы уже ждете и о котором еще не знаете — мы собрали 10 фильмов этой осени, которые взорвут кинопрокат!

Top List:

[SHOW MORE](#)

93 Comments

M Add a public comment...

Top Filmy Pinned by Top Filmy 4 weeks ago

В этом ролике мы подобрали для Вас десятку осенних фильмов, которые обязательно стоит посмотреть для более качественного видео.

Оставляйте комментарии, какие бы фильмы Вы хотели еще видеть! Мы их будем рассматривать, одобрим и выпустим в следующем выпуске, дерзайте!

REPLY 7

Tэйфи 4 weeks ago

Класс подборочка!

REPLY 3

Anar Quliyev 3 weeks ago

080p

```

graph TD
    D5[D5] --- content[content]
    D5 --- read[read messages]
    D5 --- sign[sign-in/ new account]
    content --- rules[rules]
    read --- post[post message]
    
```

Figure 15: Van Duyne Pattern D5

### 3. E: Building Trust and credibility

- *E1: Site Branding.* YouTube has built a strong site brand so that it has become the most popular platform to see and share videos. Its logo is visible on all pages and the company name appears repeatedly.
- *E4: Privacy Policy.* The website found the way to tell their customers what kind of information it is collecting and how that information is used to provide value.
- *E5: About us.* YouTube was taken care about this section ABOUT US. And we can feel it really clear, when I clicked on field ABOUT, I was moved to special website which is dedicated to corresponding section and information is well-ordered, so if the user wants to be familiar with You Tube it will be easy to do. It helps people learn more about what company is, what company does, and why people can trust the company. Also it includes an organizational profile, contact information, legal information, customers, partners etc.

