

ER: Requirements Specification Component

Gameorama is a web application that provides a place for gamers to post, discuss and rate the latest news on their favorite videogames and topics.

A1: Gameorama

The purpose of this project is to specify and develop an information system with a web application for a collaborative news management platform for videogames/gamers. The videogame world is continuously evolving, and its community sometimes struggles to keep up with all the changes and new releases. Gameorama solves this issue by providing a place for gamers to follow their favorite topics, genres, and games.

The goal of Gameorama is to develop a platform for the gaming community to post, rate, and comment on the latest news, while also being able to follow their favorite videogame topics.

The website's main page has the ability to sort posts by popularity and by the latest news. Authenticated users have the option to show their customized feed, which shows news from topics and users they are currently following, additionally, they can save their favorite news posts. The website also features a navbar with a search feature, which lets users easily search users, topics, and news. In this navbar, for authenticated users, there will also be a notifications icon, a button that allows them to create a news post and a profile page icon that leads them to an editable profile page, featuring a short biography, a profile picture, reputation score, the number of followers and their posted news. It is also on this profile page that the users can see their saved posts.

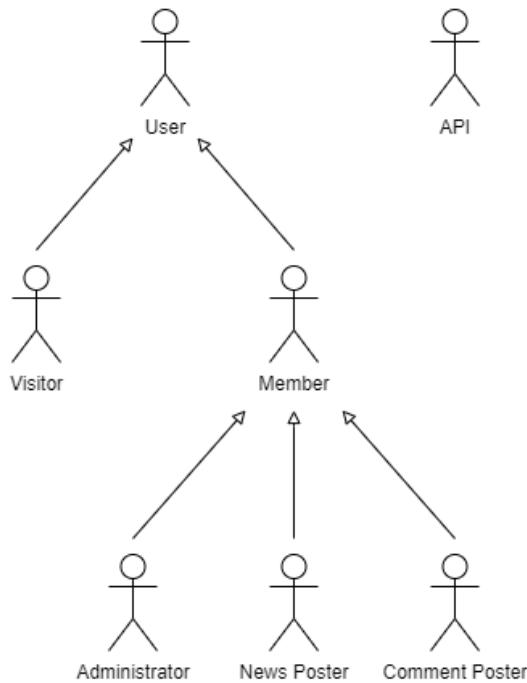
The application will feature a rating system for news and comments, granting authenticated users the ability to upvote or downvote them based on their reliability and usefulness. A news post/comment gets more visibility based on the value of upvotes-downvotes it gets. These ratings also directly influence the reputation score of the owner of the post/comment, so other users can know if their posted information is legitimate and reliable. Moreover, it is also possible for authenticated users to report abusive, inappropriate, or fake news/comments, so the moderator can analyze these situations and correctly deal with them.

Users will be distributed in three distinct groups: Visitors, Members, and Administrators. Upon entering the website, all users are presented with the latest news on the most popular topics and can search for news, topics, and users. Visitors (unauthenticated users) are able to register and/or login to create a new account. Members (authenticated users) can post and rate news and comments, while also being able to follow topics and other users, this makes it so the news that appears on their feed can be customized to their preferences. Finally, administrators can delete topics and posted news/comments of any user on the website, furthermore, if necessary, they can delete abusive accounts.

A2: Actors and User stories

The following sections provide several details about the project, its actors and functionalities.

1. Actors



Identifier	Description	Examples
User	Generic user with access to public information, such as topics, news and comments.	n/a
Visitor	Unauthenticated user that can register itself (sign-up) or sign-in in the system.	n/a
Member	Authenticated user that can post news, comments and edit all of its posts and comments. Can also upvote or downvote other user's posts and comments. Has the ability to follow users and topics to have a customized news feed.	WanWan
News Poster	Authenticated user that belongs to the same location as the creator of a news item and can change/delete its existing information.	WanWan
Comment Poster	Authenticated user that belongs to the same location as the creator of a comment and can change/delete its existing information.	kaka34
Administrator	Authenticated user that is responsible for the management of users, news and comments.	Admin9218
API	External APIs that can be used to register and/or authenticate into the system.	Google

Table 1: Actor's description.

2. User Stories

2.1. User

Identifier	Name	Priority	Description
US11	Main Page News	High	As a User, I want to access the website's main page, so that I can see the latest news about gaming.
US12	Profile Page	High	As a User, I want to consult the profile of a Member, so that I can see their biography, profile picture, reputation score, number of followers and posted news.
US13	Search	High	As a User, I want to search for specific news posts, topics and users so that I can easily find what I'm looking for.
US14	Topic Page	High	As a User, I want to consult the page of a specific gaming topic so that I can see the latest news about that subject.
US15	News Post Page	High	As a User, I want to access the page of a specific news post so that I can see more details about that post and its comments.
US16	Main Page Trending Topics	Medium	As a User, I want to consult the top trending topics on the main page so that I can discover other gaming topics that are popular.
US17	About Page	Low	As a User, I want to access the About page, so that I can see a complete website's description.

Table 2: User's user stories.

2.2. Visitor

Identifier	Name	Priority	Description
US21	Sign Up	High	As a Visitor, I want to register myself into the system, so that I can become a Member.
US22	Log In	High	As a Visitor, I want to authenticate into the system, so that I can have Member privileges.
US23	Sign Up using Google	Medium	As a Visitor, I want to register myself into the system using a Google account, so that I can become a Member, spending less time registering.
US24	Log In using Google	Medium	As a Visitor, I want to authenticate into the system using a Google account, so that I can have Member privileges.

Table 3: Visitor's user stories.

2.3. Member

Identifier	Name	Priority	Description
US311	Logout	High	As a Member, I want to logout from the system, so that other users are able to login in the same computer.
US321	Create a News Post	High	As a Member, I want to create a news post for the community to read and comment, so that I can share the latest information on gaming.
US322	Select/Add a Topic	High	As a Member, when creating a news post, I want to be able to select gaming topics related to that post, so that I can associate the news information with the respective subject/theme.
US324	Comment a News Post	High	As a Member, I want to comment on a news post, so that I can discuss and share my opinion with the community.
US331	Follow a Topic	High	As a Member, I want to follow a topic, so that I can see posts related to that topic in my customized news feed.
US332	Unfollow a Topic	High	As a Member, I want to unfollow a topic, so that I remove posts related to that topic from my customized news feed.
US333	Follow a Member	High	As a Member, I want to follow a member, so that I can see posts created by that member in my customized news feed.
US334	Unfollow a Member	High	As a Member, I want to unfollow a followed member, so that I remove posts created by that member from my customized news feed.

Identifier	Name	Priority	Description
US341	Rate a News Post	High	As a Member, I want to upvote or downvote a news post based on my thoughts, so that I can affect the post's visibility.
US342	Rate a Comment	High	As a Member, I want to upvote or downvote a comment based on my thoughts, so that I can affect the comment's visibility.
US343	Report a News Post	High	As a Member, I want to be able to report an offensive/misleading news post, so that I can contribute in keeping Gameorama safe and reliable for me and other users.
US344	Report a Comment	High	As a Member, I want to be able to report an offensive/misleading comment, so that I can contribute in keeping Gameorama safe and reliable for me and other users.
US345	Bookmark a News Post	High	As a Member, I want to bookmark interesting news posts so that I can review them later.
US346	Remove Bookmarked a News Post	High	As a Member, I want to remove a Bookmarked news post so that I can delete them from my profile page.
US351	View my Posted News Posts	High	As a Member, I want to be able so see in my profile page the news posts I've created so that I can easily access them.
US352	View my Comments	High	As a Member, I want to be able so see in my profile page the comments I've posted so that I can easily access them.
US353	View Bookmarked News Posts	High	As a Member, I want to be able so see in my profile page the news posts I've bookmarked so that I can easily access them.
US354	Edit Profile Information	High	As a Member, I want to edit my own profile information (e.g. name, profile picture, biography), so that it can be up to date.
US355	Edit Account Settings	High	As a Member, I want to edit my account settings (e.g. email, password), so that I can keep my account safe.
US361	Notifications	Medium	As a Member, I want to get notified when another Member follows me or comments on my post so that I can know when and who followed me/commented on my post faster.

Table 4: Member's user stories.

2.4. News Poster

Identifier	Name	Priority	Description
US41	Edit my News Post	High	As a News Poster, I want to be able to edit my news post so that I can change its information when needed.
US42	Delete my News Post	High	As a News Poster, I want to be able to delete my news post so that I can remove it in case it contains misleading information.

Table 5: News Poster's user stories.

