# Design Document

## Template

- The House of Abelam
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## GENERAL OVERVIEW

Our project is an AR-App for the interpersonal mediation on The House of Abelam which was a ceremonial house used for initiations in Papua New Guinea. The app is a new storytelling format for visitor groups with augmented reality. The goal of the app is to expand the narrative experience and to make it engaging by reinforcing the experience of the object and face-to-face communication. We will be building on the current prototype and adding a reconstruction game to further expand the narrative experience and to make it more engaging. Thus we will be contributing to the existing project which aims to, "Test different concepts on how Augmented Reality can help to develop innovative forms of storytelling in the context of guided tours in Museums."

The experience we intend to give to our audience is an informative and engaging experience which gives life to these objects and tells a story. We want to expand the narrative and the visitors' experience through AR and interpersonal communication.We will make the visitors' experience engaging by reinforcing the experience of the object and face to face communication. The problems that we are addressing are the lack of contextualizing material(collection), lack of interaction, and access just from outside, limited view of the object.

The solution that we are offering is creating a reconstruction game for the audience to reconstruct the object by starting from the bottom going to the top. As the audience goes through the game, they will better understand the context, will be able to interact with the object, and will thus have a better view of the object.

The use of AR for this project is extremely important as no other medium would be able to provide an immersive experience in the same way. Only through AR could you provide visual tools in this way and using it would provide the user with a completely unique cultural experience, one that is transforming how we see museum objects. What is so effective about this usage though, is while it transforms from user experience, it does not distract from the highlights of the museum itself which is extremely important and can be difficult to manage when it comes to AR usage. We would hope that the game itself is fun enough to allure and then engage the user into playing, but the value of the game does not come merely from its entertainment value. Through this particular project, users are able to learn and gain more information from the object, the house of Abelam, than they would get just by looking at the object in a traditional museum setting. This is done by interacting and playing around with the object, and as a result learning from that play. Users are able to reflect beyond the initial physical object that was present, and gain insight into the surrounding context of the object and its underlying structures-- physical as well as social and cultural.

## DESIGN OVERVIEW

Through this app we are able to represent a country's vibrant history from across the world in addition to their social practices and traditions surrounding certain objects. We will incorporate historical facts into our work. Each object itself that makes up the house has historical significance and more importantly how these objects are uniquely constructed offers insight into the architectural process surrounding the house. While perspectives surrounding certain programs emerge regardless of intentions, we are trying to represent these objects and histories as objectively as possible.

The audience would be interested in this interaction as the project presents the audience with a tool that would personalize their experience while engaging with their interest and curiosity. It will be presented in a way that is user friendly and not overwhelming in terms of technical aspects. They will most likely be standing still and holding the camera in one direction. By limiting movement it allows for less traffic and congestion in the viewing space. They are interacting directly with the prompts and objects on the screen. Within the space itself they are using the finished house of Abelam as a frame of reference. This allows the user to see the actual historical work next to their own creation, which has been deconstructed and then constructed to offer more insight and knowledge into the processes behind these structures that existed. The device is central to the learning experience as it is the entire platform for this game we are creating. The space is used only as a reference but the materials and information exist on the device.

The navigation flow of the project differs on whether it is the guide or whether it is the visitory. For the guide, the home screen is the menu/guide control screen for the reconstruction

game. There are buttons for the guide to start at specific stages of the reconstruction or there is a start button which will allow the visitor to start from the beginning. On the guide control screen, there are also other options to let the visitor see different things rather than have the visitor play the game. For the navigation flow for the visitor it is more detailed. Once the guide presses start, the instructions of the game appear on the visitor screen. The visitor will then have the option to press a start button. The next screen for the visitor is the stage of the reconstruction that the guide selects. There will be three stages of reconstruction. The first stage is building the foundation. The second stage is building the main aspects of the house. The third stage deals with specific details of the house and more descriptions. Once the user drags the objects to the center of the iPad, the user will select next to move on to the next stage. When the user finishes going through each stage, the completed screen will show up and the user will then have the option to return to the home screen.

The guide starts the application with the home screen which is the guide control. The guide has to first select AR and then Game for the game options of the app. The other controls are other aspects for the visitor which is not in the scope of the game part we are building for the app. The guide control controls what the visitors get to see on their iPad. The buttons on the guide control are rectangular shaped and consists of the three stages of the game along with the start button and back button for the guide to show something else to the visitor that is not the game. The visitor's home screen is just the camera and once the guide selects the game the instruction of the game will appear with the start button that the visitor has to select and then the game will actually start. The instruction will consist of annotated images to show the visitor how the game will work. When the visitor selects start the first stage of reconstruction will start and

the name of the stage will be at the top of the screen. In the middle of the screen will be the location where the objects will be placed. Below that will be a text description of the assets. At the very bottom of the screen will be the assets that need to be dragged to the middle of the screen to construct the house. At the bottom right of the screen will be a rectangular button to go on to the next stage. Each stage will have the same design but will just have different names and different objects. The center of the screen will have different objects/assets depending on the stage the visitor is at on the game. The completion screen is the last screen and will have a button to go back to the home page.

