Kontent
Problem Statement
Versione 1.0

Kontent

Data: 24/10/2023

Progetto: Kontent	Versione: 1.0
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Coordinatore del progetto:

Nome	Matricola
Claudia Grieco	N.A.

Partecipanti:

Nome	Matricola
Borowy Filip	ERASMSIN03716
Cacciapuoti Antonio	0522501476
Maiorano Matteo	0522501507
Moscato Gabriele	0522501539

Revision History

Data	Versione	Descrizione	Autore
23/10/2023	1.0	First revision for project start	Borowy Filip,Cacciapuoti Antonio, Maiorano Matteo, Moscato Gabriele
24/10/2023	1.0.1	Added carousel scenario and functional requirement	Borowy Filip,Cacciapuoti Antonio, Maiorano Matteo, Moscato Gabriele

Indice

Dominio del problema

The application is intended to be a platform enabling the delivery of multimedia content. This is the main goal of the project. There will actually be three types of applications which are mobile application, smart TV application and virtual reality application. Applications will include players: an audio player that allows viewers to listen to music and podcasts through an intuitive interface, a video player that allows viewers to watch video content and a virtual reality player which allows viewers to be fully immersed in VR content using the appropriate headset.

Another key point is that there will be three types of users which are viewer, content administrator and system administrator. Viewer is basically a consumer enjoying multimedia content. Content Administrators can create and customize content using various formats such as square elements, portrait or landscape formats and they can aggregate their favorite media items into personalized baskets to achieve a comfortable and personalized environment. A content administrator is a person who is responsible for publishing, editing, and organizing multimedia content on the platform. This role involves content upload, defining metadata, categorizing, and organizing content within the system. Content manager will use the CMS system in order to organize and hierarchize multimedia content. A system administrator is responsible for managing the entire platform - user accounts, registrations, authentications, access privileges. This role involves monitoring of system performance and troubleshooting any technical issues.

The platform also integrates advertising support, offering pre-roll, mid-roll, and post-roll ads, with Google IMA support, ensuring revenue generation while maintaining a seamless user experience.

Additionally, we emphasize the importance of user feedback and engagement through a robust system of reviews and feedback. Viewers can express their thoughts and opinions on the content they interact with, contributing to a dynamic and interactive multimedia environment. The application is going to make social interactions easier which means viewers can connect with other passionate viewers and participate in real-time conversations through the live chat. In order to make socializing even better, the VR application will provide party functionality so viewers can host virtual viewing parties to enjoy synchronized content playback with their friends in real-time, no matter where they are.

Technologies and Tools that will be used are React-Native, Unity, Google Cloud, Google IMA, and Ant Media Server.

Scenari

Scenario 1

Attori partecipanti: John (Viewer)
John downloads the Kontent application for the first time on his mobile phone, as it is not registered he click on button "sign up" to register on the platform, after he clicked the button is shown to him a registration form he enters his personal information, in particular his: name, surname, username,birth date, email and password so he enter John, Davis, John_Davis, 10-03-1995 and j.davis@email.com, and "John1197!", and finally John click the button "sign up", the application control data and the username is already used, so send a error message to John through a pop-up and ask him to change the username, John enter the new username "J_Davis and click sign up button, the application control again the data and send a success message to John and he is redirect to login page, the enter his credentials, in particular username:J_Davis and password: John1197!, after that he logs in on the platform and the application shows him the main menu where there are all contents. He starts to scroll the contents and finds a film that interests him called "Titanic", so he clicks on it and the platform shows more information about the film including all the comments and a button to start watching the film, John clicks on it and the streaming of the film begins.

Scenario 2

Attori partecipanti: Alberto (Viewer), Mario (Viewer)
Alberto opens the application on his smart tv. Since he had previously logged in, the platform does not ask him to log in again but shows him the main page where there are the most popular contents. He clicks on the menu and filters for live broadcasts. He selects one of them and starts to watch the live content. During the live broadcast, he sees the live chat and sends some of his opinions and comments. He also notices one viewer named Mario_123 who shares similar feelings, so they start to discuss the events happening in the live broadcast. When the live broadcast is over, Alberto decides to send a friend request to Mario. He searches for Mario"s username in the section "Viewers", and the platform shows him all viewers that have a similar username to Mario. The first match is Mario, so Alberto clicks on it and views his personal page. He then clicks the "add Friend" button. Later Mario sees the notification on the application, clicks on it and accepts the request through the button.

Scenario 3

Attori partecipanti: Emily (Viewer) William (Viewer)
Emily takes her VR headset and opens the Kontent application. Since she had previously logged in, the platform does not ask her to log in again but shows her the main page. She is looking for something to watch, she opens the "Friends" section and notices that William is online. William is a friend of Emily, and is also connected with his VR headset. So they start chatting and decide to watch a tv series together. They begin looking for a tv series and come across one called "Elite" they clicked on it but before starting to watch it, they decide to read the comments. After reading many positive comments, they decide to watch it. They connect in the same room, through the button "Cinema Room" and start watching the first episode of Elite together.

