Citizen services, gaming and immersive media showcased on a new 5G platform in real-life trials

A world-leading consortium of industry pioneers, led by the University of Southampton, has been showcasing the latest innovations in 5G networking and technologies across a four-day event at the University of Bristol's Smart Internet Lab.

The 'Urban Hacking in 5G' event saw creative software teams compete to design and implement applications that deliver new media experiences within urban settings in Bristol. The teams used the 'FLAME mobile edge computing platform', an initiative which is designed to create a sustainable Future Media Internet ecosystem through innovation embedded on the 5G UK Test Network infrastructure.

The teams, known as Hackers, were challenged to create inclusive, participative and entertainment experiences which could potentially be enjoyed by the public.

Various ideas were presented to a panel of judges, including the idea of sharing virtual personal memories around the city, the concept of simulated challenges based around the cities statues and also the proposal of an application which would enable a dialogue between residents and local authorities using the infrastructure when citizens notice environmental concerns.

Judges awarded the first prize to the 'Aces' team who proposed an innovative application idea aiming at enabling a two-way conversation between users and their environment, such as an immersive tourist experience of the city throughout history.

The FLAME consortium, coordinated by the University of Southampton, consists of 12 partners across six countries, supported by Horizon 2020, the largest ever European funding programme for research and innovation. FLAME is transforming the user experience by delivering faster access to media and new services through 5G.

The project's coordinator Michael Boniface, Head of the University of Southampton IT Innovation Centre, said: "We have been demonstrating the benefits of 5G, which for FLAME is to localise interaction and delivery of content between citizens who want to publish and consume that content without necessarily relying on distant public clouds."

The project's technical manager Dirk Trossen, Senior Principal Engineer at InterDigital Europe, said: "The FLAME platform has been designed with 5G in mind, providing novel solutions to a 5G network system that enable lower latency, higher efficiency and novel interactions with users while being deeply embedded into emerging 5G standards."

Members of the public were able to get a hands-on experience of commercially viable new innovations as part of the event held in Bristol and trial the competing ideas.

They were also able to experience how it is possible to be immersed in massive media events from a remote location. Through 360-video and live streaming, project partners Mativision demonstrated the virtual reality capabilities and how this technology can be used to assist those who hate crowds at concerts or who have a disability preventing them from accessing the event.

In another showcase, ETH Zurich University showed how urban spaces can be used for gaming, harnessing augmented reality technologies.

By creating applications in an urban setting, the event was able to assess the viability of FLAME as a platform that can host exciting new applications in 5G which have stringent demands on latency and throughput, as well as demonstrate a wide variety of and the potential for exciting applications and use cases for this technology in 5G.

Professor Dimitra Simeonidou, Director of University of Bristol's Smart Internet Lab, said: "As proud hosts of the 5G UK Test Network, the UK's first urban 5G end-to-end testbed, what impressed me was the creativeness and civic-minded nature of all the presentations – all the ideas were centred on helping citizens share a better understanding of their city."

ENDS

Notes to editors

1. The University of Southampton drives original thinking, turns knowledge into action and impact, and creates solutions to the world's challenges. We are among the top 100 institutions globally (QS World University Rankings 2019). Our academics are leaders in their fields, forging links with high-profile international businesses and organisations, and inspiring a 24,000-strong community of exceptional students, from over 135 countries worldwide. Through our high-quality education, the University helps students on a journey of discovery to realise their potential and join our global network of over 200,000 alumni. www.southampton.ac.uk.

2. The FLAME consortium consists of: Atos Spain, Bristol is Open, ETH Zurich, Fundacio Privada I2CAT, Internet I Innovacio Digital A Catalunya, i2CAT, Institut Municipal d'Informatica de Barcelona, InterDigital Europe, Martel Innovate, Nextworks, The Walt Disney Company, University of Bristol, University of Southampton and VRT.

3. The Smart Internet Lab at the University of Bristol is a hub for internet research which addresses grand societal and industrial challenges. We perform cutting edge research on optical and wireless communications and offer a unique holistic approach to hardware and software co-design, solving critical problems in the global internet evolution. We are world leaders in 5G convergence research and have deployed 5G capability in Bristol city centre focusing on the convergence of fibre infrastructure and 5G wireless access. The University of Bristol's 5GUK Test Network is the UK's first urban 5G End-to-End Testbed, offering: multi vendor capabilities, dynamic end-to-end slicing and orchestration over heterogeneous wired and wireless networks, programmable edge aggregation and mobile edge computing.

4. InterDigital develops mobile technologies that are at the core of devices, networks, and services worldwide. We solve many of the industry's most critical and complex technical challenges, inventing solutions for more efficient broadband networks and a richer

multimedia experience, years ahead of market deployment. InterDigital has licenses and strategic relationships with many of the world's leading wireless companies. Founded in 1972, InterDigital is listed on NASDAQ and is included in the S&P MidCap 400® index. InterDigital is a registered trademark of InterDigital, Inc. For more information, visit: www.interdigital.com.

5. Martel is a dynamic Swiss-based company with more than 20 years' experience managing research and innovation projects across Europe and worldwide. Martel's business includes EC project management consulting, research and development activities in the area of next generation internet technologies as well as a broad palette of communication, marketing, media and training services.

6. The winning team of the Hackathon, 'Aces', comprised Evey Watson, Kar Hor Yap and Vijay Kumar.