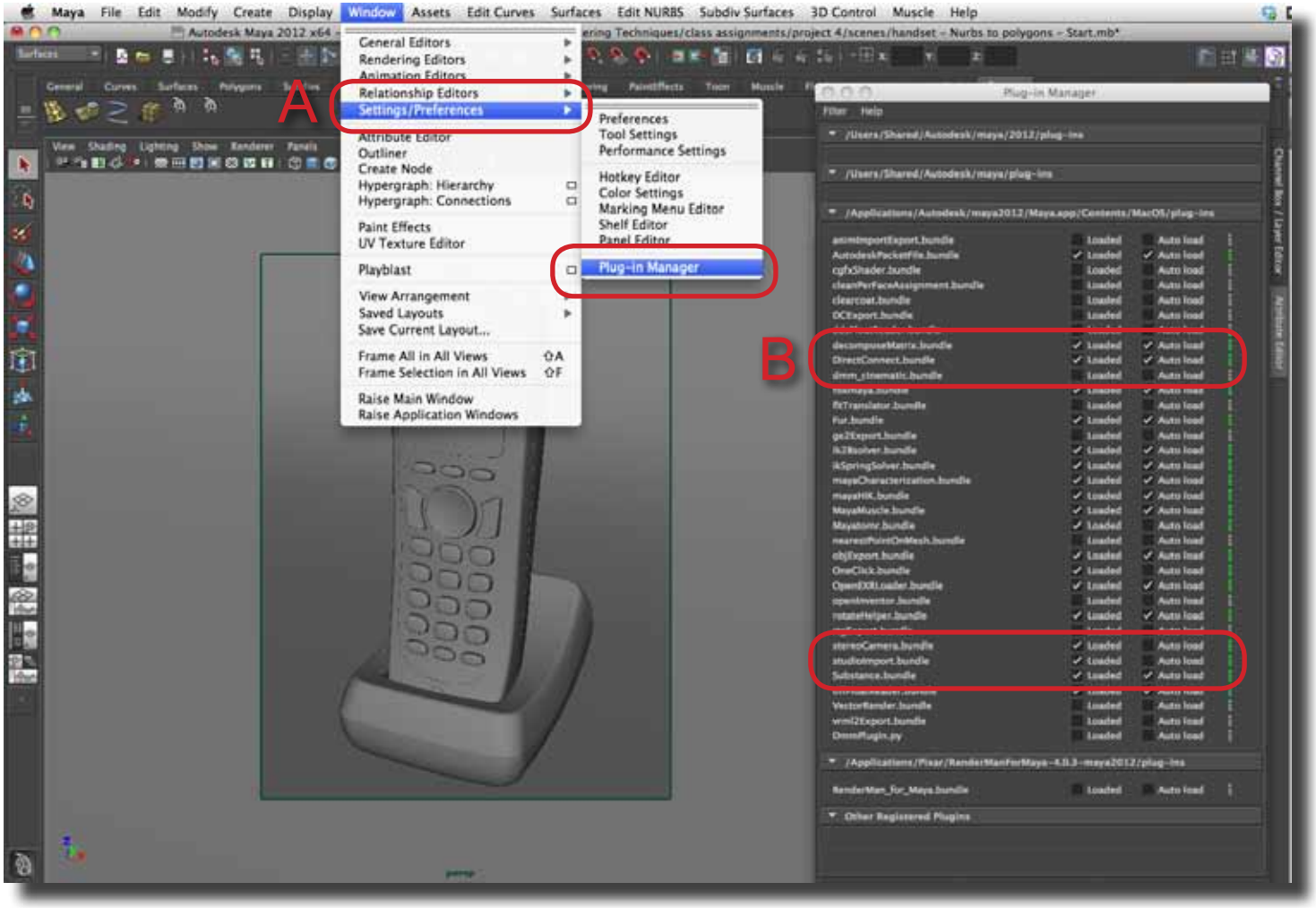
Maya - Importing & Converting CAD Data to Polygons

Step 1 To render efficiently (speed & minimum issues), it is best to convert CAD data from surface/solid data to polygons. First, make sure you can import Alias or SolidWorks files into Maya. Open the Plug-in Manager (A) (Window > Settings/Preferences > Plug-in Manager). Check the Loaded and Auto Load columns for the following plug-ins (B):

- DirectConnect
