

Edited by Leena Mäkelä

MEDIAIA

EXPERIMENTING OPEN INNOVATION
IN THE MEDIA FIELD

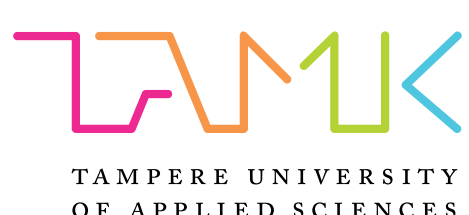
MEDAIA



EXPERIMENTING OPEN INNOVATION IN THE MEDIA FIELD

Edited by Leena Mäkelä

Open Innovation Platforms in the Media Industry – MEDAIA Final Publication



**MEDAIA – Experimenting Open Innovation
in the Media Field**

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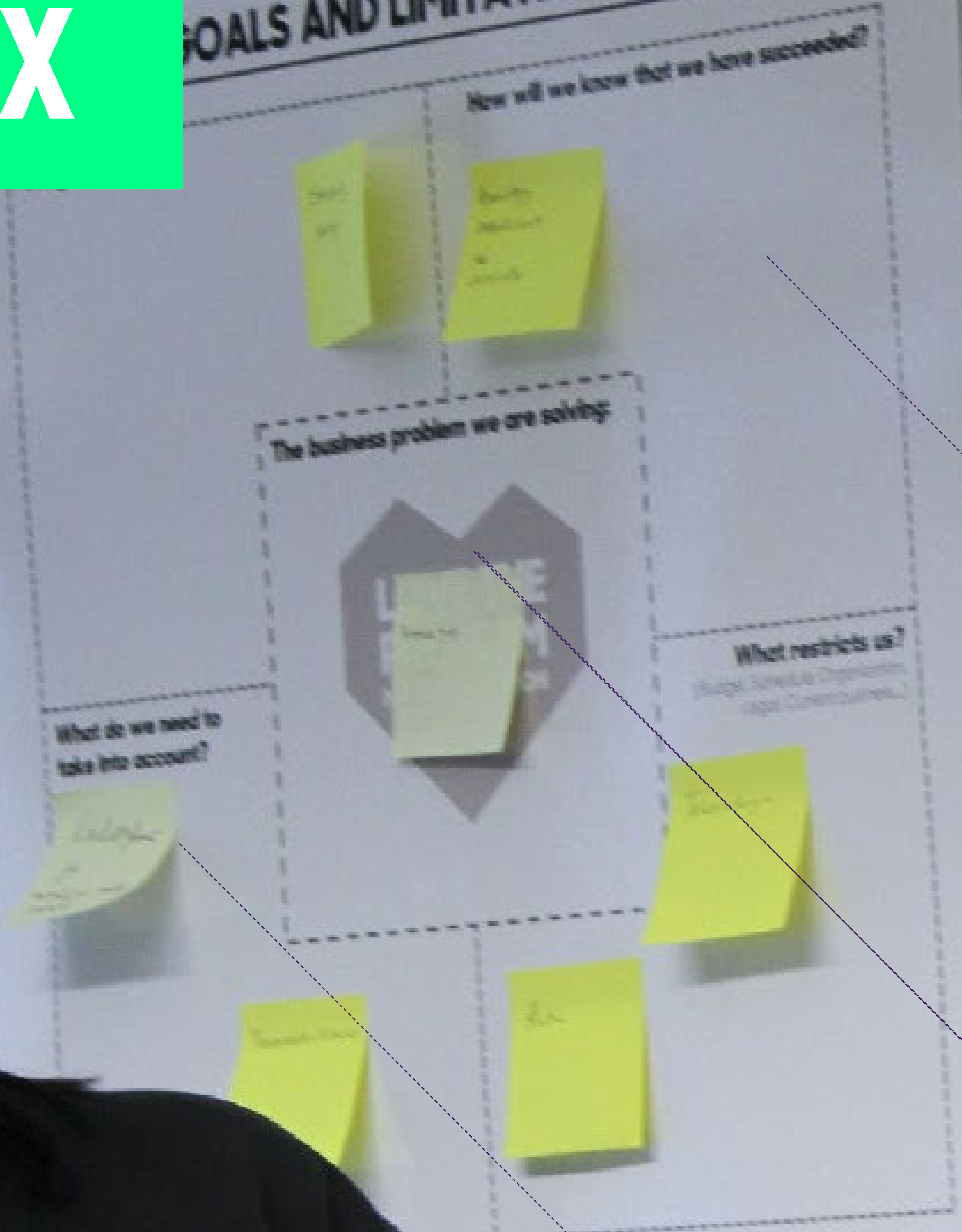


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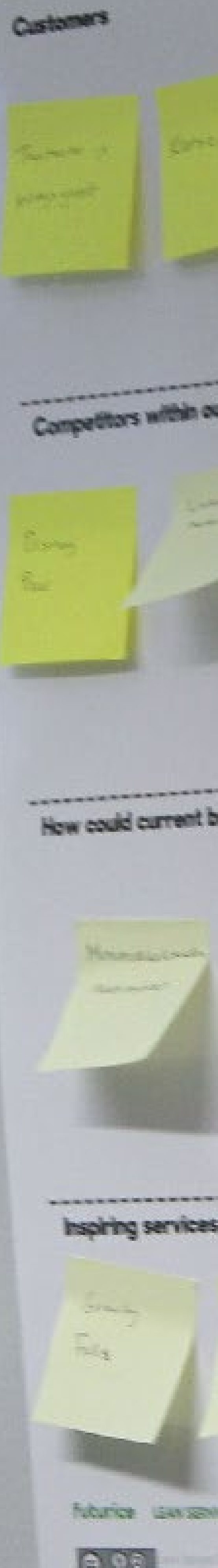
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INTRODUCTION

Leena Mäkelä

INNOVATION IS OFTEN DISCUSSED AS

something new or improved, e.g. a product or a process that really creates business or social value. Therefore, innovation is a word strongly linked to success and there is a temptation to think that doing the right things and following the right processes are essential in innovation-seeking projects. For the past two years, we have studied and explored innovation in the “MEDAIA – Open innovation Platforms in Media Industry” project, funded by the national Six City Strategy (website: <https://6aika.fi/>) program. As promised in the project plan of MEDAIA, we have executed 13 small-scale sub-projects seeking new ideas and innovation methods and novel collaboration models between universities, companies and public organizations in the Helsinki and Tampere regions. We have discovered that innovation-seeking processes do not always have to be successful. To become a successful innovator, one also needs to learn to fail, and more specifically, one needs to learn how to fail effectively: how to quickly test whether something works or not, how to profit from failures, and how to try again.

“

“An experiment is something that is supposed to fail”

*Anssi Tuulenmäki,
Chief Innovation Activist*



IN PROJECT VOCABULARY, THE TERM 'PILOT' IS often used to describe activities that execute new models, methods or concepts. However, another term – 'experiment' – has emerged during the past few years. When planning the MEDAIA-project, we thought we would be doing pilots. Now that we are finishing the project, we realize that we have actually carried out experiments rather than pilots. Even though the terms pilot and experiment are often used interchangeably, we believe that it's useful to differentiate the two as Finnish innovation practitioner Anssi Tuulenmäki proposes.

According to Tuulenmäki (2015), the difference between piloting and experimenting is the following: an experiment is something that is supposed to fail and a pilot is something that is supposed to succeed.

The goal of an experiment is to quickly test whether something works, e.g. are there potential customers for a product idea.

Experimental design culture (see Experimental Finland, 2017) consists of continuous trying, testing and learning. Having something not work is also a good result because it helps designers to make changes to their original ideas at an early stage. Tuulenmäki (2015) argues that experiments are for the development and pilots for the realization of projects. Therefore, experiments can precede pilots. Pilots can also be projects that are based on detailed planning, aiming to eliminate potential problems before execution.

For us in the MEDAIA-project, understanding the nature of experiments has been crucial for being able to define what our project and its 13 small-scale sub-projects are about. It has helped us to identify the phase of the innovation process in which to operate. Our 13 small-scale projects were experiments operating at an early phase of innovation where ideas for new products or services are starting



PICTURE: LEENA MÄKELÄ

to get developed. Although new product and service ideas have generated from the MEDAIA workshops, the main focus has been on process innovation rather than on product or service innovation. During this project, we have implemented and customized popular innovation methods such as lean customer development, prototyping and Google Design Sprint into media context. These methods have been very useful because they guide the participants to focus on relevant questions during the ideation process, e.g. on finding solutions to problems faced by customers. They also provide a safe structure and philosophy for experiments by giving the actors a license to fail. Furthermore, implementing these methods also correspond with the needs of modern businesses. The research done in the beginning of the project showed that companies often lack the competence to use agile innovation methods.

OPEN INNOVATION AND THE MEDIA INDUSTRY

Open innovation emphasizes the decentralized nature of knowledge and innovation: no single organization has a monopoly on excellent ideas and knowledge, but instead organizations need to engage external knowledge networks and communities in their processes in order to be successful (Chesbrough, 2003). Open innovation is usually studied in the context of large organizations which have good resources for cooperation with external partners. At the same time, open innovation practiced by small companies has been seen as a challenge because small companies lack financial and technical resources as well as necessary competencies.

In his recent book, Vanhaverbeke (2017) introduces case studies of small companies that have used open innovation successfully. According to Vanhaverbeke, small companies can benefit hugely from open innovation, even more than big organizations, because they are less bureaucratic, more willing to take risks and more agile in changing environments. They can, e.g. share costs with project partners, and create projects that go beyond their own capabilities. When cooperating with bigger companies, small companies can also achieve access to their superior research and development resources. Managing open innovation, e.g. intellectual property rights and incomes, is challenging for small companies but still, collaborating with other actors is more beneficial than working alone.

MEDAIA has explored innovation in the media industry under the Six City Strategy's Open Innovation Platforms (OIP) spearhead project. As in many other countries, media industry in Finland is fragmented and most of the companies operating in the field are small or micro sized companies. Therefore, open innovation related especially to small and micro companies has always been relevant. We did a study in the Tampere region (Heinonen, 2016) in which we interviewed five local micro companies about their business models and development work. The aforementioned scarce resources and weak business development processes stood out in the study results. Therefore, there is a great need to find ways to support small media companies with open innovation.

With Tampere University of Applied Sciences (TAMK) and Metropolia University of Applied Sciences being the main partners of MEDAIA, there has been a strong emphasis on creating new university-company collaboration models during the different experiments. For example, the 'Crowdfunding Workshop' experiment creates a new model for cooperation between micro-companies and students, making them work together on the same team. The 'Immersive Fan Experience' experiment introduces a co-creation process with a public media company, small media companies and a university. '360 Story Jam' and 'Time Well Spent' experiments demonstrate multicultural community building where company and organization employees are invited to jam with students and lecturers.

According to our experiences, universities have a growing potential to support small companies in open innovation. Involving students in innovation activities is very essential. Micro companies are often very busy with their everyday practises, and hard to reach and to engage in open innovation activities. However, students are attractive to companies: they are potential future employees and inspiring cooperation partners that support community building. On the other hand, involving universities in problem solving at companies also helps students and lecturers to better understand contemporary business reality. Furthermore, small companies are also able to find new partners for cooperation through the networks of universities which are already used to cooperating with big organizations.

Innovation collaboration between companies and university students is not a new idea. However, there are lot of opportunities to



improve it. For example, the 'Virtual Reality Sprint', 'Pretotyping' and 'Yle Vote Matcher' experiments showed that great results can be achieved in a very short time: rapid sprint methods used by professionals in the "real working life" are also applicable in the university environment. In order to further develop their innovation processes, universities need to adopt and customize best practises used by cutting-edge companies and experts. Although students are not supposed to be professionals but learners, competence management, i.e.

recognizing what type of information and skills are needed for specific innovation projects, is crucial. Mastering different working models is also very important: this includes both project management and, more specifically, the disciplined use of rapid, customer-centered design methods. Cross-pollination and multicultural team building are important elements in innovation. With time-pressured design processes, goal-oriented problem-solving skills are also needed, as well as adequate skills for executing solutions.

The associate partner of MEDAIA has been the Finnish Broadcasting Company Yle. Yle has taken an active role as a supporter of open innovation and ecosystem building in the Finnish media industry. A very concrete example of this is Mediapolis (website: www.mediapolis.fi), a center of media education and companies at Tampere, the largest organizations being Yle and TAMK. The center was founded at Yle premises in 2014. In the Tampere region, the MEDAIA project has especially focused on developing innovation activities at Mediapolis.

MEDIA MEETS URBAN DEVELOPMENT

The Six City Strategy (The Six City Strategy – Open and Smart Services, 2015) is a strategy aimed at sustainable urban development in the six largest cities in Finland: Helsinki, Tampere, Espoo, Vantaa, Oulu, and Turku. In addition to activities related to open innovation in the media industry context, MEDAIA project has also aimed at innovation collaboration between cities with common urban development challenges. For us, urban development has been a whole new world: we are used to creating

media contents and services to audiences and users but we haven't really recognized before how media is also able to contribute to urban development.

Through experiments carried out in the Arabianranta (Helsinki) and Tesoma (Tampere) neighbourhoods, we have discovered one very interesting application area where arts and media professionals are needed. We have familiarized ourselves with citizen-centered urban planning, which engages citizens in urban development processes. We have found out that there is, for example, a growing interest for storytelling and audio visualization in prototyping urban visions. After MEDAIA, the integration of media with urban development continues with the City Drivers project launched in the fall of 2017. City Drivers is carried out by Laurea UAS, TAMK UAS, Xamk UAS, and the Finnish Association of Designers Ornamo. It is a national ESF-project focused on innovation training and directed at professionals working in city planning and the creative industries.

THE STRUCTURE OF THE PUBLICATION

This publication consists of articles written by authors who participated in the MEDAIA experiments and activities. An important trigger for planning the experiments was the background research done in Helsinki. The research results suggest that many Finnish organizations need assistance with quick and agile development of innovation ideas and procedures. Dr. Niina Meriläinen introduces the results of the background research of Metropolia and describes the agile concepts tested in Helsinki in her article.

The other articles focus on individual MEDAIA experiments. In her first article, Dr. Leena Mäkelä explains the Lean Customer Development method implemented in the crowdfunding workshop at Mediapolis, Tampere. At Mediapolis, virtual reality (VR) became a very important application field of innovation activities. Mr. Kari Peltola, Ms. Tiia Rintakoski, Dr. Leena Mäkelä and Ms. Minna Kilpeläinen introduce three Mediapolis experiments related to virtual reality in their articles 'Virtual Reality Sprint', 'Immersive Fan Experience' and '360° Story Jam'. Augmented and virtual reality are also analyzed in an urban innovation context by Mr. Jimmy Paquet-Cormier, one of the international collaborators of MEDAIA. Dr. Niina Meriläinen's article 'Arabianranta Hack' is an example of MEDAIA's urban innovation experiments. Mr. Juhana Kokkonen writes about the Time Well Spent -community established in Helsinki to advocate the design of time-respecting products that value end users' time. The last article by Dr. Leena Mäkelä describes how MEDAIA contributed to developing innovation structures in Mediapolis. This publication also features further information about the project and its participants.

We are grateful for the funding from the Six City Strategy program that enabled us to expand media activities to the field of urban development. We'd like to thank the Helsinki-Uusimaa Regional Council, and Ms. Hanna Laaksonen especially for excellent facilitating. Thank you, Yle, and our contact persons Ms. Minna Tiihonen and Mr. Petri Home for your support and for co-creation of the project activities. Thank you also to the contact persons of the cities of Tampere and Helsinki, Ms. Nina Mustikkamäki and Ms. Taina Seitsara. We also

want to express our gratitude to all participants, facilitators and contributors who experimented with us, succeeding and failing in open media innovation.



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MEDAIA IN A NUTSHELL

THE OBJECTIVE OF THE MEDAIA PROJECT

WAS to develop open innovation in a media business and urban innovation context. This was to be achieved by carrying out 13 small-scale pilot projects, i.e. experiments, that demonstrate new collaboration models between universities, companies, the public sector and other organizations. Background studies and benchmarking were also conducted. The project was coordinated by Tampere University of Applied Sciences (lead partner) and Metropolia University of Applied Sciences in partnership with Yle, the Finnish Broadcasting Company.

At Tampere, the project focused on developing open innovation activities at Mediapolis (website: mediapolis.fi), which is a recently established media center in the Tohloppi district in Tampere. In the Helsinki region, the project activities aimed at piloting cooperation and co-creation models between universities, public sector, companies and citizens. Background research revealed a lack of competencies in agile innovation, and therefore, increasing the knowledge base of and the skills in rapid innovation processes became a shared goal for the project partners in Tampere and Helsinki.

The most common framework for the experiments was the early phase of product and service development, and

thus, commercialized outcomes were not expected. During the course of the project, virtual reality turned out to be a promising application field with growing international markets for the media industry. The MEDAIA project succeeded in building national and international networks in this emerging field. Project partners TAMK and Metropolia will also continue their cooperation in the VR field after MEDAIA.

Over two years' time, 50 companies participated in different MEDAIA activities and about 20 of them participated in the experiments of MEDAIA. In addition, almost 20 other organizations, including the cities of Tampere and Helsinki, other universities, NGOs and consultant partner companies, were also involved in the experiments. Participatory universities have already started implementing some of the innovation concepts experimented in the MEDAIA project. Three new research and development projects have started in Tampere and Helsinki based on the outcomes of MEDAIA.

MEDAIA was granted by the Finnish national Sixt City Strategy (website: <https://6aika.fi/>) program. The project was funded by the European Regional Development Fund (ERDF).



AGILE COLLISION CONCEPTS IN THE INNOVATION SPHERE IN THE HELSINKI REGION

Niina Meriläinen

TO UNDERSTAND THE CURRENT INNOVATION networks, innovation projects and how actors operate in these networks in the Helsinki region, Metropolia's MEDAIA research team conducted a background research in the spring-summer of 2016. Based on the results of the research, MEDAIA selected four agile collision concepts; Jams, Hackathon, Reverse Pitch, and Quick and Dirty, which were utilized in MEDAIA's grassroots innovation experiments in the Helsinki region. The purpose of this article is to introduce the background research and the four agile concepts that aimed at the collision of various actors such as students, startups, larger and well-established organizations, and companies in the wider Helsinki region.



PICTURE: MARI SILVER

THE TWO-YEAR MEDAIA PROJECT HAS SHOWN

that the innovation scene and the many networks of various actors are well diverse by nature and still-growing in the Helsinki region. What MEDAIA came to understand was that innovations are not just one dimensional. There are varying understandings of innovations at the grassroots level as well as in literature. As Baregheh, Rowley and Sambrook (2009) state, each project and discipline tends to have their own distinctive one that they utilize. Therefore, for Metropolia University of Applied Sciences (Metropolia), it was important to define what is meant by innovations in order to reach the collision goals.