Scenario 4

Attori partecipanti: Sophia (Viewer)
Sophia opens the Kontent application on her tablet and goes to the "continue viewing" section. She resumes her favorite TV series "Stranger Things". After watching an episode she really enjoys, she decides to share it with all her friends on the platform. To do that, she clicks the button in the right corner, confirms to share this content on her profile, and writes a comment. After that the episode is published on her personal page. She also decides to write a positive comment about the TV series so that everyone can read it, to do that she closes the player and goes to the "Stranger Things" page, She clicks the "write a review" button, gives it five stars and writes: "A very engaging and thrilling story, well-crafted screenplay and characters.", she clicks the "publish" button, and the review is published.

Scenario 5

Attori partecipanti: Alex (Content administrator) Tim (System administrator)
Alex has several contents he would like to share on the platform. Alex opens the application on his phone. He goes to the login page and clicks on the "sign up as content administrator" button, the platform shows to Alex a registration form. He fills out the form and enters his details, specifically, he is asked to enter username, email, password, the type of content he wants to publish and an optional field where he can enter more details. He enters "Alex_Content", "alex.content_1@email.com", "alex1Content" and "Comedy Films and Documentaries." He leaves an optional message field blank. He accepts all the site"s terms and conditions via a checkbox and presses the "Register" button. The platform responds, saying: "Your registration request has been received. You will receive a confirmation email when your account is activated." Tim, who is a system administrator, logs into the platform and goes to the "Content Administrator Request" section. He sees Alex"s request and checks that it has all the requirements and accepts it. Alex, after receiving the confirmation email, accesses the platform entering his username and password on the login page.

Scenario 6

Attori partecipanti: Jessica (Content administrator)
Jessica is a content administrator and she would like to add new contents and customize her carousel. She opens the Kontent application on her phone and she logs in by entering her own data. She then goes to the "Add Content" section and clicks on the "Add" button. He enters the movie "Che bella giornata", along with the film's details, the movie poster, the title, and a brief description. After that, she clicks the "Publish" button, and the film is published on the platform. She would also customize her carousel, so she goes to the "carousel" section and clicks on the "customize" button. The platform redirects her to the carousel customization page, she decides to show the seasons of Stranger Things in portrait format and below all the Harry Potter seasons in landscape format. And at the end of it, she decides to place the movie "Che bella giornata" in portrait format. She clicks on the "apply" button and finishes.

Requisiti funzionali

ID	PRIORITÀ	REQUISITO
FR_01	High	The system shall be used by three types of actors. System administrators, Content administrators, and Viewer.
FR_02	High	The system shall provide multimedia content delivery with audio and video players. Viewers can play, pause, skip, and control volume for audio content and play, pause, rewind, and use full-screen mode for video content.
FR_03 a	High	The system shall function on Smart TVs.
FR_03 b	High	The system shall function on Mobile.
FR_03 c	Medium	The system shall function on Virtual Reality.
FR_04	High	The system shall implement pre-roll, mid-roll, and post-roll ad support for multimedia content. Integrate Google I.M.A. for ad delivery and tracking.
FR_05	High	The system shall allow Content Administrators to upload, edit, and manage multimedia content.
FR_06	Low	The system shall enable viewers to create and customize content playlists.
FR_07	Medium	The system shall provide recommendations and content discovery based on viewer preferences.
FR_08	Medium	The system shall implement social interaction features. Allow viewers to connect with others and share multimedia content, participate in chats about a specific content.
FR_09	Medium	The system shall enable the Viewers to join virtual parties to watch and discuss multimedia content at the same time.
FR_10	Medium	The system shall enable viewers to provide reviews and feedback for multimedia content. Implement a rating and review system with comments and likes.
FR_11	Medium	The system shall enable System Administrators to have access to user management, content moderation, and analytics. Provide tools for monitoring system health and performance.
FR_12	High	The system shall enable Content Administrators to have access to content upload, editing, and metadata management.
FR_13	High	The system shall enable Content Administrators to create carousels. They can display contents in both portrait and landscape mode. Each slide of the carousel can be a link to a video or an audio content.

FR_14	Medium	The system shall provide a virtual reality space where viewers can host or join virtual parties accessible through VR headset.
FR_15	Medium	The system shall be accessible to users with disabilities.
FR_16	Medium	The system shall implement a robust search and navigation system for Content Administrator and Viewers to easily find and access multimedia content.

Requisiti non funzionali

ID	PRIORITÀ	REQUISITO
NFR_01	High	Loading time is less than 10 seconds for mobile, smart TV, and VR applications.
NFR_02	High	Strong data protection for user personal data.
NFR_03	High	Intuitive and user-friendly UI for all three applications.
NFR_04	High	The platform should have a minimum uptime of 99.9% (or higher) over a 365 days period.
NFR_05	Medium	Horizontal scalability to handle increasing users and content.
NFR_06	High	Seamless application updates without significant disruptions for users.
NFR_07	High	GDPR compliance for user data management.
NFR_08	High	Integration with Google IMA for ad management.
NFR_09	Medium	Efficient usage of Google Cloud resources to reduce operational costs.
NFR_10	Medium	Data and system backup and recovery in case of errors or losses.
NFR_11	Medium	VR application must ensure synchronization for virtual parties, allowing viewers to enjoy synchronized content with friends..
NFR_12	High	Seamless streaming even with variable network conditions.
NFR_13	High	The platform must support 1 million concurrent viewers or streams without performance degradation.

SCADENZE

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