

# 4.501 Recitation 1

## NAVIGATION AND ORIENTATION

Orbiting, Zooming, Understanding the Structure Tree, Selecting and editing components, Moving between workbenches, Measurement Tools

Hierarchy of tree:

- Product
- parts
  - geometrical sets
  - bodies
  - part bodies (avoid using them)

## ORGANIZING PARTS: BODIES AND GEOMETRICAL SETS

In order to successfully link and print drawings, organizing **Bodies** and **Geometric Sets** is necessary.

- **Geometric Sets** consist of the “construction lines”—2-D components that are used to construct the 3-D components of the model.
- **Bodies** are the 3-D solids used to create the total assembly of the building (model)
- **Parts** consist of the bodies and geometric sets of a particular portion of the building assembly. These can be worked on separately and inserted into a Master Model that makes up the total assembly of a building.

CATparts, as they are called in the structure tree, can be worked on separately, as separate files. The entire assembly that you create consisting of these CATparts is the CATproduct. Geometrical Sets and Bodies make up the part and cannot be worked on separately.

When properly organized and inserted, different components of the model are linked, so the Master Model is updated as each component is edited.

Products, Parts, Bodies and Geometrical Sets should be renamed for successful organization of files. Construction “stuff” and final “stuff” should be clearly distinguished.

- Construction “stuff”
  - wires
  - surfaces
- Final “stuff”
  - Roof, Wall Assembly, Window Assembly, etc.

When Fabricating, it is a good idea to rename Parts according to material.

## DRAWING WITH A BUILDING STRATEGY

When drawing products and parts, the sequence in which you draw, and the relations between parts is important to the success of the model. The order in which you would build the structure should relate to the order in which you draw the parts. Think about if the information you use to build a particular structure is dependent on another structure and vice versa. For example, your roof height depends on your wall height.

Organizing the Structure Tree: the structure tree shows which parts are dependent upon each other. The alteration of one component may affect another, depending upon how the model is composed. In DP, nothing ever goes away, unlike CAD, you cannot simply erase a component of the model later.