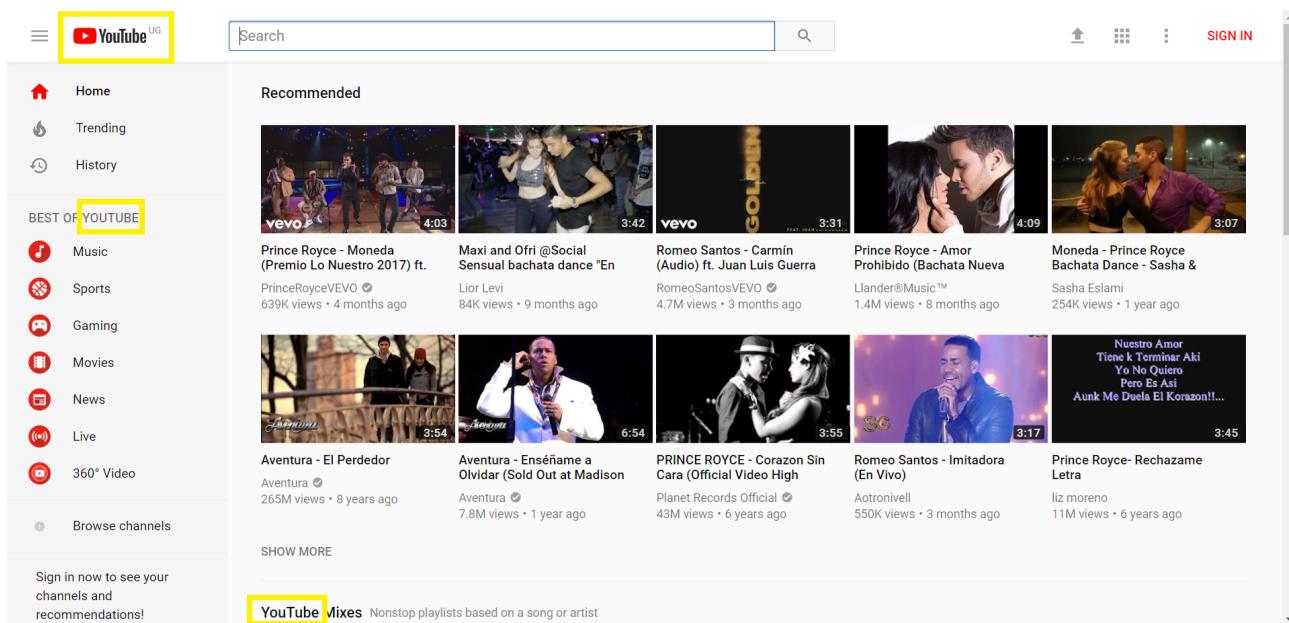


Figure 16: Van Duyne Pattern E1

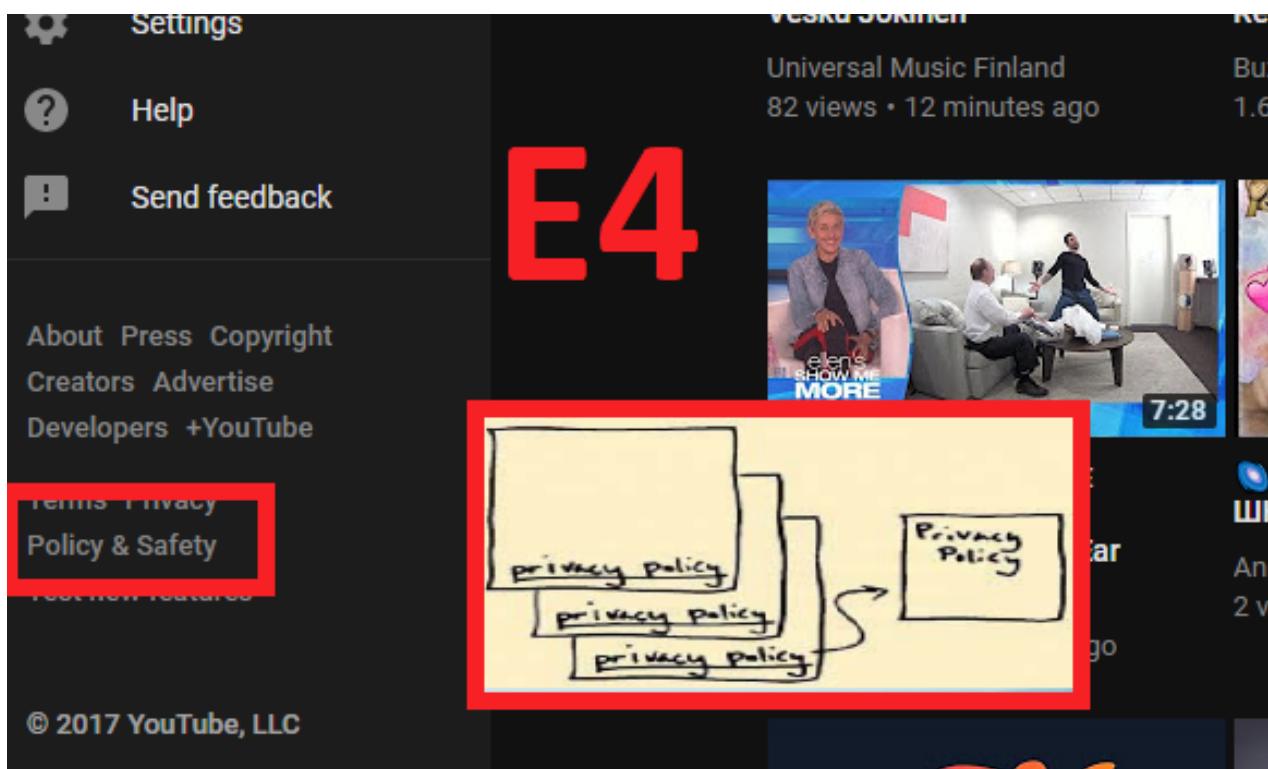


Figure 17: Van Duyne Pattern E4

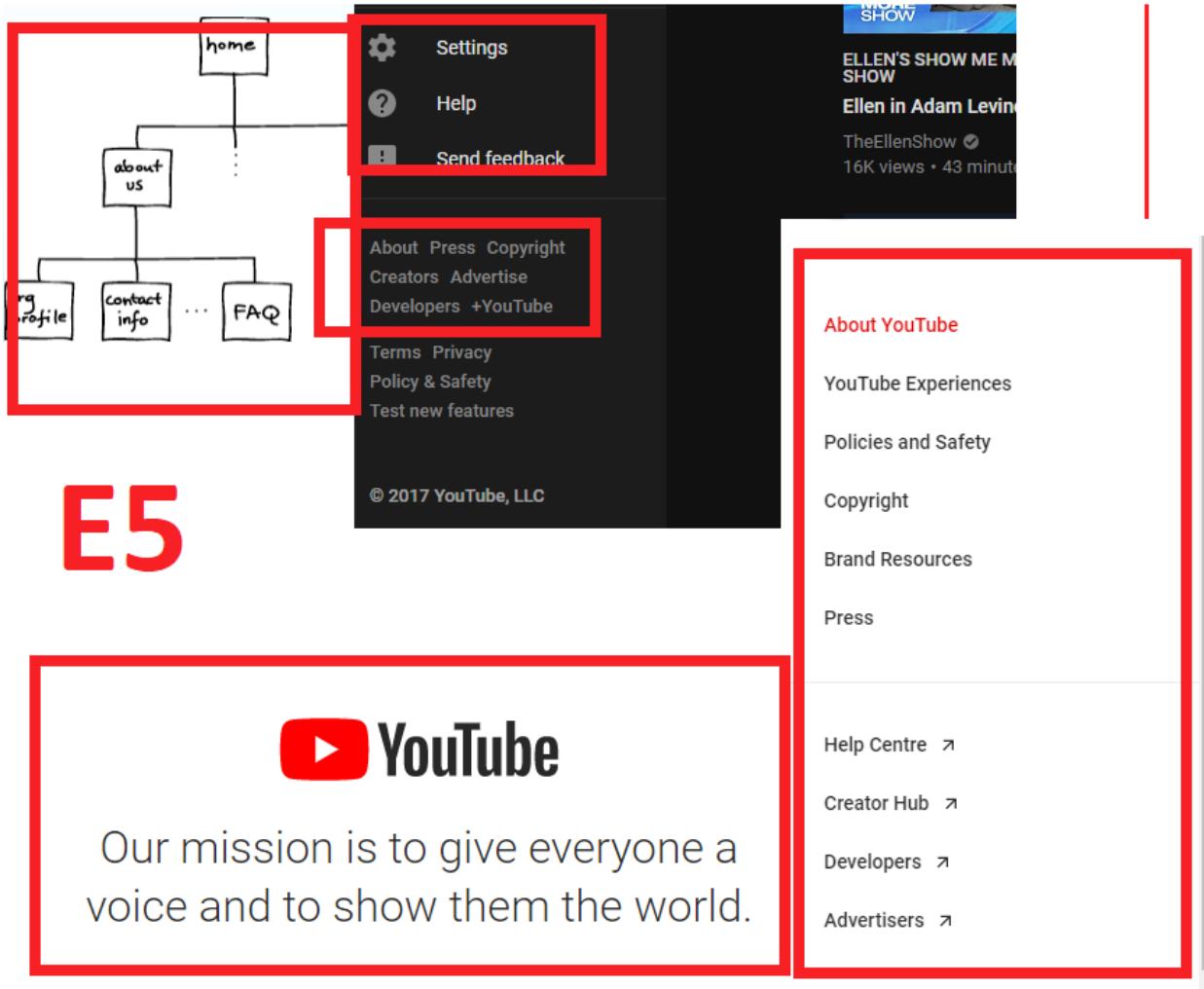


Figure 18: Van Duyne Pattern E5

### 3.2.1. Site 2: Movistar+

**A) Context** Movistar+ is a subscription platform for digital television. The web platform was created with the aim of allowing users to access the digital TV channels package from any device with internet connection. TV programs can be stopped, fast forward, rewind or recorded while seeing. In addition to provide access to national and international television channels through the internet, it also includes the possibility of seeing movies, series, sport matches, documentaries and more. Besides, the platform has a section for children, so they can surf safely between content that interests them.

### B) Nielsen's Heuristics

1. Visibility of system status

While reproducing videos we can see the progression bar. When a content is charging there is an animation that point the work in progress.

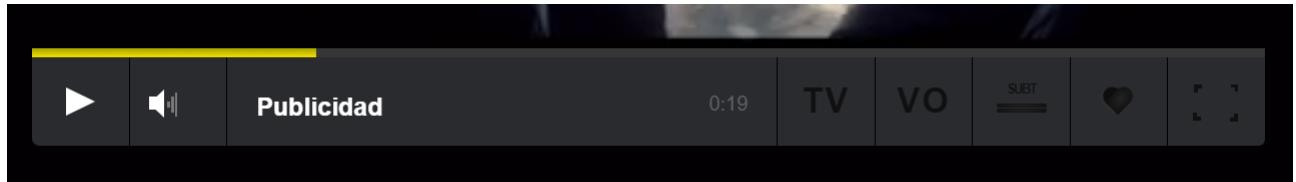


Figure 19: Visibility of system status example 1

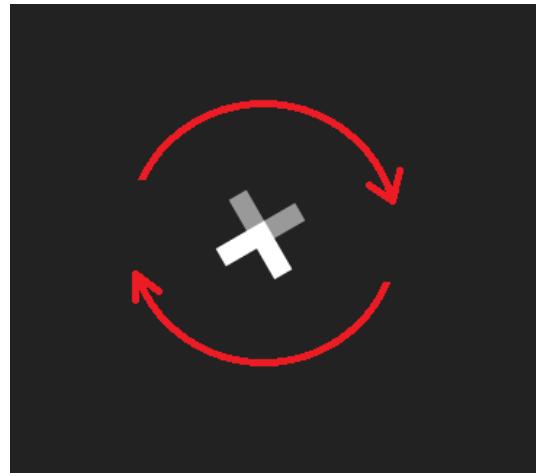


Figure 20: Visibility of system status example 2

## 2. Match between system and real world

12:30	12:45	13:00	13:15	13:30	13:45	14:00	14:15	14:30	14:45	15:00	15:15	15:30	15:45	16:00	16:15	16:30	16:45	17:00
						13:25 Cocina Torres en la cocina Ep. 497 "Brochetas de cordero y..."	14:00 Informativo Informativo territorial Informativo territorial	14:30 Corazón /... Corazón Corazón	15:00 Informativo Teledeportivo 1 Teledeportivo 1	+ +	16:25 Serie Policiaca Servir y proteger "Episodio 132"							
1	2	12:40 Cine Oeste Los cuatros	13:15 Cocina Karlos Argui... "Episodio 1440"	13:40 Concurso La ruleta de la suerte "Episodio 2728"	14:05 Cocina Las recetas de Julie Ep. 4 "La región de Iroise"	15:00 Doc. Ciencia y Tec. Barcos extremos Ep. 5 "Filipinas"	15:50 Concurso Saber y panar Saber y ganar	16:30 Doc. Naturaleza El Mississippi el río de Estados ...										
cuatro*						15:00 Informativo Antena 3 Noticias 1 Antena 3 Noticias 1	+ +	16:00 Meteorología Tu tiempo con ... Tu tiempo con Roberto Brasero	16:30 Telenovela Amar es para siempre "Episodio 1225"									
						14:15 Informativo Noticias Cuatro Noticias Cuatro	+ +	15:45 Humor Dani & Flo "Episodio 175"	17:00 Serie Hawaï 5.0 Ep. 7 "La l... más honda"									

Figure 21: Match between system and real world

## 3. User control and freedom

Confirmation and identification message when buying new packages.

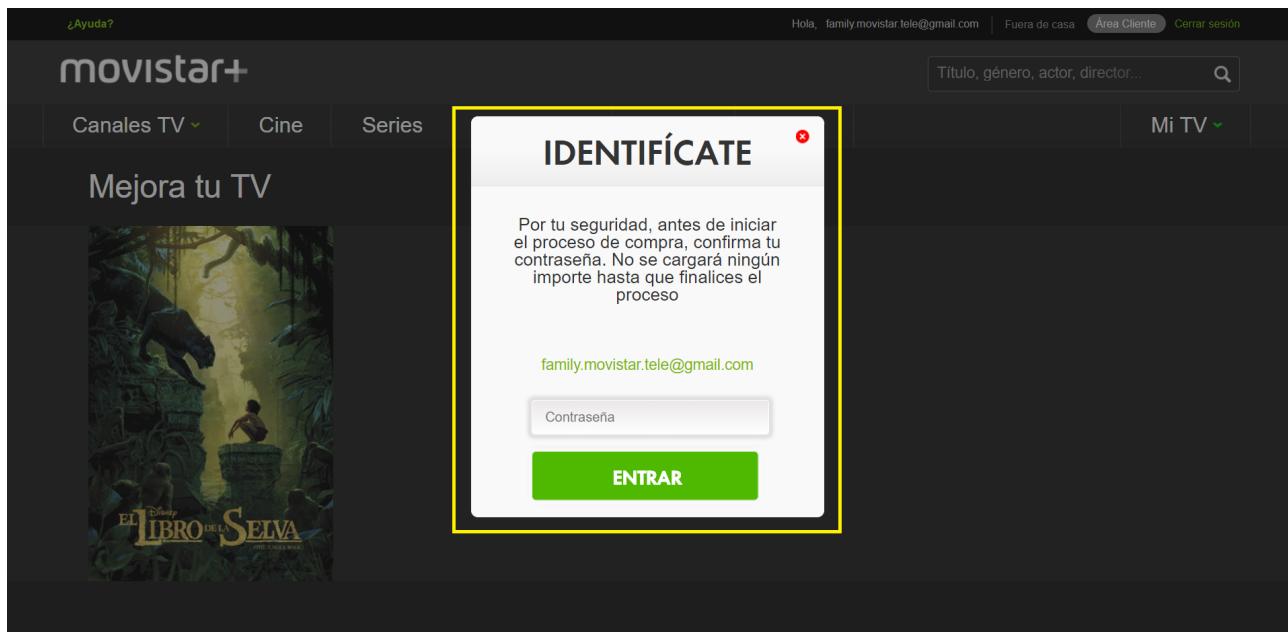


Figure 22: User control and freedom

#### 4. Consistency and standards

This screenshot displays the Movistar+ website with several sections highlighted by yellow boxes:

