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► To cite this version:

Martijn Kors, Karel Millenaar, Erik Spek, Gabriele Ferri, Ben Schouten, et al.. Shaping Attitudes Across Realities. Exploring Strategies for the Design of Persuasive Virtual, Augmented and Mixed Reality Games. 16th International Conference on Entertainment Computing (ICEC), Sep 2017, Tsukuba City, Japan. pp.497-501, 10.1007/978-3-319-66715-7_71 . hal-01771299

HAL Id: hal-01771299

<https://inria.hal.science/hal-01771299v1>

Submitted on 19 Apr 2018

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Shaping Attitudes Across Realities. Exploring Strategies for the Design of Persuasive Virtual, Augmented and Mixed Reality Games

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Abstract. Virtual, Augmented and Mixed Reality technologies are embraced by designers, scholars and charities alike, some primarily for their entertaining properties, others also for the opportunities in education, motivation or persuasion. Applications with the latter objective, that of persuasion, are designed not only to be entertaining, but are also designed (or framed) to shape how players think and feel about issues in reality. However, despite the growing interest in the persuasive opportunities of these immersive technologies, we still lack the design strategies and best-practices that could support in the design of these ‘immersive persuasive games’. To address this still-unexplored and fragmented design space, we organize a design-oriented workshop that brings together academia and industry. The workshop is informed by a Research through Design approach in which the primary focus is to generate knowledge through designing. Participants design and evaluate ideas on-the-spot in an iterative manner using low-fidelity, life-size, prototyping and role-playing techniques, thereby mimicking an embodied interactive immersive environment. By reflecting on design practices and player experiences, we construct a body of knowledge, built exemplar work and distil best-practices to formulate design strategies for the design of immersive persuasive games.

1 Towards Immersive Persuasive Games

It took well over two decades for Virtual Reality to make a commercial comeback after its backlash in the late eighties / early nineties. And even though its future is still uncertain, many have already embraced the new wave of Virtual Reality technologies for various objectives, among which persuasion. Similarly uncertain in its outlook, but not less interesting, we see an increasing proliferation of consumer-grade Augmented Reality devices, such as mobile phones, Google Glass and Microsoft HoloLens. Together, these new or resurgent technologies blur the boundaries of the magic circle. They place you virtually inside the body of another person, or change the

world around you to reflect another person (or fictional character)'s reality. The experiences in these alternate reality devices can be designed not only to be entertaining, but also hold the intent to shape how players think and feel about issues in their own reality [6].

As we playfully interact with this alternate reality, thus we engage in gameplay, experientially gleaning meaning from this digitally enhanced virtual or augmented world. Bogost pointed at the unique persuasive properties of digital games in general, coining the term 'procedural rhetoric'. Procedural rhetoric, in Bogost's words, is seen as "*the art of persuasion through rule-based representations and interactions rather than the spoken word, writing, images or moving pictures*" [1]. Through rules and procedures, the way simulations play out, games can covertly present players with enthymemes framed to tell something about issues in their own reality. A classic example of such a Persuasive Game is 'Darfur is Dying', a game that "*was created in 2006 to put you [the player] in the shoes of a displaced Darfurian refugee*" [10] to have the player experience 'what it feels like' to be a refugee, shape her attitudes, and hopefully stimulate to take action in the real world. Looking at the contemporary media landscape, there is probably no other field in which questions of empathy and persuasion play a more vibrant role than in that of immersive technologies. Through these technologies it has become significantly easier to immerse the player in a virtual world, creating a sense of presence, and have her stand in someone else's shoes [4, 6]. Artists like Milk have already dubbed Virtual Reality the "*ultimate empathy machine*" [8], and the salience of this topic is further illustrated by recent Virtual and Mixed Reality projects like Project Syria, DeathTolls Experience, and one of our own projects, A Breathtaking Journey [6]. These projects are all designed with the intent to, just like 'Darfur is Dying' over a decade ago, raise empathy and shape attitudes towards refugees by placing the player in their shoes. The idea of placing the player in someone else's shoes relates to the concept of role-playing, perspective taking and direct-experience, which have shown to support persuasion [7]. However, despite the captivating persuasive potential of immersive technologies [2], we unfortunately still lack the design know-how to advance the design of these immersive persuasive games. This workshop is organized to address this gap in design knowledge. Through a Research through Design inspired approach [13], participants design and evaluate ideas on-the-spot in an iterative manner [3]. We focus on low-fidelity, life-size, prototyping and role-playing techniques, thereby mimicking a Mixed Reality environment without having to rely on technical implementation during the workshop. By reflecting on design practices and player experiences we construct a body of knowledge, collect exemplar work and distil best-practices that to help in formulating design strategies.

