**Hand Modeling Outline**

This is just an overview of topics covered for this demo. These things are also covered in depth in the project write-up and exercises on the course website:

[www.cs.washington.edu/458](http://www.cs.washington.edu/458)

**Subdivision Modeling**

* What subdivision is
* Smooth preview
* Goal: Model such that the subdivided surface looks good
* More detail, more geometry; less detail, less geometry
* Topology
  + Why all quads?

**Starting on the Hand**

* Opening files in Maya 2015
* Use yourself as reference!
* The starting geometry
* Bevel Edge
  + Options

**Index Finger**

* Subdivision workflow in action: broad shapes → finer detail
* Relative proportions
* Scaling in corners to round out the finger
* Back and forth process
  + Adding detail does not lock you into your previous edits
  + Be careful of “drift” though
* Finger nail
  + Control edge to sharpen
* Knuckles

**The Other Fingers**

* Save work re-using the index finger
* Extract geometry
* The pivot and how to change it
* Duplicate
* Preparing topology for the fingers
* Finger positioning and orientation
  + Curve from top
  + Curve from front
* Resizing fingers
  + Move Tool: Object vs World
* Shaping the attach points
* Merging
  + Hiding the fingers
  + Combine
  + Merging vertices: many options!
    - Merge Vertices To Center (recommended)
    - Merge Vertices
    - Merge Vertex Tool
  + Check to see if everything merged correctly

**Knuckles**

* Cut Faces Tool
* Extruding technique
* No good way to copy knuckle sculpting
  + Organic modeling

**Thumb**

* Block in shape of hand body first, add one more loop
* Same general workflow as finger
* Nail faces away from palm

**Back**

* Multi-cut Tool
* So much geometry!
  + “Sewing” edges together
  + Maintaining quads
* Sculpt Geometry Tool
* Soft Selection
* Form from all angles

**Palm**

* Dropping in topology
* Beware of the flat-hand!
* Form from all angles

**Wrist**

* Shape the cross section
* Delete n-gons

**Final Touches**

* Revisit sculpting where needed
  + Remember: From all angles!
* Check if there are any proportional problems
  + Tip: Use soft select to fix
* Angle the thumb to a more natural position
* Webbing in-between the fingers
* Delete history
* Smooth and render, but don’t turn your hand in smoothed!
* Hand topology
  + What is there works for a basic hand, but what could be added?