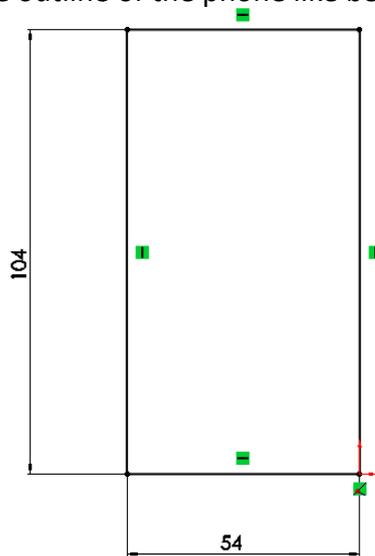
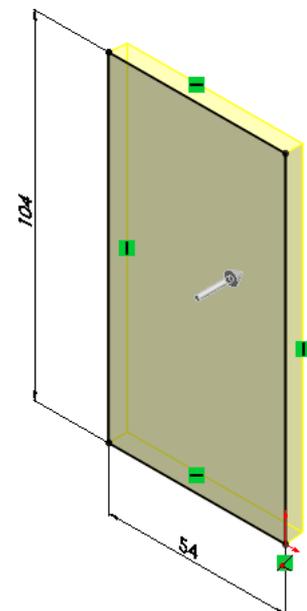


SAMSUNG PHONE

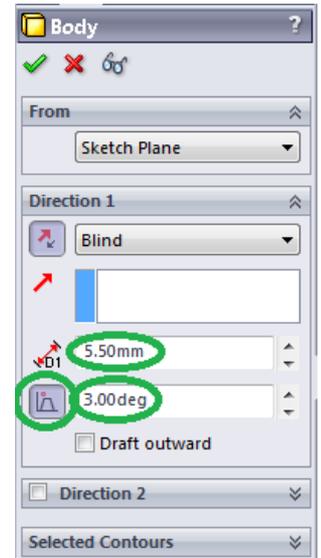
- Since this object has inclined edge surfaces, we must start by opening a sketch on the front plane.
- Using the rectangle tool on the sketch tab, we can create the outline of the phone like below.



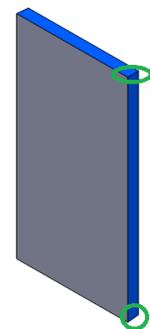
- Dimension the rectangle as shown; the next step is to extrude this sketch with the Extrude Boss Base tool which is located within features.
- Ensure that you are extruding in the correct direction.



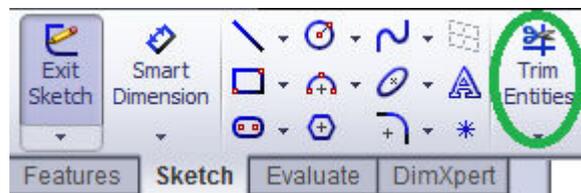
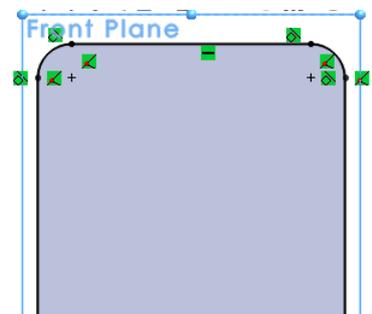
- The edge of this extrude is inclined so we must select the draft button and set it to 3 degrees. Set the distance to 5.5mm as shown in the dialog box.



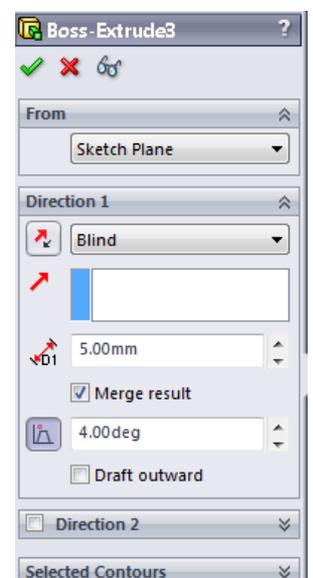
- Now that we've created this body, we must fillet the corners which are shown in the image across. Use a fillet of 6 mm, the fillet tool is located under the features tab.

