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Virtual reality prototyping in journalism

How to best collaborate with agile methods

Building prototypes is not the most usual way for journalism researchers to operate. In the Virjox project, journalism scholars, human-computer interaction and computer scientists and media company developers innovate together to figure out how to best create immersive journalism and other media products. The project, still in its early phase, can already offer some insights.

The Virjox project, running 19 months, aims at exploring the new opportunities and challenges of media services, such as journalism, in virtual reality. Virtual reality (VR) may provide journalistic storytelling with a great potential, but many news organizations still lack the knowledge of how to best implement the new VR technology in their practices.

“Virtual reality” refers to a bundle of computer technologies that use software to generate realistic images and sounds in order to replicate real environments. Also, terms like “immersive journalism” (de la Peña et al. 2010), “journalism 360” (Anderson & Nessa 2016), “augmented reality” and “mixed reality” (Future Today Institute 2017) have been used in this context.

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For journalism, VR offers new multi-media storytelling opportunities. Early examples by pioneering VR news media companies like New York Times Inc. (starting November 2015, *The Displaced*) have already demonstrated the many possibilities of immersive journalism, from short daily news pieces to mini-documentaries (5 to 11 minutes) (Hanon 2016.) Since then, many other newsrooms have followed suit, and CNN just recently launched its virtual reality news platform (Ergürel 2017).

Based on these first examples of VR journalism, we can easily argue that VR gives an emotional boost to storytelling, and thus could potentially (for example) increase empathy.

The Virjox research is mostly funded (60 %) by the Finnish Funding Agency for Innovation (Tekes), which favors university-company joint ventures. The university partners add 30 percent, and the companies 10 percent, to the total funding. The project employs about ten full- or part-time researchers and research assistants.

Based on our experiences from the research project, we now want to address chal-



Researcher Pasi Ikonen testing HugoVR, a prototype developed in the project.

lenges we have encountered in working with the VR.

Challenge 1: Method of experimenting

Prototyping and a lean service creation design approach were chosen as main strategies for the research collaboration (Sirkkunen et. al. 2016). We apply a lean design approach, in which we create low-level prototypes fast from the chosen ideas, test them immediately with the users and iterate based on the feedback towards more detailed prototypes. Prototyping is well-suited

for creating new products or services in a fast, iterative manner.

For designers and developers, lean design is nothing new. But for journalism researchers, prototyping has been a fairly new practice, and thus, a mind-opening experience: learning by creating something new instead of only executing traditional scholarly research by collecting and analyzing data.

Even if the Virjox project is still in its early phase, one can argue that creating prototypes is indeed an effective method for collaboration with companies. In approximately a month, the first interactive, early phase, proof-of-con-

cept prototype was created, based on collaborative ideation workshops and collaborative experience design and development.

In three months, it was possible to build the first functioning prototype and a large number of concept ideas focusing on the life of Finnish painter Hugo Simberg. Mixing historical images, 360 videos, sounds, texts and other elements, we could create a VR piece that could be further developed as a template for similar kinds of productions.

Challenge 2: Community building via communication

One of the first challenges for our collaboration was how to communicate efficiently on a daily basis. We work in four Finnish cities – Helsinki, Vantaa, Tampere and Jyväskylä – hundreds of kilometers apart.

According to similar research projects, internal communication has been somewhat non-existent, and the typical (however, unintentional) model of disintegration has occurred. Instead of working for one common research and development project, there have been several independent research groups working separately and often with different aims.

To avoid this model of disintegration, almost instantly when the project started, we decided to establish a closed Facebook group for internal communications. The main aim of the Virjox Facebook group was to build a research community via constantly disseminating news links and other relevant content for the members of the research teams and the company members of the project (N=27). Of course, other real-time social media platforms like Slack or Yammer could also be used for this kind of interaction.

After sharing over 200 posts during the first four months of the project, we can conclude that Facebook has indeed worked nicely as a communication and community building tool, at least when starting the project.

Even the lead member of the media company involved in the project has thanked us for our relevant news-link-sharing contri-

butions. VR contents are constantly pouring from various sources, but when aggregated and curated by the journalism researchers, the most valuable piece of information is easily found and archived.

In addition to the use of the Facebook group, emails, Skype conferencing and on-the-spot workshops have been used while starting the Virjox collaboration. Several WhatsApp groups have been created to support daily practical communication between smaller or larger teams working on a certain topic. They are being used for practical daily communication between the design and development team and journalism researchers, or for smaller research groups in the universities. Also, person to person communication on practical (often urgent) matters is supported by WhatsApp. For external communication purposes, a blog and a Twitter account have been created.

As one can easily see from above, for the Virjox project, virtual reality communication was not yet a real choice. Of course, in the future, virtual reality environments could also be used for effective team communication. Science fiction has often offered the first glimpses for the future of media and communication. In VR's case, the *Minority Report's* (2002) intuitive hologram user interface could be a scene from a future newsroom: relevant multi-media content will fly in the air, and the journalist (Tom Cruise in the movie) will be the master of creating journalistically meaningful timely narratives by only using his hands.

Challenge 3: Constant learning of new tech and gadgets

Technologies for virtual reality are constantly developing, and the speed on the solutions that are currently being brought to market is breathtaking. This is a third great challenge for the project.

New VR cameras are launched every month (like Ricoh Theta, Nokia Ozo, GoPro, Kodak Pixpro, 360Fly, etc.). There are several different gadgets for consuming VR content – mostly through viewing and listening – such

as VR Glasses. Among the different glasses, Google Cardboard, Samsung Gear VR and the Oculus Rift are already in the market, but there are new brands emerging.

The prices (at the time of writing, March 2017) vary from cheap cardboards (5 euros) to high end products like the Oculus Rift (750 euros) and Nokia Ozo (over 20000 euros). However, the intense competition between VR hardware makers is constantly lowering the price tags.

Big tech companies like Facebook (the Oculus Rift), Google (the Daydream View and Smartphone), Samsung (Gear VR and Smartphones) and Sony (PlayStation VR) are creating their own VR ecosystems and plat-

forms, but many start-ups are also trying to contribute to the VR business. The question is: what gadgets and programs are needed right now for smooth VR productions?

Because there is not yet any consensus of the best VR devices or platforms, the Virjox project has started to test several alternatives. We are also conducting interviews among content producers in the rising VR field to monitor future trends both in production and technology. The project has also prepared to invest more on new VR devices in the coming months.

Flexibility, openness and willingness to constantly test and learn about the VR are of prime importance.

Project: Engaging services in virtual reality (VIRJOX), 11/2016–5/2018

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Funded by: The Finnish Funding Agency for Innovation Tekes, three universities and three companies (Sanoma, Finavia and Futurice)

Project online: <http://virjox.hti-tampere.fi>

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