CMSC 335
COMPUTER GRAPHICS

LAB 1

• OBJ MODEL OVERVIEW
• OBJ PARSER
RECALL MODELS

• Models are typically polygonal meshes
  • Vertex data
    • Position
    • Normal
    • Texture coordinate
    • Etc
  • Face data (triangles)

• Note a "Vertex" refers to ALL of its data, so in the example, each corner is possibly 3 separate vertices
DESIGN YOUR OWN FORMAT

• With a partner, design your own specification:
  • Vertex data
  • Facet information
WAVEFRONT OBJ FORMAT

• Wavefront (OBJ) is a model specification (.obj files) that describes the structure of a static geometry

• We will only use a subset of its specification for this activity (and I recommend that you use Assimp instead of writing your own parser). Our assumptions:
  • Triangulated
  • All vertices are composed of a position, texture, and normal
WAVEFRONT OBJ FORMAT

• We will use the following tags:
  • **v** – vertex position
  • **vt** – vertex texture coordinate
  • **vn** – vertex normal
  • **f** – triangulated face information
    specified like
    'f #/#/# #/#/# #/#/#'
    where each set of three numbers is a
    unique vertex (position, texture, normal)
TRICKY PART

• There is a mismatch!

• Remember, vertex data is a unique package of information, but OBJ format specified them separately

• Need a matching algorithm

• Pair up and sketch a design together

  • Think of the pros/cons of the design together
STARTING CODE FOR A PARSER IS ONLINE

• Let's finish it together