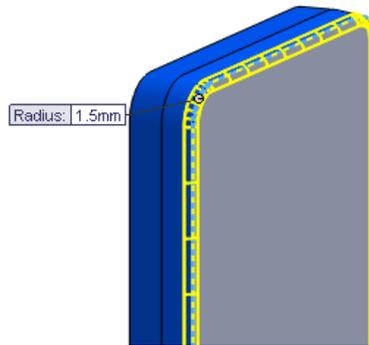


- Open a new sketch on the front plane, and using the line and circle tool under the sketch tab, sketch the outline of the back surface on the front plane. Use the trim tool under the sketch tab to trim unwanted lines by clicking and holding down on the mouse and dragging it through the unwanted lines.

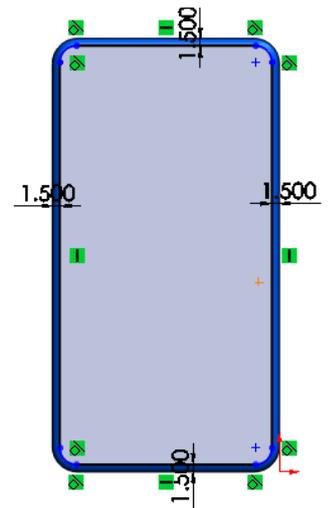


- The next step is to extrude this sketch with a draft angle of 4 degrees and a depth of 5mm.
- We must now create a fillet on the edge of the front face of 1.5mm.



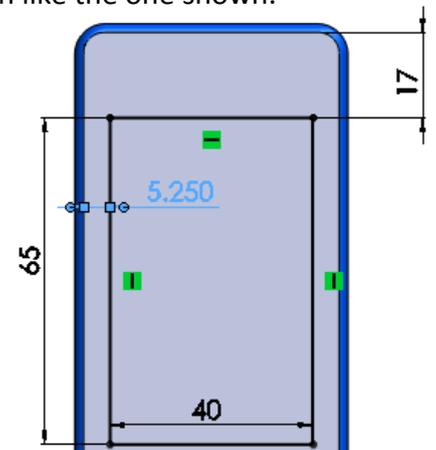


- Select the surface that we're just after filleting and open a sketch on it.
- Using the line tool create a sketch on this face and dimension it, in 1.5mm from the outer edge.
- Using the extrude cut tool under the features tab, create an extruded Cut, 0.5mm in depth.



- The next step is to create the screen and make it a separate body to the front face of the phone. Open another sketch on this face and create a sketch like the one shown.

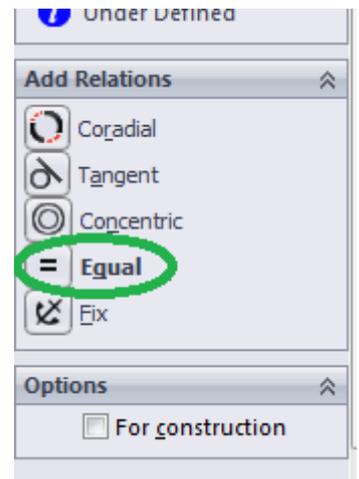
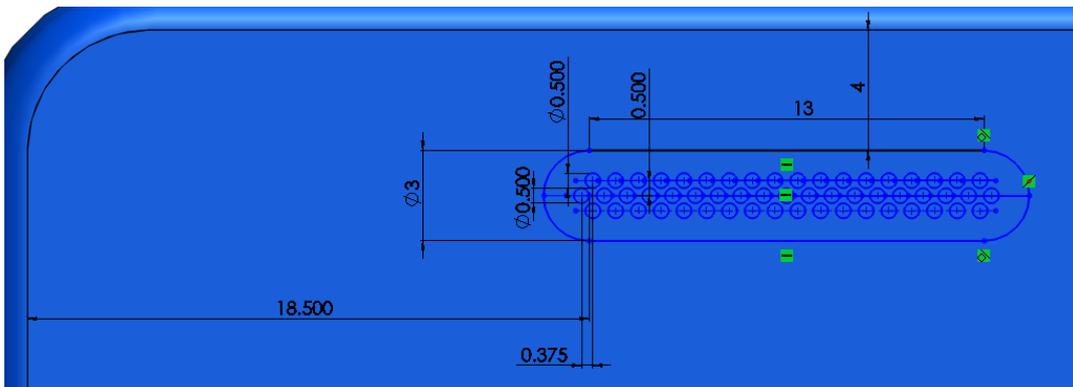
- Now that we have a dimensioned sketch of the screen, we use split line. This is located under: Insert, Curve, Split Line. Select the screen as your sketch and the front face as the face.