2.5. Comment Poster

Identifier	Name	Priority	Description
US51	Edit my Comment	High	As a Comment Poster, I want to be able to edit my comment so that I can change its information when needed.
US52	Delete my Comment	High	As a Comment Poster, I want to be able to delete my comment so that I can remove it in case it contains misleading information or doesn't contribute to the discussion.

Table 6: Comment Poster's user stories.

2.6. Administrator

Identifier	Name	Priority	Description
US61	Delete a News Post	High	As an Administrator, I want to be able to delete a news post so that I can remove it in case it contains misleading information.
US62	Delete a Comment	High	As an Administrator, I want to be able to delete a comment so that I can remove it in case it contains misleading information or doesn't contribute to the discussion.
US63	Delete/Ban an account	High	As an Administrator, I want to be able to delete an account so that I can ban members that post offensive/misleading content on the website.
US64	Delete a Topic	High	As an Administrator, I want to be able to delete a topic so that I can remove topics that are offensive or contain misleading information.

Table 7: Administrator's user stories.

3. Supplementary Requirements

3.1. Business rules

Identifier	Name	Description
BR01	Rating System	A member can only upvote OR downvote a news post/comment, not both at the same time.
BR02	News Aura Score	A News Aura Score is calculated by the following formula: News Post's Number of Upvotes - News Post's Number of Downvotes.
BR03	Comment Aura Score	A Comment Aura Score is calculated by the following formula: Comment's Number of Upvotes - Comment's Number of Downvotes.
BR04	Member's Aura score	A Member's Aura score is calculated according to the formula: All Member's News Aura + All Member's Comment Aura.
BR05	Auto Upvote	A newly created post always has its creator's own upvote automatically (although it can be removed later).
BR06	Edited Post	An edited post is adequately marked with an indicator (edited).
BR07	Edited Comment	An edited comment is adequately marked with an indicator (edited).
BR08	News Poster	A News Poster is identified with a special icon (A microphone) when they comment on their own post.
BR09	Administrator	An Administrator is identified with a special icon (A shield) when they post or comment in the website.
BR10	New News Posts	A News Post must always have at least 1 topic assigned to it.
BR11	New Topics	If, when creating a news post, a Member selects a topic that doesn't exist yet, a new page for that topic is created.
BR12	Deleted Member	A deleted Member has all their content on the website deleted (profile, news posts and comments).
BR13	Deleted Topic	A deleted Topic has all its content deleted (news posts and comments).
BR14	Comment Date	A Comment's date must be after its Post's date

3.2. Technical requirements

Identifier	Name	Description
TR01	Availability	The system must be available 99 percent of the time in each 24-hour period.
TR02	Accessibility	The system must ensure that everyone can access the pages, regardless of whether they have any handicap or not, or the Web browser they use.
TR03	Usability	The system should be simple and easy to use.
TR04	Performance	The system should have response times shorter than 2s to ensure the user's attention.
TR05	Web application	The system should be implemented as a Web application with dynamic pages (HTML5, JavaScript, CSS3 and PHP).
TR06	Portability	The server-side system should work across multiple platforms (Linux, Mac OS, etc.).
TR07	Database	The PostgreSQL 13.0 database management system must be used.
TR08	Security	The system shall protect information from unauthorized access through the use of an authentication and verification system.
TR09	Robustness	The system must be prepared to handle and continue operating when runtime errors occur.
TR10	Scalability	The system must be prepared to deal with the growth in the number of users and their actions.
TR11	Ethics	The system must respect the ethical principles in software development (for example, the password must be stored encrypted to ensure that only the owner knows it).

3.3. Restrictions

Identifier	Name	Description
C01	Deadline	The system should be ready to be used at the beginning of the Summer, so gamers can use the website during their holidays.

A3: User Interface Prototype

This user interfaces prototype (or horizontal prototype) has the following goals:

1. Help to identify and describe the user requirements, and raise new ones;
2. Preview and empirically test the user interface of the product to be developed;
3. Enable quick and multiple iterations on the design of the user interface.

This artefact includes four elements:

1. [Overview of the interface elements and features common to all pages](#);
2. [Overview of the information system from the viewpoint of the users \(sitemap\)](#);
3. [Identification and description of the main interactions with the system, organized as sequences of screens \(wireflows\)](#);
4. [Overview of all the interfaces featuring their main content](#).

The interface's descriptions are presented on the end of the document.

1. Interface and common features

Gameorama is a web application based on HTML5, JavaScript, and CSS. The user interface was implemented using the [Bootstrap](#) framework.

Desktop

The desktop interface features a top navigation bar with the Gameorama logo, search, and user profile. Below is a news feed with four main articles:

- Razer apresenta webcam Kiyo Pro**: A news post by koko34, posted 45 minutes ago. It includes a large image of the Razer Kiyo Pro webcam and a detailed description.
- Champion Spotlight de Viego, The Ruined King**: A news post by WanWan, posted 2 hours ago. It features an image of the League of Legends champion Viego.
- Rumor: LEGO Marvel Super Heroes a caminho da Switch**: A news post by Legal_of_Riva, posted 6 hours ago. It shows a LEGO Marvel Super Heroes scene.
- The Last of Us 2 ultrapassa The Witcher 3 e é o jogo mais galardoado de sempre**: A news post by brotherSeno, posted 12 hours ago. It includes a screenshot from The Last of Us Part II.

On the right side, there's a sidebar for notifications, account settings, and a log out button. At the bottom, there's a footer with links to Home, About Us, and copyright information.

Mobile

The mobile interface has a similar structure but is more compact. It includes a sidebar on the left with notifications, my profile, account settings, and log out options. The main content area displays the same news feed as the desktop version, with smaller images and less descriptive text. The footer at the bottom is also simplified.

Figure 1: Interface's guidelines.

1. **Page Logo**
2. **Navbar**
3. **Page Content**
4. **Footer**

In this figure some characteristics common to all pages are highlighted:

- We opted for a "net design" to have a flowing web page layout that suits various screen sizes, from desktop 19" or more, to 11" tablets, or even to 4" smartphones.
- The common links and buttons to the various pages maintain their position to deliver a consistent user experience.
- Most buttons and clickable text are highlighted in blue (with a few exceptions) when hovered while the rest of the website maintains a consistent color palette of orange, black and white.

2. Sitemap

A sitemap is a visual representation of the relationship between the different pages of a website that shows how all the information fits together.

The sitemap gives the project team an idea of how the website is going to be build by helping to clarify the information hierarchy.

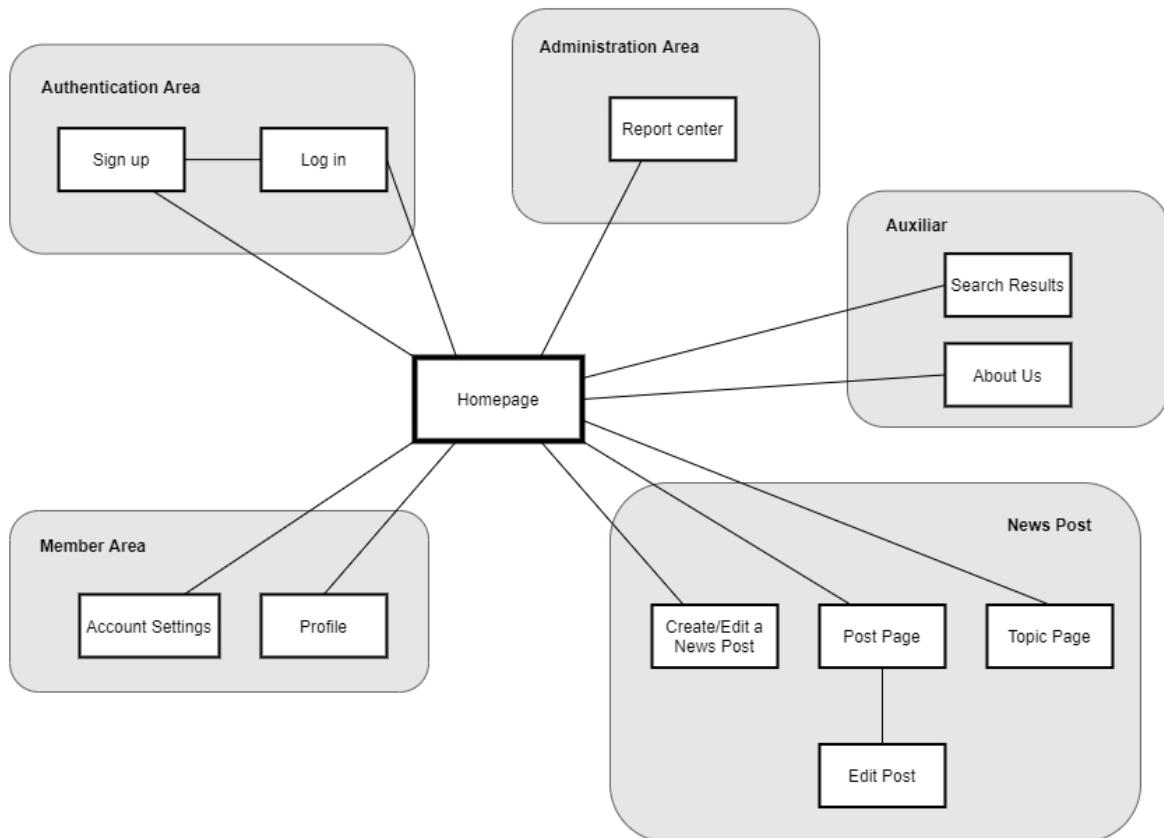


Figure 2: Sitemap.

