Integrating VR into the Classroom Experience

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Agenda

- Background and motivation
- Objectives
- Approach and implementation
- Discussion
- Future Work

Background

- ME 250 provides introductory training to each student at the beginning of each semester
- The training is an oral walkthrough of several tools that students will be using
- Oral training is paired with a small project the Bridgeport Mill and the Lathe

Motivation

- Many students feel anxiety over using these large tools
- Providing an alternate resource for students to train will provide a private space to learn
- Students in ME 350/450 can use this resource for review

Objectives

- Create a model Bridgeport Mill that is as realistic as possible
- Develop a series of quests that a user can walk through as an instructional aid
- Key quests:
  - Move the table along the x axis, y axis, and z axis
  - Change gears
- Create a VR experience that can be tested within ME 250
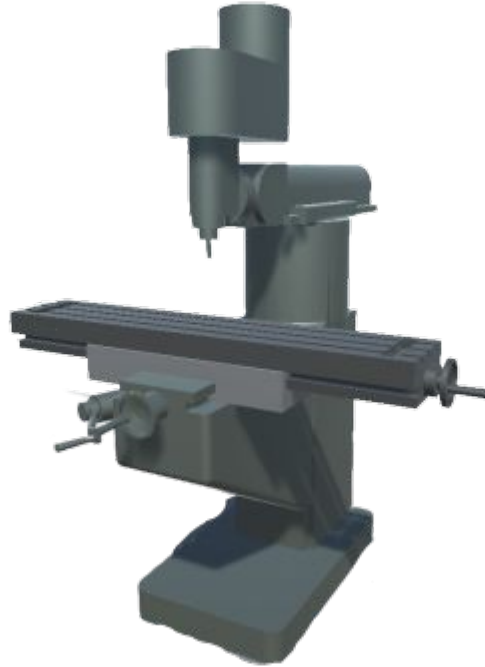
Approach

- Focus on the user experience
  - Download a pre-existing Bridgeport Mill model
- Storyboard the quests
- Develop quests in Unity
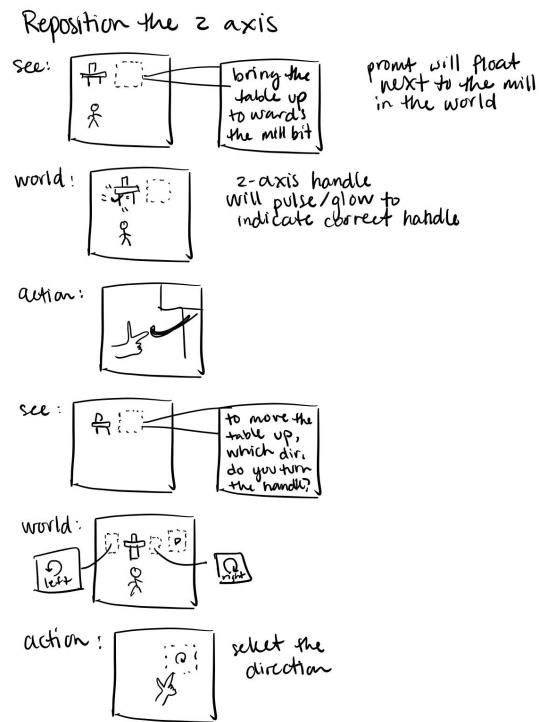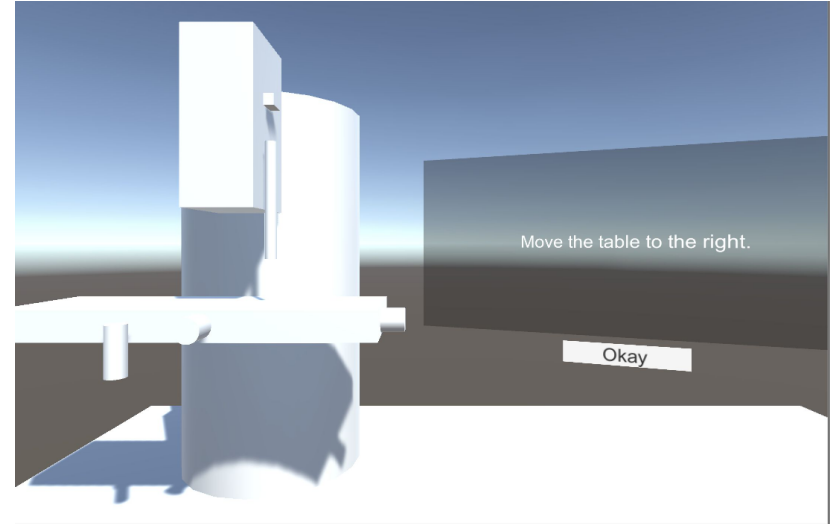
Implementation

Machine Shop   VR Model   VR User Interface

Discussion

- The desired deliverable was not obtained due to a lack of resources (COVID-19)
- Quests have been developed but access to the Oculus Rift headset is required for the final pieces of the experience

Future Work

- Updating Bridgeport Mill model
- Integration of Oculus Rift
  - Updating code to respond to handheld devices instead of a mouse/keyboard
  - Create a "room" for the user
- Trial use with ME 250 students

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Questions?