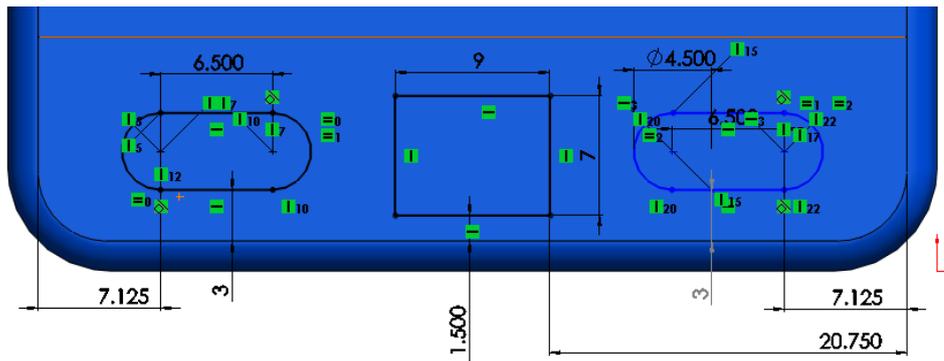
- The next step is to create the lower section where the buttons are situated. Open a sketch on the same plane. Sketch and dimension this lower section like the sketch displays.



- We must then extrude this section 0.25mm using the extrude boss base tool.
- The next step is to create the ear piece near the top of the phone. Open a sketch on the same plane and create the sketch.
- Once you've all the circles sketched in, it's possible to dimension one and then link all the circles to the dimensioned circle, where they will all have the same dimension. This is done by dimensioning the first circle and clicking on it. Hold down the CTRL key on the keyboard and click the remainder of the circles. A dialog box will appear like the one below. Select equal and the green tick. All the circles should now have the same dimension.

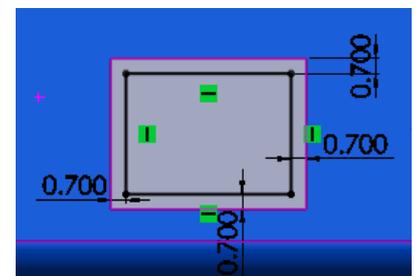


- This sketch must then be extruded 0.5mm with the holes remaining hollow once the feature has been extruded.
- The next step is to create a fillet of 0.1mm on the edges of the ear piece.
- We can now move on to create the buttons. Open a sketch on the last surface that we extruded and create a sketch like below. Dimension the buttons also.



- The next step is to extrude these buttons 0.3mm using the extrude boss base icon.

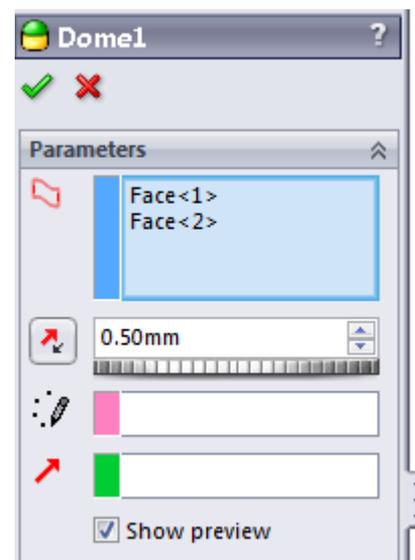
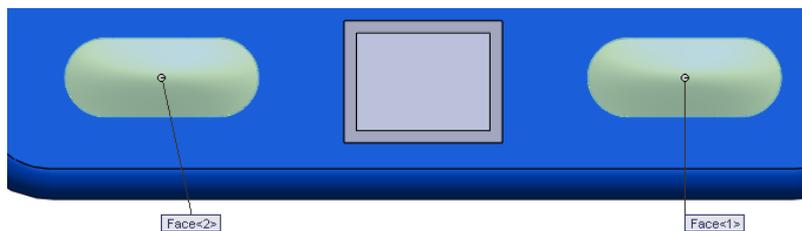
- We must then create a sketch like the one below on the centre button and extrude cut the centre by a depth of 0.5mm.



- The next step is to create a Dome on the top of the call and end call buttons. The dome icon is located in features.

