Dissertation Thesis Title: *Artistic and Architectural Spaces Through Virtual Reality*
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The aim of the dissertation

Makéta Gebrian's dissertation thesis aims 1st to provide a brief history of VR tools and worlds (the metaverse), 2nd to design virtual space as a part of artistic and architectural worlds, and 3rd to reflect upon them. Marketa also mentions 4th very important goal: to study how VR spaces inform the work of current architects and vice versa: how architects may contribute to the designs of VR spaces. I find all of these questions and topics relevant as they inform current and future architectural design.

Structure and methodology

Structure of the theses is neither chronological, nor it is strictly topic-based. Some research questions tend to history or theory, some are providing data for design results. Even if the theses is quite complex collage of texts and images it is well structured and comprehensibly written. Some parts include short glossaries, literature and project reviews as well as short characteristics of references. They are quite brief and descriptive, but all of them provide really good basic dataset for more developed questions-answers and argumentation.

There are some basic hypotheses formulated in the text and they are tested in four Case studies and final project. Declared methodology is "research by design". At the beginning of the dissertation this declaration really is nothing more than a good will and hope. But with the progress of Case studies and by the end of thesis Marketa managed to really proceed and find new research and design tools and steps.

Research and design results

From the point of view of research goals formulated above, Case studies dealing with Barcelona and Lisbon are the most developed and inspiring. Both of them offer tests for a new organization and distribution of spaces and "functions" in VR spaces, where the majority of "service spaces" are not required so they are transformed into "floating spaces" with permeable working and leisure programs including relaxation and play rooms. The new floating space may generate also new, unknown functions, flow of textures and colors. In fact, Markéta Gebrian's VR architecture is a playful space inspiring our spatial imagination and sensations. It is thought and designed in agreement with Takefumi Aida's *form follows fiction.*

The final design for interactive VR classrooms designed during Markéta's Fulbright research stay at NC State at Raleigh, USA opens really promising relation of fixed and interactive learning spaces. It means: VR architecture itself may transform itself in a learning and teaching tool. I recommend to develop this part of the dissertation further and publish/exhibit its results.

From the point of view of other research goals, important are all results based on the introspection and reflection of Marketa's own design process. Starting usually with statements such as: "*I intuitively played with the composition of...*" (p. 82) this reflection typically proceeds with characteristics of number of renderings (for example: "*some of 40 renderings were produced*") and it is usually closed by sentences interpreting results of the work. So, my questions are: *Markéta would you reflect upon your interpretation values and criteria applicable for your design results? What criteria you use for deciding on a number of renderings and metaverse worlds: which of them are promising and considered as results and which of them are transitory states of design or even nucleuses of further*

development of a design? Are there some semi-intuitive and extra-intuitive decisions you make in accordance with those purely intuitive?

I also highly appreciate Marketa's interview with META team and the critical dimension of her design and writing. In this respect Marketa's point of view is close to that of Sara Eloy: if architects are not willing or allowed to participate in the concepts and designs of metaverse spaces, computer scientists and graphic designers will have to program and design VR worlds all by themselves: without even a chance to respond to any of architectural questions and to rethink consequences for both virtual and actually built architecture now and in the future. Public and academic discussion on these topics really is the responsibility of architects and urbanists, too.

Conclusions

Marketa's thesis expresses a significant progress in her design skills and experience with various software tools (such as Blender, Rhinoceros, Unity) including VR platform NEOS. Her interest in new metaverse worlds (*Decantraland, Illuvium*) and (full) body haptic suit (called bHaptic) offers a new direction of her research and design informed by variety of audiohaptic sensations and experiences.

Another important feature of the thesis is that Markéta intentionally relates art work, architectural design and advanced VR technologies. It means her dissertation is neither a pure scientific body of work, nor it is "research by design" in a classical or strict sense of this word used in the fields of architecture and urbanism. Marketa presumably works more closely related to an artistic research than any other one.

During her PhD study Markéta also designed number of worlds in Neos VR (about 15 by the completion of the dissertation), participated in 7 international conferences and symposia (2016-2021), and performed 3 visiting research stays (Barcelona, Lisbon in Europe and Raleigh in USA). Results were exhibited at 12 international group exhibitions and at Marketa's solo show in Prague. She also gave a number of lectures and talks. These results are quite remarkable not in terms of their extent, but in terms of focus and systematic work in the field of study and research.

Finally, Marketa's written and designed work enters the dialogue with other creative artist, designers, architects and programmers. I find her thesis truly original and innovative – no matter of what scientific-artistic-architectural category her work does or does not belong to. If I compare Marketa's past achievements with her dissertation, I have to state that her progress is outstanding. And it includes also the way how she reflects upon her own design steps and strategies worth exploring further.

Marketa fulfills all requirements of a dissertation thesis and more. I fully recommend Markéta Gebrian's thesis for a dissertation defense comity consideration. Proposed grading is: A.

Bratislava, May 2022   Prof. Ing. arch. Monika Mitášová, PhD
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