3. Wireflows

Wireflows are presented to represent some of the main interactions with the system using a sequence of interfaces and explaining how navigation is done between them.

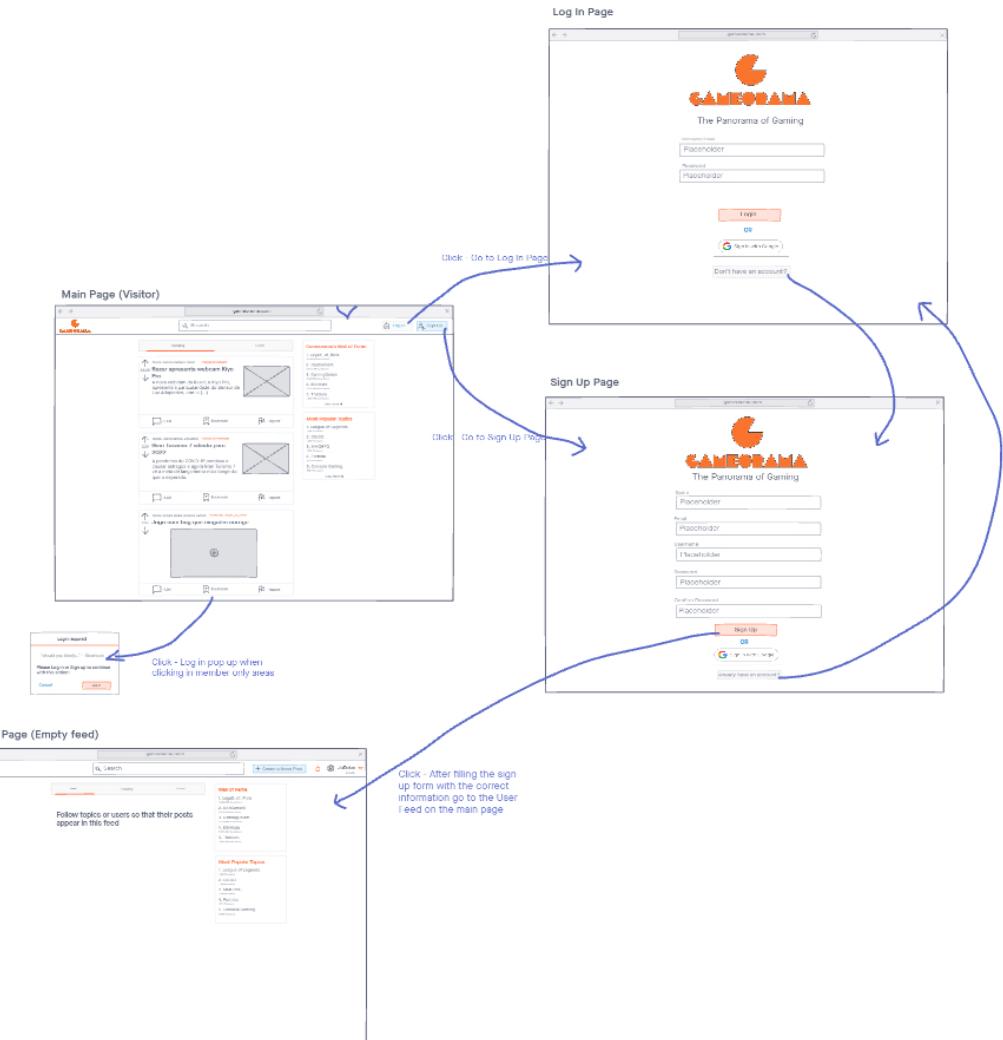


Figure 3: Wireflow centered around user authentication.

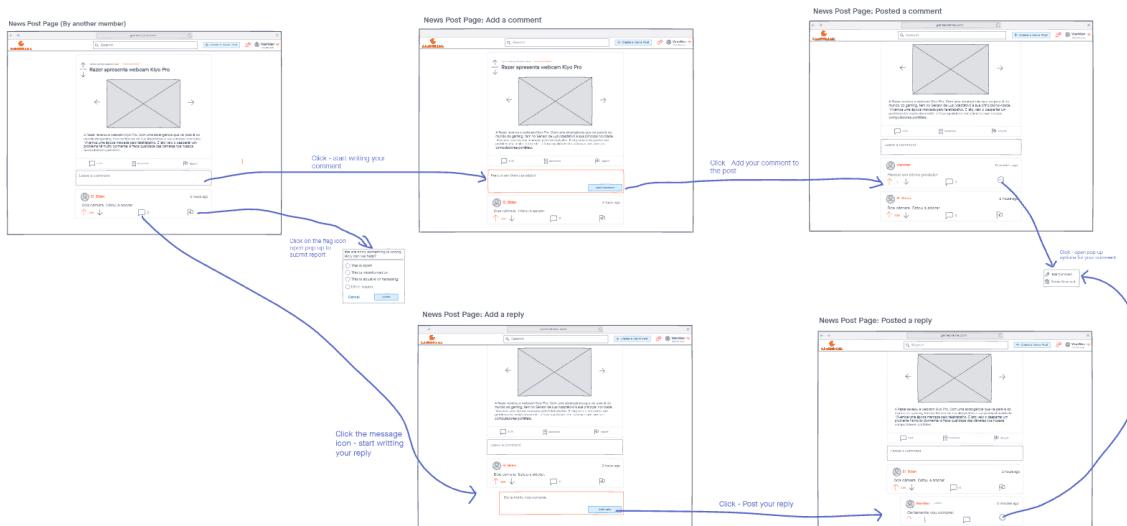


Figure 4: Wireflow centered around News post interaction (posting a comment).

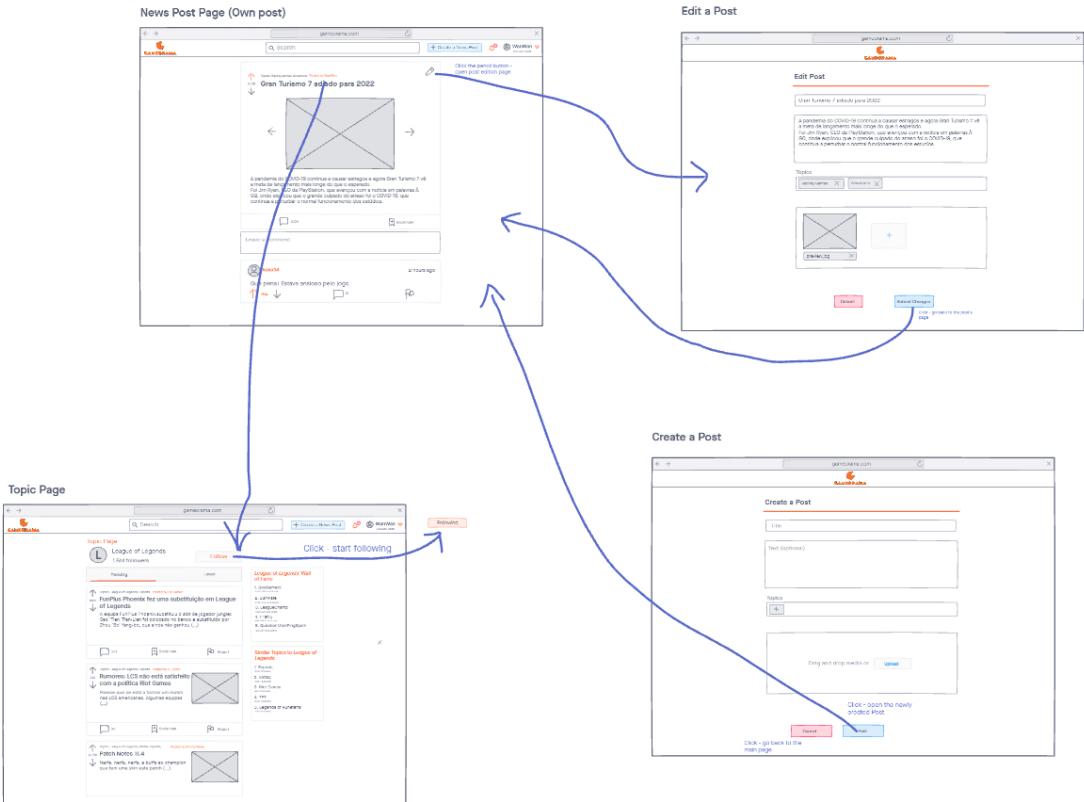


Figure 5: Wireflow centered around topic/post page navigation and post creation/editation.