- studioImport



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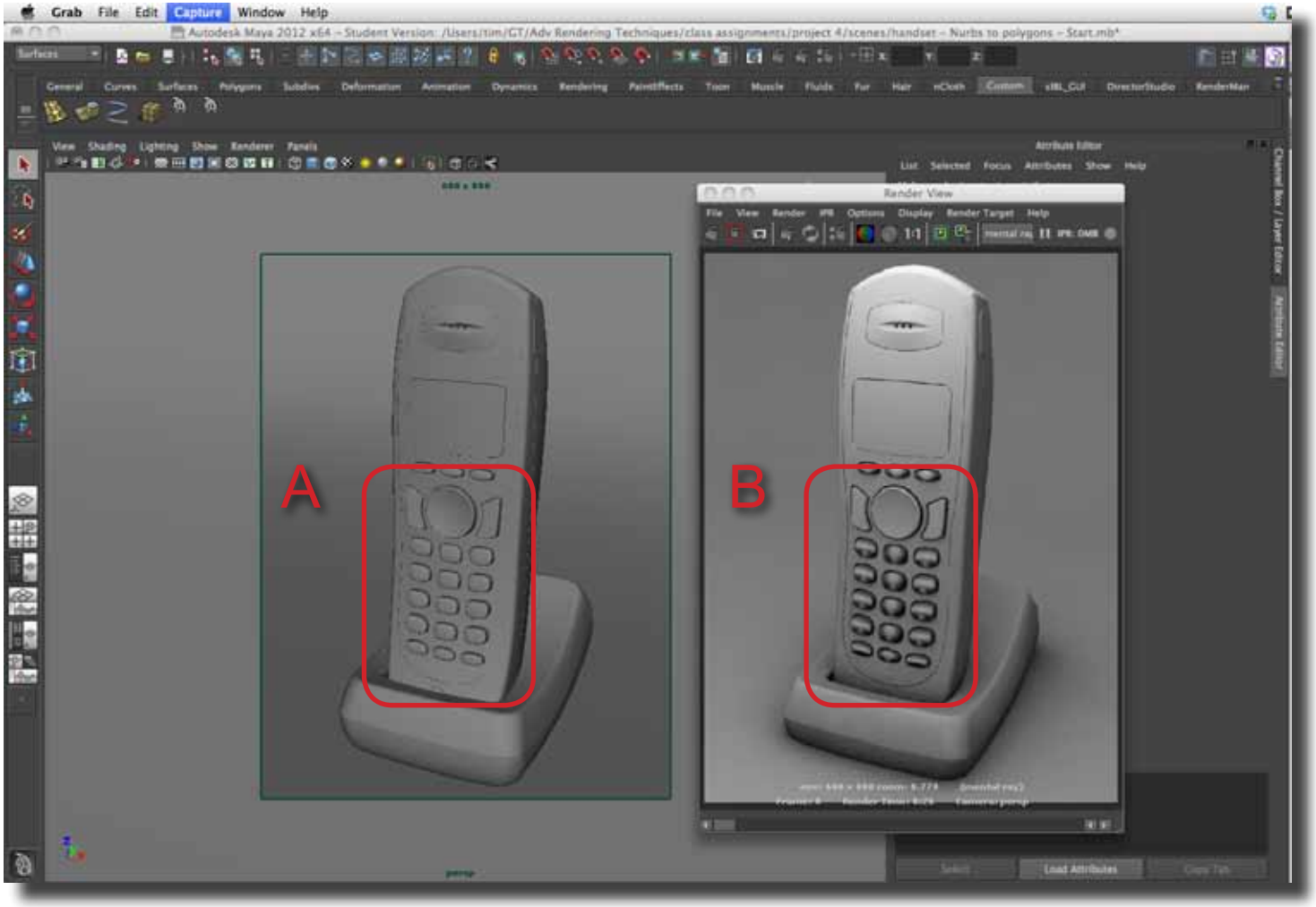
Step 2 This handset model was imported from SolidWorks into Maya. Notice the shaded view in the modeling window looks fine (A). Once the model is render, issues appear with the keypad buttons (B). Surface normals are not working properly in Maya. Also, the rendering time is rather long (26 seconds) for a model with simple materials and lighting.



