SAND EDIT

Project Milestone 1 - Requirements Gathering

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Recitation Section: 102

METHODOLOGY ----------

Method Used - Observation and Interview

Observation Targets/key interview questions? - Industry based 3D designers and home 3D designers. For industry designers, we are observing interactions between them and communities such as reddit and other online forms, paying specific attention to problems they have with terrain design. For home 3D designers, we spoke to peers that we know that work with terrain, and asked them a couple of questions about their experiences. These questions include:

- How much experience do you have with 3D design?
- What type of design do you do?
- What is one of the biggest problems you experience when trying to model terrain?
- Would you find something like a physical sandbox useful when designing terrain?
- Is there anything you would change about the sandbox design we have?

Number of Participants - Several through observation, 2 through interview

SUMMARY ----------

For the interviews with small developers -

We found that one of the biggest challenges small developers face is a lack of technical experience and computer resources. Our project can aid in these problems by simplifying the technical experience needed in terrain design and reroute the amount of computer power needed to create large scale terrain. (Reroute because the same amount of power is needed, but instead of having the lag time in between creating different portions of terrain, time is saved by having it done all at once). Technical experience can be simplified by skipping the steps involving forming terrain through brush use, instead, being imported directly from something you had physical contact with in the sandbox.

For the observation with industry developers

When interviewing the smaller scale developers, we had only really taken into account large scale worlds with several environments. After researching and observing the expectations of industry executives if they were to use a tangible interface, we found that large scale worlds were not the only thing they would use a sandbox for. Many of them specifically mentioned the details in smaller terrain design, such as the identification of bodies of water and trails that the player could use. Something that we also had not considered when interacting with indie developers is the potential for our sandbox to bring together people with different skill sets in a large team. For example, a digital artist would not be able to use a heavy world modeling program without background knowledge as they are quite complicated, but with the sandbox, they'd be able to physically interact with the world to add their input when they may have not been able to otherwise.

REQUIREMENTS ----------

- Import full maps directly from the sandbox into a terrain modeling program for large scale projects
- Have the terrain mapping be detailed enough to be able to identify trails and water on smaller terrain and smaller scale projects.
- Have software that bridges said import, allowing for the user to interact with the settings of the sandbox(such as y levels that pertain to water levels and snow levels) and the settings of the file generated to be imported

NOTES, INTERVIEW 1 ----------

- How much experience do you have with 3D design?
    - They have a good amount of experience, learning it first in freshman year of highschool and continuing to work with it throughout highschool and into college. Their favorite program is Maya.
- What type of design do you do?
    - They primarily design assets and character models, but as they had made a couple of 3D games in the past they also design a good amount of terrain.
- What is one of the biggest problems you experience when trying to model terrain?
    - One of the biggest problems they struggle with when designing terrain is their lack of experience with it. Designing character models takes a good amount of artistic skill, but they struggle with the spatial aspects of terrain design and have to do a lot of research on environment composition to make anything.

- Would you find something like a physical sandbox useful when designing terrain?
    - Although they said they probably wouldn't be our target audience, if they didn't have to pay for it they think it could be very useful when designing rough drafts of terrain which one can later add on assets / textures.
- Is there anything you would change about the sandbox design we have?
    - They mentioned that a way to put objects in the sandbox, like just a general cube, as a marker for something they'd like to add in later once they import the file into a modeling program would be cool.

NOTES, INTERVIEW 2 ----------

- How much experience do you have with 3D design?
    - He does not have as much experience as the first interviewee, as he learned recently in college and has been working with it for the past 3 years. His favorite program is worldmachine.
- What type of design do you do?
    - He is very knowledgeable in terrain modeling, specifically working with sandbox based large scale terrain and the physics integration with models.
- What is one of the biggest problems you experience when trying to model terrain?
    - The scale of everything is the biggest problem for him. His computer is never fast enough to handle modeling the large scale projects he wishes to work on at an effective rate, taking forever to move the camera from one end of the map to another.
- Would you find something like a physical sandbox useful when designing terrain?
    - He works with very large terrains, so being able to visualize the terrain that he created on a physical sandbox becomes very useful when dealing with multiple parts of a world that encompasses very different terrains. Having a large chunk of

the general modeling done in real life in the physical sandbox would save him time by not forcing him to wait for load times when creating the world, only the load times accompanied by the importing of the design he made in real life.

- Is there anything you would change about the sandbox design we have?
    - He is relatively happy with the design itself, but he did request a visual program to accompany the transfer from physical to digital, so there would be an easy way to configure settings and keep track of what has been transferred to a software of their choice.

OBSERVATION NOTES ----------

- We found out that a large industry can use a tangible interface for a broad range of applications. Such as:
    - Creating trails
    - Making waterways
    - Forest fires
    - Ect.
- With a sandbox interface, people from different fields can interact with their specifically made model and use it to assist them into solving problems.
    - For example, someone who works to create water canals and waterways could use a sandbox and implement a new waterway to see if it would be feasible or not.