ArcheoGame – a serious game in the field of archeology

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In a time when technology is predominant, passing on knowledge in archeology is a challenge that needs to be addressed, especially to encourage new generations. This project meets the challenge with a concept born from the collaboration of the HE-Arc engineering (University of applied science and art of western Switzerland) and the NMB, *Nouveau Musée* *Bienne* (Biel’s museum).

The NMB was born from the merger of *Musée Schwab* and *Musée Neuhaus* in 2012. Focused towards archaeology, history and art, the museum regularly holds temporary exhibitions. One of those exhibitions, which will take place from June 2018, will feature works on the theme “Imagine the past” among which we would like to introduce a work of artist Benoît Clarys. The "Imagine the past" exhibition offers a critical look on the social construction from the past trough visual assets.

As images never got more preponderant in today's society especially with the rise of virtual reality (VR). We believe these tools can bring much for museums especially since they can offer a new experimentation field [1, 2, 3, 4, 5] concerning representations of the past. Can knowledge transmission be more effective through immersion in an alternative reality superposed to our felt and lived reality? Can an immersive experience have more impact than words? To start answering these questions the NMB with the Haute-Ecole Arc, (University of applied science and art of western Switzerland, HE-Arc, HES-SO) decided to make a partnership for the elaboration of an educational prototype mixing RV, serious game (SG), archeology knowledge, and art with the work of Benoît Clarys. This VR prototype proposes a stand aimed towards visitors enabling them to discover and interact with archaeological objects at four types of paradigms:

* the real world;
* the painting as a real object;
* the virtual environment (VE) representing the real world and augmented with representation of real archeological object;
* the representation of the same painting as a virtual object that can be “increased” by users interactions.

Indeed, as the exhibition feature original work from an invited painter representing an archaeological life scene, visitors will be able to interact with a virtual representation of objects from this era which would be way too fragile to manipulate in real life and replace them in a painting. Said objects all come from the Neolithic site of Sutz-Lattrigen, Rütte (Biel's lake), which is listed in the UNESCO world heritage list [6, 7].

The intent is to suggest potential instruction to players on said objects with an entertaining experience. To enhance immersion, end users evolves in a virtual replica of NMB specific area environment in which they are presented with a table on top of which five distinct archaeological artefacts are laying. In front of them is a large painting picturing the use of said objects picturing the use of said objects in the village of Sutz-Lattrigen, Rütte in 2700 BC.

Visitor’s objective in this SG is to match each object by replacing them in the correct area of the picture. By doing so, objects will "fade" into the picture, revealing the original work of art, and by the end of the game, end users will see themselves assigned a score based on success to assigning objects and the time taken to complete the game.

Through the process of VR, we seek to offer a new pedagogical and sensorial experience, and the museum a reflection based on the nearly natural opposition between a two-dimensional painting and VR. We believe this project can bring the following questions: Are those new mediums of communication capable of transmitting images from the past more efficiently? Does the experience develop a deeper understanding of the environment? Or even what will be human capacity to distinguish the frontier between material and numerical realities without falling into schizophrenia?

References

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