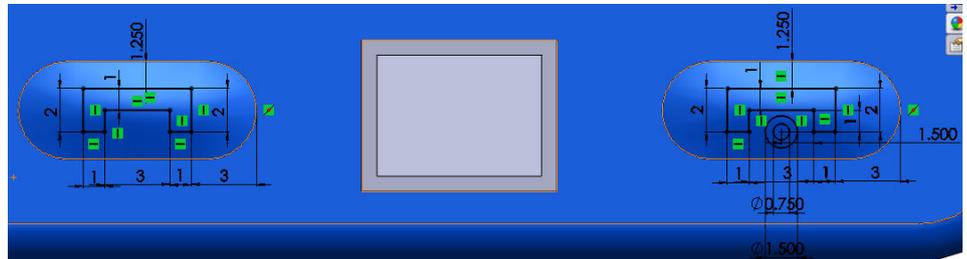


- Select the surfaces that we wish to dome and set the dome to 0.5mm.

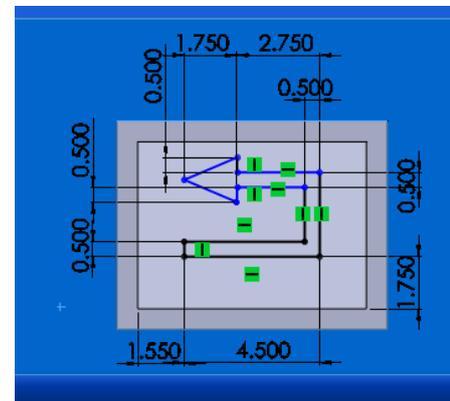
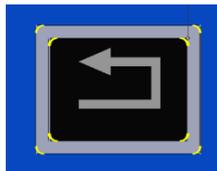


- Select the green tick in the corner and the dome has been created.

- We can now generate the button symbols. Open a sketch on the surface that the buttons were created on as we can't create a sketch on a domed surface.
- Sketch in the symbols and dimension them.

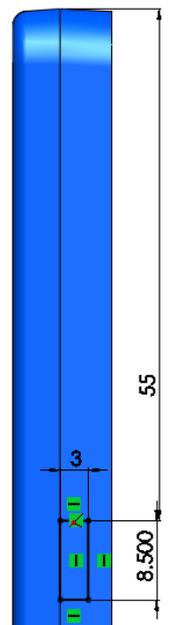


- Now we can extrude both sketches up a height of 0.8mm.
- We now move onto the centre button to create the return symbol. open a sketch on the centre of the button and create the image. 0.4mm fillet on the corners

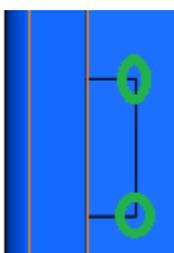


- As this newly created sketch is supposed to be a different colour we must use the split line feature to separate the surfaces.

- The next step is to open a sketch on the right plane and sketch the button as shown. Then extrude this button out a distance of 0.5mm.



- We must now fillet both corners with a 1mm fillet.



- The button is then completed when the remainder of the edges are filleted with a 0.25mm fillet.

- We can now create the rectangular shape below this button. Open another sketch on the right plane and produce a sketch of the feature.

- Then extrude this feature out a distance of 0.5mm and fillet all corners and edges with a fillet of 0.25mm. This is the feature completed.

- The next step to complete is the Volume button. We must open a sketch on the opposite side of the phone and sketch out the button.

We can then extrude this out a distance of 0.7mm

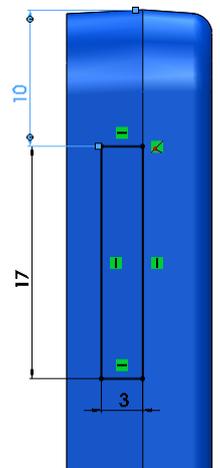
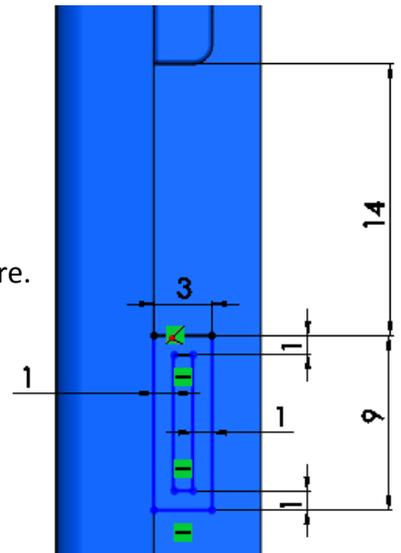
- We now must cut a slot horizontally across. We can do this by Opening a sketch on the edge of the button and sketching a circle on the centre point of the button.

The centre point is located by hovering over the line until a little yellow box appears on the centre of the line.

We can use the trim feature to delete the second half of the circle.