There were many agile collision concepts that can be used to collide numerous actors such as students, startups and small and medium enterprises (SMEs) with larger well-established organizations and businesses that have more central position(s) in the innovation networks. During MEDAIA, Metropolia has established good relationships with various gatekeeper actors, such as media houses and corporations that operate inside the innovation networks, as well as with those less-central actors, such as students and startups that operate on the outskirts and outside of traditional innovation networks. Having good relationships with various actors from multiple backgrounds, sizes and positions in the networks has turned out to be beneficial in the collision efforts and will benefit the innovation networks in the long run in terms of idea and prototype development operations.

ACTORS AND NETWORKS IN THE INNOVATION SCENE

Actors who operate with and around innovations form various networks that intertwine, meaning that there is not just one innovation network to which every actor belongs to. All networks include various power-relations and innovation development projects, and not every actor has equal power and influence in all of the networks and projects. Network theory has been used to explain innovation and development arenas. Often cited author Castells (2009: 19) defines networks as sets of interconnected nodes that may have varying relevances to the networks, whereas Lewin (1947), one of the original network theory researchers, pointed out that channels, aka networks, have no simple beginning and ending, but are circular in nature; they intertwine, and one channel can be part of another.

Networks consist of various actors with multiple interests, values and relationships (Meriläinen, 2014). Hudson (2001: 331) similarly argues that relationships are the building-blocks of networks, whereas Lin (1999:31) says that actors engage in interactions and networking in order to produce benefits. These benefits can be financial or otherwise power-related, which means that there are central and less-central actors in each network. Therefore the less-central actors, such as students and smaller business, e.g startups, sometimes need to be aided in order for them to collide with the central actors that have the resources in the innovation development projects such as financial power to help in prototyping projects.

It is important to keep in mind that innovations are not just based on IT or engineering but created by people, which is why agile collision concepts must take a more human-centric approach. Thus, it's crucial to understand that employees and students who develop innovation ideas and prototypes can feel exhausted and disempowered if organizations and the top level management especially are not willing to provide breaks for employees in between intensive innovation creation processes or decline to give positive feedback and positive reinforcement to employees (Chung, Choi and Du, 2017). Thus, to understand innovation networks, it's equally vital to understand the processes which lead to innovations instead of the just the final projects from the point of view of engineering, product design or IT.

BACKGROUND RESEARCH

In order for Metropolia to be part of the innovation networks in the Helsinki region and to be able to use agile collision concepts in an effective manner, it was vital to gain theoretical as well as practical understanding of networks and innovations at the start of the MEDAIA project. Metropolia wanted to create opportunities for various actors, such as students and small startups, to take part in the innovation networks and to participate in the innovation projects, given that Metropolia recognizes the great value that students and startups have in the idea-development sphere and preto/prototyping projects. Metropolia wanted to assist in the collision of various actors but it was first crucial to understand exactly where and how MEDAIA's assistance was needed.

To meet meet these goals, Metropolia's MEDAIA research team, consisting of students from digital communication and design and supervised by teachers from Metropolia working for the MEDAIA project, conducted a background research in the spring-summer of 2016.

The purpose for the research was:

1. to understand organizations' innovation projects and activities
2. to understand organizations' innovation development plans
3. to understand the networks they operate in and/or wish to operate in regarding innovation activities.

RESULTS

For the background research, 24 organizations were interviewed. The interviewed organizations were startups, expert organizations and communities, businesses from various fields, cooperation accelerators and Finnish universities.

The results from the interviews tell us that:

1. There is a need among organizations for assistance with quick and agile development of innovation ideas and procedures. Currently, it takes too long from development of ideas into actual innovations - real world products and/or services, and as a result, the innovation development projects tend to be slow. Sometimes the slowness even kills innovations.

2. There is a need for an experimental culture. Currently, organizations are afraid to fail, financially or otherwise, which has negative impacts on the development culture and represses the experimental culture.

3. There is a need to break away from the one-person-driven development culture. Organizations wish to move towards a more cooperative and multi-field innovation culture that includes integrated participatory factors from all levels of the organization.

4. There is a need for more cooperation with multiple actors. For this to succeed, there is an additional need for assistance in external communication. Currently, the innovation project development tends to slow down after the first initial meeting because there is no support or no one to keep the communication going.

5. There is a need for support with long term and guided cooperation. Without any support, cooperation projects may fade into the oblivion. In other words: nothing gets done in the end.

What these findings told Metropolia was that there is a strong desire to develop innovation projects that are supported by an integrated communication and development approach internally and externally. Organizations want to develop innovations in a multi-fied manner with various actors but lack the capacity, manpower and time to take innovation ideas and pretotypes to the testing and prototyping phases. Additionally, organizations wish to promote experimental culture more, while

they admit that financial and other resource-based pressures are prohibiting this. As a result, the preto- ja prototyping culture in the organizations does not flourish as it should, which in practice means that innovations cannot be generated. Organizations are aware of their shortcomings in the innovation networks. Most of the interviewees want to emphasize innovation culture and therefore wished for more support in:

- the development of ideas
- promoting experimental and prototyping culture
- having possibilities to meet with possible project partners, such as SMEs and students
- communication activities.

Based on the results of the background research, Metropolia started to look for agile collision concepts which could be utilized in MEDAIA's grassroot innovation experiments in the Helsinki region. As a result of the interview study, Metropolia used four collision concepts that targeted the needs of various organizations operating in the innovation networks in the wider Helsinki region.

AGILE INNOVATION CONCEPTS

Jams

The purpose of Jams is to spread information between various groups, such as students, companies and third sector organizations, that do not belong to the same networks or normally meet or associate with each other. In this way the Jams concept functions as a distributor of information and as a link between

the different actors in the process in which students, organisations and businesses receive information, and hopefully as a result, helps develop innovation ideas into concepts in a multi-field fashion. This concept is useful for facilitating multi-field and multidisciplinary cooperations and distributing information between actors coming from various fields. For students especially, Jams offer a great opportunity for receiving information and for colliding and networking with actors with the resources to create and sustain cooperations and prototyping projects. This way students are, for example, able to learn about new open data packages, etc. Jams last between 2-4 hours and are facilitated by experts from the field(s) in question. In Metropolia's Jams, the participants were a company that focused on 3D modelling, visualization and consulting, Helsinki Region Transport (HSL) service, and students from various disciplines.

Hackathon

The purpose of a Hackathon is to provoke and to increase the understanding of various issues and of problem-solving via facilitated collision. In Hackathon, actors from various fields and backgrounds are encouraged to collaborate as they first learn about a real-world problem, get to know each other's areas of expertise and then map out solutions to the problem(s) utilizing their individual expertise. Participants are divided into smaller groups in order to really facilitate problem-solving and to create actual problem-solving cooperation between various actors coming from different backgrounds. The aim is to generate multidisciplinary and multi-field problem-solving that is innovative in the manner that it addresses the problems in question. Hackathon relies on an experienced facilitator who can inspire and get people

involved especially when they might at first be hesitant to cooperate with actors coming from completely different backgrounds. The participants at Metropolia's Hackathon were students and local actors from Arabianranta, Helsinki.

Reverse Pitch

The purpose of Reverse Pitch is to enable actors, such as students or startups, to pitch their concepts or solutions to different problems directly to companies and organizations. The Reverse Pitch concept allows for organizations and corporations to look for capable employees with new ideas to be utilized by the employer in a development project. In a Reverse Pitch, organizations and corporations pitch the need for a new service/product or for a solution to a specific problem to the participants, who then work on it for a day or two. After the given time, the solutions and/or new products/services are presented to the organization/company who in turn give feedback to the participants and get to decide which participant they might perhaps hire to continue working on the development project. In Metropolia's Reverse Pitch, the participants were students from various fields and Yle, the Finnish Broadcasting Company.

Quick and dirty

The 'Quick and Dirty' method is made famous by Google's Alberto Savoia. The purpose of Quick and Dirty is to develop prototypes of product(s) and/or service(s) as fast as possible. Quick and Dirty relies on good design and enables participants to concentrate on creating and developing prototypes as quickly as possible without having to worry about distractions such as funding or interruptions at the workplace. The key of Quick and Dirty

is to allow ideas that lead to actual prototypes to flow freely, which also means that the prototypes can be unpolished and even 'ugly' in the conventional sense. In Metropolia's Quick and Dirty, the participants were students from Metropolia, OP Bank and two startup companies from the Helsinki region.

CONCLUSIONS

Metropolia tested four collision concepts that promote cooperation between different actors. There are various innovation networks in the Helsinki region which house multiple actors from students and SMEs to bigger and well-established corporations and organization. These actors desire to work together but lack the capacity to create cooperations or to even meet with each other. MEDAIA recognized its role as a creator and aider of collision between various actors. Additionally, MEDAIA strove to spread information between various actors and to encourage dialogue and interaction between actors from different corners of the innovation networks in order to create a shared interest in cooperation.



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PRETOTYPING CAR SERVICES AT OP LAB

Valtteri Willström

VALTTERI WILLSTRÖM PARTICIPATED IN MEDAIA's Pretotyping experiment at Metropolia where students and companies used pretotyping as a co-working and innovation method. Pretotyping was developed by Albert Savoia while working at Google. Pretotyping helps you test ideas quickly, inexpensively and objectively before investing time and money on bringing new products or services to market. Valtteri's studies in Metropolia continue, but due to the Pretotyping experiment he also started working for OP Lab developing and testing new innovations. This article introduces his new job description at Op Lab (website: <https://op-lab.fi/>).

I've now been working at OP, the biggest bank in Finland, for a little over one year. As the world changes, the big companies also have to change. It is great to see that one of the oldest companies in the whole country is also working hard on innovating completely new services and conquering new fields - with the latest tools and methods. We have been

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“Pretotyping helps you test ideas quickly, inexpensively and objectively.”

creating many new concepts especially for car and mobility services. In the transport and mobility field, the investments required for innovation are huge in comparison to many other industries. One might think that banks for one would have enough resources to invest, for example, on developing car fleets, but the banking industry is very exact on how project budgets are spent - thus prototyping is a really useful method for concept validation and testing.

I have been running around town visiting different parking lots and many other locations with my prototypes on my iPad in order to find suitable testing groups, and I have learned a lot about the field. For one week I was running electric car test drives for customers from 8 AM to 5 PM, making a lot of good and important findings about the concept. It must have been the most exhausting work week I've ever had, but at the same time the most enjoyable. What I have experienced as a designer is that the test results I come up with provide the project

managers and CTOs with really valuable information. In the best cases, decision-making becomes easier, we avoid doing huge amounts of unnecessary work and, of course, we end up saving a lot of money.

One of the funniest things with working with cars and mobility services is that up until the recent years, the whole industry has been stiffly conventional, and now that software development has also been adopted by the transport field, the methods we are using were originally developed by car manufacturers. Oh the irony.

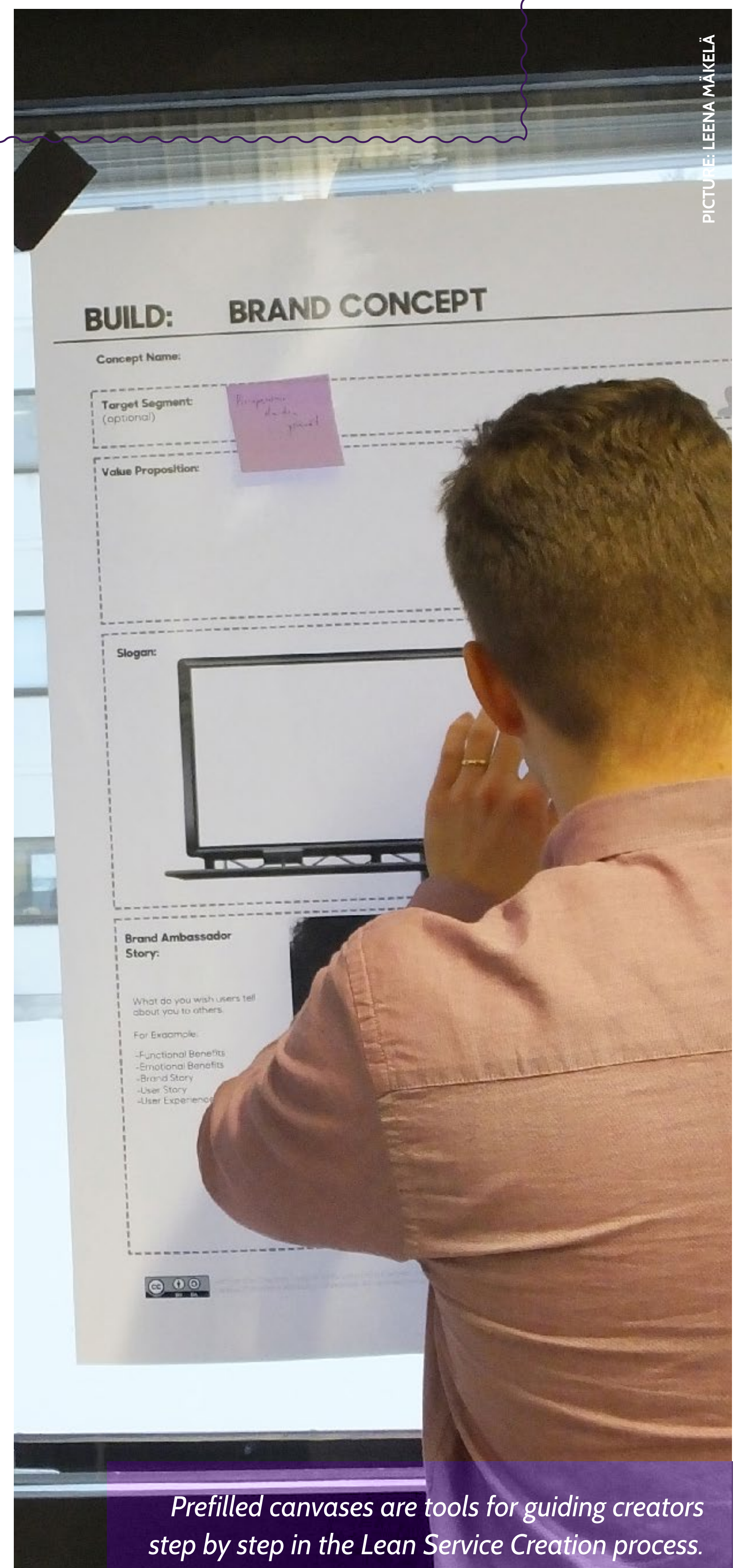


CROSS-POLLINATION OF LEAN SERVICE CREATION AND CROWDFUNDING

Leena Mäkelä

LEAN CUSTOMER DEVELOPMENT INNOVATION

was one of the methods experimented in the MEDAIA project. This method was applied in a crowdfunding workshop organized at Mediapolis in January 2017. Four micro-companies from creative industries worked together with TAMK media students to develop crowdfunding campaigns. Mentors from Futurece, a company that builds digital services, facilitated the workshop using the lean-based Brand Vision Sprint as their main tool. The four-day workshop aimed at finding a brand and a campaign message that brought company narratives, key persons and business models, and the goals of the campaign itself together. Despite being a very familiar concept in the startup scene, lean methodology is still generally quite unknown and was a new tool for the workshop participants, too. This article sheds light on the lean method used in the MEDAIA crowdfunding workshop, describes the different phases of the experience and discusses why lean was worth trying.



PICTURE: LEENA MÄKELÄ

Prefilled canvases are tools for guiding creators step by step in the Lean Service Creation process.

WHEN DISCUSSING LEAN METHODOLOGY,

it is important to notice that there are different contexts and methods for implementing lean. The most traditional version of lean methodology is 'lean production' or 'lean manufacturing,' derived from Japanese automotive industry and the Toyota Production System in the late 19th century (Holweg, 2006). Briefly, lean production is a method for waste minimization focused on eliminating those elements from the manufacturing process that do not create value for the customers. According to Womack and Jones (2003), lean production is 'lean because it provides a way to do more with less and less – less human effort, less equipment, less time, and less space – while coming closer and closer to providing customers with exactly what they want.'

While lean production covers the overall manufacturing process, in the innovation context lean methods focus on product and service development. In particular, the method has been connected to startup companies along with the lean startup methodology proposed by Eric Ries (2011). Lean startup promotes continuous innovation and learning by presenting a 3-step build-measure-learn process in which all business ideas are tested quickly with real customers, and decisions about further production are based on the lessons learnt during the testing phase. The idea of the lean startup is the same as the idea of lean production: provide maximum value to the customer (and to the business) with minimum investments.

During the first step of the lean startup cycle, a hypothesis is created about a product or service: what kind of a customer problem does the product/service solve and how does it solve it.