- OFERTA MOVISTAR+** (left sidebar): Contains links to Oferta Series, Oferta Cine, Oferta Fútbol, Oferta Deportes, and Oferta Motor.
- MOVISTAR+** (center header): Contains links to Oferta Televisión, Todas las Ofertas Movistar, Oferta Premium Extra, Programación TV, and Guía rápida.
- DESTACADOS DEPORTES** (right sidebar): Contains links to NBA, Euroliga, Fórmula 1, eSports, MotoGP, and Calendario LaLiga Santander, Calendario Champions League, and Calendario Premier League.
- DESTACADOS CINE** (bottom left): Contains links to Múltiple, Jack Reacher: Nunca vu..., Ice Age: El gran cataclismo, Animales fantásticos y d..., and Brimstone.
- DESTACADOS SERIES** (bottom center): Contains links to Babylon Berlin, Mr. Robot, Riverdale, White Famous, and Outlander.
- PRÓXIMOS ESTRENOS** (bottom right): Contains links to La Bella y la Bestia, Guardianes de la galaxia Vol. 2, Logan, El bebé jefazo, Dejamé salir, La Peste, Algo en que creer (Ride Upo...), Animal Kingdom 2, Bajo la superficie, and SMILF.

At the bottom of the page, there is a footer with the text: "Servicio de Atención al cliente: 902 11 00 10. Para nuevos clientes: 902 46 77 77  
© DTS DISTRIBUIDORA DE TELEVISIÓN DIGITAL, S.A.U.  
Av. Artesanos, 6 28760 Tres Cantos (Madrid)"

Figure 23: Consistency and standards

#### 5. Error prevention

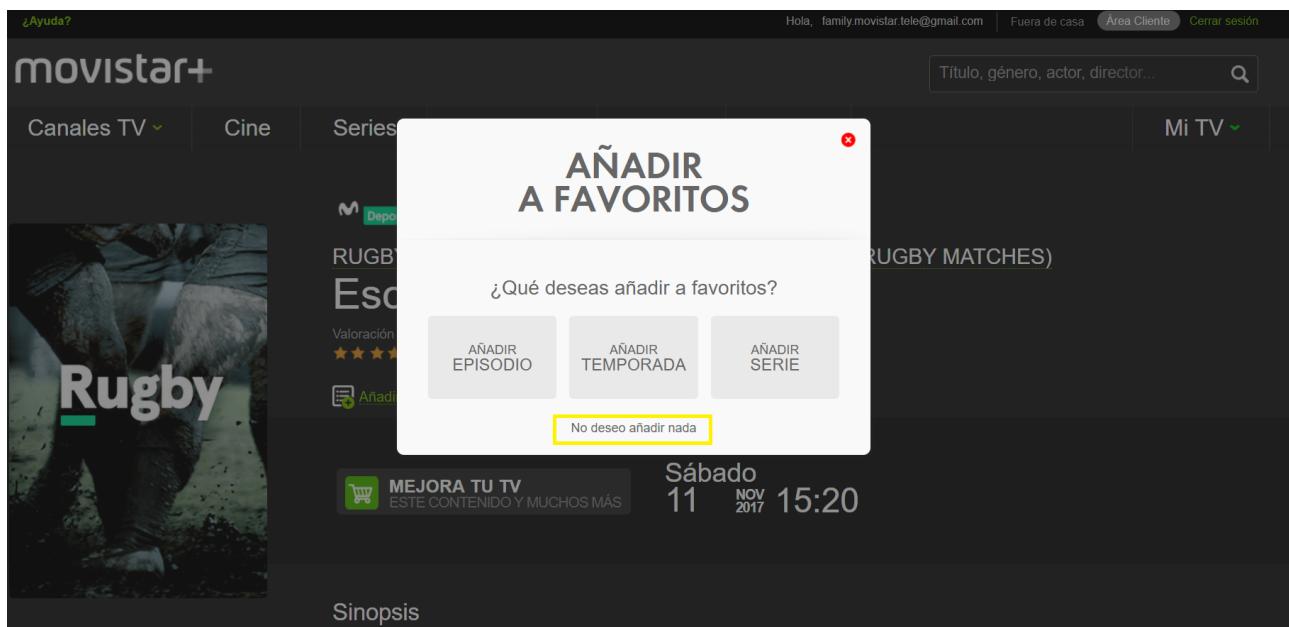


Figure 24: Error prevention

## 6. Recognition rather than recall

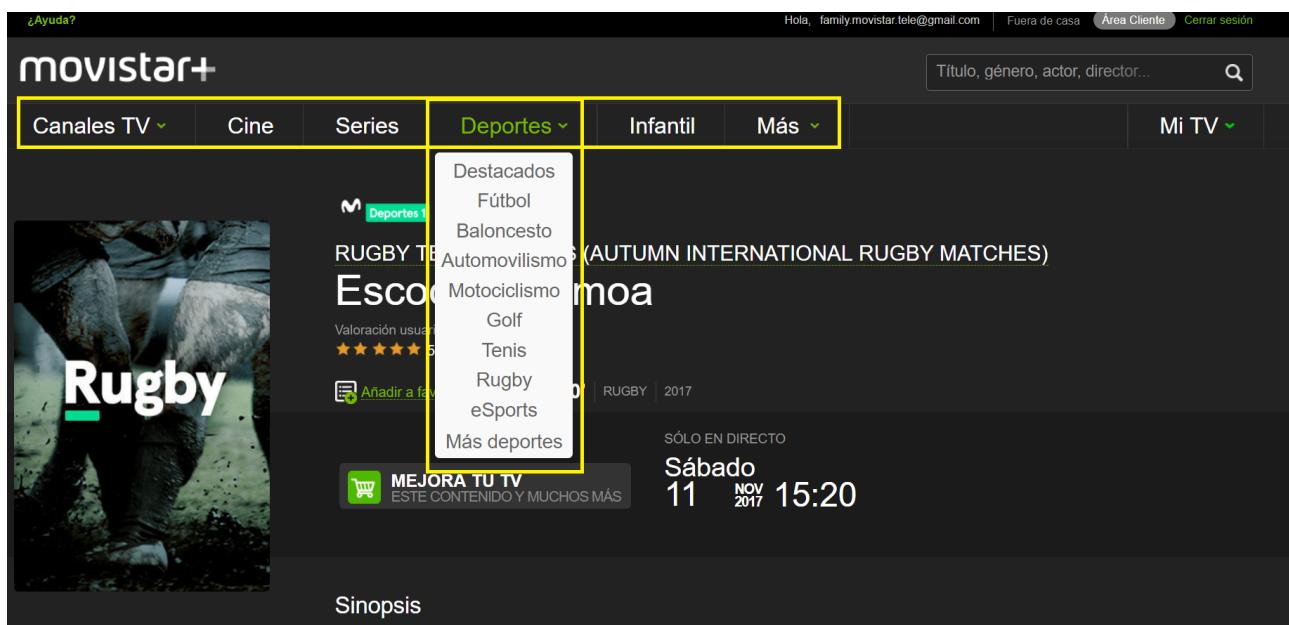


Figure 25: Recognition rather than recall

## 7. Flexibility and efficiency of use

There are no tools that allow experienced users to tailor frequent actions.

## 8. Aesthetic and minimalist design

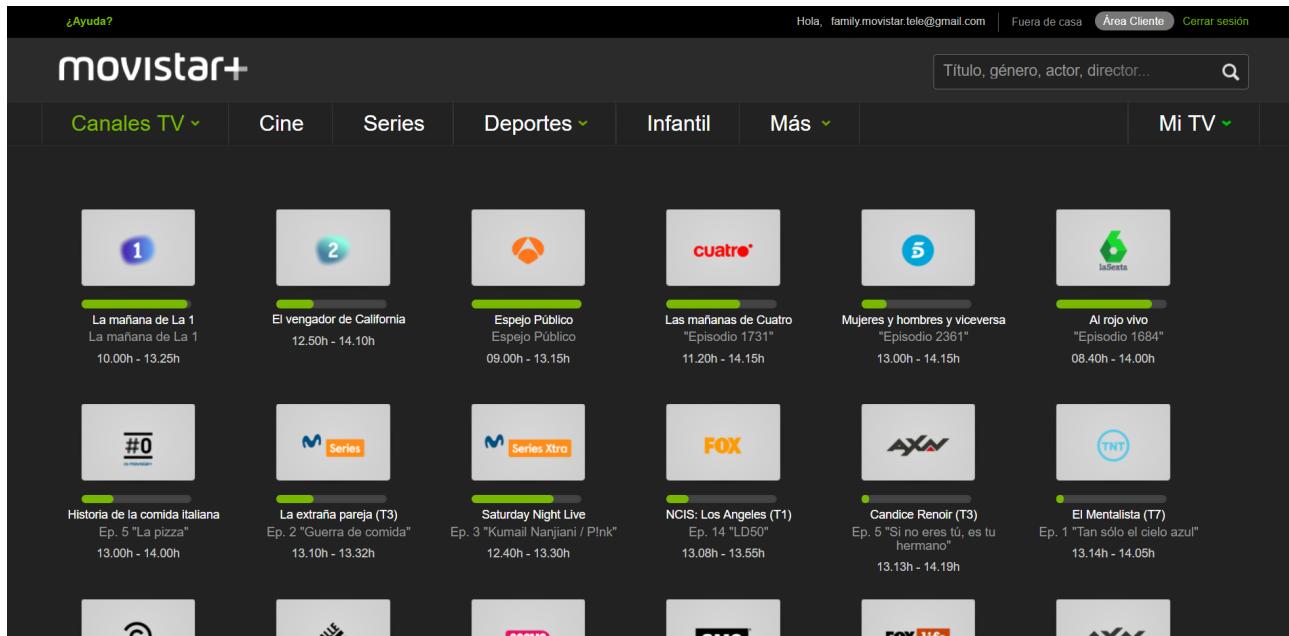


Figure 26: Aesthetic and minimalist design

## 9. Help users recognize, diagnose, and recover from errors

The platform prevents the user from making mistakes. The unallowed options can not be selected, and in the case that we can choose one of them, a message explaining the steps for being able to select that option is shown.



