



Press Release

KMLE-King's VisTac Hackathon 2016: a coding marathon for fusing visual and tactile information

London, United Kingdom, 30th August 2016

A fully immersive experience of augmented reality mixing tactile and visual sensations: this is the objective for the first VisTac Hackathon organized by Konica Minolta Laboratory Europe (KMLE) and the 5G Tactile Internet Lab of the Centre for Telecommunications Research (CTR) at King's College London. For five days, from 5 – 9 September 2016, a team of engineers from the two research organizations will face the challenge of integrating the two different devices developed and used in their laboratories.

The integration of the 5G telecommunications technologies developed at King's with Neuro Digital's Haptic Gloveone and Konica Minolta's Wearable Communicators (WCc) Glasses will demonstrate that fusing information from tactile sensation with the eye's perception may lead to a more complete and satisfactory augmented reality experience with a great number of applications in different sectors. Indeed, the main objective of the hackathon is to move a block visualised in WCc smart glasses with gesture and haptic feedback using Gloveone by NeuroDigital Technologies.

Two wearable devices, one experience

The Wearable Communicators (WCc) Glasses, developed by Konica Minolta, exploit a unique and advanced HOE (Holographic Optical Element) technology that enables the glasses to be an innovative lightweight optical device. Indeed WCc glasses incorporate 3D imaging holographic components to enhance the depth of images presented.

The Haptic Gloveone, developed by the Spain-based tech company NeuroDigital Technologies, allow users to feel sensations like shape and weight when interacting with virtual objects, such as feeling raindrops or playing a guitar. The technology translates touch sensations into vibrations thanks to ten actuators placed in the palm and fingertips. Furthermore, four additional sensors, located in the palm, thumb, index and middle fingers can detect each other, letting you trigger commands and perform actions like firing a gun or grabbing a pen.

At the end of the Hackathon, the integration of WCc Glasses and Haptic Gloves will provide the first step for developing a new platform for offering fully immersive experiences in an Augmented and Mixed Reality world.



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Move the virtual box by gesture when getting haptic feedback from glove if touched. Use your hand as a mouse and gloves gesture detection as a confirmation.



Augmented Reality for people empowerment

“Augmented reality will enable people to become more dynamic and active in their own environments” says Dennis Curry, Vice President and Director of Business Innovation and R&D Europe. “Soon we will be able to understand, manipulate and even predict the world around us. And the Hackathon constitutes the first step to join competencies and skills from different research groups with the common objective of improving end users’ experience”.

The manifold application fields for Augmented Reality

“We can mention many examples of augmented reality in action”, explains Professor Mischa Dohler, Head of the CTR at King’s College London. “The 5G Tactile Internet is a true paradigm shift, in which sufficiently responsive, reliable network connectivity and advanced edge-haptics will enable it to deliver physical, tactile experiences remotely. Imagine our best surgeons performing operations remotely; our best engineers maintaining cars on the other side of the planet; somebody teaching me how to paint or me teaching somebody how to play the piano”.

The First VisTac Hackathon will be held at King’s College London, Strand campus - London, September 5 – 9, 2016.

About Konica Minolta Laboratory Europe (KMLE)



Since its establishment in 1873, Konica Minolta has had a long history of innovation and is now expanding its business in various fields including the digital workplace, healthcare, sensors and information automation, and business technologies. For Konica Minolta, innovation and research are key elements for creating new value for society overall. With this ambitious objective, in 2015, Konica Minolta Laboratory Europe (KMLE) has been established as part of the Konica Minolta Corporate R&D. Having its headquarters in London and its R&D laboratory in Brno, Czech Republic,



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and later this year a second KMLE centre focusing on healthcare technologies will open in Munich, Germany.

Exploiting the long standing and robust experience of Konica Minolta, KMLE is the factory where innovative solutions in the field of information and communications technology come to life to transform the next generation of products and services from Konica Minolta.

Leveraging on close collaboration with Business Innovation Centre Europe and other external research organizations, Konica Minolta Laboratory Europe takes advantage of the most advanced technologies to support new business opportunities driven by innovation and customers' needs.

About King's College London

King's College London is one of the top 20 universities in the world (2015/16 QS World University Rankings) and among the oldest in England. King's has more than 27,600 students (of whom nearly 10,500 are graduate students) from some 150 countries worldwide, and some 6,800 staff.

King's has an outstanding reputation for world-class teaching and cutting-edge research. In the 2014 Research Excellence Framework (REF) King's was ranked 6th nationally in the 'power' ranking, which takes into account both the quality and quantity of research activity, and 7th for quality according to Times Higher Education rankings. Eighty-four per cent of research at King's was deemed 'world-leading' or 'internationally excellent' (3* and 4*). The university is in the top seven UK universities for research earnings and has an overall annual income of more than £684 million.

For more information about King's see [King's in Brief](#) online

About Neuro Digital

NeuroDigital Technologies is a young tech-based Spanish company devoted to create innovative solutions for Virtual Reality. Its goal is to develop technologies that make Virtual Reality a truly immersive experience. For that purpose, NeuroDigital has developed Gloveone, a haptic glove that permits the user can touch and feel virtual elements with his/her own hands. Recently, NeuroDigital has developed its new system Avatar VR that permits full upper body tracking without. Thus, now it is possible to interact with virtual scenarios in a natural way, using our own hands as we do in real life. This will make VR and AR a more powerful technology for many different domains: industry, education, healthcare, advertisement, entertainment and other.

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