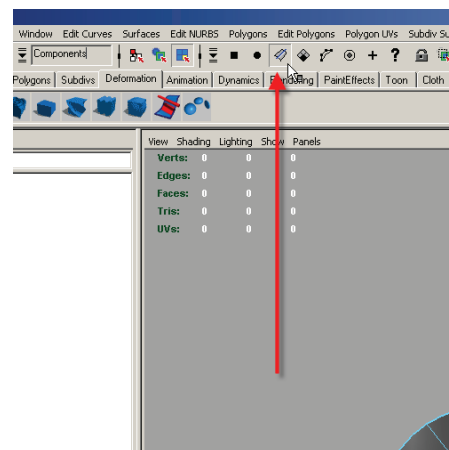
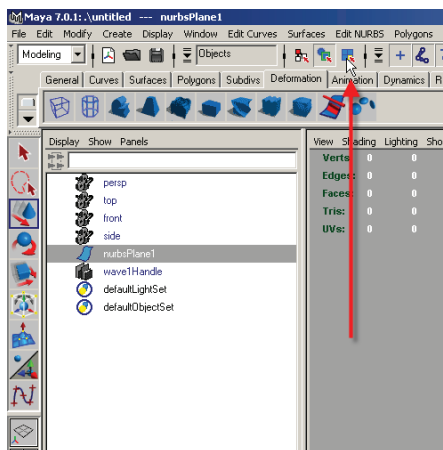


MAYA IN-DEPTH: Extracting Wire-frames

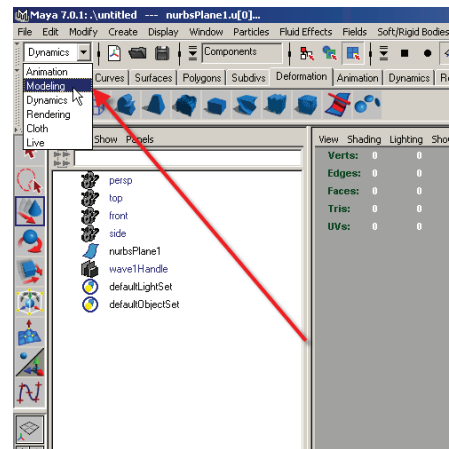
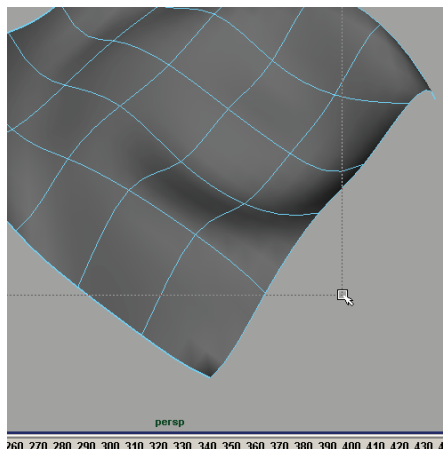
Mark Collins

02.28.2007

Starting with an example NURBS surface, we must first enter 'component' mode to gain access to the wireframe of the object. First click the component mode button. Secondly, toggle off the components you dont need (points, faces, etc) and toggle on 'lines'



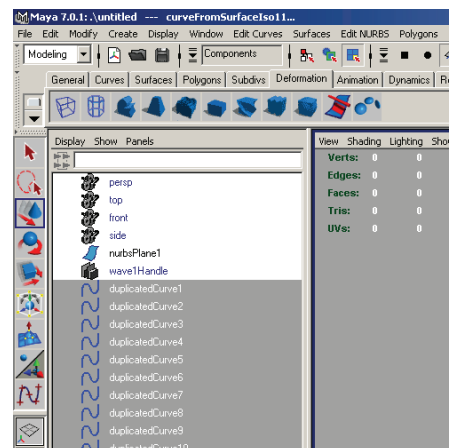
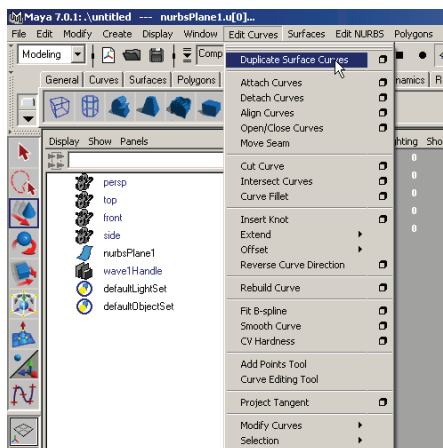
Once we have entered component mode, we can drag-select a whole series of ISOparms. After selecting the isoparms, open the modeling tab.