Figure 27: Help users recognize, diagnose, and recover from errors. Example 1



Figure 28: Help users recognize, diagnose, and recover from errors. Example 2

#### 10. Help and documentation

Figure 29: Help and documentation

### C) Van Duyne Patterns

#### 1. B: Navigation Framework

- B1: Search and navigation tools placed at the top and start of the page.
- B2: Content organized in categories that make sense to the users in an intuitive way.
- B3: Hierarchical organization with descriptive category names. However, there are some generic terms.
- B7: Popularity based organization
- B8: The pages are categorized by highlighting in the navigation bar the section in which the user is.

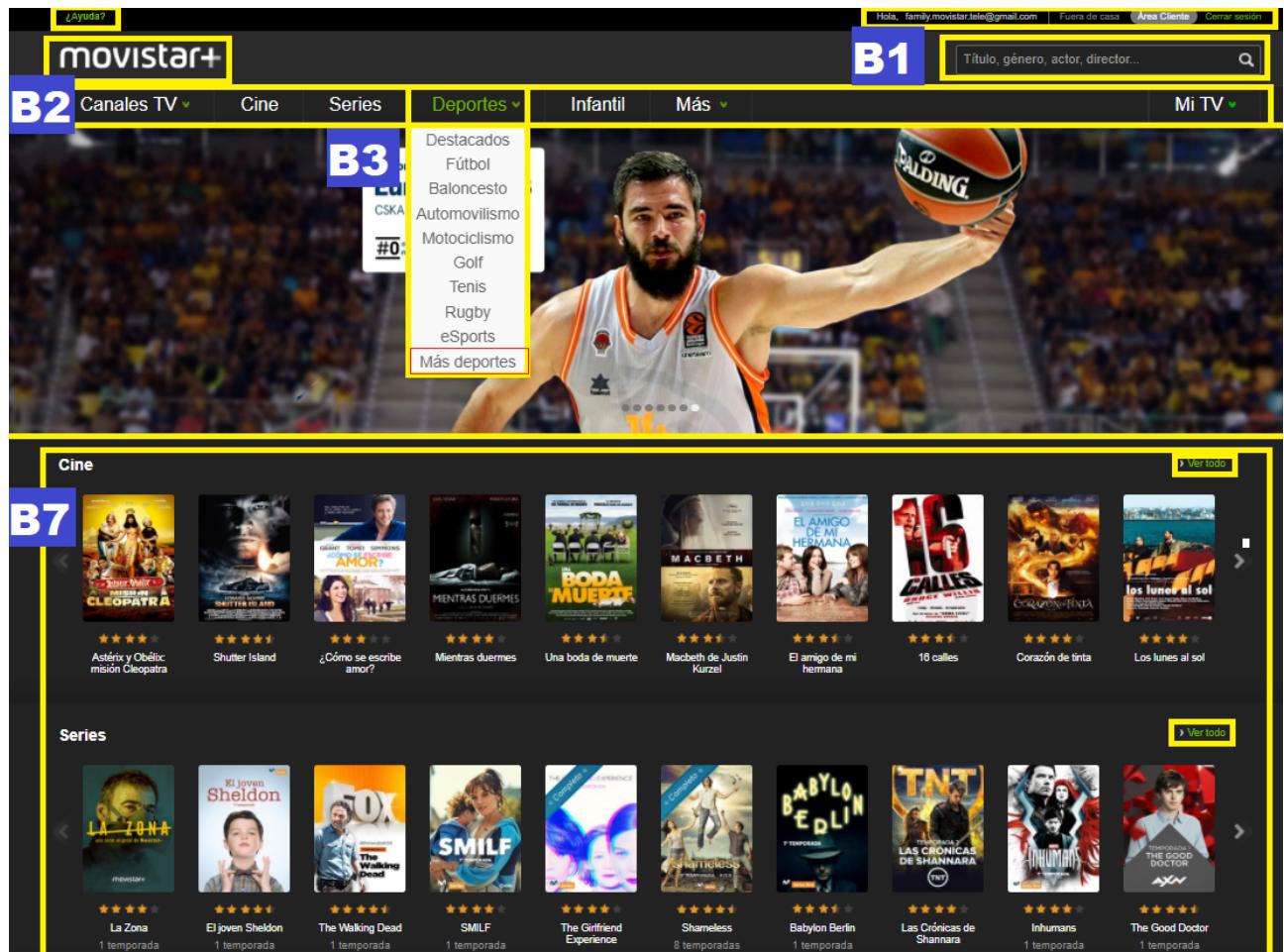


Figure 30: Van Duyne Pattern B

#### 2. J: Making Site Search Fast and Relevant

- J1: Search action module
- J2: Search engine that does not require extreme precision
- J3: Organized search result based

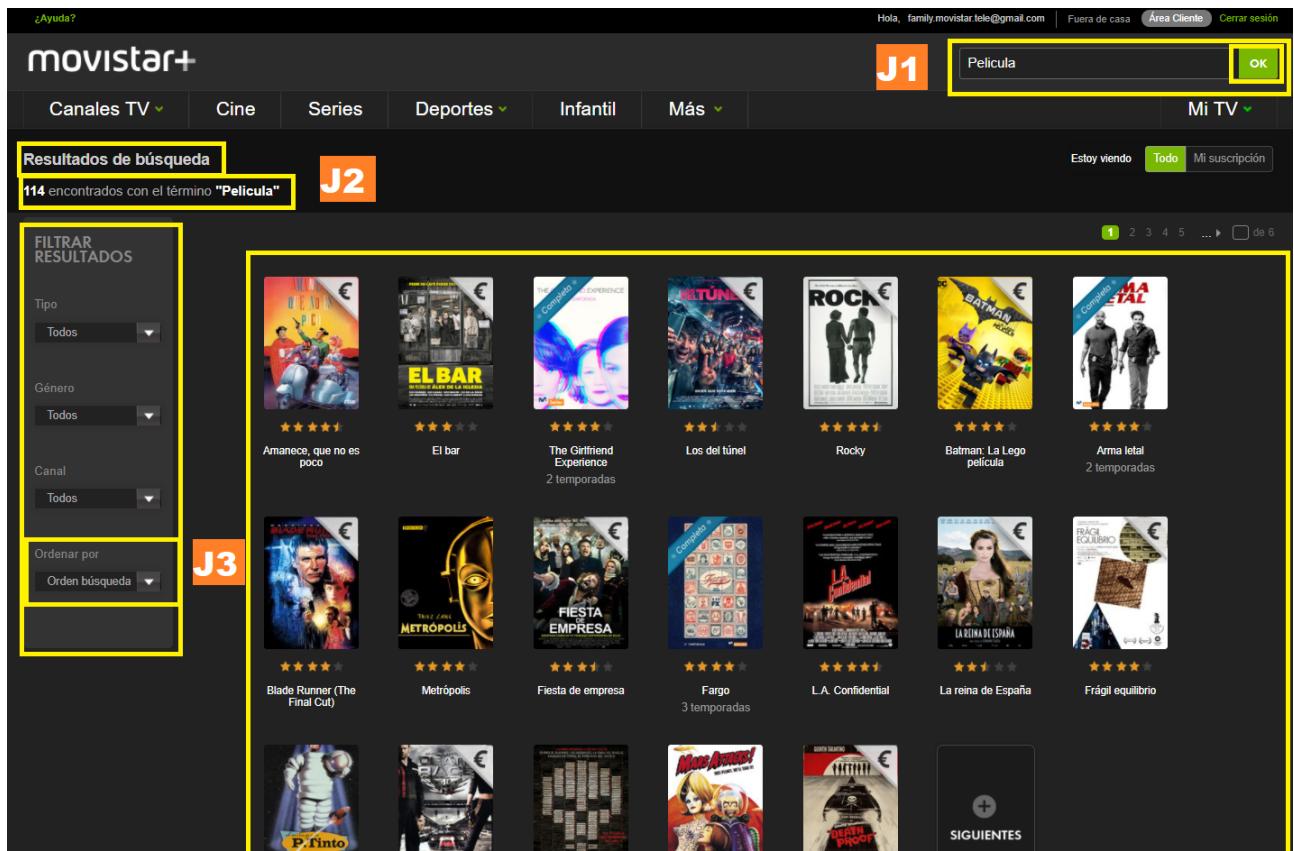


Figure 31: Van Duyne Pattern J

### 3.2.1. Site 3:

A) Context

B) Nielsen's Heuristics

C) Van Duyne Patterns

## 4. Previous Prototypes

### 4.1. Prototype 1

#### 4.1.1. Main Goal

The first prototype, which was “Tubevision”, had the following main goal, which was explained in the third exercise:

“*Tubevision*, our video content platform, is a multimedia website for a diverse audience of users. Designed as an easy-to-use website, it features the ability to browse for content by category and to search for content through the use of a search box. Users to the website must subscribe in order to access the video content on the website, which spans from user-uploaded videos to TV streaming content to movies/films. In addition, *Tubevision* is accessible via a mobile device or a traditional desktop computer.

