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 on 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?