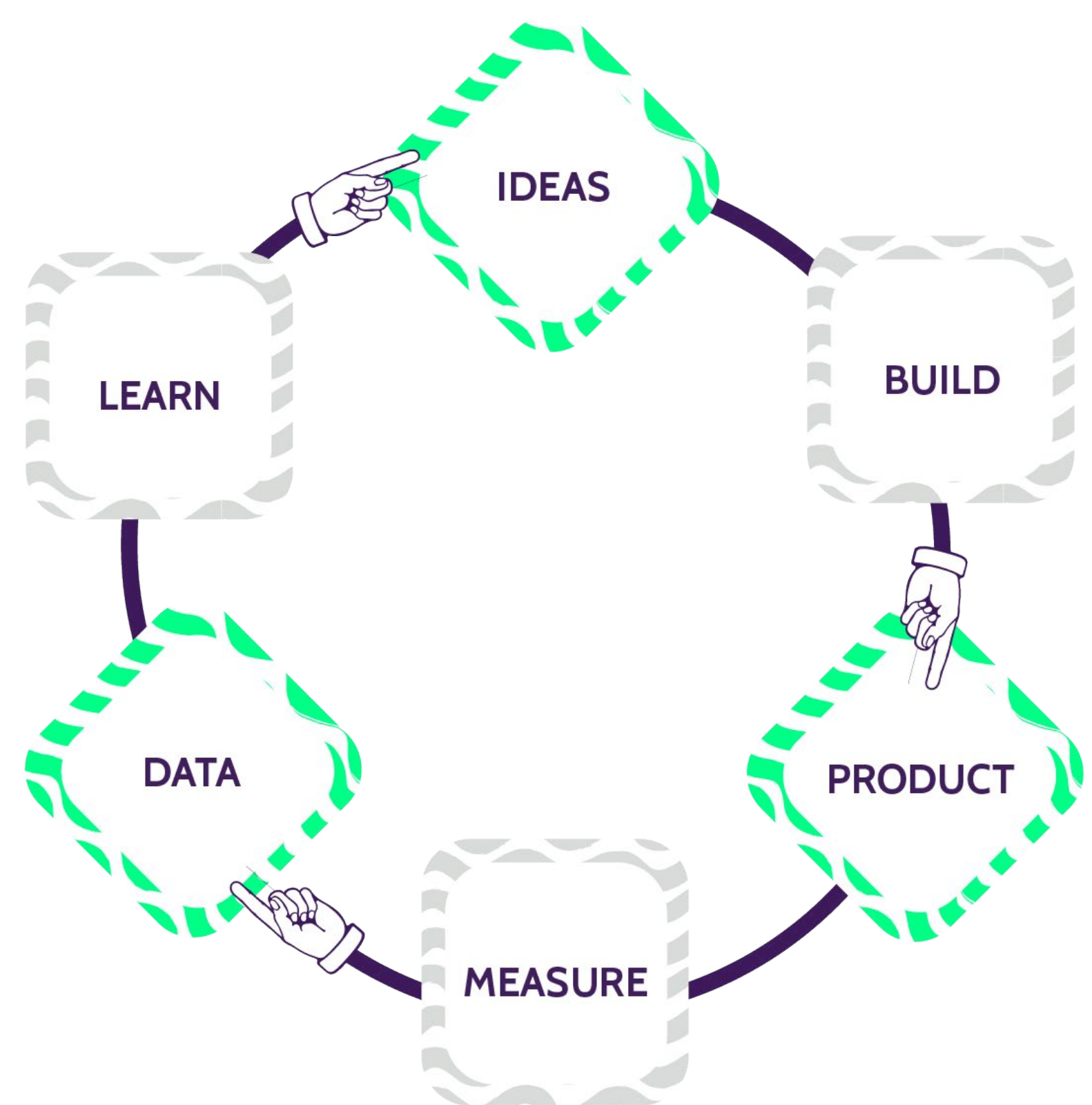


IMAGE: Lean startup process (Ries 2011)

The hypothesis is realized through **building** a minimum viable product (MVP) for testing and measuring whether the product/service really sits with customers. A minimum viable product is the smallest imaginable product the business hypothesis can be tested with. Thus, an MVP does not aim at design solutions. (Ries, 2011.) Following the lean startup principles, **measuring** is done lightly, too. There is no need to win over a large amount of average users. Instead, early adopters who are likely to use the product eagerly and forgive the mistakes of the MVP are gathered to get feedback and to collect data. The last step - and actually the most important goal of the process - is to **learn** from the test results.

The outcome of the process can be the decision to continue with the project by following the abovementioned steps again,

but the results can also show a need for big changes or even abandoning the whole project. The latter especially benefits from lean startup methodology when it comes to waste minimization: with small-scale testing, companies are able to avoid wasting further resources on creating products that will eventually not sell. Lean startup thinking emphasizes the culture of experimentation: according to Ries (2011), an experiment is a first product, not just a theoretical inquiry.

Along with lean startup methodology, lean customer development is also practiced in the context of innovation. These methodologies are not separate from each other since customer development theory introduced by Steve Blank (Blank, 2005; Blank & Dorf, 2012; Alvarez, 2014) is the core element of lean startup thinking. However, lean customer development deserves to be discussed as such because it sees customer development as a separate process from product/service development: while product or service development aims at designing a product or a service, customer development focuses on the customer and especially, on business planning.

Customer development is a parallel process with product development - it creates hypotheses and assumptions for understanding customers: 1) who they are, 2) what problems and needs they have, 3) how they behave, 4) which solutions they are willing to pay for and 5) how to provide solutions resonating with customers' needs (Alvarez, 2014, 2-3). The first rule of customer development is 'getting outside the building' (Blank & Dorf, 2012, 31-32) and meeting and studying real customers. Alvarez (2014, 4) describes lean customer development as a five-step process:

1. Forming a hypothesis
2. Finding potential customers to talk to
3. Asking the right questions
4. Making sense of the answers
5. Figuring out what to build to keep learning

Although lean startup and lean customer development methodologies have been articulated in startup context, they are not applicable only to it: more and more big enterprises and public organizations have also started to adopt the methods of lean startup and customer development. Since MEDAIA aimed at developing innovation platforms and methods, it was relevant to apply the lean method in the project. The consulting partner in the experiment was Futurice Ltd., where the Lean Service Creation (LSC) method was in use. Futurice began to develop its lean methods in 2013. (Sarvas, Nevalinna & Pesonen, 2017.) They allow open access to the material for anybody interested in applying the method, and the handbook and toolbox of LSC can be uploaded from www.leanservicecreation.com.

LEAN SERVICE CREATION AND THE CROWDFUNDING WORKSHOP

The Lean Service Creation consists of a set of canvases, which guide service creators step by step in the service creation process. The canvases are tools for achieving versatile objectives. They push service creators to collaboratively provide concrete results throughout the process. Each canvas has a specific goal and checklists that help team members to focus on and to answer questions that are business-wise relevant in the innovation process. The canvases are designed to be



Liisa Korpela and Ilkka Auer from Futurice used their Lean-based Brand Vision Sprint for the facilitation of the crowdfunding workshop.

physical posters so that team members can see, discuss and share the results in a concrete, visual way. The templates give a common structure and language to teams, which are, ideally, multicultural and multi-skilled. Fast pace is a central feature of the process; there are time limits to filling the canvases and teams are pushed to make decisions. As in lean customer development, potential customers are contacted and interviewed at a very early phase. The outcome is a Minimum Viable Product to be tested with real customers. The MVP can, for example, be a landing page, a form, an explainer video or a fake advertisement.

In the MEDAIA project, Lean Service Creation was applied in a crowdfunding context. The City of Tampere has promoted crowdfunding in its Six City Strategy activities, and one of our objectives was to cooperate with the city. Crowdfunding is also a possible method for financing projects in the media industry.

In addition, crowdfunding is a potential specialization area for media professionals, as media and storytelling skills are always needed in crowdfunding campaigns. Therefore, the crowdfunding workshop did not focus on crowdfunding in general or on the whole campaign process from beginning to the end, but the objective was rather to create a brand for a campaign. Brand Vision Sprint was one of Futurice's lean methods implemented in the workshop. The participants of the workshop were representatives of four micro companies from the creative field and TAMK's media students, who helped the entrepreneurs to create and visualize stories and a brand for their campaign ideas.

First Phase – Love the Problem

The first phase of the process was positioning the company and its crowdfunding idea within their specific industry, and identifying the

business problem that needed to be solved. Instead of starting to immediately develop the campaign content, a few steps back were taken to focus on answering business questions such as why the company wants to launch the campaign, what are the company and the people behind the campaign like, who are the customers of the campaign, and how the proposed solution could solve customers' problems. Answers to these questions were crystallized on the 'target audience mapping' canvas, which helped create a hypothesis about the target audiences, who were they, what they value and believe in, and how they live.

Second Phase – Getting Customer Insight

Following the lean customer development principles, the next phase meant going out to get customer insight by interviewing potential customers. The idea was not to ask direct questions about the solution that was to be crowdfunded. Instead, the goal was to uncover customer desires and problems related to the proposed solution in customers own words and in their own sphere. The motto of LSC, 'Love the problem, not the solution', emphasizes a customer-driven approach which aims to generate services that customers really need and want to buy. It also promotes the principle of being open to changing your plans, e.g. to abandon or to make changes to the original solution when customer interviews show that the original idea does not work. At the crowdfunding workshop, customer understanding was deepened by creating a 'customer insight canvas' which documented the answers of the interviewees, highlighted the key findings and rounded up surprising results - which can be a truly essential in terms of finding new and unique solutions.

Third Phase – Minimum Viable Brand

The third phase of the workshop focused on brand creation. The most relevant ideas and customer insights that had sprung up during the earlier steps were compiled on a 'minimum viable brand canvas'. On this canvas, the participants generated a value proposition to customers, descriptions of target audiences and market positions, brand identity (e.g. values and characteristics of the brand), visual identity and the brand name. A backstory of a brand evangelist was created to support the brand vision. Since the aim of the workshop was to build a brand for the crowdfunding campaign, the concrete execution of the campaign itself was not planned in detail. However, a reward system for the campaign was created and at the end of the workshop, the teams pitched their campaigns.

REFLECTIONS ON THE EXPERIMENT

Both lean methodology and crowdfunding were new concepts to the participants of the workshop, and it was challenging at times to experiment a new method in a new context. The concept of company participants not only giving tasks to students but instead working together with them as a team was also new to everyone. The lean method is often used in product and service design and applying it to crowdfunding campaign design was new to the Futurice mentors, as well. However, crowdfunding as such is a lean process and proved out to be well-aligned with lean service creation. Crowdfunding is a fast method for testing whether customers want to invest on a solution or a company at the beginning of service or product development.

Because of all the novelties related to the project, the four-day time frame was pretty limited for creating a campaign brand. Customer interviews especially would have required more time than the one day scheduled for them, and the participants also would have needed more info about crowdfunding campaigning. It was not always easy for them to understand how the lean canvases and questions were related to crowdfunding projects.

However, the representatives of micro companies found focusing on business problems and customers during the process very useful. What happened in the workshop was that instead of only building brands, the companies also ended up redefining and developing their project concepts while building lean canvases with the media students. The customer interviews also gave them a better understanding of their target audiences.

The following remarks were listed in the Retro session arranged after the workshop:

- The companies now understood campaign target groups as well as their own business stories more clearly.

- The entrepreneurs felt that the canvases were helpful, although there were quite many of them.
- The planning of crowdfunding campaigns and pitches would have required more attention and comparing different examples of crowdfunding would have been helpful.
- To many, the Lean Service Creation -method was new, and therefore the different stages could have been more thoroughly explained beforehand.
- Learning from other companies' examples was a positive thing.
- Both the entrepreneurs and the students enjoyed the collaboration, and the entrepreneurs found the students helpful as they, for example, brought fresh and new ideas to the table.
- The students got a very close look at the business activities of micro companies.

As always, all the pieces were not in the right place on the first try, and in the facilitation of the workshop, more attention should have been placed especially on the concept of



PICTURE: LEENA MÄKELÄ

crowdfunding. However, the Brand Vision Sprint helped participants to better understand customers and how to create successful campaign messages for them. Student-entrepreneur teams worked well together and are also worth implementing in future TAMK and Mediapolis projects. While marketing the workshop, we learned that there is a need for communication and video experts in crowdfunding campaigns. Therefore, this workshop also strove to develop participants' competencies in these specific fields.

Right after the workshop, three companies were planning to carry out a crowdfunding campaign. One of them, Filmloop, realized their campaign just a few months later. Filmloop did not manage to achieve their funding goal, but the whole experience proved useful as Virva Heinimaa from Filmloop explains in her article later on in this publication.



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EVERYTHING WE DO IS STEP FORWARD INTO GROWTH

Virva Heinimaa

A YEAR AGO A FORMER FELLOW STUDENT OF mine, Samu, who owns a video production company called Filmloop, contacted me. He wanted to make a short documentary film about Finnish microbrewery activity and inquired if I was interested in directing the film. I accepted the challenge. We started planning and considered different funding options. We sent applications to the Finnish Film Foundation and the Promotion Centre for Audiovisual Culture. Unfortunately they both reject our applications.

Then our former teacher told us that we could take part in a crowdfunding workshop organized by our old school, Tampere University of Applied Sciences. Ten students and four companies took part in the workshop. We worked in small groups and made short exercises. Before planning the actual crowdfunding campaign, we discussed our case, our goals, constraints, threats and opportunities.

After the very intensive workshop, we continued planning. The subject of the film changed from microbrewery activity to “sahti”, a traditional Finnish beer. We ended



up creating a reward-based crowdfunding campaign in a platform called Mesenaatti.me. After listing our rewards and making a short introduction video, came the day to publish our campaign. I was excited, but also tried to stay realistic.

Days passed. Then weeks. And we weren't even near our minimum goal, which was 13,000 euros. It was pretty clear that we wouldn't nail it. I felt blue. I called Samu and we chatted about this and that for a while. Then I said: "It seems that our campaign isn't going to be very successful." He replied: "Well, it might seem like that. But don't worry! Remember, that the work we have done isn't useless. We have lots of followers on Facebook and many new contacts. Everything we do is step forward into growth!" Samu's attitude cheered me up and I started to look at things from a different angle.

Our campaign didn't succeed. Maybe our minimum goal was too ambitious or maybe we didn't do enough marketing. Or maybe the problem was our subject. Sahti isn't a very hot topic, to be honest! But Samu's words contained the truth. We've learned a lot and gathered lots of information during this project. We've met many interesting people and even done a couple days of shooting. And what's most important, we have not given up! Currently, we're discussing the funding with new interested parties. So here we are, going forward slowly but decisively with this project.

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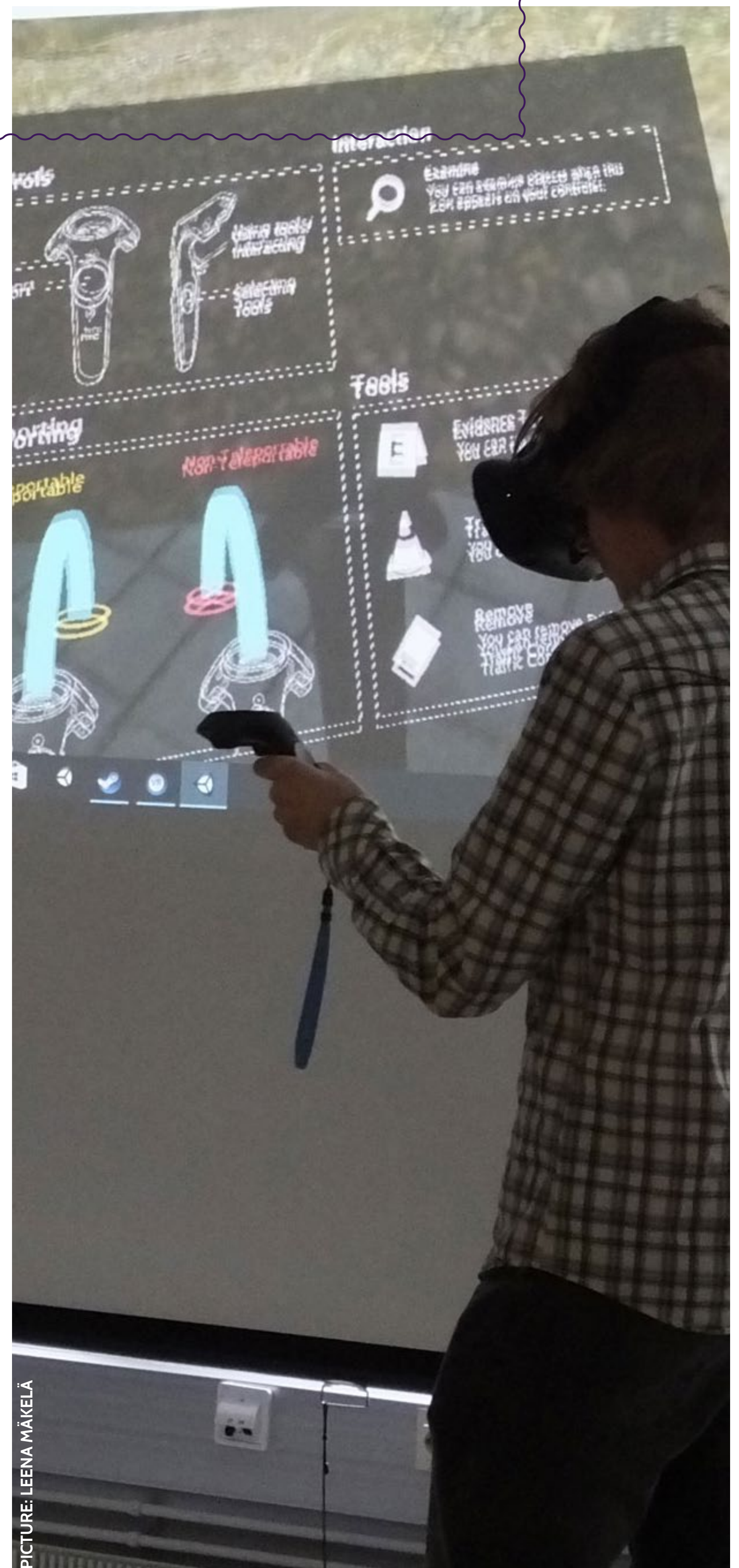
“Days passed. Then weeks. And we weren't even near to our minimum goal.”



ADAPTING GOOGLE DESIGN SPRINT FOR VR AND CREATING ONE WEEK MIRACLES

Kari Peltola

IN MAY 2017, A TAMK VIRTUAL REALITY (VR) sprint was organized at Mediapolis as a part of the MEDAIA project. Our goal was to find out whether we could transfer and adapt rapid innovation methods from the business environment to an academic setting. The experiment was a success, and we can warmly recommend adapting this approach to facilitate innovation, teach students and teachers highly applicable rapid prototyping skills, and build direct interfaces between students and companies, enabling students to get recruited faster.



PICTURE: LEENA MÄKELÄ

TIMEBOX, MULTIDISCIPLINARY TEAMS AND REAL-LIFE CASES - A RECIPE FOR SUCCESS?

A sprint is a method of innovating inside a defined timebox. Time is used as a constraint that actually facilitates innovation and increases productivity. This approach creates a powerful natural incentive to learn how to make decisions effectively and how to focus on the key question at hand.

In the TAMK VR sprint, the basic idea was that real companies provided real-life challenges for the students to solve in multidisciplinary teams on a tight timeline of one week. We used the Google Ventures Design Sprint method as our baseline, adjusted it according to real life experiences and prototyping methods from a Finnish XR company Leonidas (full disclosure: I'm the CEO) and created a model for the school environment. Our goal was to find out whether this type of rapid prototyping method would be suitable to be implemented in the academic and VR technology contexts.

We had four teams of four students solving real cases for four companies. All cases were cutting-edge and provided real value for the companies:

- Testing and analysing eye-tracking VR HMD (head mounted device) technology
- Studying and creating solutions for interaction in a VR simulator environment
- Creating a prototype of a training tool for accident scene investigation
- Creating a method to direct user attention in VR

GOOGLE DESIGN SPRINT IN A NUTSHELL

The Google Design Sprint method was created in 2010, and is further developed continuously.

