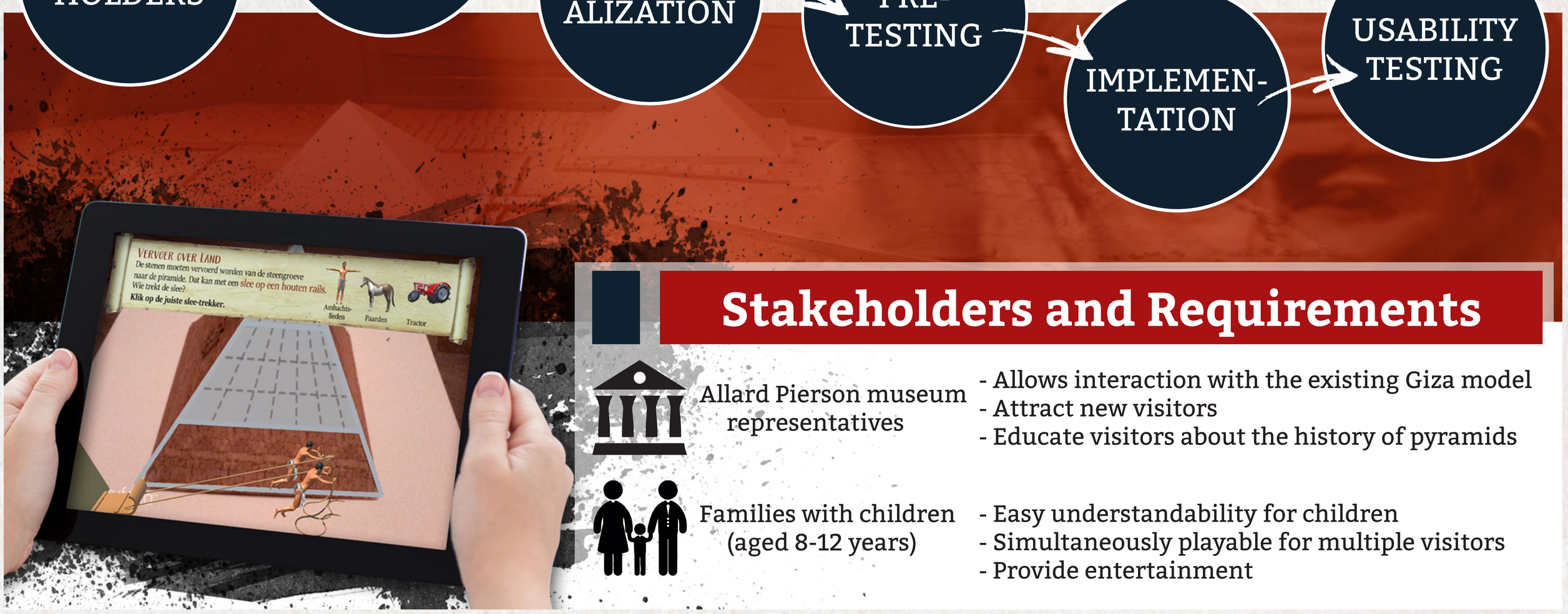
Journey through the Pyramids

An Augmented Game for the Giza Model

The Allard Pierson Museum aims for a more interactive and educative design for their model of the plateau of Giza. Although the museum posseses an interesting collection on the ancient societies, it aims to increase the interaction between the artifacts and their visitors and to attract a wider audience. The museum aims to draw the attention of families with young children with renewed ideas for an interactive experience with the collection.

For this purpose an augmented game has been developed. The introduction of more interactivity enables to captivate the visitor's attention, which could lead to the acquisition of actual knowledge. The choice for an augmented game is especially suitable in a learning context for users who experience difficulties in visualizing unobservable phenomena. Augmented reality for serious gaming bridges the gap between formal and informal learning[1].

This research focuses specifically on a game that shows the building process for the pyramids of Giza. The objective of the game is to educate the user with an entertaining approach. The aim of the research is to validate whether serious gaming in an augmented form is indeed able to support the acquisition of knowledge in a museum environment.



Stakeholders and Requirements

Allard Pierson museum representatives

- Allows interaction with the existing Giza model
- Attract new visitors
- Educate visitors about the history of pyramids

Families with children (aged 8-12 years)

- Easy understandability for children
- Simultaneously playable for multiple visitors
- Provide entertainment

Implementation

Phase 1 | Planning

Phase 1 of the game is designed with the aim to educate the player about the different aspects of the planning for the building process through making right material and worker choices.

Phase 2 | Preparation

Phase 2 of the game incorporates a mix of quiz-like questions. The learning objectives are to gain a better understanding of the transportation process of materials.

Phase 3 | Building

The last phase of the game introduces a more playful game element through a mini game, which is aimed to provide more variety to the games without the loss of educative element.

Usability Testing

Pre-Test

A small pre-test has been conducted with a clickable mock-up prototype. The pre-test highlighted the importance of early feedback, and these points were used to improve the final prototype.

Final Testing

The evaluation has been conducted with 16 children. The test showed that the game was entertaining for the target group of 8-12 year olds. Most children remembered elements they learnt during the game. Active interaction with the information increased the chance of recall, compared to passive reading.

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References

[1] Wu, H. K., Lee, S. W. Y., Chang, H. Y., & Liang, J. C. (2013). Current status, opportunities and challenges of augmented reality in education. Computers & Education, 62, 41-49.