University of Moratuwa
Faculty of Engineering
Department of Electronic & Telecommunication Engineering

Electronic Design Realization - MP3 player

Solidwork Design

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Hand Sketches

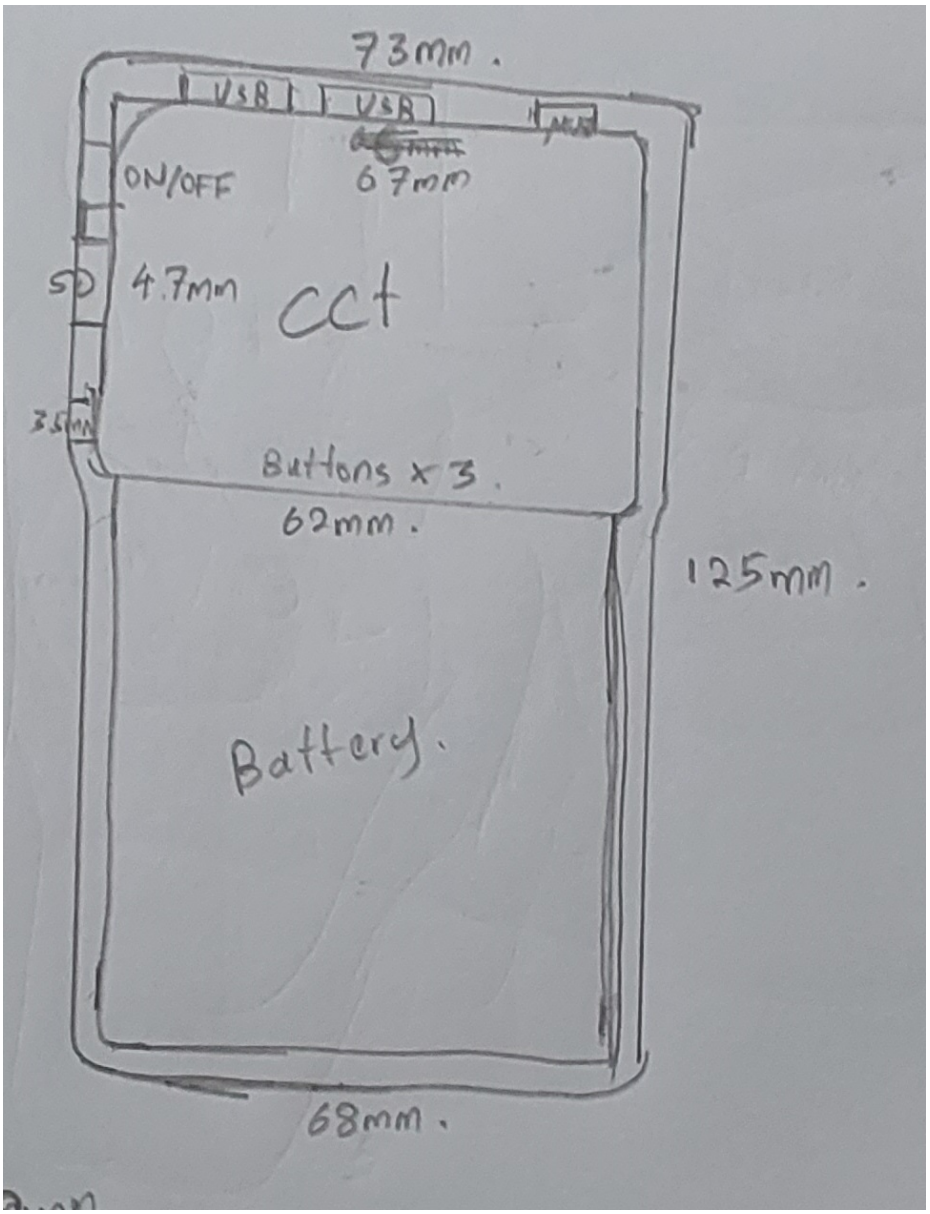


Figure 1: Top sketch

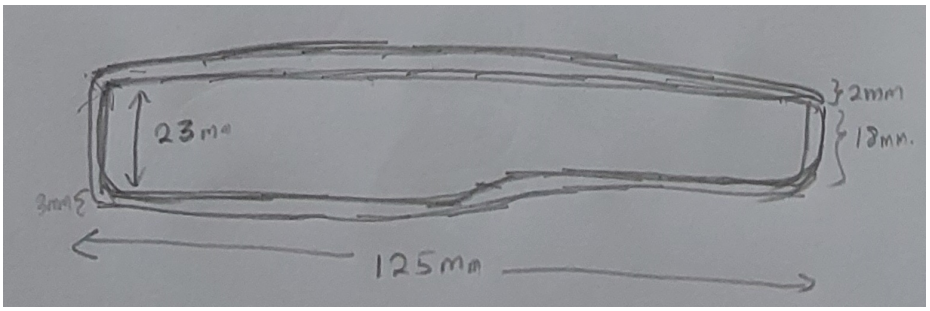


