

Bringing history and the future to life with augmented reality

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Credit: VENTURI

Have you ever wished you had a virtual time machine that could show you how your street looked last century? Or have you wanted to see how your new furniture might look, before you've even bought it? Thanks to VENTURI, an EU research project, you can now do just that.

Très Cloîtres Numérique , due to be launched this summer, is a 'living memorial' to a neglected quarter of Grenoble, says VENTURI Project Coordinator Paul Chippendale. The project was designed to appeal "to people familiar with the neighbourhood as well as those who are interested in Grenoble's rich cultural heritage and human history."

Participants can use a tablet or smartphone to look at the city through a virtual lens. The modern-day scene that they can see through their device's camera is overlaid with historical photographs and 3D reconstructions of ancient buildings, allowing the users to look at their surroundings, going backwards through time. Local schoolchildren have collected photographs and memories from their parents and grandparents in order to preserve their memories for future generations.

Beyond Smartphones and Tablets: Wearable AR

Whilst Très Cloîtres Numérique is ambitious, it still relies on the user looking through the screen of their smart device. "But rather than having to view the world through your device," says Mr Chippendale, "it should be possible to experience an augmented environment seamlessly through smart glasses, watches and earpieces.

"The customary 'letterbox' paradigm of AR – holding up your Smartphone and using it as a magic looking glass – certainly makes AR accessible to the masses, but in my opinion it is not a comfortable experience. Even though I work in this field I still do not use AR Apps in my everyday life," says Mr Chippendale. "They are just too generic and do not give me the information that I need according to where I am, what I am doing and what I enjoy.

"However, I do believe that this is about to change. In VENTURI, we have been exploring cutting edge 'reality sensing' through computer-vision and sensor fusion, and have tied this together with intuitive 'world

augmentation' through 3D audio, Smartwatch interaction and HMDs like GoogleGlass.

"It's the aim of the VENTURI project to create augmented reality applications that blend seamlessly with the user's interaction with the real world." Rather than needing to stop to look at their smartphone or tablet, users would receive information that would enhance their experience of the world around them through an earpiece or [smart glasses](#).

Using AR to Help Customers

It's not only virtual history galleries that can be created using the VENTURI project's [augmented reality](#) systems. Companies like Volkswagen, Audi and IKEA are working with project partner Metaio to create exciting new tools. For example, Audi customers can take a virtual tour of their new vehicle to learn its features and Volkswagen allows users to customise a car before ordering. IKEA and Mitsubishi both allow clients to see how their products would look in their homes or offices, before buying.

By working with Metaio and Sony, the VENTURI [project](#) is creating what they believe will be the first generation of ubiquitous AR tools. Says Paul Chippendale:

"Thanks to Sony's participation in VENTURI, we have had privileged access to their future vision of wearable devices, ranging from smart life logging bands (wrist-worn devices that log a user's activity) to advanced head mounted displays. We have been using this insight together with Metaio's strong market knowledge, to create personalised AR content according to a user's social profile, the current environmental and what it is that they're currently doing."

Provided by CORDIS

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