The method is explained by Jake Knapp, John Zeratsky, and Braden Kowitz in their book "Sprint: How to Solve Big Problems and Test New Ideas in Just Five Days" (2016). The sprint is divided into five phases that aim at answering a critical business problem especially in a product/service development context:

1) map the problem, 2) sketch the solutions, 3) decide on the best solution, 4) prototype and 5) test and validate the solution. The method is built based on studies on over 300 different business strategies, design thinking processes, and user research methods, selecting the most effective ones for refinement. The framework supports both divergent and convergent thinking by combining creative brainstorming and sketching with rational and time-pressured prototype building. The sprint is carried out by a multidisciplinary team of 5-7 persons who act as project owners and work on the product under development. Anyone interested in running a Google Design Sprint can access the Google Design Sprint Kit online at <https://designsprintkit.appspot.com/>.



Source: Knapp, Zeratsky & Kowitz. (2016). *Sprint. How to solve big problems and test new ideas in just five days.*

Teams consisting of TAMK's Media and Information Systems students were multidisciplinary and had technical, visual and conceptual understanding. Our assumption was (and the sprint confirmed our beliefs) that it's essential to get the team composition right for them to be able to really implement a functional prototype. We used a matching game to build the teams and this proved to be an excellent method for the task.

FIVE DAYS TO FUNCTIONAL

The goal of the sprint method is to create a functional prototype that answers a critical question. For example: 'Is there a reasonably cheap way to bring a real-life manipulation device (i.e. joystick) into a VR environment' or 'What is the best method to direct users' attention to objects behind them in a VR context.'

The sprint week is structured in a way that allows the teams to find the critical question, create a solution, implement it and also test it with real users. In the TAMK VR Sprint, the week's overall structure was:

- **Monday:** What is the challenge?
- **Tuesday:** How are we going to solve this challenge?
- **Wednesday & Thursday:** Implementing the solution
- **Friday:** Morning: Testing the solution with real users and Afternoon: Presenting findings to the customer

WATCH A YOUTUBE VIDEO ABOUT THE
FIVE-DAY SPRINT SHOT IN JUNE 2017:

<https://www.youtube.com/watch?v=wn4t3P3we6Q&feature=youtu.be>

WHAT WE LEARNED

The results were extraordinary. I've been doing rapid prototyping professionally for years now, and the students really exceeded my expectations. All the teams were able to implement a functional solution that could be tested and that offered valuable insight. Customer feedback was really good, and I had the feeling that the students were also enjoying themselves. In addition, we already know that thanks to the Sprint, some students were hired by the companies that provided the cases.

There are numerous positive aspects in the TAMK VR Sprint model. It seems to work as an effective interface between companies and students - students are able to show their know-how and motivation while solving real problems, making it easier for the companies to hire them. It teaches both the students and the facilitating teachers effective operation models and methods that companies are currently using. From the Finnish VR ecosystem perspective, it encourages both the companies and students to try out the VR technology, which is exactly what we need at this point. Therefore, I hope others will also learn from our experience and we'll see many more Sprints happening all around Finland in the future.



A TOUGH BUT ENJOYABLE SPRINT

Tiia Rintakoski

TAMK COLLABORATED WITH FOUR DIFFERENT companies to give a special opportunity for the students to experiment with VR using the sprint method. The idea was to see whether this kind of setting could be used in a university environment and to provide students with a unique experience of working with virtual reality in a multitalented team. I was one of the students participating in the VR proto sprint week, and here is my story of how the week unfolded.

Before the actual sprint week, we had a joint session to meet up with our fellow students and to establish an understanding of what was going to happen during the actual sprint. We also played a game to divide us into teams. Each of us was first given 20 points to assign between different skills based on our personal abilities and experiences. We then tried to team up people with opposite skills. This way we were able to create fairly well-matched teams so that each team would have people with different skill sets required for the tasks at hand. We left the get-together a couple of hours later having a good grasp of what was expected from us and eagerly waiting for the sprint to begin.



The first day of the sprint kicked off with a joint meeting in the second floor lobby where we went through the agenda for the whole week before going our separate ways in our groups to meet our customers. Most groups had members who were coders, graphic artists and audio designers, as well as UX experts and project managers. The teams consisted of four members and a tutor teacher. Our team's customer, software development company Intopalo, commissioned us to do user experience research on attracting VR users' attention while utilizing the whole 360-degree environment. Our objective was to produce a working prototype that was to be tested on the last day of the sprint.

After hearing the customer out, we started to brainstorm possible solutions to the given challenge. We used post-it notes to collect 10 ideas from everyone individually and then started to gather them onto one large mind map. Everyone was instructed to narrow down the ideas and choose one focus point. By the end of the day, the teams sent emails to their customers explaining what they had done for the rest of the day and what was going to be their focus. We were also assigned homework as we were tasked to do benchmarking to find out if our solution to the problem had already been tested.

The following day, we continued with iterating the ideas and finally had an online meeting with the customer in order to receive feedback and get the OK to start working on the prototype. Before the meeting, we went through the benchmarking and based on our findings, continued to sketch the prototype. After lunch, we proceeded to making

storyboards to illustrate our solutions. We later presented the storyboards to other teams to receive feedback on them.

After finding our focus point and agreeing on it with the customer, it was time to start prototyping. Each team got their own spaces equipped with the necessary programs and virtual reality headsets to test the prototype during the development process in order to find and eliminate any problems with the prototype as quickly and efficiently as possible. The prototyping lasted for two days and some groups stayed overtime to work on their projects. The prototype development tasks were allocated between team members according to their individual skills; some did the graphics while others worked on the code. Audio design and user experience design were also required for most of the projects.



PICTURE: LEENA MÄKELÄ

At the end of each day, we came together to go through what we had accomplished and to gather feedback. Luckily, we had a large quantity of different experts at our disposal whenever we ran into problems. As our teachers at TAMK and some of our customers worked side by side with us, they were able to give us guidance and useful tips and information when needed.

In the end, each team was able to produce a working prototype. During Friday morning, we tested our prototypes with user testing and gathered feedback from the test group. Later in the afternoon, it was time to present our findings to the customers and the other teams. The sprint ended with a celebratory toast to a successful week. Even though we felt that week was rough, everyone agreed that it was a success and an interesting experience. I enjoyed it very much and hope to see similar opportunities for the students in the future.



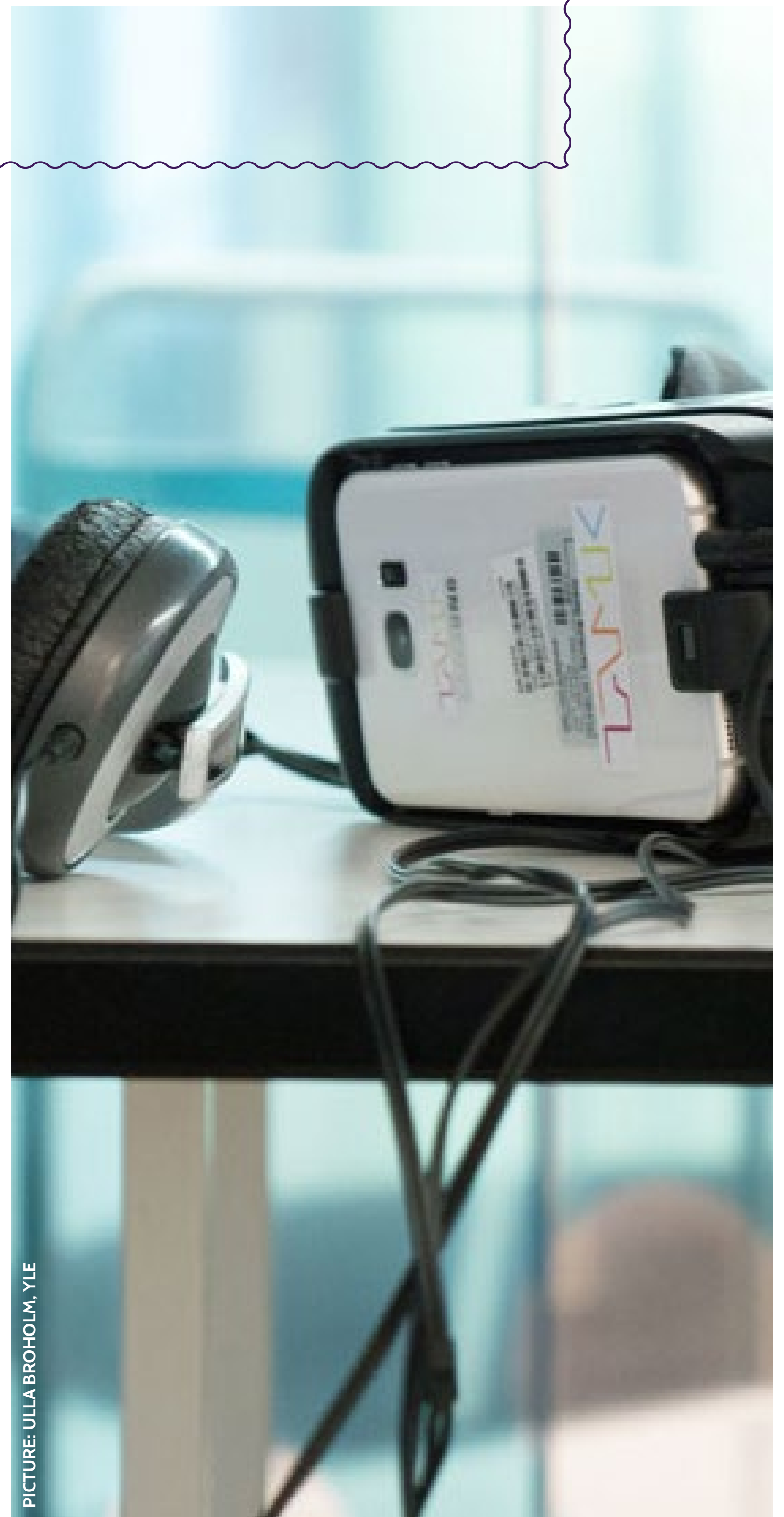
IMMERSIVE FAN EXPERIENCE AT MEDIAPOLIS

How Did Fans Like Meeting Their Favourite Characters in a VR Scene?

Tiia Rintakoski | Leena Mäkelä

THE FANS OF THE FINNISH TV SERIES

Uusi Päivä, UP, were offered an immersive fan experience at Mediapolis in April 2017. The objective of the experiment was to understand how VR, in this case 360° video, can be utilized for enhancing the customer experience during audience tours organized at the Mediapolis Studios. Yle, Aito Tehdas, Rakka Creative, TAMK and the MEDAIA project collaborated together to shoot and edit a 360° video scene in a UP studio set. Next, a user test event was organized at Mediapolis for the fans of the TV series. Two weeks later, the fans were asked to answer a post-event survey. The purpose of this article is to describe and analyze the results of the user test and to summarize what was learned from the experiment.



PICTURE: ULLA BROHOLM, YLE

ONE OF THE FOCUS AREAS OF MEDIAPOLIS

is to innovate and develop media tourism. In the Immersive Fan Experience experiment, the collaborators wanted to test whether VR can provide added value to audience tours organized at Mediapolis. Uusi Päivä ('New Day' in English) is a very popular daily Finnish TV series produced at the biggest studio of Mediapolis. The fans of UP were chosen to be the target group, as they were known to eagerly take part in events organized for them.

A virtual reality scene was written and shot separate from the normal plot of UP. The three-minute scene featured fan-favorite characters Krista and Reino, who were playing with a miniature car track and invited the spectator to join in the conversation at the end. The VR scene was made simple to ensure that this new experience would suit well with the audience tour.

The role of MEDAIA in the experiment was to study how fans experience the virtual scene. Rakka Creative and Aito Tehdas were responsible for the VR production, and Yle coordinated the project and organized the test event. The test event and the fan surveys were created in collaboration with all partners. We wanted to know whether the viewers' sense of presence in the virtual scene differs in comparison to watching television, how they react to being involved in a brief virtual conversation, and how they experience the characters Reino and Krista. We were also interested in how viewers perceive the viewing environment and situation at Mediapolis and how the experience could be improved. To find out how fans remembered the experience, we sent them a post-event survey two weeks after the test event.



PICTURE: ULLA BROHOLM, YLE

As predicted, acquiring fans for the test day was easy. A couple of days after the announcement was published on Yle's website, 170 fans had applied to take part in the test. 20 of them were invited to participate and 15 came. During the three-hour test event, the fans were divided into two groups. When the first group was watching the virtual reality scene and filling out the questionnaire, the second group toured the studio set of Uusi Päivä at Mediapolis. To provide the fans with a keepsake from the event and to motivate them to answer the post-event survey, everyone was photographed individually. The photographs were later manipulated to portray the fans with Krista and Reino in the 360° scene. Finally, the images were emailed to the fans together with the post-event survey two weeks after the test event. In addition to the survey, six fans were interviewed individually during the test event.

RESULTS OF THE TEST EVENT

The test group consisted of 12 women and 3 men. Their age varied from 15 to 49 years, most of the participants being female teenagers. Only one person had earlier experience in using virtual reality glasses. In general, the fans had basic knowledge of 360° videos and virtual reality, however, they had never experienced them before.

Most of the fans had been following UP since the beginning of the series, and were therefore familiar with the main characters of the virtual scene, and they liked them as well. All of the fans shared the experience of being fully or almost fully immersed in the world of Krista and Reino. Many commented on feeling especially immersed into the story after the actors had addressed them. According to the fans, the fact

that they were actually included in the scene was a nice surprise and that it added to the feeling of reality and immersion.

At first I thought I was there on the sidelines without them knowing of my existence. Later it was revealed that I was included in the scene, which was an amazing addition.

Most of the fans said that the scene worked well or quite well to be watched with virtual reality glasses. Some commented that the scene could have been longer, while most thought that it was long enough. Others commented on the distance between the viewer and the environment and the actors. Most of them commented on the freedom to look around that the 360° video gave them. What captured the most attention during the viewing was the fact that the experience felt realistic as you could actually see the whole space just by turning your head. Compared to television, the virtual reality glasses enabled more immersion to the scene and according to the fans, it was easier to take in the situation and the environment.

When I moved my head the image moved with it. It was really great that I could look where I wanted.

No one thought that the environment around them at Mediapolis distracted the virtual reality experience. Headphones blocked out the noise around them and it was easy to immerse in the scene. When asked about their expectations regarding the usage of the virtual reality glasses, some of the fans commented that they had expected that the quality would have been better. Most of them did not have many expectations as they had never tried VR before and they were satisfied with the experience we provided them with.

That I would have been sitting alone in a room trying out the glasses. Luckily it was not so and I had the opportunity to try them out with other people but still individually.

The test group wished that the quality of the video and sound would have been better. They would have also liked there to have been more movement in the scene so that they could have used the whole 360° environment. They also would have wanted more scenes. All in all, the participants were extremely happy with the experience. However, the virtual did not substitute the real. The fans wished they had met real actors during the UP studio tour.

RESULTS OF THE POST-EVENT SURVEY

The post-event survey was sent to the participants two weeks after the test event. When asked what the fans remembered about the event, most of them mentioned both the virtual reality experience and the audience tour in the UP studio set. They emphasized the feeling of immersion while watching the virtual scene. In regards to the studio tour, they discussed what the UP set had looked like compared to what they had seen on TV.

I remember that the testing of the virtual reality glasses brought a whole new level to watching the scene, and the tour was really nice since I had never been in Uusi Päiväs set before. It was an amazing experience to be able to visit the studio even though the set seemed a lot smaller than I had thought.

In the post-event survey answers, a wish for more content (longer scene duration and/or more scenes to be watched with the virtual reality glasses) was brought up. There could have also been more details and movement in the scene to take better advantage of the 360° environment.

There could have been more things happening around the room, it was hard to look around because the scene focused only on one point.

All the participants would recommend the experience to others, especially to other Uusi Päivä fans. According to the fans, it was nice to receive a keepsake of the test day. Moreover, having their photographs taken in a green screen studio was regarded as an interesting experience. Some of them had already published the photo in social media.

The biggest wish the fans expressed was that the actors would have been present in the event. They would have liked to talk with the actors and get their autographs.

SUMMARY OF THE TEST RESULTS

The fans found the virtual experience both interesting and realistic. They felt like they were within the scene, especially when the characters made contact with the fan at the end. Although the experience was new, they felt comfortable being in the same scene with their beloved characters. They also wanted to have more immersive experiences: different scenes including more action and more opportunities for exploration.

Altogether, the fans were very satisfied with the event which consisted of the virtual reality experience, the audience tour and the photo mementos. They also complimented the other arrangements done for the experience even though the duration of the event could have been longer. Even though the participants felt like they were immersed in the world of Uusi Päivä and the characters, the virtual experience did not substitute for meeting the actors. Most of the fans expressed a wish for having the actors present in the test event. Everyone agreed that they would come again in the future, if similar events were to be organized.

WHAT WAS LEARNED

Finally, the collaborating partners at Mediapolis reviewed the results and discussed how to develop these kinds of events in the future. Even though the interest of the fans of UP was known beforehand, it was surprising how real and amazing the experience of the virtual reality testing was for the participants. The results indicate that VR technologies offer promising opportunities for the creation of more immersive and attractive viewer experiences

than what is possible through traditional television. The results also show that the whole testing event with its different phases – the virtual reality experience, the tour in the UP studio set and taking the 360° photograph in the virtual studio – formed a package that can be offered for people visiting Mediapolis in the future.

The simple 360° video scene served well for the purpose of the experiment. With the video, it was possible to test how fans experience immersive content in general. In addition, we received a lot of valuable feedback to be utilized when developing immersive videos in the future. The organizers agreed with the fans on the fact that there could have been more elements and movement in the virtual reality scene. More details, such as props and soundscapes, are needed in the scene as the viewers also want to explore the environment in the virtual reality world. In an ideal situation, the 360° video should be shot by using the same process as in the television production and its rehearsals. On the other hand, the production was originally planned to be light and easy, and it would have not made sense to pursue perfect



PICTURE: ULLA BROHOLM, YLE

quality. Considering the resources available, the video quality as well as the feedback was good.

The testing event also showed a huge interest among the fans towards the process of creating television shows. In this sense, having the fans' photos taken in the virtual studio was a good addition to the event. The organizers of the event also estimated that a 360° video featuring the production process of Uusi Päivä would really interest the fans. Considering this, it is highly likely that "backstage videos" would interest other visitors as well as the fans. Overall, it was noted that a virtual experience can be a good addition to audience tours at Mediapolis. It does not substitute for meeting the actors in real life, but it can offer experiences that would not be possible otherwise, such as the immersion to the story or following the production of the show. The questionnaires carried out during the experiment were also successful. The fans that participated in the

testing answered the open ended questions carefully. The fans proved to be an excellent target group for whom and with whom more virtual experiences should be created and tested.

Uusi Päivä, UP, is one of the most watched programs on Yle TV2, and on the Finnish scale, the program has a large and committed audience. More than 200,000 viewers watch the series daily, and there are more than 90,000 followers on Instagram and over 70,000 followers on Facebook. The production will, however, end in 2018.



