Pioneering technology offers immersive multi-camera experiences compatible with different devices

- Sync-X is a technological solution developed by researchers from the Media Technologies area of the i2CAT research centre

- 3CAT has successfully tested the system and now the company Into Reality has just acquired the license to integrate it into its interactive web player

Barcelona, 20 november 2024. i2CAT's Media Technologies research area has developed Sync-X, a technological solution based on a set of software and interfaces that offer production, distribution and multi-channel consumption experiences compatible with different devices, with low latency and in a synchronized way. The solution includes all the components for live broadcasting of large events, such as sports competitions or music festivals and concerts, captured with traditional 2D video cameras and/or immersive 360º Virtual Reality (VR360).

For consumers, Sync-X is designed for live and on-demand consumption of audiovisual content. The solution allows to dynamically choose between different cameras or views of an event and view it from other devices simultaneously, including computers, tablets, mobile phones and even Virtual Reality glasses. Sync-X is also prepared to offer social viewing experiences between users in a synchronized and interactive way (sharing the control of the playback). The content can be consumed through an integrated web player compatible with different browsers and operating systems.

"The multi-machine and multi-device synchronization functionalities make Sync-X a pioneering solution compared to others on the market, especially due to its modularity and scalability, as it eliminates dependencies on centralized systems and high processing capacity servers," explained the research centre.

Technology licensing with Into Reality

The i2CAT research centre has just signed a license agreement to exploit Sync-X technology with Into Reality, a promoter of an interactive web player for audiovisual content consumption. This player includes a proprietary data storage infrastructure with a built-in payment gateway so that any company can customize its own user interface or use Into Reality's offerings to visualize high-quality interactive and immersive experiences. Now, Into Reality will incorporate the Sync-X solution in its web player to offer interactive and multi-screen consumption experiences of large events.

"At Into Reality, we are delighted to be able to start this collaboration with the i2CAT research centre, and we hope it can be the first of many. We are convinced that our product will be even better with this technological incorporation, and very soon, we will be able to revolutionize how audiovisual content is consumed", they explain.

"The licensing contract we have just signed with Into Reality is a clear example of transfer to companies, which can innovate and grow thanks to the applied research we do in advanced technologies," the centre remarked.

Technological evolution and concept testing with 3CAT

Sync-X has been developed under the umbrella of different research projects led by i2CAT since 2016. The research staff started working on this solution in the framework of the European project ImmersiaTV, funded by the European Commission's Horizon 2020 *Horizon 2020*. Between 2016 and 2018, ImmersiaTV conducted preliminary concept tests with multi-screen and multi-camera synchronization functionalities for 360º Virtual Reality (VR360) experiences.

However, in the ViVIM research project, funded by the Agency for the Competitiveness of Enterprises (ACCIÓ), the research staff developed the technology into a robust research result ready for transfer to industry. Within the framework of this project, the i2CAT centre collaborated closely with 3CAT and several demonstrative pilot tests were carried out.

First, during the Smart City Expo World Congress 2021, a live broadcast of an autonomous car race was carried out on a scale circuit, using two VR360 cameras, a 2D production signal, and a 5G connection to the content distribution network.

The following year, TV3 and Canal Blau participated in a coordinated production to broadcast the Vilanova i la Geltrú carnival in a 360° multicamera format from different points of the town square. Four VR360 cameras and two based on 2D technology were used on this occasion. In addition, consumer functionalities based on connected and smart TV standards were enabled, allowing the synchronization of the party content received by smart TVs with the associated immersive content consumed on second screens.

Finally, in 2023, TV3 also used 360° multicamera technology to broadcast the playoff gala and the final gala of the famous music program "Eufòria". The audience enjoyed live all the performances from different points of view thanks to the installation of 360° cameras in various parts of the set, such as in the middle of the stage or next to the jury's table, with high levels of detail and immersion.

About i2CAT

i2CAT is a technology research centre that leads R+D+I activities in advanced digital technologies and their architecture, applications and services. i2CAT has a track record of more than twenty years dedicated to promoting the digital society of the future through the knowledge generated in the development of projects and activities in the fields of 5G/6G, IoT, immersive and interactive technologies, cybersecurity, blockchain, artificial intelligence, spatial communications and technologies of the digital society. The centre collaborates with companies, public administrations, academic institutions, and users to define and structure a universal digital innovation system. The i2CAT Foundation is a CERCA centre accredited by the TECNIO seal.

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