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Step 3 Before converting the model to polygons, it is easier to setup basic materials and textures. Other tutorials cover how to apply materials and create textures for bump maps and decals (A & B).

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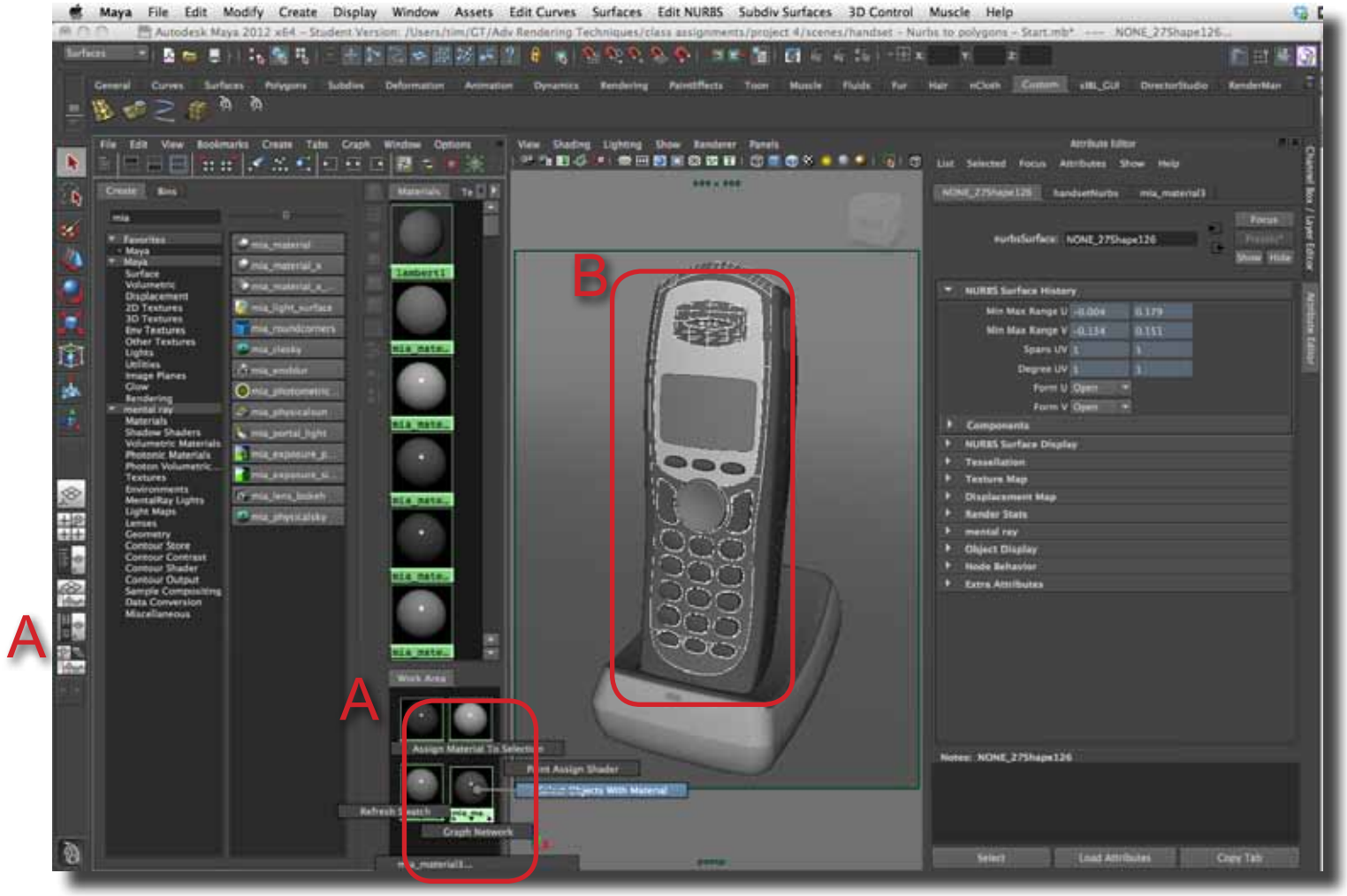
Step 4 Select an existing group of surfaces by either right mouse click on material and choose “Select Objects with Material” (A) or click on a surface in the modeling window and then use the up arrow key to pick the group (B).



