**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 2016
* 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
* Target Weld
* Check to see if everything merged correctly

**Knuckles**

* Multi-Cut 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?