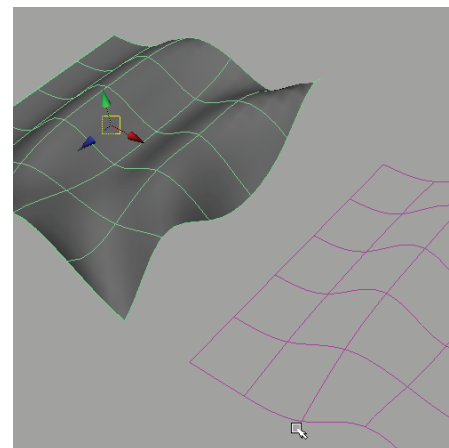
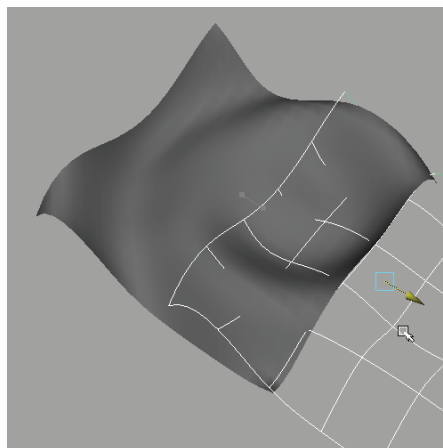
Modeling > Edit Curves > Duplicate Surface Curves

This command will produce a series of curves as distinct geometry. However, they will be historically linked with their origin surface. To break this historic connection, you can select the lines and

Edit > Delete by Type > History

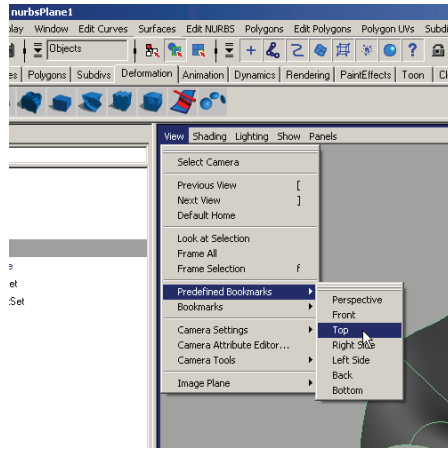


Now that the lines are independent, we can select them and move them away from the origin surface. You can manipulate (or animate) the primary surface and see the changes effect the duplicated lines.



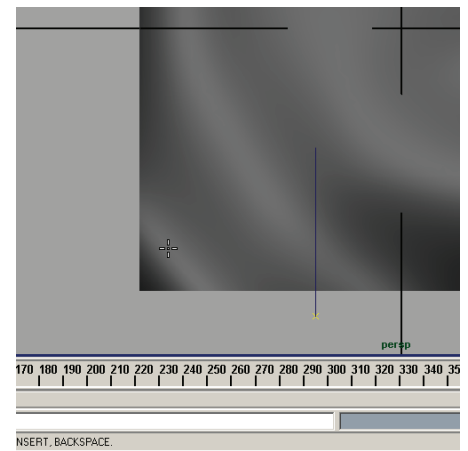
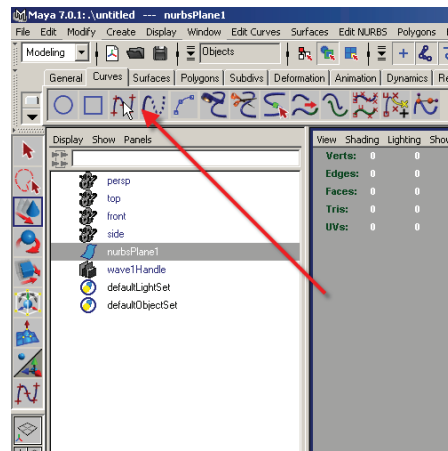
View > Predefined Bookmarks > Top

To project a simple grid onto a complex object, we need to first orient the camera to the proper 'axis of projection' - in this case we will move to our 'top' camera.