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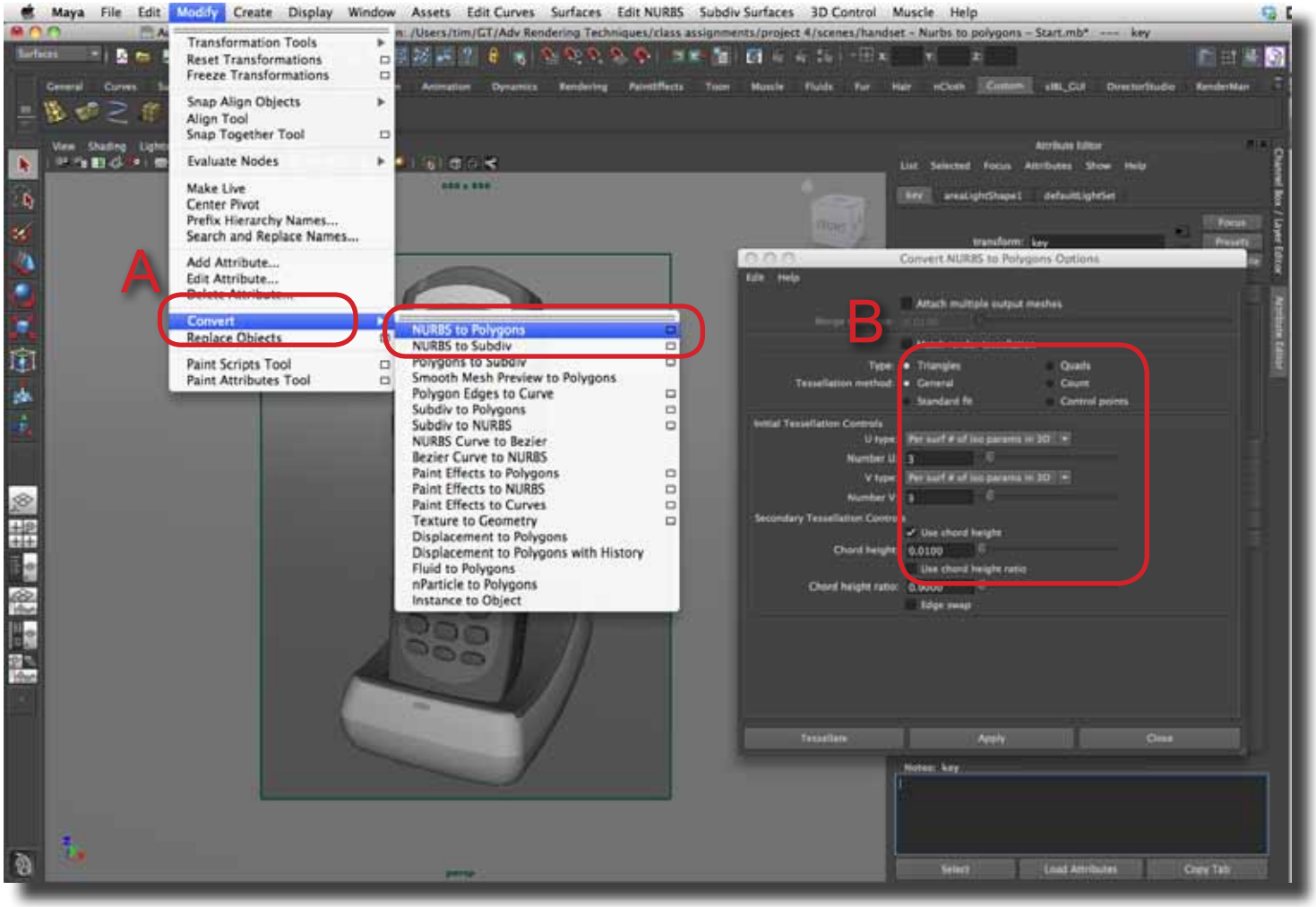
Step 5 Go to the Modify > Convert > NURBS to Polygons > option box (A). Start with the following settings (B):

- Type: Triangles
- Tessellation method: General
- Number U & V: 3
- Check Use Chord Height
- Chord Height: .05