Wireframe sketches:
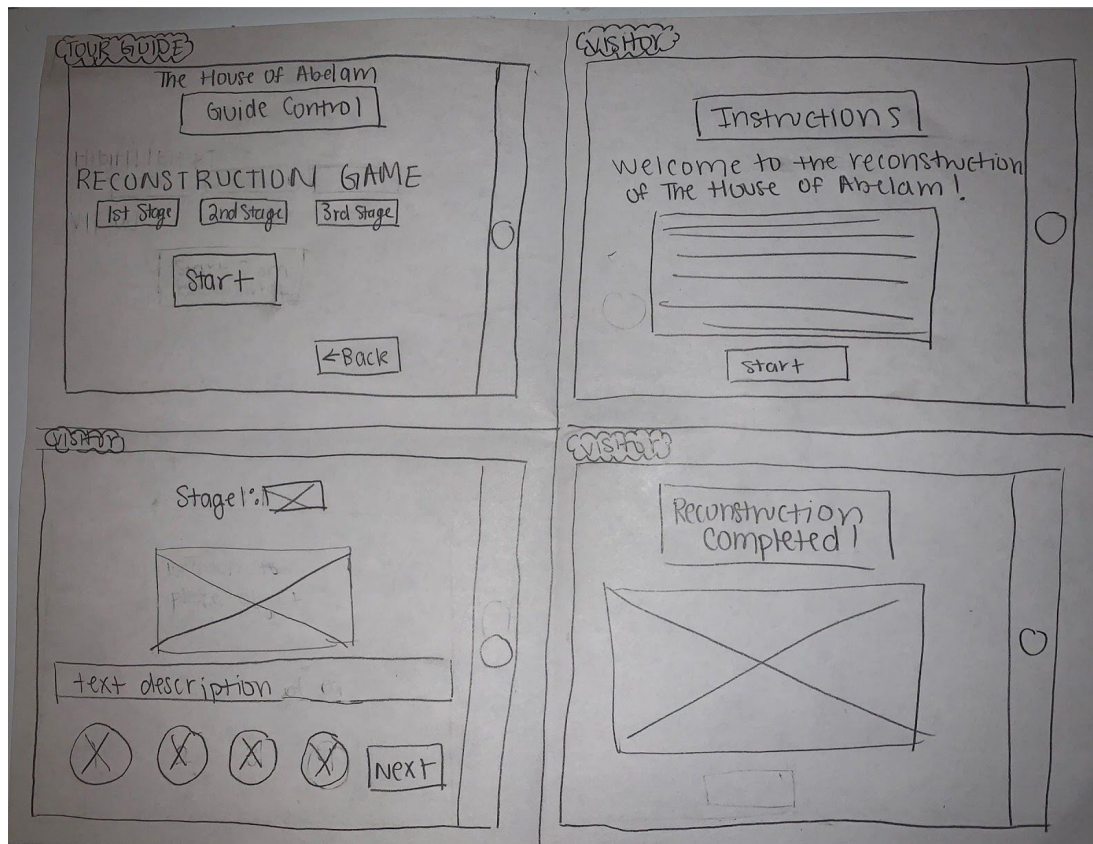
The assets that we need for this project are the individual objects that make up the House of Abelam. The 3D objects of the parts of the house should be already included in the prototypes. We also need sound recordings to contextualize the objects which will be obtained through online websites with non copyrighted sounds.

# EXPERIENCE OVERVIEW

**(one page)**

Visitors who want to use this application in the museum have to schedule a guided tour in advance. This means that people who do not plan in advance to go to museums will not have access to this experience. The visitors meet at the meeting point in front of the House of Abelam in order to receive the iPads. The visitors start with the guides and are able to walk around the House of Abelam but are not able to go inside of the house. The visitor can join via the iPads provided to them. When the visitor wants to see the inside of the house, the guide can allow them to play the game so they can see what it looks like when the House of Abelam is being built. The visitor can start the app once they enter the room opening the app and then positioning themselves towards the house. At this point, the visitor follows the prompts on the iPad given by the guide. Visitors would conclude their experience as engaging, fun, and insightful.

While playing the game, the visitor is able to drag individual parts of the object to build it. After everytime the part is reconstructed, there is exciting animation and further descriptions to contextualize the parts of the house. The user is able to look at the screen which shows the

digital representation but also look at the physical representation outside of the screen. The screen evolves when the user places more assets to the object the object becomes completely construction and the user is more informed the history of the object

## CONCLUSION

New experiences and connections with other experiences can arise from new digital technologies. That is what we intend to do with this project. It is important to highlight the historical processes surrounding the museum objects, as this process informs the objects themselves and provides greater context to the works and the world that surrounded them. The most effective way to do this is through AR interaction with the object and the space. In this project, not only does one learn more about the architectural structure of the house, but they are able to understand more about the Abelam people and their social practices by deconstructing and analyzing each material. This means the user is able to experience the work in a radically new way, not by being a third party viewer but by entering the world of the Abelam people. Each user will be able to customize their experience within the larger context of the project which is extremely important for creating a unique experience for each visitor.