PICTURE: ILMARI HUTTU-HILTUNEN, RAKKA CREATIVE

RESEARCH ADDED NEW DEPTHS TO THE EXPERIMENT

Tiia Rintakoski

MINNA TIIHONEN WORKS AS A PARTNER

relationship manager at Yle (Finnish Broadcasting Company). In practice, she develops Yle's collaboration and partnerships with different companies at Mediapolis and in the Tampere region. Tiihonen participated in the Immersive Fan Experience -project as an enabler: she negotiated resources for the project and coordinated the cooperation between Yle, MEDAIA, TAMK, Rakka Creative, Aito Tehdas and Yle's Uusi Päivä television series. According to Tiihonen, the cooperation between the different partners was excellent and valuable lessons were learned from the experiment.

'One of the most important things that we learned is that fans found the immersive experience to be very memorable,' says Minna Tiihonen. Since the fans had not tried virtual reality glasses and content before, they valued the new experience provided for them a lot.

During the project, the roles of the collaborators were clear and the collaboration succeeded well. The research part, i.e. the

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“Although the project was very simple, many valuable lessons were learned for the future.”

user study provided by the MEDAIA project was pivotal. The study made the results of the experiment visible to all partners and helped to create shared understanding of the project. Tiihonen says that even though Yle regularly executes experiments with different companies, they rarely apply research as a fundamental part of the process as was done in this case. In the future, it is crucial for Mediapolis to continue the collaboration with TAMK and its students to strengthen the role of research in experiments and to thus gain deeper understanding of the results.

Before the UP experiment, there was no previous research done at Yle on how virtual reality works within a fan context. The feedback given by the fans encourages Yle to develop more virtual reality media products for audiences. Tiihonen comments that the Immersive Fan Experience -project was a 100% success. Although the project was very simple, many valuable lessons were learned for the future.

'It was interesting to see how the fans described their experiences and the feedback that they gave was indispensable. Even though virtual reality did not replace the presence of the actors, the virtual scene was an unforgettable experience for the fans.'

Yle has decided to start developing public audience tours together with the other Mediapolis Cooperative members. The results of the Immersive Fan Experience -project are



Minna Tiihonen

utilized by the planning team. Yle works in close collaboration with the City of Tampere with the aim of making Tampere the media capital of Finland. The city is full of expertise and know-how to make this happen, and virtual reality especially is a growing field. When we bring together virtual reality and the fan context, great things can be done in Tampere.



360° VIDEO PRODUCTION - HOW TO AND HOW NOT TO

Minna Kilpeläinen

IN APRIL 2017, MEDIAPOLIS HOSTED AN international Story Jam Workshop on VR production (*Medaia 2017*). At the workshop, students and media entrepreneurs experimented with the methods and technology of 360° storytelling, shooting and editing. The workshop was part of the joint MEDAIA project of Tampere University of Applied Sciences and Metropolia UAS. A VR conference MEDIAPOLIS LIVE with an impressive number of Finnish and international VR pioneers and professionals was also held at Mediapolis during the same week.

The attendees at Story Jam were facilitated by Finnish VR production pioneers Ilmari Huttu-Hiltunen and Pekko Vuorela from Rakka Creative. The workshop was kicked off by VR expert Jannicke Mikkelsen from the UK. Mikkelsen spoke about a 360° video 'VR The Champions' she made with British rock band Queen. She pointed out that VR technology is not actually a new invention. The first elements of virtual reality existed already in the 1860s and the next wave of



development came in the 1950s (*Virtual Reality Association 2017*).

The author of this article participated in organizing and facilitating the 360° Story Jam workshop. This article reflects on different aspects of 360° production. How to do it and how not to? The videos made during the two-and-a-half-day-long Story Jam will serve as examples of just that.

WHY 360-DEGREE VIDEO?

The VR/AR market size is currently at \$5.5 billion, according to Tekes. By 2020, the market is forecast to expand to \$150 billion. ([Nordgren 2017](#)). The 360° videos are widely used in various fields from construction to the entertainment industry, and from teaching materials to remote health care.

Over the last couple of years, media houses have widely included 360-degree videos in their repertoire of news videos and short documentaries. Euronews ([Euronews](#)), The New York Times ([The New York Times](#)) and Frontline ([Frontline](#)) have been among the first to use 360° videos. Fictive 360° movies have also found their way into people's homes. They can be found through several cataloging applications, such as Within ([with.in](#)) and Ryot ([www.ryot.org](#)).

In media studies, 360° video production should not be overlooked.

'That would be like shutting the book on an entire world in the field of media. In my opinion, it's no longer a question of whether I need to know anything about VR. This is not a nine days' wonder,' says VR director and producer, Ilmari Huttu-Hiltunen. He was one of the speakers at the MEDAIA Story Jam workshop.

LEARNING TO BE AN EXPERT IN AN INSTANT

One of the reasons for the popularity of 360° videos is that the cameras and editing software have become simpler to use. 360° video technology may seem complicated but it really doesn't have to be. When the story plays the leading role in the production,



International students and entrepreneurs collaborating at Story Jam.

PICTURE: MINNA KILPÄLÄINEN

you don't need to pay tens of thousands for cameras or use several GoPro cameras. A simple editing software is all you need to compose 360-degree videos.

360° video production can be learned in just a few days' time. During the MEDAIA Story Jam, fictional 360° videos were made in two and a half days. The students used Samsung Gear 360° equipment and Premiere editing software with a Mettle Skybox extension.

The Story Jam brought together a group of international students and media entrepreneurs. They created five videos at different locations chosen by the organizers. The attendees were assigned to develop a fictional story with a 2-3 minute monologue which was to be used as a voice-over in their 360° video. The production of the videos proved successful as there were 1-2 students in each group who had already made 360° videos in the past. Peer learning and learning by doing were very practical ways of diving into the different aspects of 360° production.

'In the brainstorming phase, we can have tremendous benefits from having team members with different backgrounds,' says MEDAIA Project Manager Leena Mäkelä. She also emphasizes the importance of sufficient level of expertise. More advanced 360-degree videos require special expertise in filming, sound, graphics, and post-production. You need specialists such as Unity developers and 3D designers. ([Watson 2017](#)).

'It is definitely good to start out with simple equipment which don't require any technical know-how. But moving to professional

equipment requires similar experience as using any professional camera,' says Ilmari Huttu-Hiltunen.

THE 360° VIDEO CAMERA IS THE EYES OF THE VIEWER

Multimedia journalist and ICFJ Knight Fellow Ravi Bajpai stresses the importance of the story in 360° videos. Sometimes the problem is picking a wrong story - or no story at all. When choosing a story, one must first consider whether it's best told as a 360° video or whether it would be more suitable for traditional video. The determining factor for choosing a story is the viewer's relation to the events presented. In traditional videos, the viewer is a side follower. In a 360° video the viewer is placed in the middle of an event or a place, inside the story. The camera is the viewer's eyes. ([Bajpai 2017](#)).

Almost all the stories that were made during the Story Jam workshop gave the viewer (i.e. the camera) a clear role. Other characters in the stories talked to the viewer ([Downtimes](#)) or worked closely with them. In some of the videos, the camera is dressed as a specific character ([Masked](#)) or set in a place where the camera is identified as a character of the story ([The World in a Room](#)). In one story, the viewer rapidly changes locations from a balcony of a church to the altar ([Relick](#)). The viewer looks at the main character from different angles with a voice-over of a discussion between two people, a man and a woman. In another story, two friends set a date in an old mall ([Kauppahalli](#)) and chat via text messages. ([Medaia 2017](#)).

The aim of the 360° video is to give the viewer a truly immersive experience. Downtimes is a befitting example of this. 'This ending was ingenious. It really felt as if you were being hanged,' one of the workshop participants said.

The settings and activities displayed in the 360° video always have a meaning in relation to the viewer. The locations and camera level should be easy for the viewer to identify with. For the most natural user experience, the camera should be either standing or sitting at the same level as the human eye.

In videos where the subject (the camera) has a physical character with a body and clothing, the viewer can be easily directed inside the story. On the other hand, the viewer is more limited in interpreting his or her surroundings when put in a specific character.

It can be a bit problematic to place viewers in settings which are unnatural to them, such as at a desk or in a drone. The creators of 360° videos are also often itching to place the camera in fast moving devices - on a skateboard or on a skydiving helmet. ([Neistat 2016](#)). The viewer experience can be very ferocious. While some do enjoy it, most people experience dizziness or nausea while watching a moving shot in 360° video. If viewers are able to position themselves inside a moving device, such as a roller coaster, the movement seems more natural ([moovr 2015](#)). But you should not run with a 360° camera.

ELEMENTS OF STORYTELLING

In a 360° video, the setting contains the story. In the assignment of MEDAIA's Story Jam, this

was already taken into account. The teams were given a set of interesting environments where a short story could be easily placed. The setting alone is, however, not yet a story unless something interesting is pointed out for the viewer.

In the Story Jam feedback poll, one participant particularly praised the Masked video: 'They had used the space really well. They used the full potential of that abandoned place. That place alone, in fact, gives you chills.'

The viewer is the ultimate storyteller in a 360° video. In order for the viewer to focus in the direction that the creator of the video had intended, the viewer's attention must be guided. In Story Jam videos, physical activity and conversations worked as clues for where to look. Voice-overs were used to express the thoughts of the main character.

In his feedback, one of the Story Jam participants was left wondering: 'Does the viewer look in the intended direction, and should the viewer's interpretation of the story be kept under strict control or should the viewer be given time to find the story and the clues designed to guide their attention more freely in the entire field of view? Should the entire surface of the 360° video be active during the story?'

'Viewer's point of attention is affected by objects' distance from the camera,' Ilmari Huttu-Hiltunen explains.

'If something is close to you, that is where your eyes first focus on. When different image sizes can't be used as in traditional video, then the

location of the camera must be changed or items must be moved closer to or further away from the camera. This way the cuts of the video will help highlight the desired point of attention.'

You can determine where the viewer focuses their attention at the beginning of each cut.

The 360° story should not include too many equal actions around the viewer. Viewers should not, in principle, be distracted by actions that compete for attention with each other.

In documentary 360° videos, the viewer can be guided by, for example, text, voice-overs and by using a presenter or a guide - usually a reporter ([Woodruff 2015](#), [Razool & Janks 2016](#)). There are different views on whether or not the director and cameraman should be seen in the shot of documentary videos. In Ravi Bajpai's opinion, it is better for the director and the cameraman to stay hidden unless they have a clearly designed story-related role ([Bajpai 2017](#)).

Subtitles work well in 360° videos as long as they are visible in at least two directions - and according to Ilmari Huttu-Hiltunen, the text should preferably follow the viewer's gaze when they turn their head. The video should not, however, be completely filled with text or other graphics. Colour definition and lighting are also good methods for storytelling.

DIFFERENT SENSE OF TIME

According to Austin Mace, creative director, and Ryan Thomas, content manager at SubVRsive, many beginners make either too few or too many cuts on their videos ([Mercurio 2017](#)). Going randomly from one shot to the other can be

quite disturbing - especially if the location also changes ([Neistat 2016](#)). According to Matilda Hanson, editor at Dagens Nyheter, viewers need 30 seconds to orientate to a new location. For the amount of information that takes five minutes to absorb in a traditional video, you need twice as much time in a 360° video. ([Hanson 2017](#)).

On the other hand, long shots that take place in a setting where nothing happens, or that have no relevance to the story are also unnecessary. Especially, if the shot doesn't have any other visual or sound elements besides the video image.

Since 360° videos are not cut in the same sense as traditional videos, the 'cuts' have to be made within the shot. For example, a person speaking to a viewer is in a 'close-up' when they are physically near the camera.

USING 360° CAMERAS

One common mistake made by 360° videographers is to tilt or rotate the camera, thus forcing the viewer to look around or downwards out of sync with the viewer's own head movements ([Krogsgaard 2017](#)). Instead, the viewer alone should decide how to move his or her head while standing or sitting. Not the cameraman.

Because the 360° cameras use wide-angle lenses, important events need to happen close, about one to two meters away from the camera to make them stand out. You can't use the zoom with a 360 camera. Nevertheless,

the cameraman or the director should not be peeking behind the corner because the viewer can easily notice it. There is no place called 'behind the camera' in a 360° shot.

It is also not advisable to place the camera too close to the subject. Objects less than one meter away appear to be in the private space of the viewer. The impression of proximity is more effective when viewed with VR glasses, not so much on the mobile or computer.

If a cameraman or a director is not a part of a video, playing some important role in the story, they must stay behind the scenes and hope that the shot is recorded to the memory card as they want. The advantage of 360° cameras such as the Ricoh Theta and the Samsung 360 Gear is that the activity can be monitored via mobile phone previews.

HOW ABOUT THE SOUND?

In 360° video, sound is one of the strongest ways to draw the viewer's attention. According to Ilmari Huttu-Hiltunen, sound that follows the viewer's head movements is most recommended in 360° videos. Speech is often perceived as a sound inside the head, always coming from the same direction, but the other sound backgrounds should follow the viewer's gaze.

For a long time, 360° videos have been made with stereo sound because spatial sound was originally very time-consuming to post-produce - even though the Ambisonics spherical sound has been around longer than the 360° video. But as the 360° sound software has developed, using spatial sound is now technically easier

than before. Almost all of the most widely used audio software have add-ons that provide the viewer with binaural sound which follows the direction and distance of the sound according to head movements.

There are already cameras available with built-in microphones for recording sound from several directions. The Samsung 360 Gear camera for one has it, and the audio material recorded by it is very good. The audio post-production that would, for example, allow to increase the sound coming from a certain direction, is still not possible with the material recorded by the Samsung 360 Gear. The viewer's attention can only be drawn by bringing the sound source physically closer to the camera, thus of course making it also appear in the picture.

At MEDAIA's Story Jam, the teams used Zoom H2N recorders. Ravi Bajpai recommends Zoom H4N, which can already simulate spatiality ([Bajpai 2017](#)). Ole Krogsgaard, in turn, recommends the iRig Mic Lav, which can be used to attach two button microphones to the camera ([Krogsgaard 2017](#)).

Stereo sound is still widely used in 360° videos, but it does not always serve them well. If true spatiality can not be achieved, mono sound can give a more natural impression.

FIX IN POST?

The 360° video director must be able to rely on his camera and the desired material to be captured on the memory card. "Fix in post' is not likely to be cheap - or even possible," said Andrew Baldwin at the MEDIAPOLIS LIVE

conference in April 2017 ([Baldwin 2017](#)).

The material shot with the Samsung 360 Gear camera is relatively easy to cut. The camera has two opposing 180° lenses, so there is only one seam that needs to be stitched (attached to one another). Individual shots can be trimmed with a mobile phone and published on YouTube or Facebook. Most patience is required when the shots are stitched by transferring them to a mobile phone via a Bluetooth or a Wi-Fi connection or, for example, to a computer via a memory card reader. Unfortunately, when stitching with the phone, the resolution falls to 2K ([Samsung](#)).

With a computer, the shots can be stitched and edited with Samsung's own editing software Action Director. It can also be used for simple cutting or for adding text to the video. However, Premiere gives you a more professional result, especially in regards to the sound post-production ([Levine 2017](#)). The Mettle Skybox plugin helps as it allows you to do the editing with VR glasses on. The benefit of the plugin is precisely that the raw version does not need to be rendered for preview purposes.

Most of the professional VR creators use Kolor and/or Premiere to edit the material shot by the GoPro-rig ([Ward 2017](#)).

HIGH QUALITY FOR THE USER

As the user is the ultimate director of the story, the most important thing is to think about the whole story and its implementation from the user's point of view. ([Anderson 2017](#), [Newton & Soukup 2016](#)). When making a 360° video, it's also important to think about what kind of a device the viewer will use, and what kind of an

environment they'll view the video in.

Although the demand for VR content is currently very high in, for example, the business world, it is still not very common for people to have actually tried VR headsets. 'Very few have held virtual headsets on their heads,' says Ilmari Huttu-Hiltunen. However, the amount of headsets purchased is expanding all the time. 'VR goggles are sold as fast as the supplier is able to produce them.'

Most of the 360° videos are viewed on YouTube or Facebook with mobile phones or even with computer screens. They work as a 'magic window' to the virtual world. ([Watson 2017](#)).

The problem is that, depending on the internet connection, the material may be more blurry than it should. With just a mere mobile phone, the video might also look relatively good, but the VR headsets will be quick to expose poor quality.

VR director and speaker at the Story Jam Jannicke Mikkelsen urges VR creators to offer viewers more high-end VR, the best of quality. 'A frustrated viewer may not return to VR videos again any time soon if the quality is bad.' (Mikkelsen 2017).

So, is it even possible to shoot 360° video footage with lighter equipment in good enough quality to make the viewers buy VR headsets? For example, Euronews relies on more simple 360° cameras and low-end viewing ([Krogsgaard 2017](#)). They make very convincing news videos with them. When viewed with smartphones or browsers, the quality is good enough. However, The Guardian, Sky News and Arte, among others, have put lot of effort into giving viewers high-end VR experiences with VR glasses ([Watson 2017](#)).



PICTURE: MINNA KILPELÄINEN

The best VR user experience comes with a VR headset.

‘News video does not have to be current or on hand for a very long time, so it is essential that it can be made as quickly and lightly as possible. Covering a relevant event is more important than technical quality of the material,’ says Ilmari Huttu-Hiltunen.

The Story Jam videos - shot with light 360° equipment - were downloaded in original quality to mobile phones for screening and were viewed with VR glasses. The quality was quite pleasant. When the videos were viewed with glasses over YouTube, the quality was worse.

Jannicke Mikkelsen waits for a time when planetarium-type Dome theatres will become more common. In her opinion, they’ll provide the best VR viewing experience. Ilmari Huttu-Hiltunen also predicts that there will be more and more Dome theaters in the future. So those who love going to traditional theatres to watch

movies without any additional equipment will be able to have VR experiences soon, too.

BIG LITTLE TIPS

Euronews’s editor in chief Duncan Hooper has listed lifesaving tips for shooting with the Samsung 360 Gear ([Hooper 2017](#)). Immersive journalist Ole Krogsgaard also has some additional advice ([Krogsgaard 2017](#)).

Before:

1. Make sure the lenses are clean: specks of dust and fingerprints can ruin a shot. Wipe the lenses often.
2. Make sure you are shooting video, and NOT pictures, timelapse, nor video loop. The screen should display the video camera icon (if it doesn’t, please refer to the manual to change the settings).