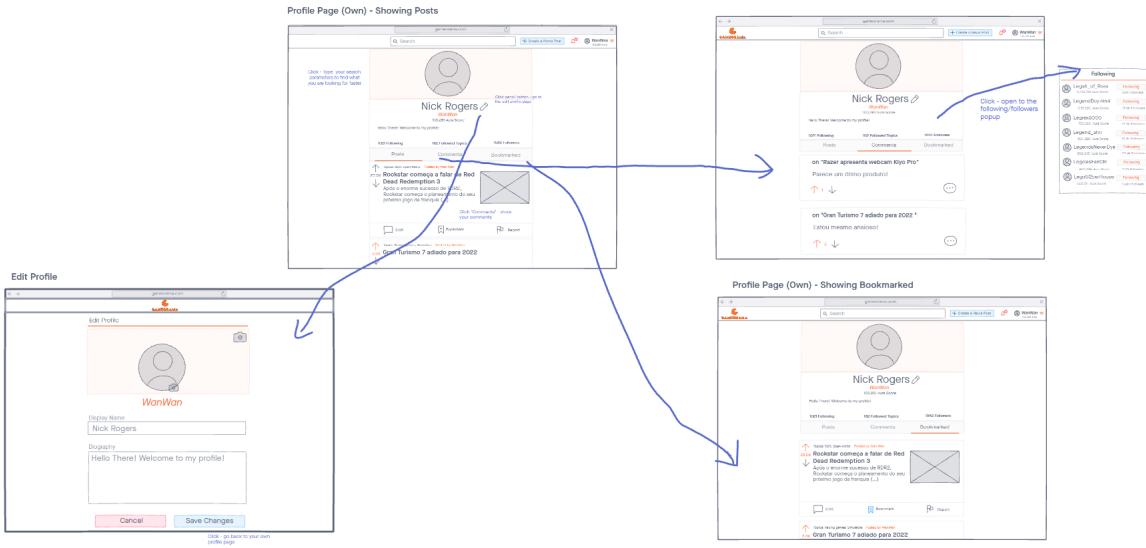


Figure 6: Wireflow centered around user profile navigation.

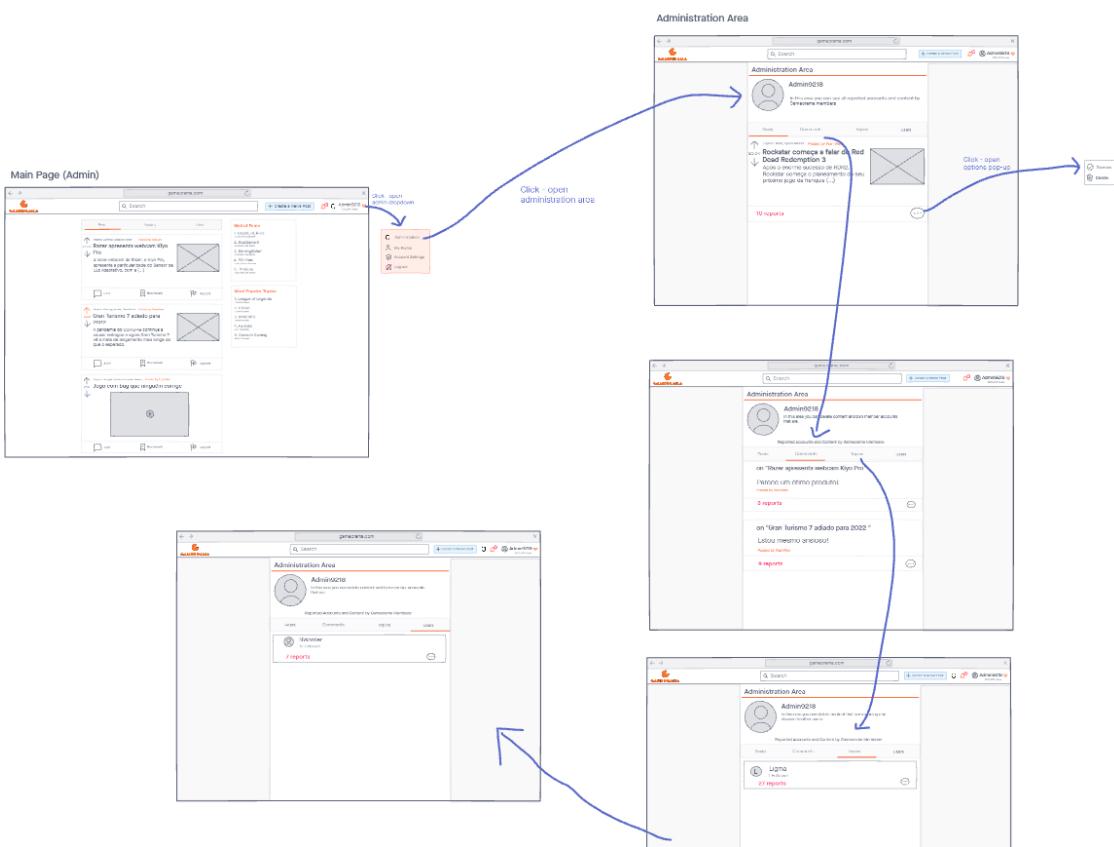


Figure 7: Wireflow centered around administrator features.

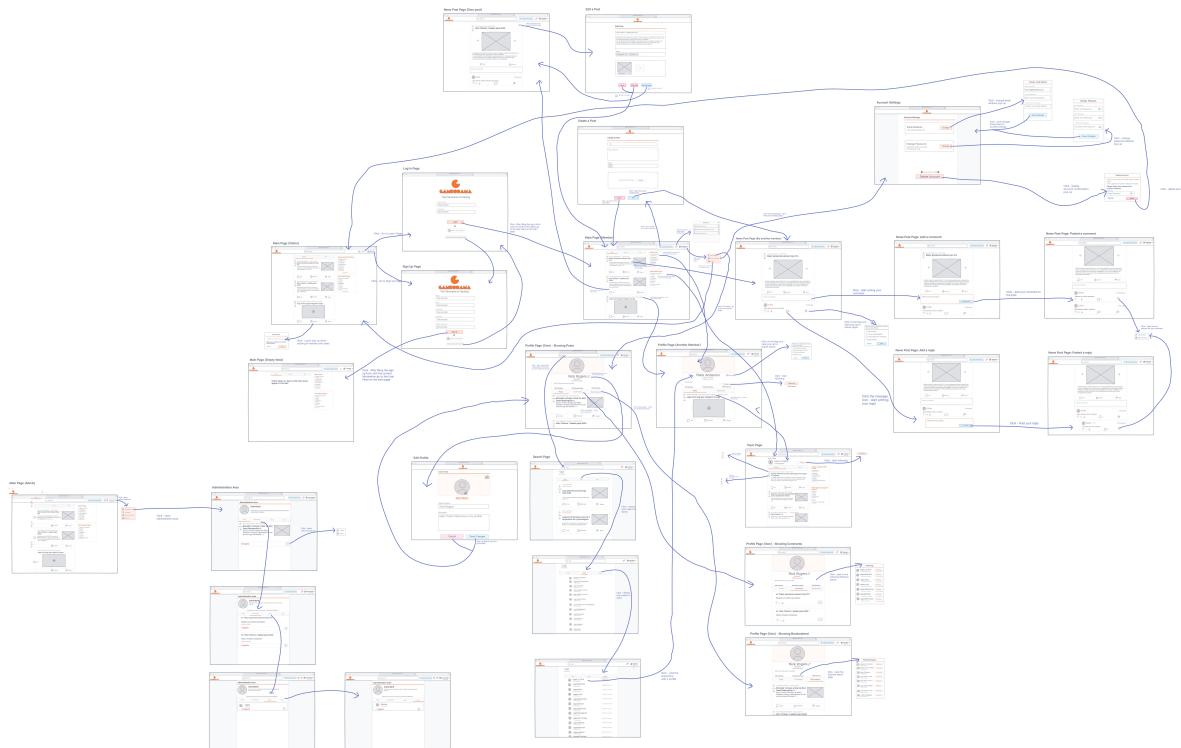


Figure 8: Complete website Wireflow.

