Price estimation based on 3D model:

1. Find out what material it is and units used
2. Load part
3. Rough volume estimation, bounding box
   1. Equate sizes with a rough price estimation (need data about prices for different part sizes)
4. Complexity calculation
   1. Scan surface and do math things
   2. Equate different shapes with a rough price estimation (need data about prices based on part shapes such as number of holes, inserts, tolerances, curved vs. straight pieces)
5. Results
   1. Add estimations together for total based on size and shape

Quote ingestor

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**College of Engineering**

**Department of Mechanical and Aerospace Engineering**



**MAE-586**

**MSAE Project Work**

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**I.** **Objective**

Optimize pricing of shipped object based on its 3D and material characteristics

**II.** **Background**

Currently interning for Factor Technology, in which part of my role is to obtain quotes for different parts from customers. Factor has methods for order tracking and purchasing goods from vendors.

**III.** **Purpose**

When users upload their parts to be quoted there is a chance they may be charged more than due to unexpected issues such as material chosen, complexity of the part provided, and other possible factors.

**IV.** **Procedure**

Milestones, deliverables, timeline

* Provide theoretical work necessary to ensure project can be completed and be successful (6 weeks maybe more)
* How to predict most accurate price based on user input (material, 3D file, units, potentially provide bounding box) (6 weeks)
  + read 3D mesh, assume mesh is closed, apply tools from theoretical work to the mesh, process vertices
  + Determine price from there
* Future work for accurate pricing, representing changes to 3D model in real-time
* Presentation and conclusions (2 weeks)

**V.** **References**