3. Check the resolution. And double-check it. Just because a camera can shoot in 4K does not mean that it will. The resolution can change between shots if you're not careful. The resolution should be 3840x1920.
4. Make sure that you are shooting from both lenses (the red LEDs on both sides of the camera should be lit) and that the exposure is fine, too (use the phone preview mode). The camera remembers the latest setting and continues with that unless you make changes.
5. Make sure that the camera is as horizontal as possible; a skewed horizon is hard to fix in post production. The camera should also be stable, so it doesn't vibrate or fall.
6. Put the camera in a place where the lighting is similar on both sides. If there are differences between the material of the two lenses, the stitching line will be visible.
7. Make sure to always avoid any situations with a lot of contrast in lighting, such as being inside with the sun shining hard through a window. Make sure the exposure correction on the camera is fine (via the viewfinder) and not over- or underexposed.

During:

8. If you are doing interviews, make sure that the scene is quiet enough for the camera to record speech properly.
9. If you are doing interviews in a loud environment, make sure you use lav mics for your interviewees, or at the very least, use a smartphone as an additional recording source.
10. Make sure you do not place anything interesting in the blind spots located up to 1.2 meters away from the camera on the sides where the lenses aren't.

11. The camera lenses are sharper in the middle. Place the interlocutors or the most interesting part of the scenery in the center of these lenses.
12. It's best to place the camera at chin level of the persons in the action (assuming they are standing up). If it's lower, they will appear as giants. In a large crowd, however, it makes sense to have the camera higher to see over people's heads.
13. The camera can overheat if it shoots for too long at a high resolution, so it's better to shoot clips of 2 minutes maximum in length. Short clips are also easier to post-process.
14. A spare battery is indispensable. A full battery lasts about 60 minutes.
15. Throw a decent-sized microSD card into the camera and you can shoot for hours. A spare memory card is always good to have, too.

After:

16. If possible, transfer the video clips on to a laptop to have a digital backup version.
17. Do not forget to recharge the battery.



MEDIAIA 360° STORY JAM VIDEOS IN YOUTUBE

Downtimes: <https://youtu.be/E3s8H0GdpUQ>

Kauppahalli: <https://youtu.be/6n-f6eCMgjl>

Masked: <https://youtu.be/hpaDPlkBopc>

Relick: https://youtu.be/_Olv5nNL-bo

The World in a Room: <https://www.youtube.com/watch?v=H1oLRHyI26U>

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HELSINKI DATA JAMS

Niina Meriläinen

AS PART OF MEDAIA, METROPOLIA ORGANIZED 3D Data Jams in December 2016. The Jams focused around the open data 3D models that had recently been released for public use by the city of Helsinki. The purpose of the Jams was to introduce new 3D data packages to new audiences such as students and startups, who are, for different reasons, normally excluded from the information networks. With this experiment, MEDAIA aimed to facilitate the information exchange between the city and students and startups operating and interested in the 3D data, because these groups do not traditionally follow the information networks used by the city of Helsinki for distributing information. This way, MEDAIA acted as a facilitator of information and as a link in the wider innovation networks.

During the Jams, the possibilities for using open data 3D models were discussed in four thematic tables, that focused on how the 3D models could be used in the transportation

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“This way, the innovation networks will hopefully become more diverse and innovative”

sector and traffic applications, how 3D data could be used in studies, how 3D data could be used in different businesses, and how a multidisciplinary and multi-field approach can operate as a platform for innovation. The Jams were led by representatives from the different companies together with a lecturer and a researcher from Metropolia.

Two companies, Helsinki City Transport HKL and 3D Render, told the participants how they utilize and would like to utilize 3D data. Students were then urged to think about the evident changes in the work life and how 3D data could be used by both the academic field and multi-field startup businesses. The various ideas were discussed in joint idea sessions. The differences between open 3D data and free open 3D data were also discussed as this topic resonated with the preto- and prototype research and startup themes.

Jams are an excellent concept to use when the purpose is to collide various actors from multiple fields with each other and to share information with the participants. The Jams concept is also usable when the aim is to get actors from different fields to discuss together how to incorporate new information, technologies and real-world possibilities into their studies and businesses, especially from the perspective of multidisciplinary and multi-

field cooperations in the innovation networks. Also, for MEDAIA it was important to see how well the Jams work as a channel for distributing information to various actors.

Especially new or non-central actors like students and startups do not follow the more traditional information channels such as official press releases or tweets from the city of Helsinki. The non-traditional actors often aren't on the city's mailing lists, either. Thus it is important to create alternative communication channels for newer and smaller actors, so they would also have the possibility to receive the same information as the more traditional and more central actors like larger companies and organizations. This way, the innovation networks will hopefully become more diverse and innovative, allowing newer actors from various groups access and a role in the innovation networks.

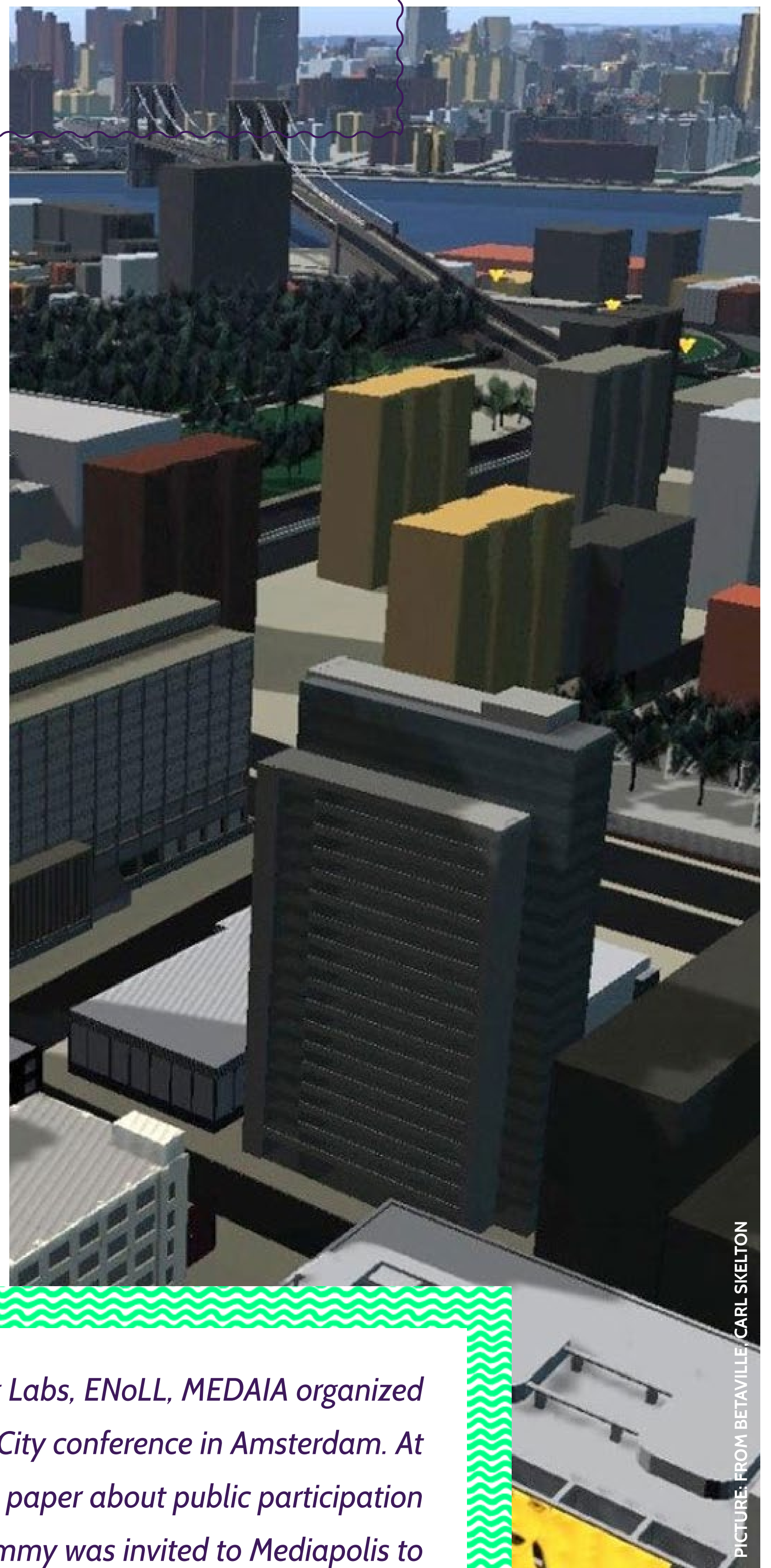


EXTENDED URBANITY

Jimmy Paquet-Cormier

INNOVATION IN URBAN PLANNING AND

city management is certainly not a new thing. Planning support systems (PSS), public participation geographic information systems (PPGIS), geodesign platforms, 3D environments and participatory platforms are part of a rich ecosystem of digital tools used by urban planning professionals. Today, XR technologies have the potential to combine these innovations in one environment and help planners to access and visualize data and information, manage city operations, engage diverse publics in city planning, get creative, and foster remote collaboration. Despite these opportunities, XR applications for urban planning and city management are very limited.



PICTURE: FROM BETAVILLE, CARL SKELTON

In April 2016, together with the European Network of Living Labs, ENoLL, MEDAIA organized a 'Citizen-Driven City' workshop at the Design & the City conference in Amsterdam. At the workshop, Jimmy Paquet-Cormier presented his paper about public participation methodologies in the City Montreal. In October 2017, Jimmy was invited to Mediapolis to facilitate the 'Immersive Urbanity' workshop that was organized as part of the closing seminar of the MEDAIA project.

EXTENDED REALITY CONTINUUM

The ever-evolving vocabulary and definitions of computer-mediated realities can be confusing. In this text, the term extended reality (XR) is used as an umbrella term for augmented reality (AR), mixed reality (MR), non-immersive virtual reality (VR) and immersive virtual reality (IVR). MR has been used before as the overarching concept, but the term is now used to describe a particular technology.

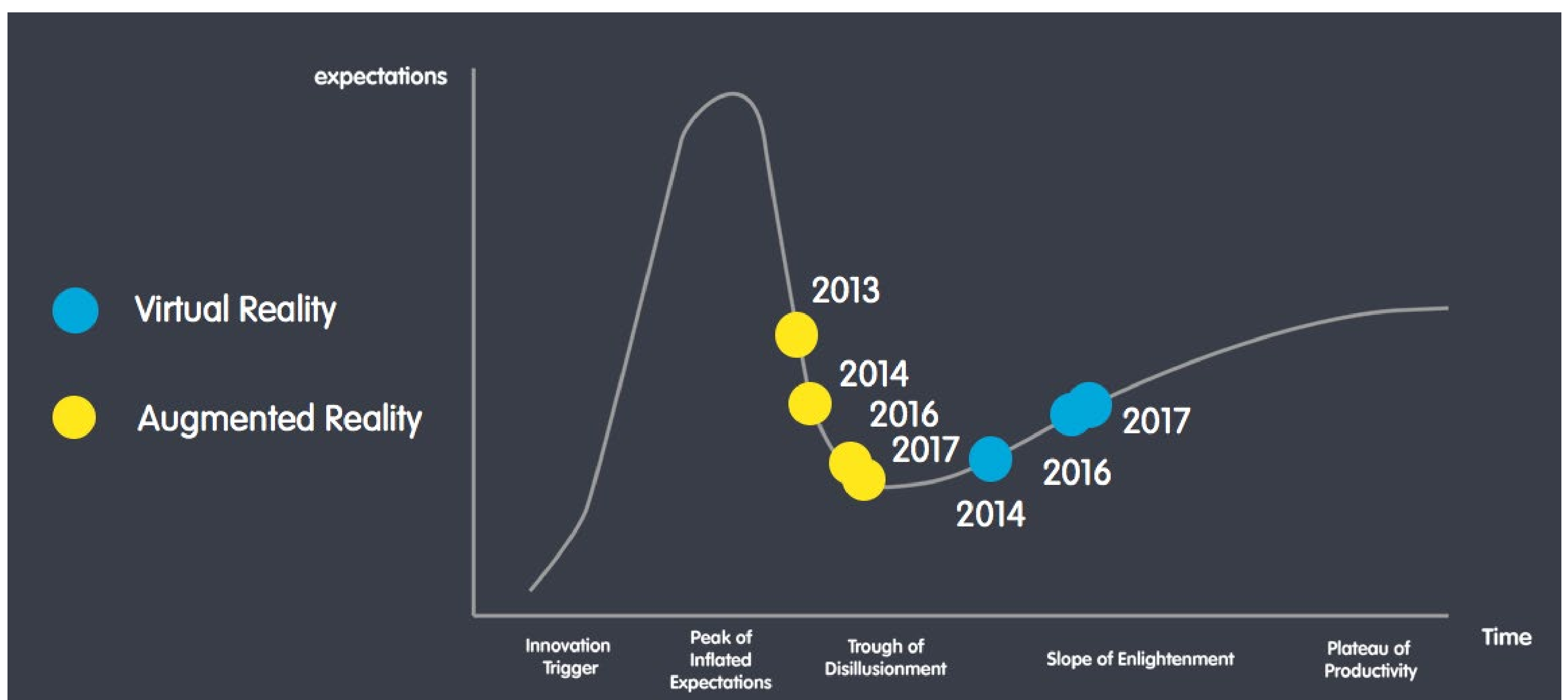
AR and MR are often used interchangeably since both of them involve superimposing digital information on the real world. The main difference between the two is in the way they anchor objects over live images. MR applications have a better understanding of the space over which they have to overlay the virtual content because they scan the environment and create a 3D mesh or a point cloud system to anchor virtual objects. When writing about virtual reality in the field of urban planning, it is necessary to

differentiate VR from IVR, since the literature in urban planning and geography often refer to digital 3D models as VR. The main difference is that VR users navigate with a mouse and a keyboard, and are looking at a screen, whereas IVR users wear a head-mounted display and navigate by moving their body and by using controllers. In a city context, IVR is often used to teleport someone into a 360° photo/video or a 3D environment that acts as a mirror world to an existing physical space.

READINESS OF XR

Today, the size and cost of VR headsets, the performance of computers and the impressive number of applications offered by the digital distributors Oculus Store and Steam make the use of XR technologies increasingly viable for cities to use. In terms of hardware, an ever-growing number of companies are producing headsets, controllers, motion trackers, 360° cameras, 3D scanners, haptic suits and

FIGURE 1: Evolution of AR and IVR in a hype cycle chart.



omnidirectional treadmills. The number of software and applications for extended reality is also on the rise. As of October 2017, more than 1500 IVR applications are available on Steam (a platform to buy and download games) and more than 750 applications are available in the Oculus store.

Looking at the time the smartphone took to become mainstream, Philip Rosedale, founder and CEO of High Fidelity, proposes (Rosendale, 2016) that IVR will become part of almost everyone's life by 2027. Even if this prediction seems very optimistic, one cannot deny that XR is increasingly present around us and represents a growing niche. In 2016, IVR technology represented a \$2.7 billion market and AR a \$1.2 billion market (Merel, 2017). In terms of the level of readiness, looking at the evolution of XR technologies on the Gartner Hype Cycle (figure 1), it can be suggested that: (a) IVR technologies

are two to five years away from mainstream adoption and (b) AR technologies will reach their plateau of productivity in five to ten years.

FIVE MAIN POTENTIALS FOR XR

Even if XR technologies have the potential to change the way urban planners and city officials accomplish their work, a limited number of XR projects have proven their added value. For Mr. Cabaldon, mayor of West-Sacramento, IVR is a 'really powerful way to take a greater command at the executive level (SXSW, 2017)'. Other mayors have shared that IVR could help them understand the topography of the city, access multitude of data sets, create value for the open-data platform of the city, manage calls from the non-emergency municipal hotline 311, engage citizens in designing alternative futures and take decisions based on more evidence. Here we explore how XR technologies have the



PICTURE: OFFICE DE CONSULTATION PUBLIQUE DE MONTRÉAL, FRED TOUGAS

potential to change the ways urban planners access and visualize data and information about the city, manage city operations, engage diverse publics in city planning, get creative and foster remote collaboration.

Access and visualize city data, planning information and future constructions

First, XR proposes a new way to access and visualize various data sets and information about a city. A 3D representation of the city could become the hub where different types of information are centralized. Using VR headsets, city officials could navigate in the digital model and look at the planning objectives, zoning laws, sociodemographic data, protected buildings, and historical information (e.g. maps and pictures from archives), and to have real-time information about traffic, road works, public transport systems and construction permits. The ‘3D Shenzhen City Web platform’ is a state-of-the-art example of big city data management using a WebVRGIS application (Lv, et. al. 2016).

Through their project “Virtual London Platform”, researchers from the Bartlett Centre for Advanced Spatial Analysis have made interesting experiments with XR (ViLo1, 2017; ViLo2, 2017). Taking the Queen Elizabeth Olympic Park as a test area, they have created IVR, AR and MR environments where the user can visualize the 3D model of the area, the footprint of the buildings, real time information about the busses, tube and rails systems, the number of bikes available at every bike-sharing station, information about the buildings, the composition of the ground, and the locations of Wi-Fi access points. AR and MR have also the potential to overlay the data and information to specific locations in the real world. In the future,

it is possible for a municipal inspector to be able to point his AR or MR device at a house in renovation and confirm whether they have a renovation permit.

Manage city operations

Second, XR technologies could be used as a management tool for delivering construction permits, prioritizing road work, optimizing public transportation systems and managing traffic lights. In that sense, XR technology has the potential to serve as an aggregator for the information and communication technologies (ICT) already used by planners. The Connected Cities application is an interesting example of IVR created to help city officials manage traffic and road works (Fuel, 2017; Fuel Demo, 2017). In the military industry, BTM Defence Services has made different tests on how to navigate in IVR through a digital 3D model that has been augmented by infrastructure information and different types of data sets (BTM Defence, 2017).

In the future, XR environment has the potential to become the interface between city administration and citizens. In the future, house owners might be able to pay their taxes and bills by logging in the city 3D environment and clicking on their house.

Engage diverse publics in city planning

Third, XR technologies hold great potentials when it comes to engaging diverse publics in city planning. IVR environments are already used to help people to better understand real estate or planning projects, to comment on different planning scenarios and to co-create alternative futures for cities. IVR has been used



in different public consultation events held by the Office de consultation publique de Montréal (OCPM) (Note 1). In 2014, the OCPM used AR and VR in a series of workshops and an open house during which more than 600 non-specialists reflected upon their neighborhood to develop concrete shared propositions for its future. During the consultation, participants could use a headset to walk, run or fly around the virtual representation of the neighborhood. The participants could also view many 360° photos from the different neighborhood sectors. In the same project, AR has been used to augment a series of creative workshops and an open house where participants had to identify priorities for their sector and create planning scenarios. To better understand what types of workshops and technologies were used, it is well worth viewing an online video (see OCPM Montréal, 2015) summarizing the experience.