For the complete desktop and mobile wireframes/wireflows: [InVision Project](#)

4. Interfaces

The following interfaces describe the main content of the web pages and their relative priority and help the project team previewing the features and behavior of the final product's different screens, both their desktop (left) and mobile (right) versions.

1. [Home Page](#)
2. [Search Page](#)
3. [Topic Page](#)
4. [Post Page](#)
5. [Create Post Page](#)
6. [Edit Post Page](#)
7. [User Profile Page](#)
8. [Edit Profile Page](#)
9. [Account Settings Page](#)
10. [Login Page](#)
11. [Sign Up Page](#)
12. [About Us Page](#)
13. [Administration Area Page](#)
14. [Error 404 Page](#)

UI01: Home Page

Main website page where you can check the latest and hottest gaming news.

Desktop	Mobile
<p>The desktop version of the Gameorama homepage displays four news cards in a grid. Each card includes a thumbnail image, the title, a brief description, and social sharing icons (Facebook, Twitter, LinkedIn).</p> <ul style="list-style-type: none"> Razer apresenta webcam Kiy Pro: A Razer webcam with a built-in ring light. Description: "A Razer revelou a webcam Kiy Pro. Com uma abrangência que vai para lá do mundo do gaming, tem o Sensor de Luz Adaptativo a sua principal novidade. Vivemos uma época marcada pelo teletrabalho. É isto veio o desparar um problema há muito dormente: a fraca ...". Champion Spotlight de Viego, The Ruined King: An illustration of the League of Legends champion Viego. Description: "Viego vai-se estrear no lançamento do patch 11.2, que contará com vários Nerfs a personagens conhecidos como Akali e Maokai, e buffs a campeões como Shaco e Varus. Como não poderia deixar de ser, Viego contará com uma skin própria intitulada Lunar Beast Viego, e irá conceder a ...". Rumor: LEGO Marvel Super Heroes a caminho da Switch: An image of the LEGO Marvel Super Heroes set. Description: "A informação é avançada pelo site da Entertainment Software Rating Board (ESRB), onde podemos encontrar uma página dedicada a esta versão do jogo de 2013, classificando a versão da Switch para 'Everyone'.". The Last of Us ultrapassa The Witcher 3 e é o jogo mais galardoado de sempre: A screenshot from The Last of Us Part II. Description: "O mais recente título da Naughty Dog, The Last of Us - Part II, alcançou o título de jogo mais galardoado de sempre, sucedendo assim a The Witcher 3: Wild Hunt. Esta informação é avançada pelo site Game Awards, que anuncia que The Last of Us 2, o vencedor da categoria de ...". 	<p>The mobile version of the Gameorama homepage displays three news cards in a grid. Each card includes a thumbnail image, the title, a brief description, and social sharing icons.</p> <ul style="list-style-type: none"> Razer apresenta webcam Kiy Pro: A Razer webcam with a built-in ring light. Description: "A Razer revelou a webcam Kiy Pro. Com uma abrangência que vai para lá do mundo do gaming, tem o Sensor de Luz Adaptativo a sua principal novidade. Vivemos uma época marcada pelo teletrabalho. É isto veio o desparar um problema há muito dormente: a fraca ...". Champion Spotlight de Viego, The Ruined King: An illustration of the League of Legends champion Viego. Description: "Viego vai-se estrear no lançamento do patch 11.2, que contará com vários Nerfs a personagens conhecidas como Akali e Maokai, e buffs a campeões como Shaco e Varus. Como não poderia deixar de ser, Viego contará com uma skin própria intitulada Lunar Beast Viego, e irá conceder a ...". Rumor: LEGO Marvel Super Heroes a caminho da Switch: An image of the LEGO Marvel Super Heroes set. Description: "A informação é avançada pelo site da Entertainment Software Rating Board (ESRB), onde podemos encontrar uma página dedicada a esta versão do jogo de 2013, classificando a versão da Switch para 'Everyone'.".

Figure 9: [Home Page\(Member\)](#), [Home Page\(Visitor\)](#), [Home Page\(Administrator\)](#)

UI02: Search Page

The page where you can search posts, topics and users.

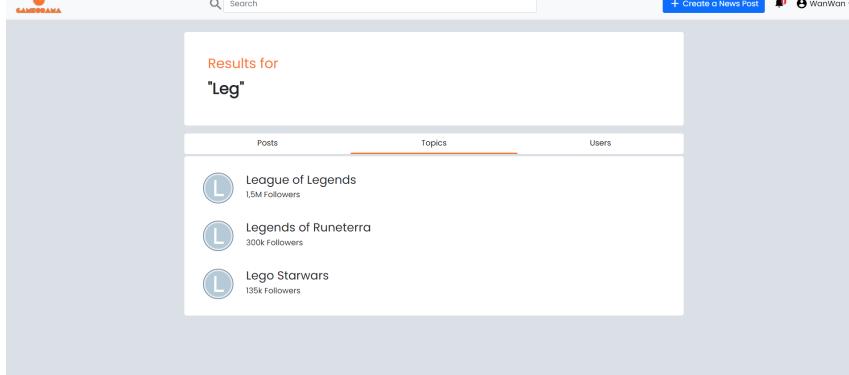
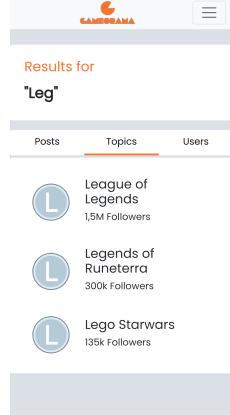
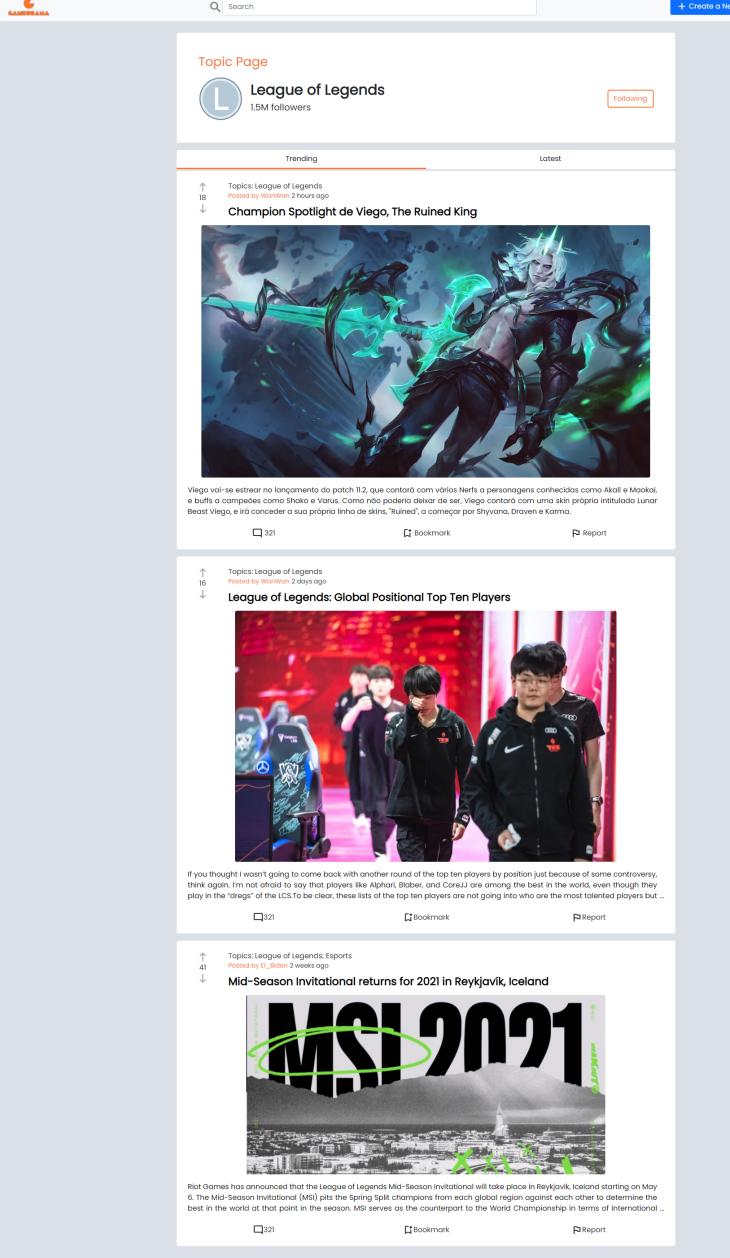
Desktop	Mobile
 <p>Results for "Leg"</p> <p>Posts Topics Users</p> <ul style="list-style-type: none">League of Legends 1.5M FollowersLegends of Runeterra 300k FollowersLego Starwars 135k Followers <p>Home About Us © Copyright 2021 Gameorama. All rights reserved.</p>	 <p>Results for "Leg"</p> <p>Posts Topics Users</p> <ul style="list-style-type: none">League of Legends 1.5M FollowersLegends of Runeterra 300k FollowersLego Starwars 135k Followers <p>Home About Us © Copyright 2021 Gameorama. All rights reserved.</p>