The webpage is monetized through two forms: 1) premium subscriptions and 2) pre-content video ads. Premium subscriptions are paid versions of subscription accounts which enables special features not available to non-premium subscribers, such as unlimited offline video downloads, unlimited movies, speech interface, and video advertisement-free content. Instead of invasive display ads on the side panel, non-premium users are shown short video ads spanning several seconds before their selected video content plays.”

#### 4.1.2. Design

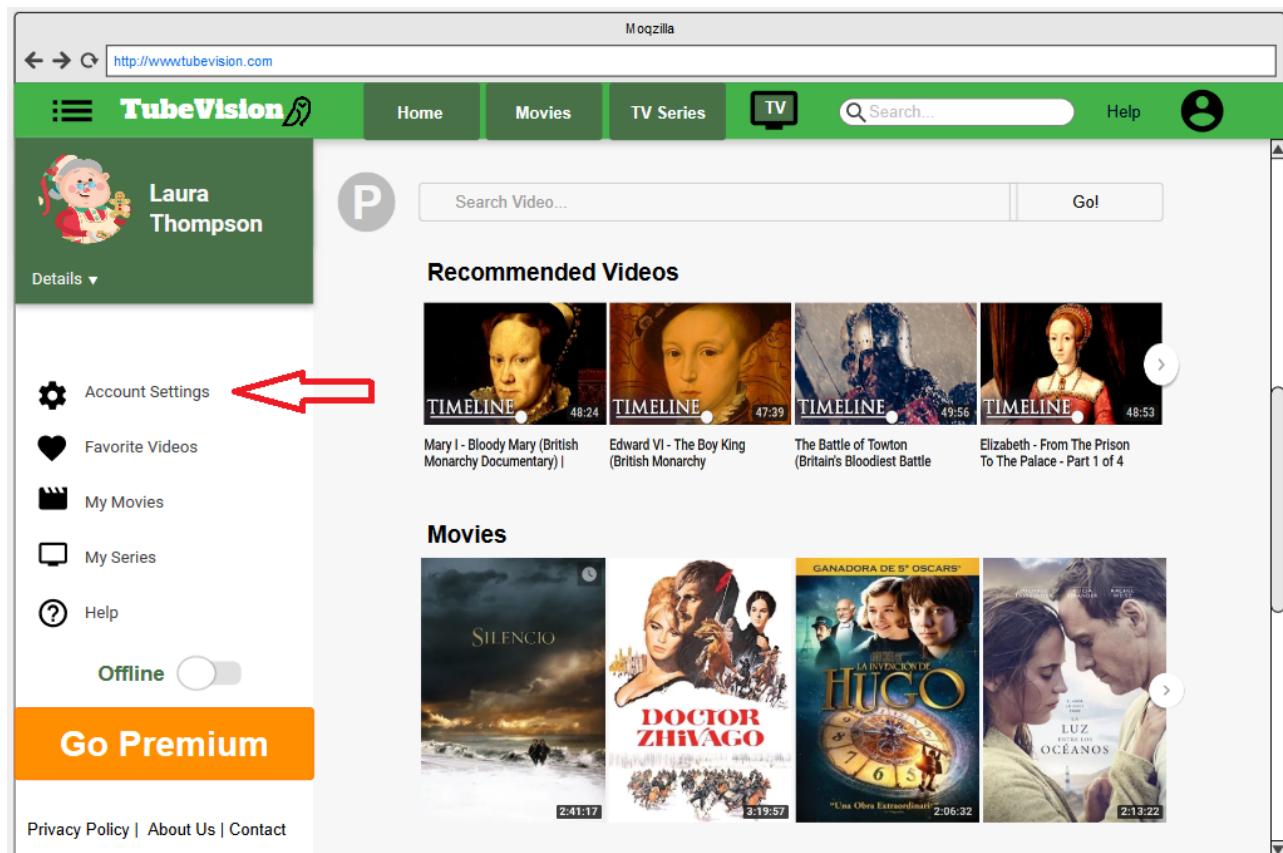


Figure 32: Home menu without Parental Control

Mozilla

http://www.tubevision.com

**TubeVision**

Laura Thompson

Home | Movies | TV Series | TV | Search... | Help | User icon

Overview | Privacy | Notifications | Billing Information

Details ▾

Account Settings

Favorite Videos

My Movies

My Series

Help

Offline

**Go Premium**

Privacy Policy | About Us | Contact

Overview

Account Information

Name: Laura Thompson  
Email: lau\_thompson35@uc3m.com  
Account Type: Standard  
Favorite Topics: History, Documentary, Cartoon, Disney, Animation

Additional features

Language: English (US)

Restricted Mode  

[View additional features](#)

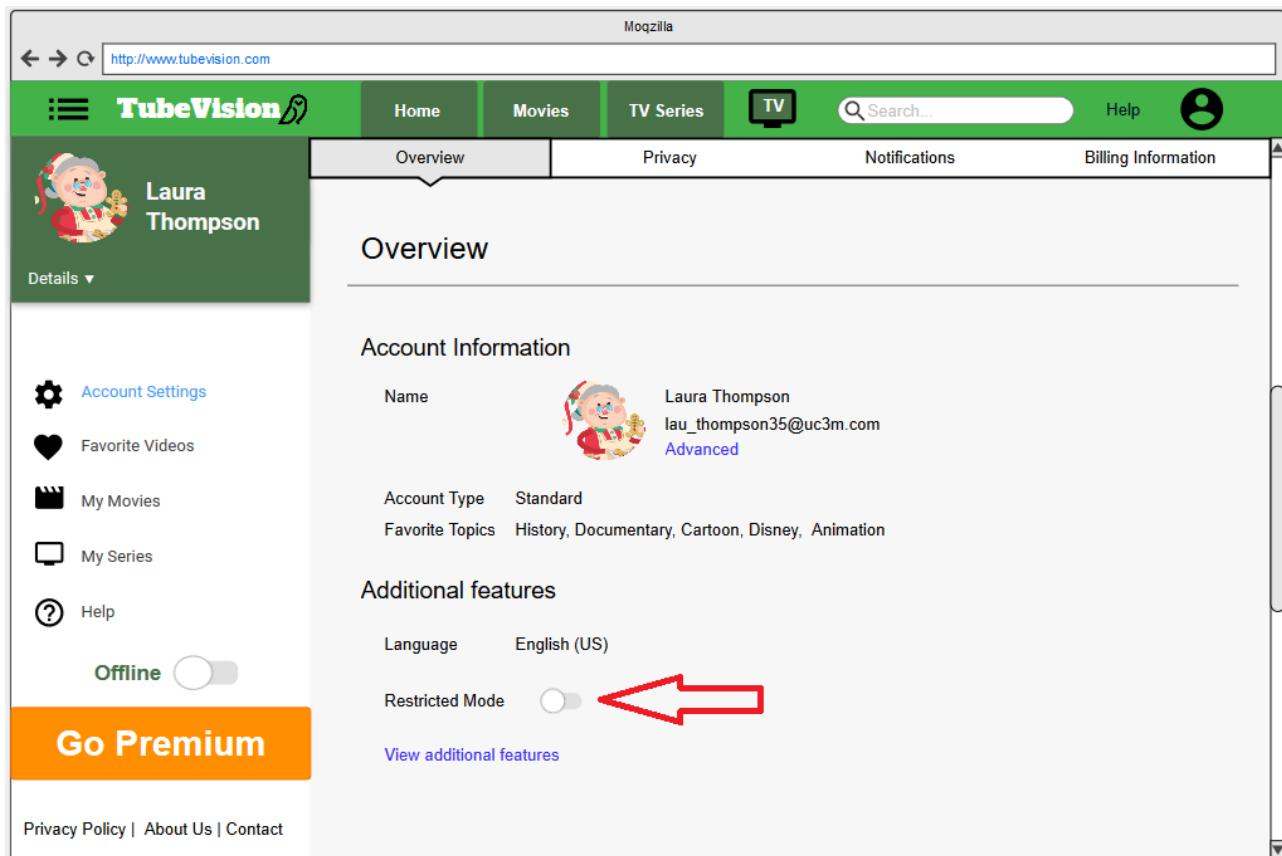


Figure 33: Account Settings Menu

Mozilla

http://www.tubevision.com

**TubeVision**

Laura Thompson

Home | Movies | TV Series | TV | Search... | Help | User icon

Overview | Privacy | Notifications | Billing Information

Details ▾

Account Settings

Favorite Videos

My Movies

My Series

Help

Offline

**Go Premium**

Privacy Policy | About Us | Contact

Overview

Account Information

You need to identify yourself to make those changes

Name  Username

Account Type

Favorite Topics

Additional features

Language

Restricted Mode  

Cancel  Log In

[View additional features](#)