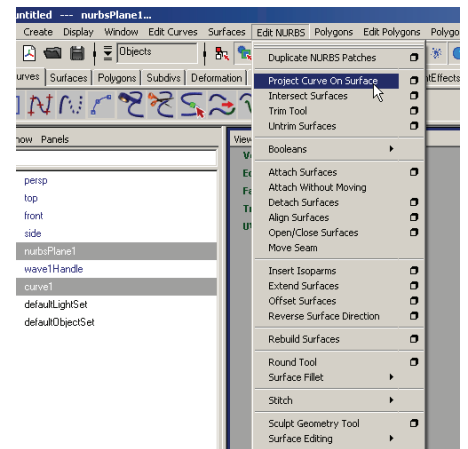
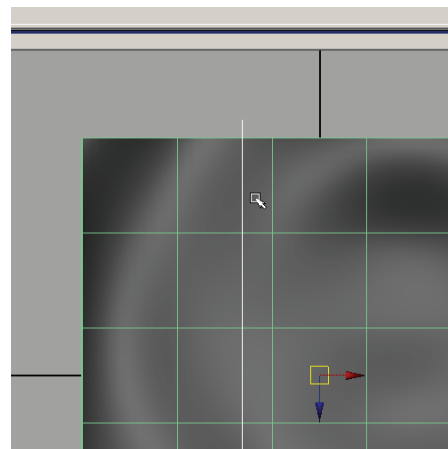
Now viewing the object from above (with an orthographic view), we can draw a simple line. You can find the curve command under the 'curves' tab. Double click this icon and make sure that '1 degree' is selected. This should draw curves with sharp angles.

Click once in the view to start the line. Subsequent clicks will add more points to the line. By holding down 'shift' while clicking, we can make straight lines. Press 'enter' to complete the lines.



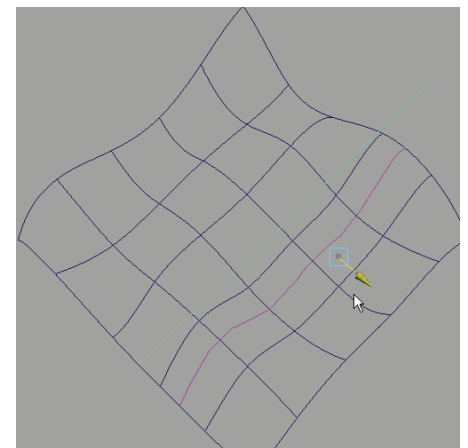
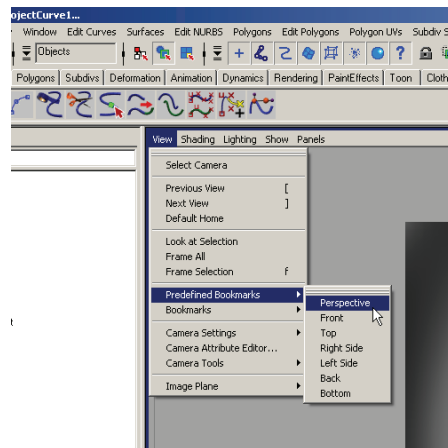
Modeling > Edit NURBS > Project Curve on Surface

First select the line that was just drawn, then select our target surface. Execute the 'Project Curve on Surface' command. You must still be in the top view at this time!



At this point we may move back into our perspective view (by again accessing the 'predefined bookmarks' in the view settings). Now we should be able to see the projected line on the surface of our object.

We can move the original straight line to the left and right, which should force the projected line to update dynamically.



Modeling > Edit Curves > Duplicate Surface Curves

We can 'promote' our surface curve to actual geometry through using the 'duplicate surface curves' command. The curve-on-surface (maya's terminology for a curve that is resident on a surface) must be selected before running this command.

The curve will become selectable in the outliner, and can be moved away from the surface. It will continue to dynamically update itself based on how the original surface is manipulated.