AR and MR can be very useful for evaluating the impacts of a new building on its future environment. The software development company Linknode has developed an AR application to do just that. UrbanPlanAR can help planners to evaluate scenarios in the real environment, to engage with citizens and local communities, to foster the collaboration between planners, developers and communities, and to take evidence-based decisions. (UrbanPlanAR, 2017; Linknode, 2017.)

In the future, notifications could be sent to people when they are at proximity of a site where a major regeneration project is proposed. With one click, people could visualize the project, voice their opinions and propose changes. AR and MR technology could also be used to engage people in the revision of a city master plan. For example, citizens and

communities could be invited to share their views about planning priorities using an AR geolocalized survey, thereby helping planners to better understand how residents experience different parts of the city.

Get creative

Fourth, XR technologies open up a new world for creativity. Immersive painting programs like Tilt Brush and Oculus Quill have transformed the way people create digital artifacts. Being able to physically walk around (and through) a creation transforms the relationship between the artist and their art. Game engine and 3D software like Unity, Unreal and SketchUp allow creators to build virtual environments while being immersed in them. For planners, urban designers, architects and landscape architects, being immersed in the virtual representation of the space they are creating has the potential to radically change their creative process. Being able to experience the environment at different scales and from different perspectives (by being immersed in it and by being able to move around instead of using a mouse and keyboard) is another potential of IVR in planning.

Foster remote collaboration

Finally, being able to work with people remotely is one of the most promising capacities of XR technologies. In the field of urban planning, immersive telepresence and immersive co-creation of urban environments holds true potentials. The first one refers to the ability to have remote meetings through XR technologies. Wearing head-mounted displays, participants log in a shared virtual environment where they are able to interact with other participants' avatars. XR environments also allow users

to create new things together. In the field of Social VR, Facebook is leading the way and transforming the way we work and socialize. Today, anyone with a Gear VR can already experience Facebook Spaces and meet with their friends in the virtual environment of their choice (Facebook Spaces, 2017; Oculus 2017). High Fidelity (2017; Rosedale, 2016) is another promising example of social VR from the inventor of Second Life (2017). High Fidelity allows people to come together in public spaces or to work privately with their team in virtual offices. An impressive demonstration was done live at the 2016 Silicon Valley Virtual Reality Conference. In this demonstration, High Fidelity's founder and CEO presented how realistic the virtual environment and avatars are, and how people from different locations could join the same virtual public space to hang out (Rosedale, 2017). Very similar to Facebook Space, the company Innoactive has developed an interesting IVR application 'holocloud®' for companies who work with remote collaborators (Innoactive, 2017; Innoactive holocloud®, 2017).

AR and MR will also change the way urban planners, architects and urban designers work together. The software development agency Object Theory (2017) offers different services to companies who want to exploit the potential of MR technologies. Through a demo video (Object Theory Demo, 2017), they show how three remotely working colleagues can collaboratively review an architectural design using different types of XR technologies.

CONCLUSION

In a near future, XR will become ubiquitous - i.e. it will be everywhere and it will bring together an increasing number of data sets and information. Serious reflection around the possible risks of XR should also be done, since these technologies will become increasingly intrusive. It already feels like the smart lenses (Edwards, 2016) are only one step away from the smart eyes in Black Mirror's episode "The Entire History of You". In this episode, almost everyone has augmented eyes with which they can film and replay their entire life. With the rapid effervescence of XR, it is hard to imagine what the field will look like in 10, 20 or 30 years. The vision of XR exposed in this text will no doubt appear very limited in the near future. The recent breakthrough in holographic technologies (Hologram, 2017), smart lenses, and haptic suits (Hardlight Suit, 2017) suggests that the ways we experience immersion will change fast. When reflecting about the potential combination of XR and other technologies like bio-hacking, bio-technologies, cybernetics, artificial intelligence, robotics and drones, one can feel both anxious or amazed.

The application of these devices in urban planning and city management is still at an embryonic state and even if XR technologies are not ready to be used at a city-wide scale, it seems important that cities reflect about their potentials and begin small scale tests to create meaningful applications.

Notes

Note 1. The Office de consultation publique de Montréal (OCPM) is an independent and

autonomous paramunicipal institution that convenes public hearings and advises the city council through official reports containing recommendations.



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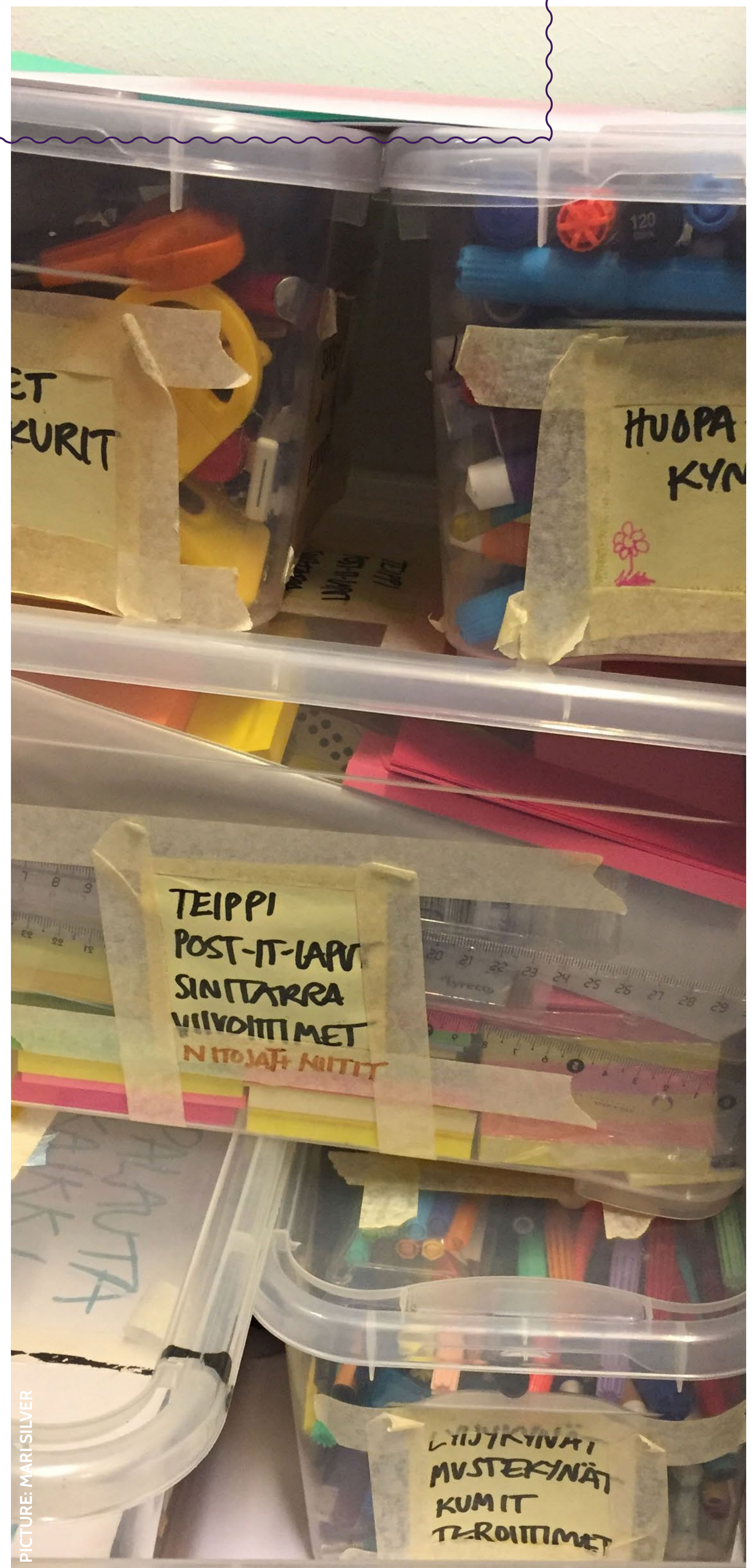
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ARABIANRANTA HACKATHON – A CITY DISTRICT DEVELOPMENT EXPERIMENT

Niina Meriläinen

THE COLLISION OF VARIOUS ACTORS

and local city development inside the innovation networks has been one of the objectives of the MEDAIA project. Thus, to focus on the grassroots development of the Arabianranta district and to explore how local innovation projects can contribute to the city development processes, MEDAIA organised a fast collision experiment in March 2017 at Metropolia's facilities in Arabianranta. The chosen concept for the fast collision was Hackathon because it is a multi-field process that allows for various local actors to collide and to develop grassroots solutions to grassroots problems in an open and inspiring atmosphere where no idea is deemed 'bad' or unworthy.



PICTURE: MARI SILVER

AT THE BEGINNING OF EACH HACKATHON,

the participants are encouraged to collaborate as a real-world problem is introduced to them. Consequently, the participants get to know each other's areas of expertise and then map out solutions to the problem(s) utilizing those various expertise and different concepts. Arabianranta Hackathon is one of the MEDAIA and Metropolia projects aiming to turn and develop Arabianranta into an area that would be welcoming for people to spend time, work and organize cultural events in.

Currently, the beautiful and culturally interesting area is not being utilized to its full potential. Arabianranta is a home to various companies, organizations and schools, and has a beautiful scenery, but it is highly underused as people don't spend their free time there but instead move over to other areas in Helsinki after work and their classes. Arabianranta is not 'cool' or lively. Metropolia strives to change this negative perception by facilitating different local area development activities.

Arabianranta Hackathon was able to bring together actors such as students, NGOs and companies who live, study and/or work in the area, and to create multi-field solutions that could be used to develop Arabianranta towards its full potential as a lively, safe and culturally inspiring area to work and to spend time in. The Hackathon was inspired by the idea of open space, and focused on developing new ideas and cooperation opportunities and services that could make everyday life easier for those living and working in the area. The participants at the Hackathon were students and local actors from Arabianranta invited there by the outside facilitator of the Hackathon.

At MEDAIA's Hackathon, the problem under discussion was: how to make Arabianranta more lively and welcoming for various groups of people to work, visit and stay in, and how to encourage cooperation between various actors, such as students and organizations who work, study and live in the area. After the facilitator-led introduction, the participants were divided into smaller groups in order to facilitate focused multi-field problem-solving and to create real cooperation between different actors coming from varying backgrounds.

There were four small groups that had 3-4 members in them. In the small groups, each member introduced themselves and their personal expertise that could be utilized in the local development projects. These skills varied from IT and arts to sports and local event organizing. Each group created a concept and/or product that could be marketed and used locally for developing the Arabianranta area. The aim of each concept was to operate as a real-world solution for creating a more vital, inspiring and lively Arabianranta area by working together with various actors.

During the last hour of the Hackathon, the facilitator asked each group to present their local area development concepts to the other groups. These four concepts were artistic and multidisciplinary. Many students who participated in the Hackathon stated in the beginning of the project that they had ideas for events in Arabianranta but no resources to produce them. Thus, the students hoped for much more cooperation between students and local organizations and companies who have the ways and the means, e.g. venues and spaces, for creating events.



PICTURE: NIINA MERILÄINEN

The actual concept examples created during the Hackathon varied from student-elderly Art Afternoons and nature walks that would also be suitable for people with physical disabilities, to organizations and companies working together at after-work playdate sessions, and to evening hop-in-and-out music and sport festivals organized by students and local businesses and held in the picture-perfect Arabianranta nature.

It was interesting to observe that the common theme in each of the concepts was that actors from various background would work together to reach the same goal. Students

with a background in IT or arts would develop the concept and companies would be able to participate and sell their products/services, and even to create co-marketed products/services with the students. One small but locally important innovation developed during the Hackathon was to build new lamps beside the roads and parks of Arabianranta, so that sport and cultural events could be organized later in the evening and also during the winter time. When it's not so dark, people are not afraid to go out – what a simple but locally significant innovation to create possibilities for late-evening events that would welcome participants from various backgrounds!

The aim of the Hackathon was to empower local actors and to generate multidisciplinary and multi-field problem-solving that is innovative by nature and that addresses local problems. Hackathons rely on experienced facilitators and in this experiment by MEDAIA, they were able to inspire and to get people involved, especially when the participants might at first be hesitant to cooperate with actors coming from completely different backgrounds.

The results of the Hackathon tell MEDAIA that various ideas worth developing into usable concepts are often swept aside due to there not being enough resources, such as time of space, to develop them. The results also show that various actors wish for cooperation with other operators but struggle to find each other, even locally. If Metropolia aims to create more cooperation locally, Hackathon is a usable concept for bringing different actors together and for creating solutions for local problems. With Hackathon, the participants understood the value of multi-field cooperation and how

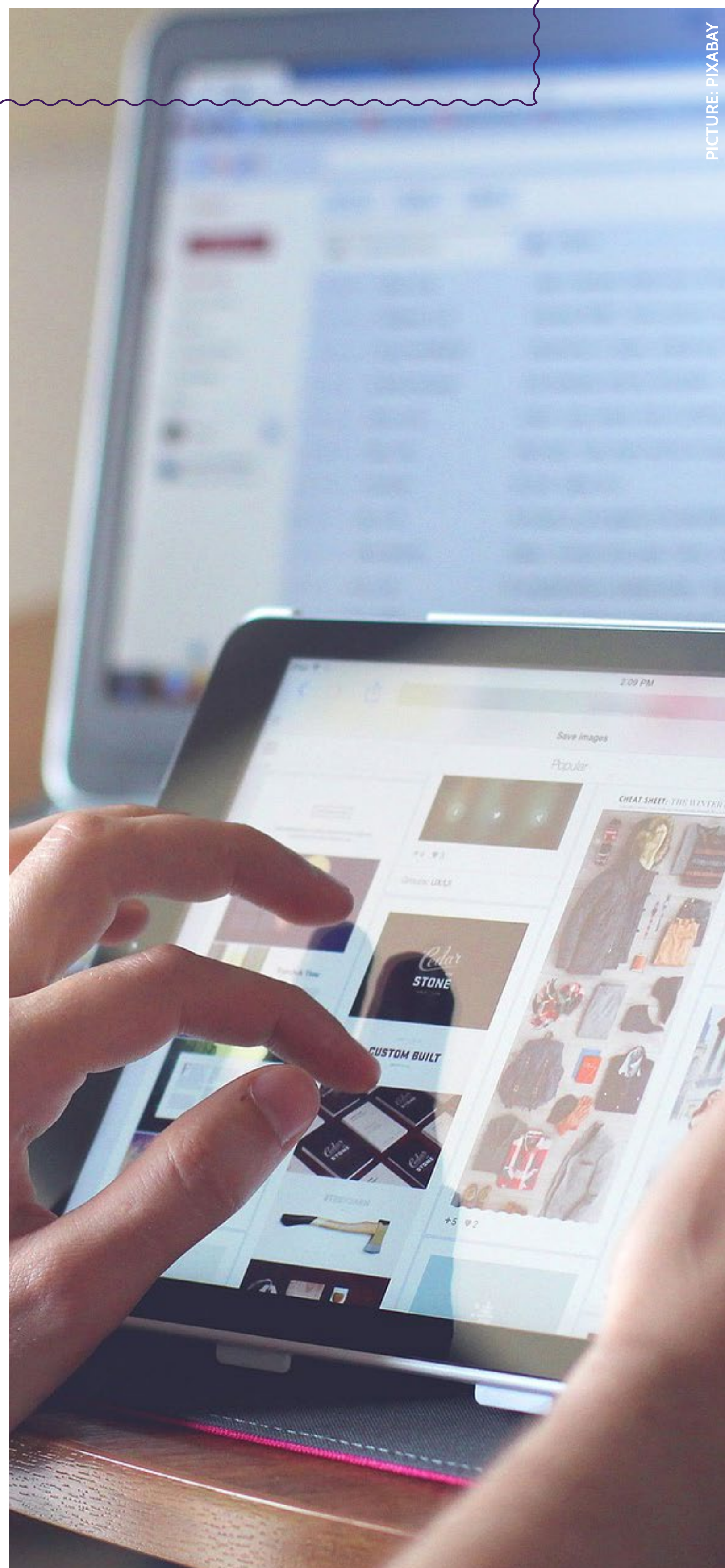
the problem-solving development with various actors can be inspiring and thought-provoking, which in the end creates locally and culturally inspiring solutions for local problems such as the development of Arabianranta.



SKETCHING AN ELUSIVE PROBLEM OF DISTRACTION

Juhana Kokkonen

THIS ARTICLE IS ABOUT ONE OF MEDAIA'S developmental experiments where we gathered together a group of volunteer designers and developers in Helsinki to discuss the problems of the current digital design paradigm. We borrowed our name and operational logic from a movement called Time Well Spent. During the process, it became clear that emotion-based design has created intangible problems, and all the parties seem to feel powerless when faced with them. In this article, the broader situation is opened up and some suggestions for further development are introduced.



PICTURE: PIXABAY

Gadgets, mobile apps and web services are in the center of the current global economy. There are a plethora of digital solutions for different situations and sectors of one's life. This abundance of rival services has changed digital design practices deeply and permanently. Web pages, applications and services fight for our time and attention. This is why user experience and user affection have shifted into the center of digital design. An app has to seduce and convince us in seconds, otherwise its game is over. If people have a positive emotional connection with a digital service, they will probably use it again and again, and form a new habit around the service. Habit formation through emotional engagement is how a service provider can create loyal customers. That's why hooking is the new black in digital design. (See e.g. Eyal, 2014.)

This paradigm shift from usability to emotional engagement has radically changed the way we are using our mobile phones and other gadgets. Because all apps are competing for our time, we can feel that we are drowning in hooks, notifications, suggestions and triggers designed to persuade us to return. This is also the reason why we are annoyed: we don't feel we are using our time wisely. We might feel distracted and even isolated from real human connection. The problem is that even though end users have some idea about these problems they might not have the tools to verbalize or analyze the issue. Additionally, they might feel there is no alternative for the services or the ways they are using these services. Are we trapped in an unsatisfactory situation without a possibility to escape? (See e.g. Turkle, 2015.)

When we started to uncover this territory in a MEDAIA developmental experiment in 2016, the issue was already being studied around the world. The suggestions for the main remediation were roughly located in two categories: changing the design principles (e.g. Calvo & Peters 2014) and building user's resiliency (e.g. Pang, 2013). We used a design movement called Time Well Spent (later TWS) as our starting point. The idea behind TWS is getting designers to meet and discuss the distraction problem of digital services and trying to find new design-based solutions for users to have more decisional power over their service usage. We found instructions for this method and suggestions for discussion topics from the TWS web site (<http://www.timewellspent.io/>). Our first meeting was in spring 2016 and since then we have had many more.