2 Workshop Planning

The workshop will be held as a single-day event and is expected to host approximately 12 participants. We will distribute the call for papers through social media, industry platforms, mailing lists, special interest groups and the workshop's website.

We will also invite experts of exemplar work to join and share their perspective. The following table presents a preliminary planning for the workshop.

Time	Activity
09:00 - 10:30	PechaKucha. After a short introduction by the organizers, we ask each participant to present their PechaKucha presentation [5] based on their submitted abstract, with particular focus on design related factors. After each presentation, we will shortly recap the highlighted design opportunities or issues, which will serve as input for the initial ideation and prototyping session.
10:30 - 11:30	Initial Ideation. After dividing the group into teams of 3-4 participants we will explain the persuasive message as starting point for their game; including several background stories and a persuasive game design toolkit. Teams then explore the topic, draft possible arguments, set player experience goals [3] and have a first through about suitable gameplay possibilities.
11:30 - 12:00	Lunch Break.
12:00 - 16:00	Prototyping. In the third session each team will have four hours to iteratively [3] work on their prototype using techniques like Bodystorming [11]. Each teams is asked to create a low-fidelity, life-size, prototype using the provided material and tools. This setup will mimic an immersive and embodied interactive Mixed Reality environment, without the need to rely on technical implementation. Throughout we will intervene with Role-playing techniques [12] to evaluate player experience. During these interventions, the team will act as the game's mechanics, while someone from another team acts as the player. As informed by a Research through Design approach [13] we will discuss and document interesting, unexpected and valuable insights throughout the design process for later reflection.
16:00 - 17:00	Formulating Design Insights. In the fourth session, we will discuss the insights and formulate possible strategies, techniques and best-practices that were supportive for the ideation and prototyping processes.

3 Expected Workshop Outcomes

All accepted submission will be included in the workshop proceedings that are accessible through the workshop's website. After the workshop we will share a summary of the workshop; including a collection of the formulated design strategies and best-practices for later reference, as well as an overview of the prototypes that can serve as exemplar work. After the workshop we also invite authors to submit a case-based design-oriented abstract for review to be included in the Persuasive Gaming in Context book, funded by the Netherlands Organization for Scientific Research [9].

4 Primary Workshop Organizers

Martijn J.L. Kors is a doctoral candidate and game designer at the Eindhoven University of Technology and Amsterdam University of Applied Sciences. In his design-research he studies the design of immersive interactive entertainment with persuasive intent.

Karel Millenaar is an experienced game designer who supports research as a designer and lecturer at the Amsterdam University of Applied Sciences. He also found-

ed FourceLabs, a company that designs serious games for attitude and behavior change.

5 Submissions

Abstracts should have a maximum of 500 words and include the name of the participant(s), affiliation, background, a motivation for joining the workshop, and preferably ideas for novel persuasive game design. No technical skills are required to participate in the workshop, but an affinity with one of the following topics is recommended:

- Design or analysis of immersive, persuasive games, techniques, prototypes and concepts.
- Persuasive game design strategies, approaches, techniques or best-practices.
- Interviews, experimental or ethnographic studies on the development of immersive persuasive games.

Abstracts need to be submitted before the 30th of June 2017 and will be reviewed based on their relevance, quality, and contribution to the workshop.

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