XR MOOC Specialization Course 2: User Experience & Interaction Design for AR/VR/MR/XR
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Assignment 4: Digital Prototype

Great to see your physical prototypes! Only two more steps before we can conclude our XR project: we will create and share our digital prototype for feedback and then submit our work for peer review in the last assignment. Our goal is **not** to create a fully working interactive prototype. Rather, the goal is to familiarize yourself with 1-2 digital prototyping tools by creating digital versions of 1-2 key interactions from your physical prototype (see below for tool suggestions):

1. **Prototype one of the key interactions in a 360/3D/VR/AR digital tool**
2. **Sketch/sculpt/model 2-3 main 3D characters (story)**
3. **Make a virtual copy of the target physical environment (context)**
4. **Record a video and narrate the interactions**
5. **Optional: Try out a different digital or immersive authoring tool**

Expected results

- You have a final prototype as close as possible to the "real thing" (what you are going to demonstrate in a demo video)
- You went broad: environment, 3D characters, & interactions (what you learned about your problem and design solution)
- You went deep: AR/VR-specific requirements & development needs (what you learned for the next design iteration)

Submission

Please submit a summary of the key interactions highlighting the new idea in your digital prototypes together with the following materials (as PNG image or PDF document, optionally MP4 video) to the Digital Prototypes Gallery:

1. **Digital prototype screenshot/photo**: Submit a screenshot/photo of your digital prototype that clearly illustrates the 2-3 main characters part of a key interaction you prototyped first physically and now digitally. Again, it is okay if it looks different because of evolving design ideas or compromises you had to make with the digital tool.
2. **Demo video**: Submit a narrated video of you previewing your digital prototype in 3D or on an XR device. Try to stay below two (2) minutes; the total upload limit is 50 MB.
3. **(optional) Alternative digital prototype screenshot/photo:** Submit a photo of your digital prototype created in another tool. Refer to the prototyping strategies below.

Tips

- **Tools:** Ideally, you would be using digital tools designed for AR/VR, such as Google Tour Creator (which is going to be retired in June 2021), Snapchat's Lens Studio, Facebook's

Spark AR Studio, Apple Reality Composter, Adobe Aero, mentioned in the lecture. Also A-Frame, Unity, or Unreal are an excellent choice, but the learning curve can be quite high and they are not the focus of this course (but in the third course!). It is totally allowed and appropriate to use an already familiar non-XR prototyping and design tool, such as Figma, Sketch, or Adobe XD. Some of these tools come with plug-ins for XR. Also Adobe Photoshop or Illustrator can be powerful tools when combined with a 360 template.

- **XR device**: You can use any XR device. At a minimum, we would like to see your prototype running on Google Cardboard. Not having access to an XR device shouldn't stop you from completing this assignment. You can still learn about tools and can create and test virtual content in simulated previews even without a headset.
- **Demo video:** Your video should show the 1-2 key interactions you think are worth prototyping and feasible based on the lecture or discussion with peer learners. For the final demo video, you should start with a *very* brief problem statement, show relevant portions of your physical prototype, and then the corresponding interactions you prototyped digitally. The connection between the physical and digital prototypes should be visible.

Prototyping Strategies

When you submit your work, be explicit about your prototyping strategy. All of the following prototyping strategies are valuable and accepted:

- *Strategy 1: Parallel Prototyping*: Prototype the same feature using different tools. Good for finding the best feature implementation.
- *Strategy 2: Iterative Prototyping*: Prototype different features using the same tool. Good for finding common tool support.
- *Strategy 3: Divide & Conquer*: Prototype different features using different tools. Good for finding the best matching tool.