There were several people present at the first meeting, but after that the number of participants decreased and stabilized. After the first couple of meetings, we noticed that the discussion was revolving around the same recurring topics, and it was extremely hard to find even small solutions to the small subproblems. This might also be one of the reasons why the topic hadn't interested larger audiences in the long run. What if the problem we were trying to solve was too vast and complex? On more than one occasion, the participants felt powerless. Even though we varied our approach in each session, we came back to the notion that the problem was multifaceted and hard to define. The problem was like a tripod made out of twigs. If you tried to fix the position of one twig, the two other fell apart.

First, it seemed that even we ourselves were feeling perplexed and conflicted with our digital usage: it was obvious that on the other hand, digital services made our life easier, but we also recognized many annoying behavior patterns in our own usage. The pros and cons were intermingled. The desire to use digital services and to 'be connected' was many times stronger than our rational thinking. There was some delight in feeling in control of your world through digital services, but because this was an emotional response it was hard to verbalize, understand and resist. It seems to be impossible to know why we are doing what we do, because impulses override rational thinking and this is concealed by the rationalization of impulsive actions (Kahneman, 2012). Also, our emotional sensation of knowing is in most cases confused with the cognitive act of knowing (Burton, 2008). So, it seems that a person's suffering from a compulsive behavior might go fully unnoticed. Thus, the demand for change is not likely to come from consumers.

Second, we found that designers are also in a difficult position. Current design principles and metrics were based on maximizing user attention and positive emotional response. Today's design paradigm is full of tools for producing a sensation of easiness as well as constant disruption. If a designer wanted to do things differently, the user's experience of easiness of use or the customer engagement scores would suffer. Thus, the designer would also be left trapped in the current design paradigm. The need for a paradigm shift is hindered by a lack of demand.

Third, most of the services and applications are designed for generating profit. They are built by startups and companies, whose objective

is to get return on investment. If there is no real pressure to change the operational logic behind service development, the economic competition directs developers to create even more seductive and time-consuming services. A company deciding not to maximize the usage time would be deliberately impairing its competitive position.

It seems that users, designers and companies are all in a double bind. Users have the option to accept the current distracting situation or to stop using digital services. Designers can continue to reinforce the current seductive design paradigm or decide to leave their jobs. Companies can try to gain more profit by labeling their self-centeredness as user-centeredness or choose to impair their own competitive status.

The ambiguity of these double binds can be seen in the case of the Siempo phone. Siempo was an attempt to produce a distraction-free smartphone. Developers tried to fund the first batch of phones through a Kickstarter campaign in the spring 2017. It didn't succeed. My interpretation is that Siempo failed because users' demands were contradictory: they insisted on having the possibility to use all the apps and services they were used to but they also wanted to have all distractions removed. This was the underlying message users gave when they explained why they didn't back Siempo in the Kickstarter campaign. There was sympathy but no funding. We have to also keep in mind that these consumers were the ones who had recognized the distraction problem, but they, too, had mixed intertwined needs and demands. From the designers' and companies' point of view, the case confirms that the consumer-base for these kind of gadgets

is too diverse and small at the moment. Thus, the current design and economic paradigm holds. There is no pressure for change even if designers and developers did notice the darker side of their design decisions.

Reflecting the case of Siempo, it is easy to see why the participants of our TWS group felt occasional powerlessness and why the number of participants was not growing. Based on our discussions, we came to the conclusion that the first step to start fixing this problem is to make more people aware of the design-economic background of the current situation. Education is needed to unmask the current design paradigm and the way it works in different applications. Through this knowledge, users could understand how design is influencing their lives, and realize what they might want to have changed. After that, we can come back to the solutions of changing the design paradigm or enhancing user resiliency.

The main outcome of this experiment is the analysis of the current situation. We were surprised by the complexity of the problem and by the slowness of the process of gaining new understanding of it. This is an important finding because the current ethos is trying to solve problems in a flash. Pitching, hackathons and other impatient labor-evasive methods are exalted at the moment, but what if it takes years just for the necessary insight of a problem to mature? There is a need for a broader picture. All problems are not solved in a minute with an app.

There is a need for further analysis of the different aspects of this topic. It became clear that this is going to be an uphill project which might benefit from having a reasonably stable

actor take the lead. I think that this would be an ideal task for a university of applied sciences. An educational institution has the possibility to examine things from a wider and longer perspective. The analysis, education and practical solutions can be weaved into the normal university practices. Furthermore, this kind of an actor is not as locked in double binds as other actors in the field. Because of this, we should continue this project with several different experiments and initiatives.



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EXPERIMENTS CONTINUE WITH MEDIAPOLIS CO-STUDIO

Leena Mäkelä

THE OBJECTIVE OF THE MEDAIA PROJECT

in the Tampere Region was to increase the innovation readiness of Mediapolis by executing small-scale experiments. When the project started, the key actors of Mediapolis had just moved into the premises. The vision of innovation at Mediapolis was still in progress and it wasn't yet clear what collaborative innovation meant for the different actors of Mediapolis.

During the course of the project, the ecosystem of Mediapolis has evolved as ecosystems do. There has not been a centralized system for guiding the activities of the actors. Instead, there have been many nodes, which have simultaneously enhanced the innovation structures at Mediapolis. MEDAIA has been one of the nodes with an academic emphasis due to TAMK's involvement in the project. This article summarizes the results of MEDAIA, and introduces Co-Studio, a project and a concept for continuing activities started by MEDAIA.



THE INITIATOR OF MEDIAPOLIS

(see website: <http://mediapolis.fi>) was the Finnish Broadcasting Company Yle, that wanted to increase its cooperation with its partners and to promote the vitality of creative industries in the Tampere Region. The City of Tampere also included Mediapolis as a part of its own strategy, and thus the media center was established in 2013. The premises owned by Yle were taken over by Technopolis, a Finnish company that owns and develops 20 smart business parks in the Nordic-Baltic region. The first companies and TAMK moved to the premises in autumn 2014.

The academic section of Mediapolis is strong. In addition to TAMK's degree programmes in the fields of arts and media, Tampere Vocational College Tredu's Study Programme in Audio-Visual Communication is also located in the center. In spring 2016, the key actors Yle, TAMK, Technopolis, Aito Media and Aito Tehdas founded the Mediapolis Cooperative for promoting the cooperation between its members and for enabling joint business operations. Later the cooperative admitted additional members. Now there are over 30 organizations and 1000 people studying and working in Mediapolis every day.

From the very beginning, the actors of Mediapolis have aimed at providing joint media production services to third partners. For this purpose, the expertise of the production companies and the technical facilities at the center, including fully equipped broadcasting-grade studios, are excellent. Mediapolis also provides venues for events and conferences. For families, the center has been a beloved location to visit because the most popular Finnish children's TV show "Pikku Kakkonen" has been produced there since 1977. Media

tourism is one of the fields under development in cooperation with the City of Tampere, and pilots have been carried out for developing new kinds of audience tours for paying customers. Mediapolis Accelerator was established in spring 2017 for fostering new media businesses: 14 media startups were selected to the accelerator programme commissioned by the City of Tampere and operated by Digital Media Finland.

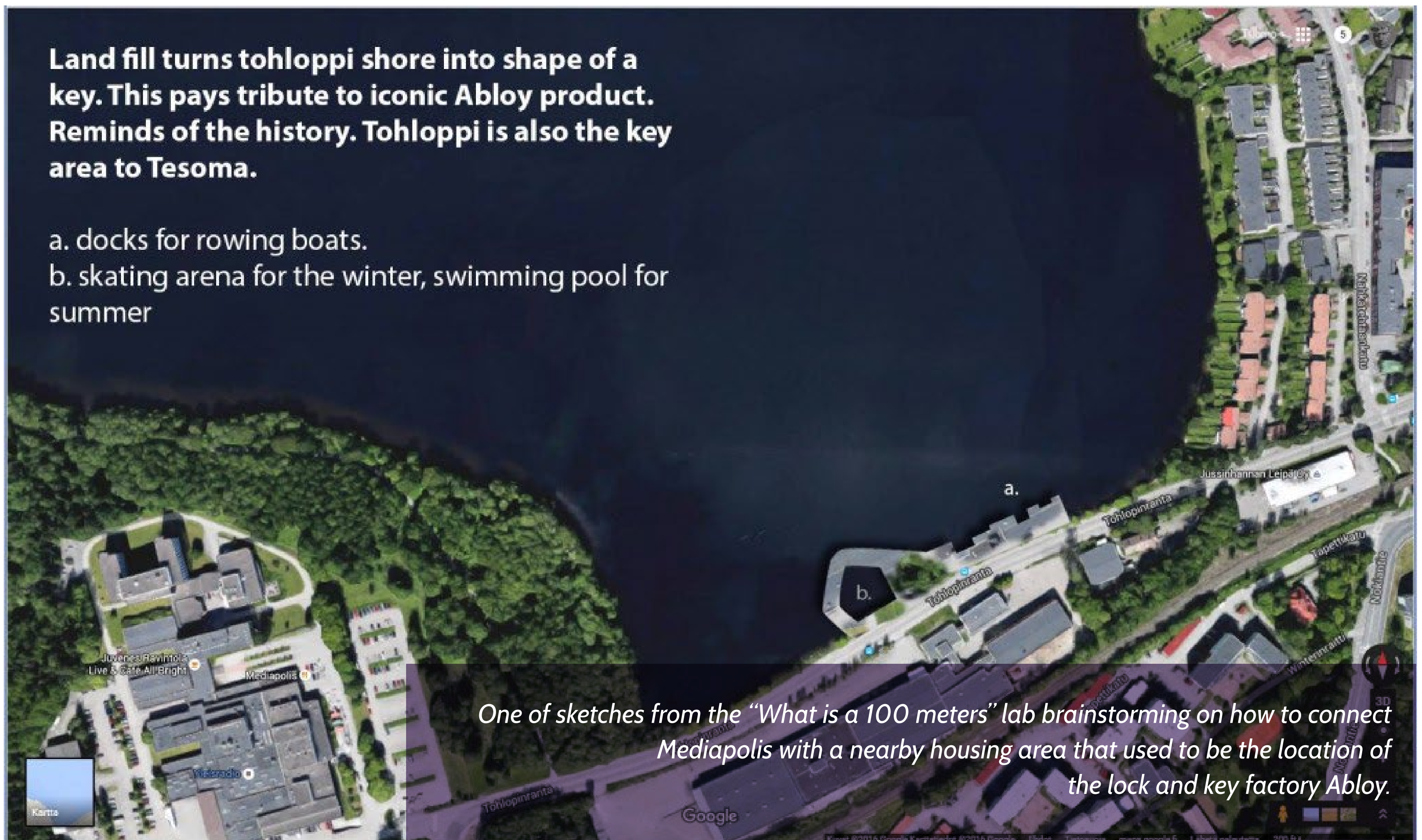
The starting point of the MEDAIA project was to carry out practical small-scale projects for developing open innovation in Mediapolis. The activities of MEDAIA were planned in dialogue with the key persons of the Mediapolis Cooperative. In the beginning of the project, there were discussions on whether a common innovation platform, "Mediapolis Lab", would be necessary. The common innovation system was not yet seen as a topical objective. It was more relevant to focus on practical experiments and to learn from them.

EIGHT EXPERIMENTS IN TAMPERE

Altogether, MEDAIA designed and executed eight experiments (see website: <http://medaia.tamk.fi/en/>) in the Tampere region. Four of them addressed urban innovation and were realized in collaboration with the City of Tampere's Oma Tesoma project. As part of the Six City Strategy, the Oma Tesoma project has developed a citizen-driven innovation platform in the Tesoma neighborhoods, where Mediapolis, too, is located. Therefore, it was natural for MEDAIA activities to take place in Tesoma. The four other experiments of MEDAIA addressed innovation activity development at Mediapolis, and included collaboration with the project partner Metropolia UAS in Helsinki.

Land fill turns tohloppi shore into shape of a key. This pays tribute to iconic Abloy product. Reminds of the history. Tohloppi is also the key area to Tesoma.

- a. docks for rowing boats.
- b. skating arena for the winter, swimming pool for summer



The different themes – urban development and Mediapolis – were separate in the beginning of the MEDAIA project. During the project, however, the themes started to converge. It became evident that media and media technologies are becoming more and more integrated in urban innovation and development. Particularly prominent fields turned out to be extended reality (XR) including virtual reality (VR), augmented reality (AR) and mixed reality (MR) which provide opportunities to, e.g., model environments before they are built. This topic is also discussed earlier on in this publication by Jimmy Paquet-Cormier in his article ‘Extended Urbanity’.

It was during the first year of the project that virtual reality came forth as a new commercially feasible application field at Mediapolis. The forerunner was the micro company Rakka Creative, which started to get clients for its 360° video productions. TAMK also started to

cooperate with Nokia Technologies (OZO VR 360° video experiments) at Mediapolis. In the fall 2016, it was decided that the Mediapolis Cooperative and the MEDAIA project would boost VR development by organizing an international conference and workshop on VR. These two events were organized in April 2017 as a part of TAMK’s International Week at Mediapolis. As described earlier in this publication, VR was also tested in a media tourism context. The last experiment of MEDAIA, ‘VR Sprint’, extended VR creation beyond 360° video and into interactive simulations using Unity technology. The sprint was carried out in close cooperation with Virtual Reality Finland, client companies operating in the VR field and TAMK’s Business Information Systems Programme. The sprint became an excellent showcase for understanding what kinds of collaboration methods and networks are needed at Mediapolis for occupying new application fields in the media industry.

Neighborhood experiments also generated new networks. The Six City Strategy program has established an excellent local and national network for discussing the means of urban development. In April 2016, together with the European Network of Living Labs, ENoLL, MEDAIA organized a 'Citizen-Driven City' workshop at the Design and the City conference in Amsterdam. The workshop brought together researchers and designers to discuss how citizens can be involved in city planning in creative ways. Creative city design was also the theme of the 'What is a 100 meters?' experiment organized in Mediapolis. In the two-day international City Lab event, seven European universities brainstormed together on how Mediapolis could be connected to a housing area located very near to its premises. The common result of the aforementioned national and international activities is that urban development has become a relevant research and development field at TAMK's Mediapolis campus. Since fall 2017, TAMK has been collaborating with Laurea, XAMK and the Finnish Association of Designers, Ornamo, on a national City Drivers project that aims to increase citizen-centered innovation skills among the creative industries. The international network of TAMK's partner universities is also planning a joint project for researching and experimenting art- and media-based creative practices in citizen-centered and inclusive urban development.

COMMUNITY BUILDING IS CRUCIAL

At the moment, Mediapolis is a cluster of audiovisual media industry in the Tampere region. In Finland, audiovisual industry is heavily concentrated in the capital region.

Although Tampere is the second biggest hub, the audiovisual industry in the region is small. According to Statistics Finland (2017), in 2015 there were 138 establishments and a total of 163 persons working in the category of 'motion picture, video and television programme production, sound recording and music publishing activities'. When broadcasters (e.g. Yle) were included, the number of establishments in the audiovisual industry was 146 with a total of 233 persons. The digital media industry is much bigger in the Tampere Region. In 2015, the amount of software development and consultancy establishments under the category 'Information and communication' (Statistics Finland, 2017) was 702 establishments with a total of 5080 persons.

The development of the media ecosystem and the enforcement of the audiovisual industry in the Tampere region are included in the vision of Mediapolis. Due to its practical orientation, the MEDAIA project has contributed to building this ecosystem on a micro level and has continuously received positive feedback about the project activities from stakeholders, collaborators and participants. An important lesson learned during the project is that community building is a very crucial element in the development of innovation activities. Community building is not a direct tool for innovating and commercializing products or services but it is a crucial process in creating an environment which continuously generates novel ideas, open innovation partnerships and commercially viable products and services. TAMK, as an academic organization, has a specific role in developing the innovation community of Mediapolis. While companies

are often tied to their specific business sectors and clients, universities can cooperate with multiple collaborators. As a multidisciplinary organization, TAMK can operate as an intermediary between content creators and technology providers, as has happened in the VR field. TAMK runs international degree programmes and works within a wide European partner network, and therefore, TAMK has also had a strong impact on internationalization of Mediapolis from the very beginning. As a research organization, TAMK has the resources and know-how to initiate and manage regional, national and international development projects. The most valuable asset of TAMK at Mediapolis are, however, the students. Students are potential employees for the companies, they are potential entrepreneurs and they are innovators and actors enhancing experimental

culture and energetic community building in Mediapolis.

In general, it is extremely important to understand the various objectives and roles of the different key partners in order to define how each organization can contribute in creating value for Mediapolis and how Mediapolis can create value for the individual organizations. Active role mapping is crucial for sustainable development. The more the individual organizations can connect the development of Mediapolis to their everyday activities, the more sustainable the development is. Developing the international innovation community of Mediapolis is well aligned with TAMK's basic mission as an educator and a RDI actor promoting the development of regional working life.



PICTURE: LEENA MÄKELÄ

CO-STUDIO CONTINUES WITH COMMUNITY BUILDING AT MEDIAPOLIS

In spring 2017, MEDAIA interviewed media company professionals operating at Mediapolis about the kind of cooperation they would like to have with students (Hiltunen 2017). The results showed that companies wanted to cooperate with students more, also in their innovation activities. A common problem was that they did not know how to find students whose skills matched with their project needs. They also wished that TAMK's lecturers would act as matchmakers between them and the students.

The study raised a question of how the educational organizations of Mediapolis, TAMK and Tampere Vocational College Tredu could improve the linking and collaboration between the students and employers. Informally this matchmaking is common, e.g. in project-based learning in client projects, but it is not a formal part of lectures. On the regional level, there is a similar kind of need for matching companies and media professionals. A strong local network of media professionals will become extremely important if Tampere succeeds in attracting big national and international audiovisual productions.

One attempt to strengthen this network is the Co-Studio project, that started in September 2017 at Mediapolis. Co-Studio is carried out by TAMK and Tredu, and funded by the Council of Tampere Region. The goal of the project is to create a regional network of actors and to experiment and develop new co-operation models for improving employment in the media field.

Co-Studio is targeted especially to media and culture students who are in the final phase of their studies. Another target group are the alumni of TAMK and Tredu seeking job opportunities in the field of media in the Tampere Region. The third group are employers and companies, with whom new cooperation models are experimented. There will be close collaboration with regional public employment and business services that also experiment and seek new solutions for enhancing employment and entrepreneurship.



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MEDAIA



The objective of the MEDAIA project was to develop open innovation in a media business and urban innovation context. This was to be achieved by carrying out 13 small-scale pilot projects, i.e. experiments, that demonstrate new collaboration models between universities, companies, the public sector and other organizations.

The publication consists of articles written by authors who participated in the MEDAIA project. It introduces background studies conducted for the project and experiments that were carried out by following agile methodologies. It also sheds light on new media technologies - virtual and extended reality - that became important application fields of the innovation activities.

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