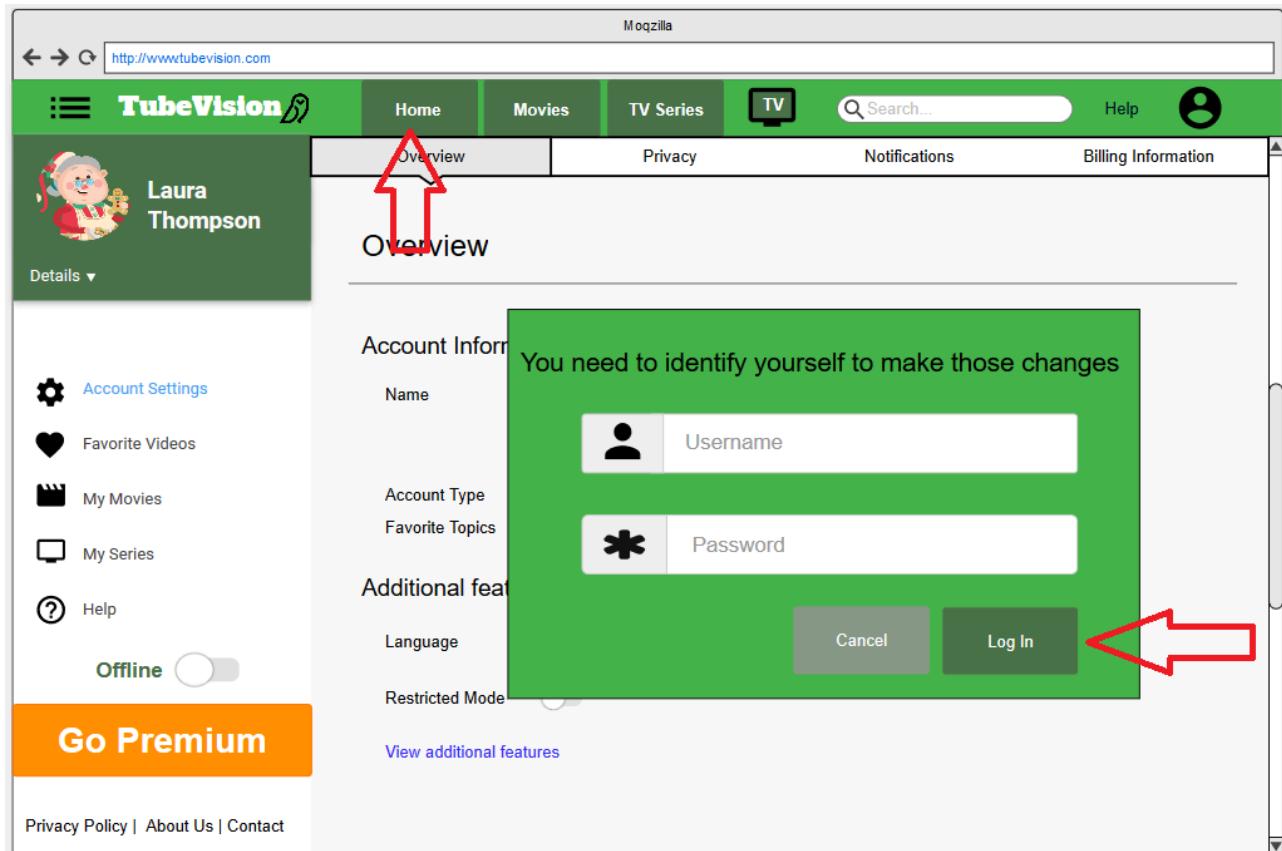


Figure 34: Identification form for applying settings changes

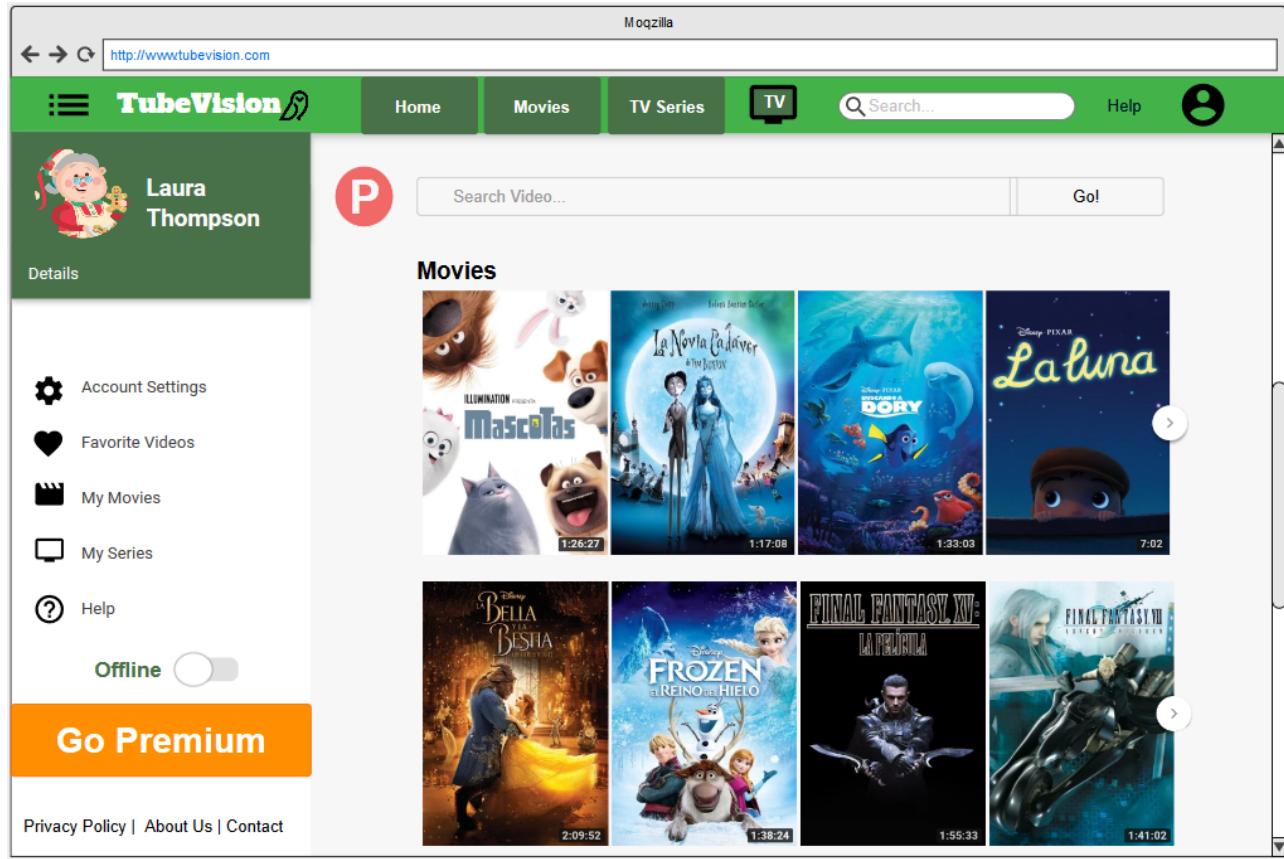


Figure 35: Home menu with Parental Control

## 4.2. Prototype 2

### 4.1.1. Main Goal

The second prototype, which was “ScoobyMovie”, had a much more similar main goal to this final website. It was also a video streaming website for children, where they can watch films and series oriented to them, and create playlists to save their favorite videos and share them with other people through social media. They can also leave comments and likes on the videos. The most notable difference between this website and “ScoobyMovie” is the design, which is totally different.

