

Massachusetts Institute of Technology  
Department of Electrical Engineering and Computer Science  
6.111 - Introductory Digital Systems Laboratory

**Final Project Check Off Sheet**

Project Title: 3-D Rendering System

Student Names: Mayur Desai and Ben Hebert

TA Name: Charlie Kehoe

TA Signature/Date:

**Design**

- State transition diagrams, Block Diagrams, Code for 3-D Unit, Renderer, & Shader Module(Ben Hebert)
- State transition diagrams, Block Diagrams, Code for Video Controller, System Module, & Rotation Module (Mayur Desai)

**Functionality**

- Demonstrate rendered data written to correct locations in memory (Ben)
- Demonstrate video controller outputs data from memory to monitor (Mayur)
- Demonstrate overall system renders data from model and outputs onto monitor
  1. Vertices appear as dots on black background
  2. Shaded Polygons appear on background
  3. Ability to rotate object with button inputs

**Discussion**

- 1. Explain the process of going from a 3-D model to rendered vertices.
  2. How are the faces of the models shaded?
  3. How does the video controller interface with memory?
  4. How is the ZBT double buffering accomplished?
  5. How is the rotation implemented?
  6. What were some issues that arose during the implementation of the design?