Figure 10: Search Page

UI03: Topic Page

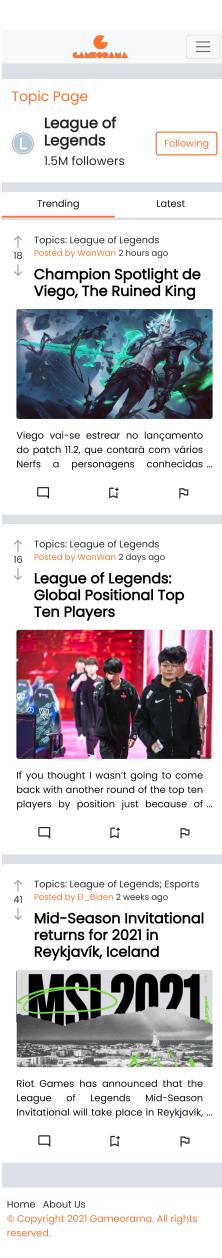
A page where you can see the news related to a specific topic.

Desktop



Home About Us © Copyright 2021 Gameorama. All rights reserved.

Mobile



Home About Us © Copyright 2021 Gameorama. All rights reserved.

Figure 11: Topic Page

UI04: Post Page

A page where you can see the full news post and its comments.

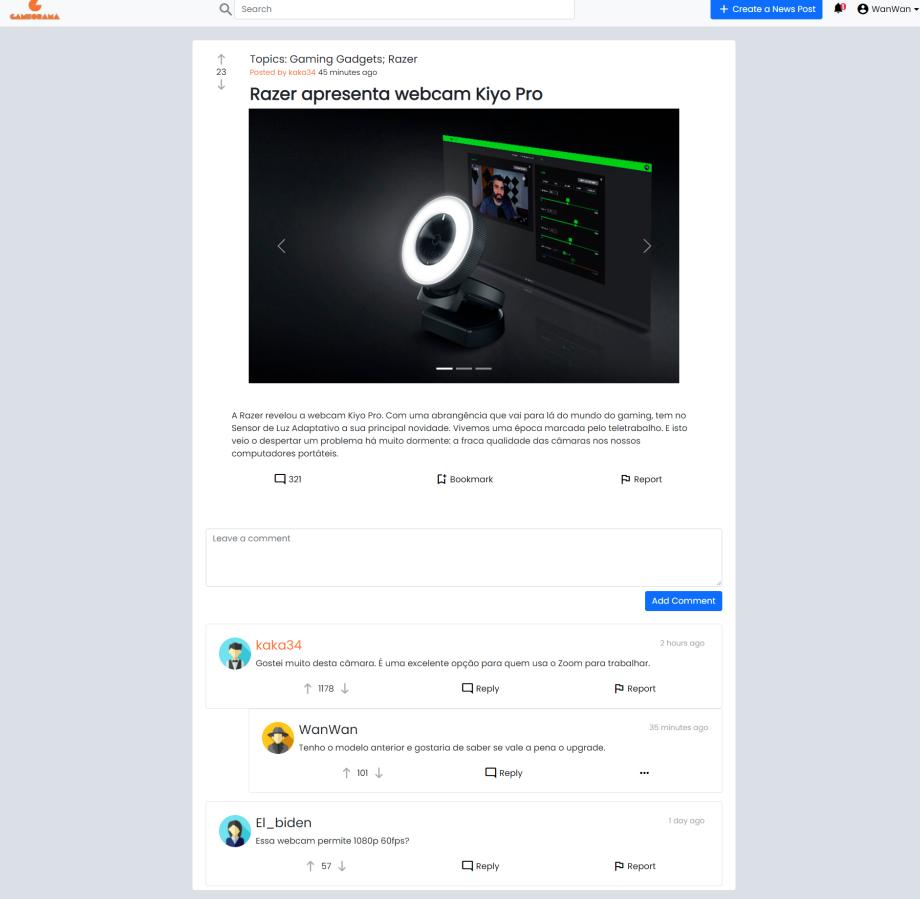
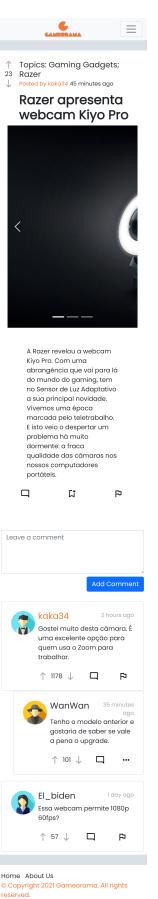
Desktop	Mobile
	

Figure 12: Post Page

UI05: Create Post

A page where you can create a news post.

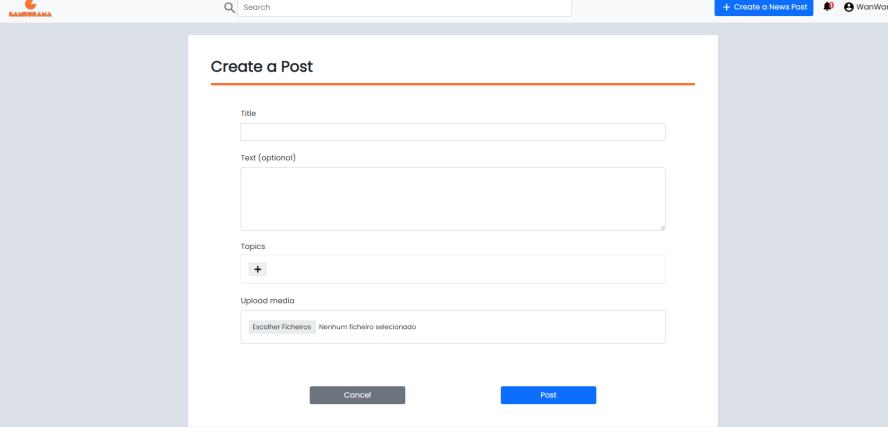
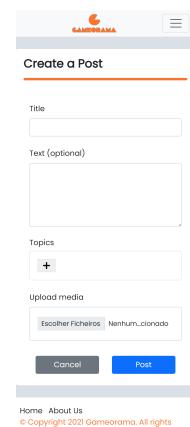
Desktop	Mobile
	

Figure 13: [Create Post Page](#)

UI06: Edit Post

A page where you can edit your news posts.