#### 4.1.2. Design

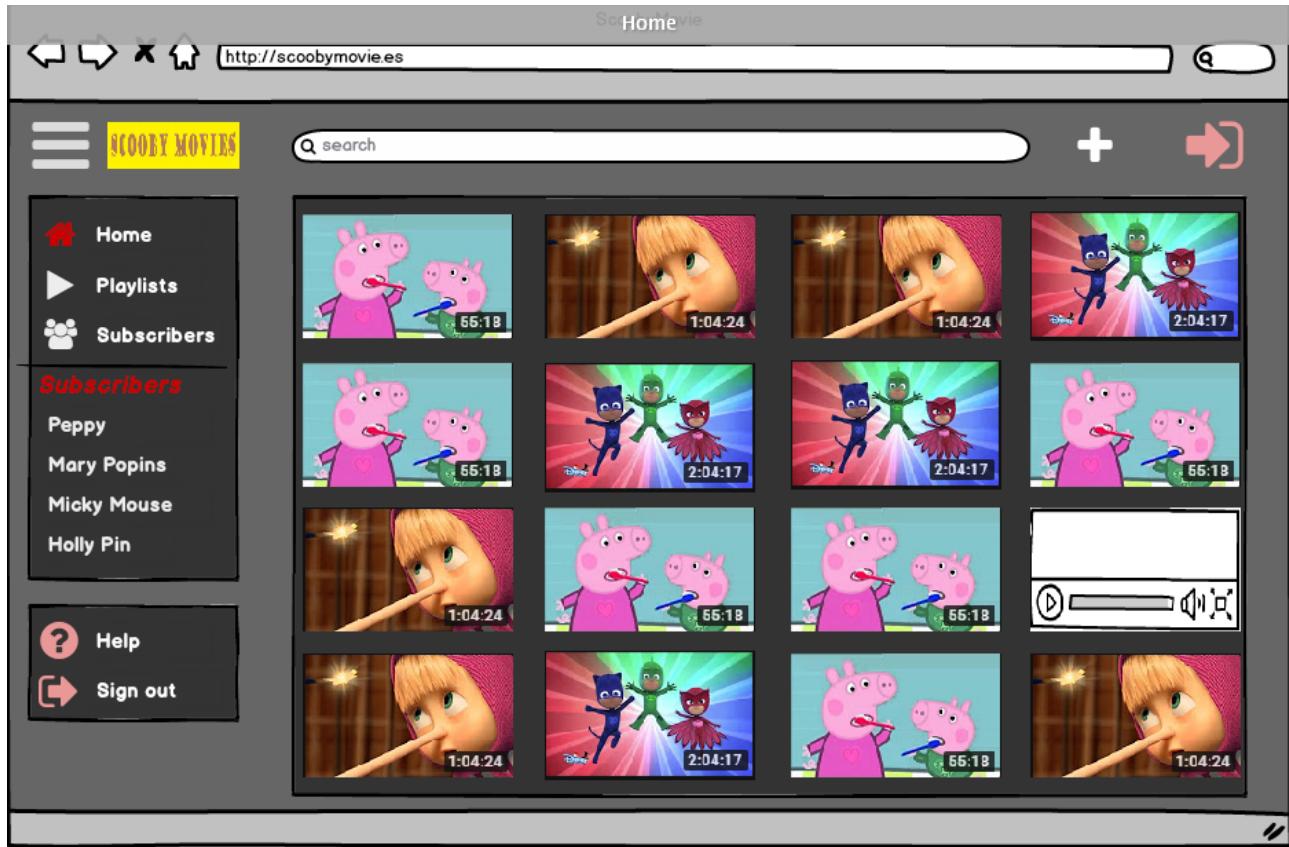


Figure 36: Home Page

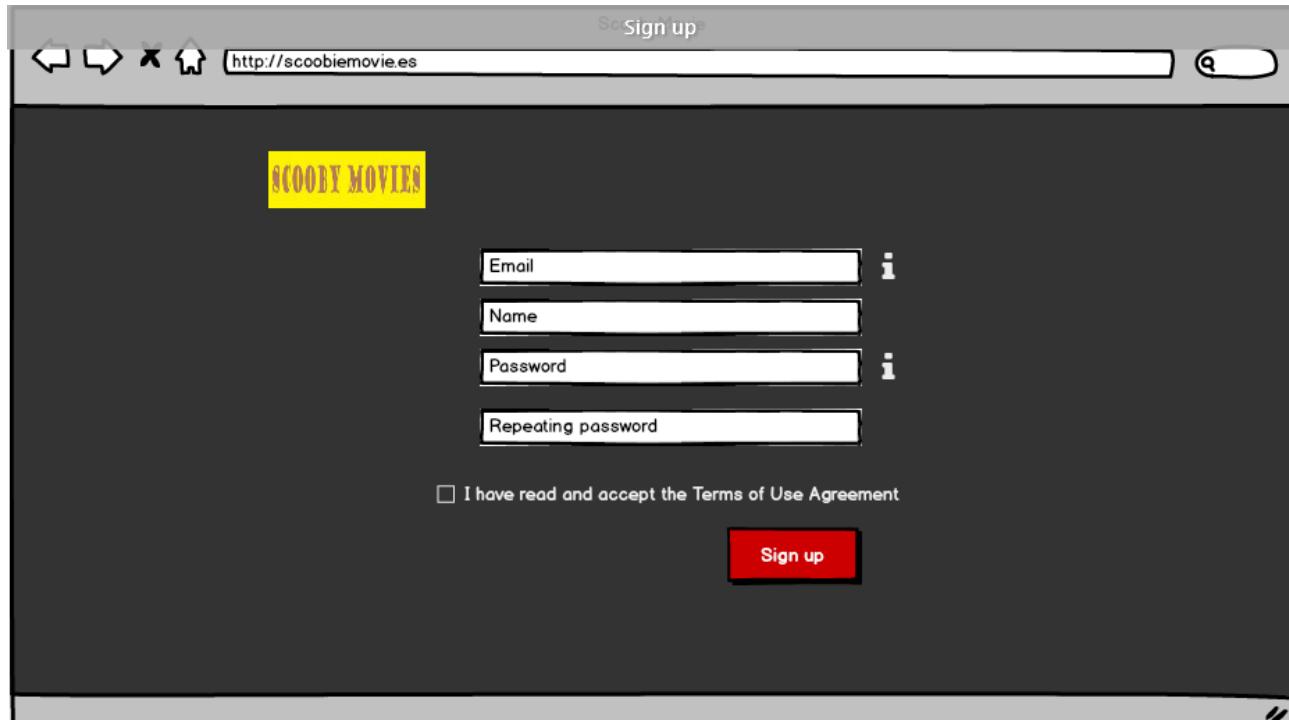


Figure 37: Sign Up Page

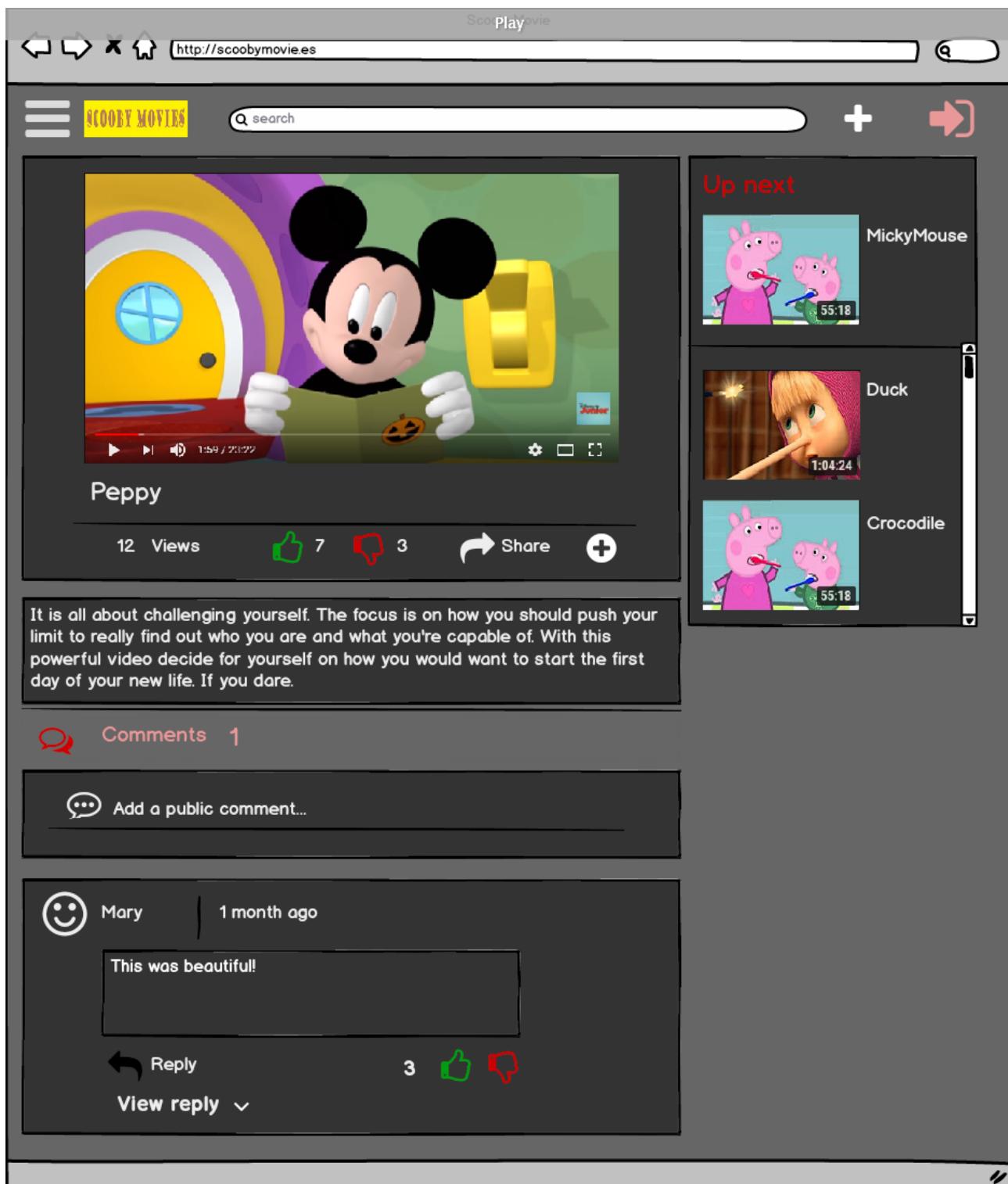


Figure 38: Play Page

## 5. New Prototype

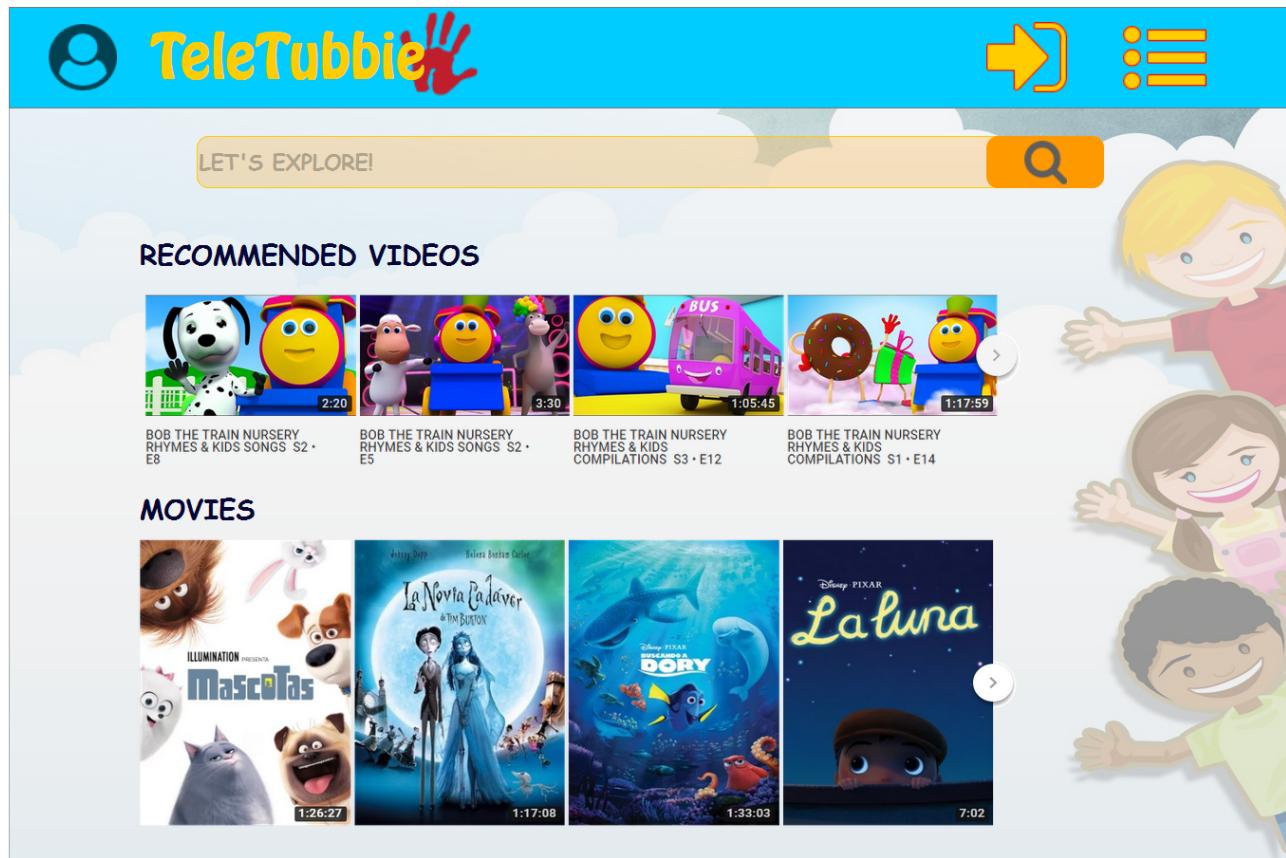


Figure 39: Final prototype home page

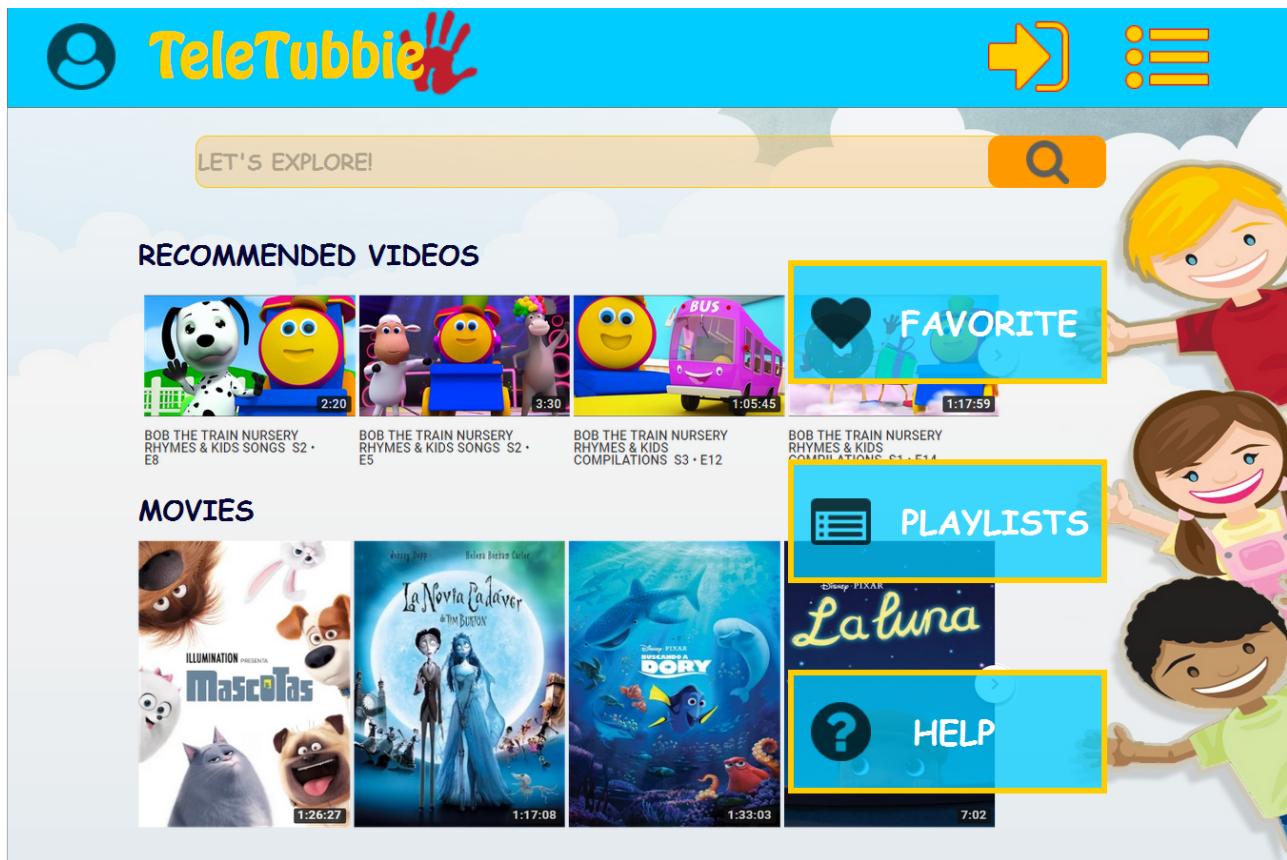


Figure 40: Final prototype with side menu displayed

### 5.1. Design Reasons

### 5.2. Nielsen's Heuristics

### 5.3. Van Duyne Patterns

## **6. Used Technology**

For implementing the web page, we have decided to use php code, which is pretty similar to html code, in the sense that html code behaves the same way in php files. Also, we have used css for specifying the design of the webpage (colors, font, size, etc), and javaScript to implement the scripts used for the web pages. Additionally, to check the functionality of the php pages, we have used XAMMP, which is an application that provides a local server to your computer, so that the functionalities can be checked. To properly use this server, we have used a little bit of sql to create tables to store necessary information, such as the users, the comments, playlists and videos, and the information each of them has, like the likes and dislikes each video has, and the nickname and password of each user.

## **7. Implementation Process**

## **8. Conclusion and Personal Opinion**