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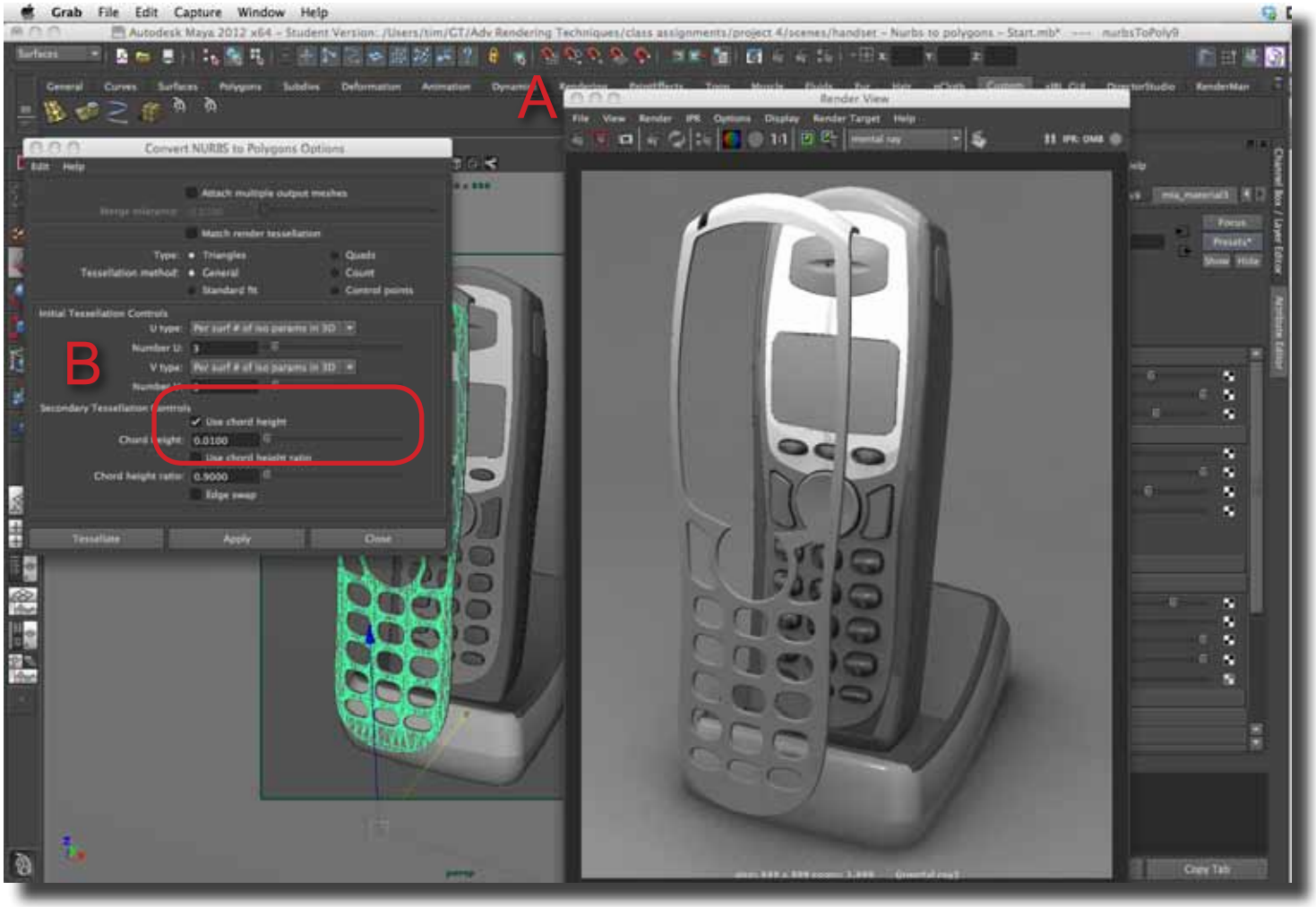
Step 6 Pull out the converted polygons with the Move tool and render the scene (A) to verify that the conversion is good and does not have any issues. If there are issues, then try a smaller Chord Height value (.01) B).