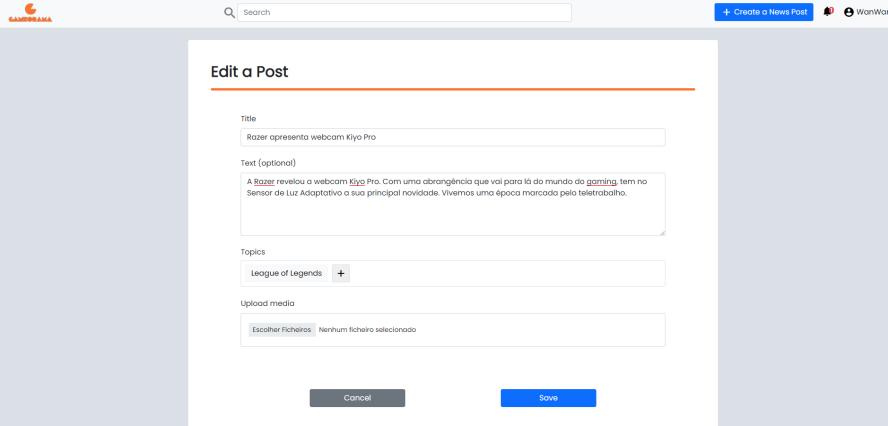
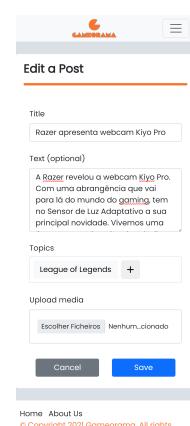
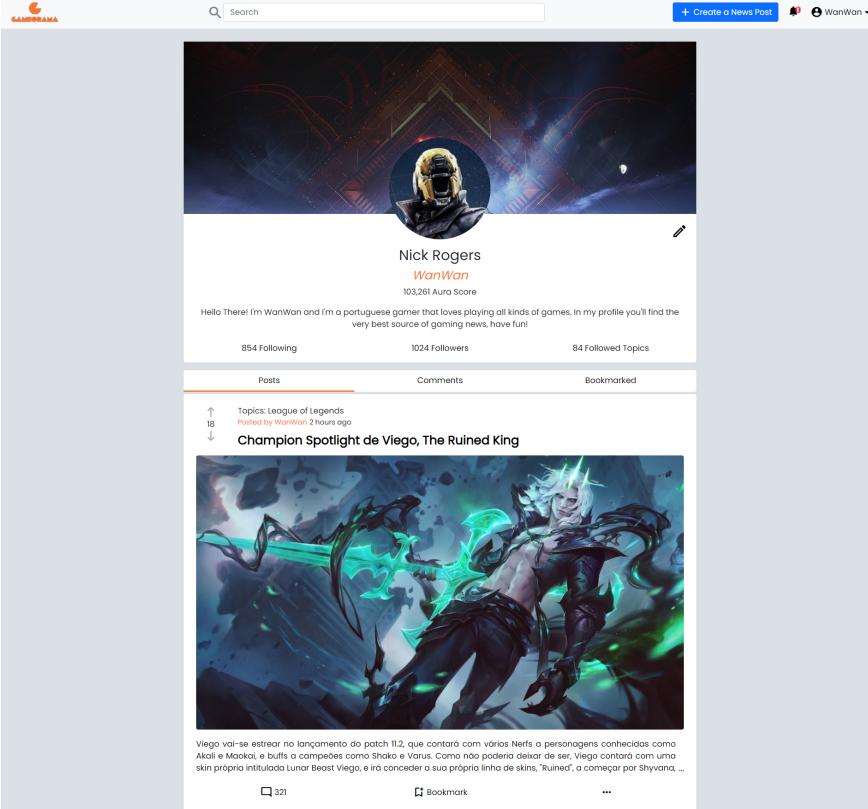
Desktop	Mobile
	

Figure 14: [Edit Post Page](#)

UI07: User Profile

The page where you can check your created posts and comments. You can also check your bookmarked posts here.

Desktop



Nick Rogers
Wanwan
103,261 Aura Score

854 Following 1024 Followers 84 Followed Topics

Posts Comments Bookmarked

↑ Topics: League of Legends
↓ Posted by Wanwan 2 hours ago
Champion Spotlight de Viego, The Ruined King

Viego vai-se estrear no lançamento do patch 11.2, que contará com vários Nerfs a personagens conhecidas como Akali e Maokai, e buffs a campeões como Shaco e Varus. Como não poderia deixar de ser, Viego contará com uma skin própria intitulada Lunar Beast Viego, e irá conceder a sua própria linha de skins, "Ruined", a começar por Shyvana, ...

321 Bookmark ...

Mobile



Nick Rogers
Wanwan
103,261 Aura Score

Hello There! I'm Wanwan and I'm a portuguese gamer that loves playing all kinds of games. In my profile you'll find the very best source of gaming news, have fun!

854 Following 1024 Followers 84 Followed Topics

Posts Comments Bookmarked

↑ Topics: Gaming Gadgets: Razer
↓ Posted by kard34 45 minutes ago
Razer apresenta webcam Kiyo Pro

A Razer revelou a webcam Kiyo Pro. Com uma abrangência que vai para lá do mundo do gaming, tem no ...

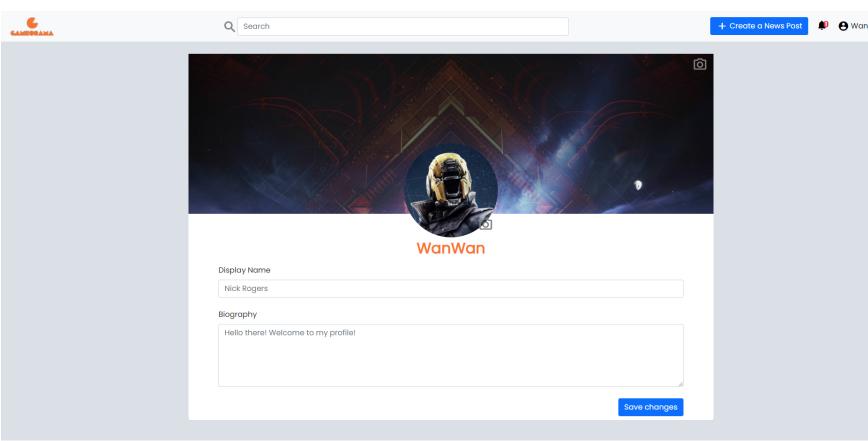
Home About Us
© Copyright 2021 Gameorama. All rights reserved.

Figure 15: User Profile Page (Own), User Profile Page (Other User)

UI08: Edit Profile

The page where you can edit your name, profile/banner pictures and bio.

Desktop

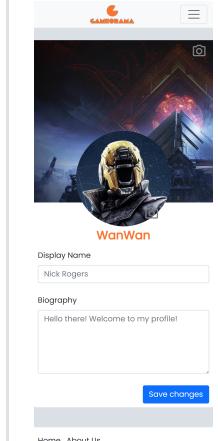


Display Name
Wanwan

Biography
Hello there! Welcome to my profile!

Save changes

Mobile



Display Name
Nick Rogers

Biography
Hello there! Welcome to my profile!

Save changes

Figure 16: Edit Profile Page

UI09: Account Settings

The page where you can edit your email and password.

Desktop	Mobile

Figure 17: [Account Settings Page](#)

UI10: Login

The page where you can login to your account.

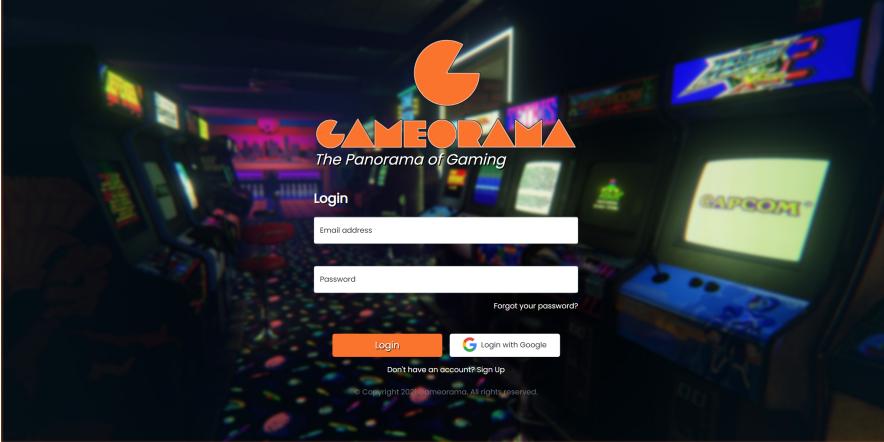
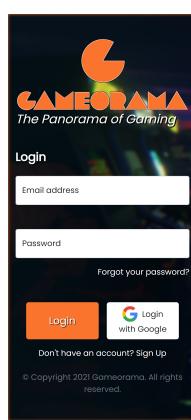
Desktop	Mobile
 The desktop version of the Gameorama login page features a background image of a vibrant arcade interior with various games like Street Fighter and Galaga. The Gameorama logo is at the top. Below it is a "Login" form with fields for "Email address" and "Password". There are "Forgot your password?" and "Login" buttons, along with a "G Login with Google" button. A link for "Don't have an account? Sign up" is also present.	 The mobile version of the login page has a dark theme. It includes a "Login" section with "Email address" and "Password" fields, a "Forgot your password?" link, and "Login" and "G Login with Google" buttons. A "Don't have an account? Sign up" link is at the bottom, along with copyright information: "© Copyright 2021 Gameorama. All rights reserved."

Figure 18: [Login Page](#)

UI11: Sign Up

The page where you can create a new account.