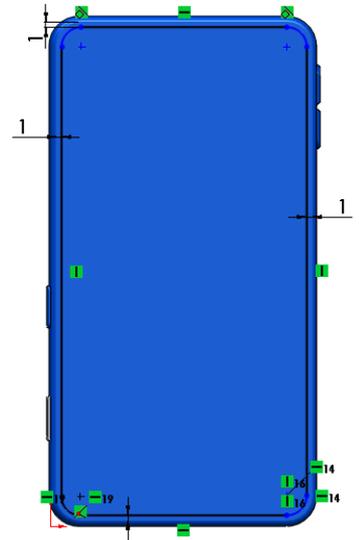
- Use the extrude cut button to cut out this material and set the distance to 3.1mm.

- Using the fillet tool, create a 2mm fillet on the corners of the button and fillet all edges with a fillet 0.5mm.

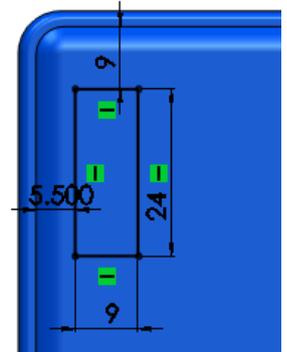


Transition Year DCG Module

- Fillet the back edge of the main body with a fillet of 1mm.
- Now we can open a sketch on the back plane and create a sketch 1mm in from the recently created fillet, and extrude it out 2.5mm.
- Create a 4mm fillet on this new surface
- Open a new sketch on this new surface and create the sketch for the camera. Extrude cut this sketch to a depth of 1mm.



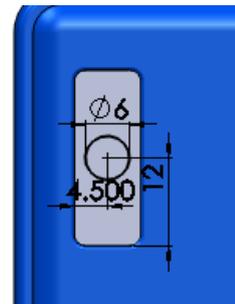
- Fillet all the corners with a 1.5mm radius fillet and fillet all the remaining edges with a 0.5mm radius fillet.



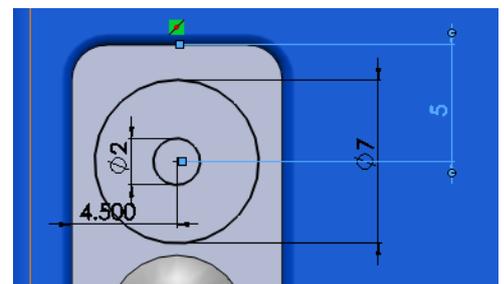
- Open a sketch on the surface that we just extrude cut, and create a sketch like the one shown.

Extrude cut the circle 0.5mm and then create a dome on top.

Set the dome parameters to 0.75mm.

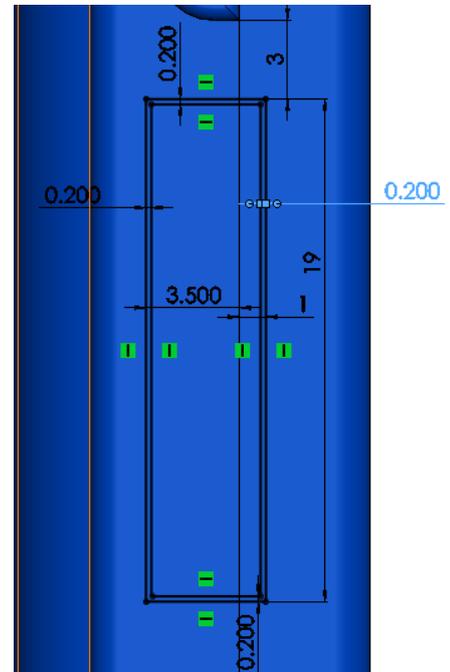


- Open a new sketch on the same surface and create the camera lens. Use the split line feature to break up the surfaces.



Transition Year DCG Module

- Open a new sketch on the plane opposite to the right plane and create a sketch of the feature.
- Using the extrude cut tool, extrude the material surrounded by the two rectangles. Depth is 0.5mm
1mm fillet on the corners.
0.1mm fillet on all edges.
- Open a sketch on the front face of the phone and select the A icon under the sketch tab. Type in SAMSUNG into the text box and locate it on your phone.



- Based on the previous lesson, you can add a Decal to the screen of your phone by browsing for a picture and then adding it to your part file using PhotoWorks/Photoview 360 as discussed for the I-Pod.
- You can also change the colours as we've previously discussed.
- Don't forget to save your work.

PHONE COMPLETED