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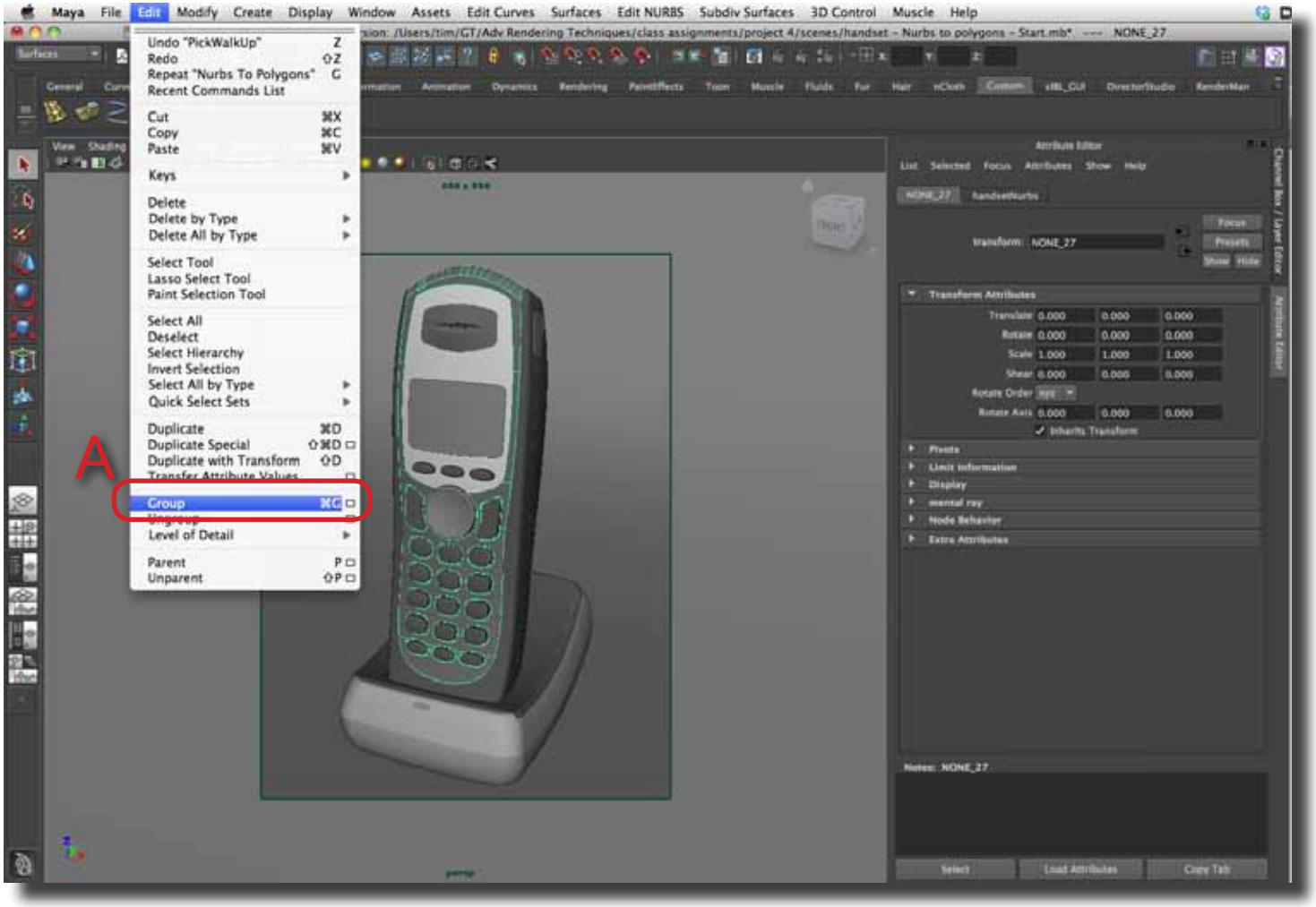
Step 7 After the conversion is acceptable, make sure the group the polygon sets into a group for easier selection (A).



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Step 8 Notice in the final rendering after the model has been converted, the issues with the buttons are resolved and the rendering time has been reduced (A).