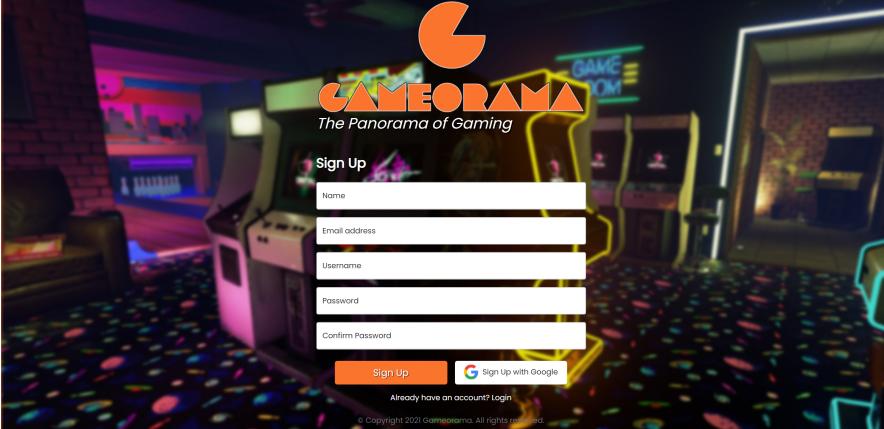
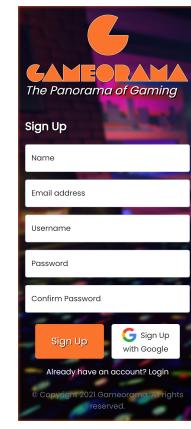
Desktop	Mobile
 The desktop sign-up page shows the same vibrant arcade background as the login page. The "Sign Up" form contains fields for "Name", "Email address", "Username", "Password", and "Confirm Password". It includes "Sign Up" and "G Sign Up with Google" buttons, a "Already have an account? Login" link, and copyright information at the bottom.	 The mobile sign-up page follows the dark theme. It has a "Sign Up" section with "Name", "Email address", "Username", "Password", and "Confirm Password" fields. It includes "Sign Up" and "G Sign Up with Google" buttons, a "Already have an account? Login" link, and copyright information at the bottom.

Figure 19: [Sign Up Page](#)

UI12: About Us

The page where you can consult the website's goals and creators.

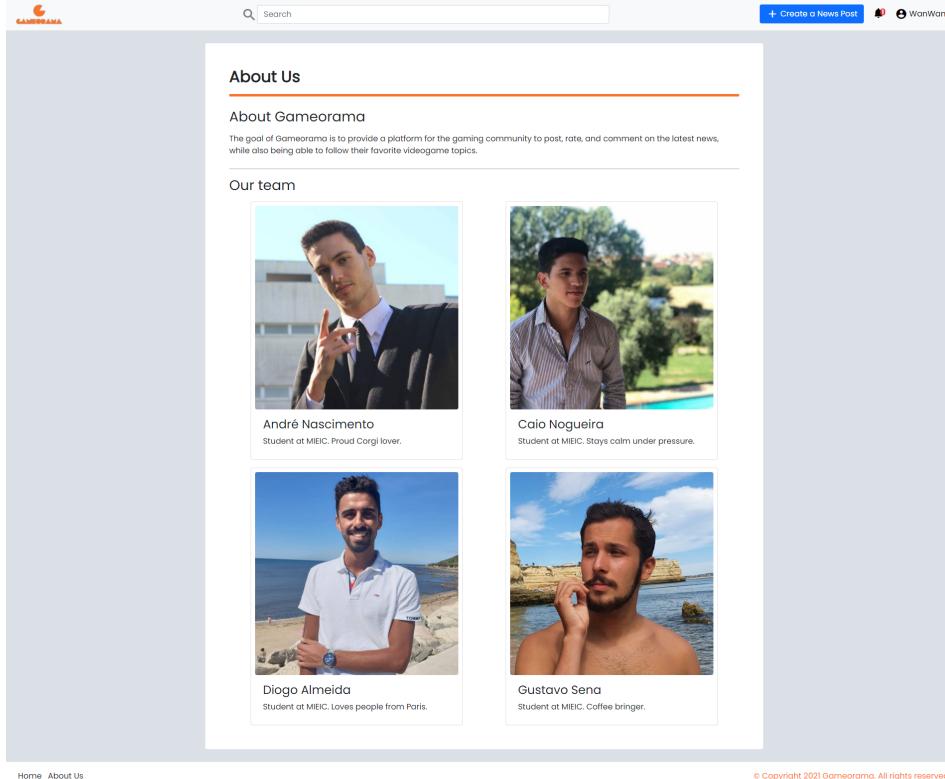
Desktop	Mobile
	

Figure 20: [About Us Page](#)

UI13: Administration Area

The page where admins can control and delete reported content on the website.

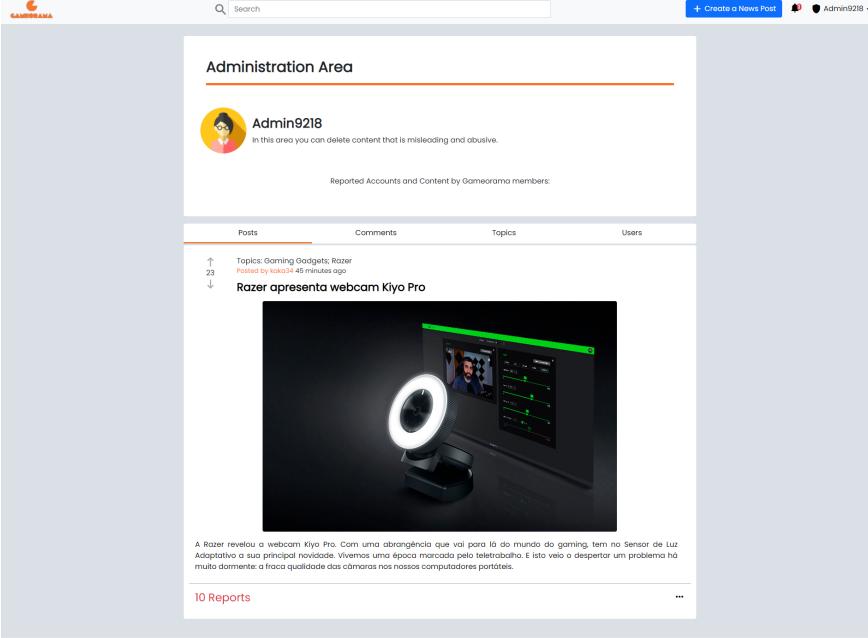
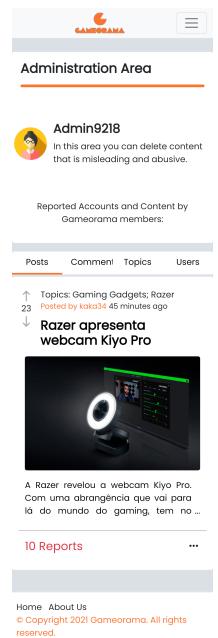
Desktop	Mobile
	

Figure 21: Administration Page

UI14: Error 404 Page

The page that appears when a 404 error occurs.

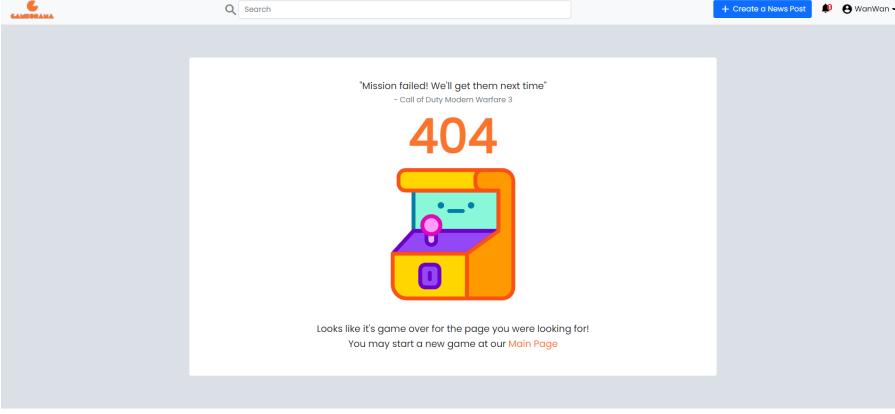
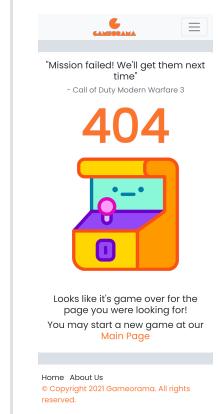
Desktop	Mobile
	

Figure 22: Error 404 Page

Revision history

Changes made to the first submission: N/A

GROUP2133, 14/03/2021

- André Nascimento, up201806461@fe.up.pt
- Caio Nogueira, up201806218@fe.up.pt
- Diogo Almeida (editor), up201806630@fe.up.pt
- Gustavo Sena, up201806078@fe.up.pt