Figure 2: Side sketch

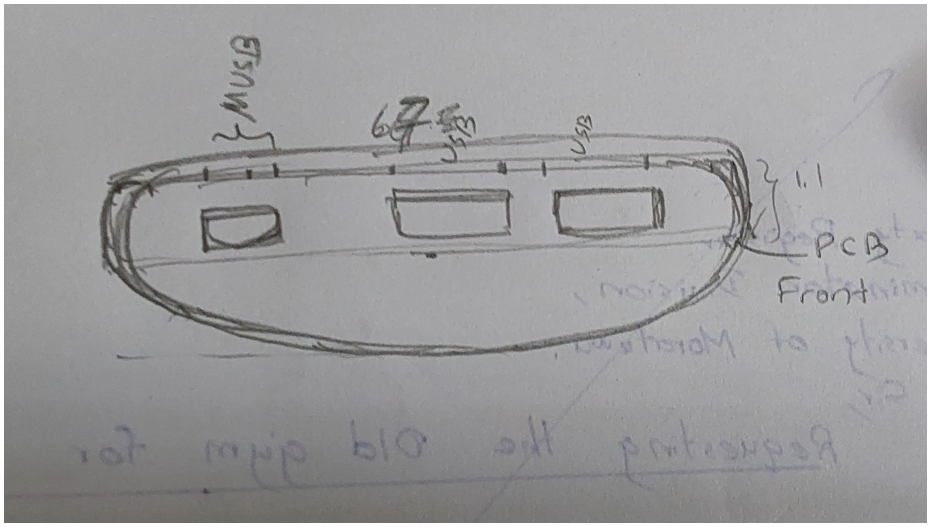
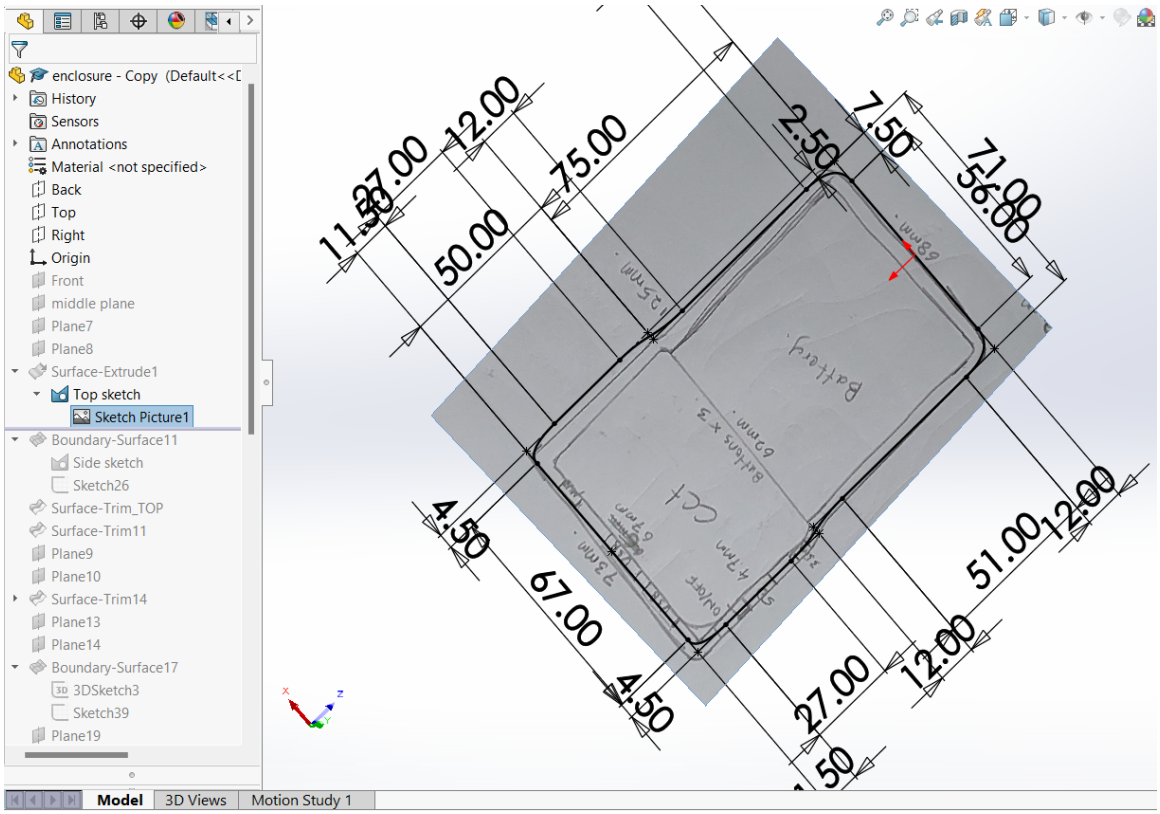


Figure 3: Front sketch

Solidworks Designs

First, 3 sketches are imported and traced. Two of the sketches were used early in the design and the front view was used in the latter part of the design.



Tracing - 1

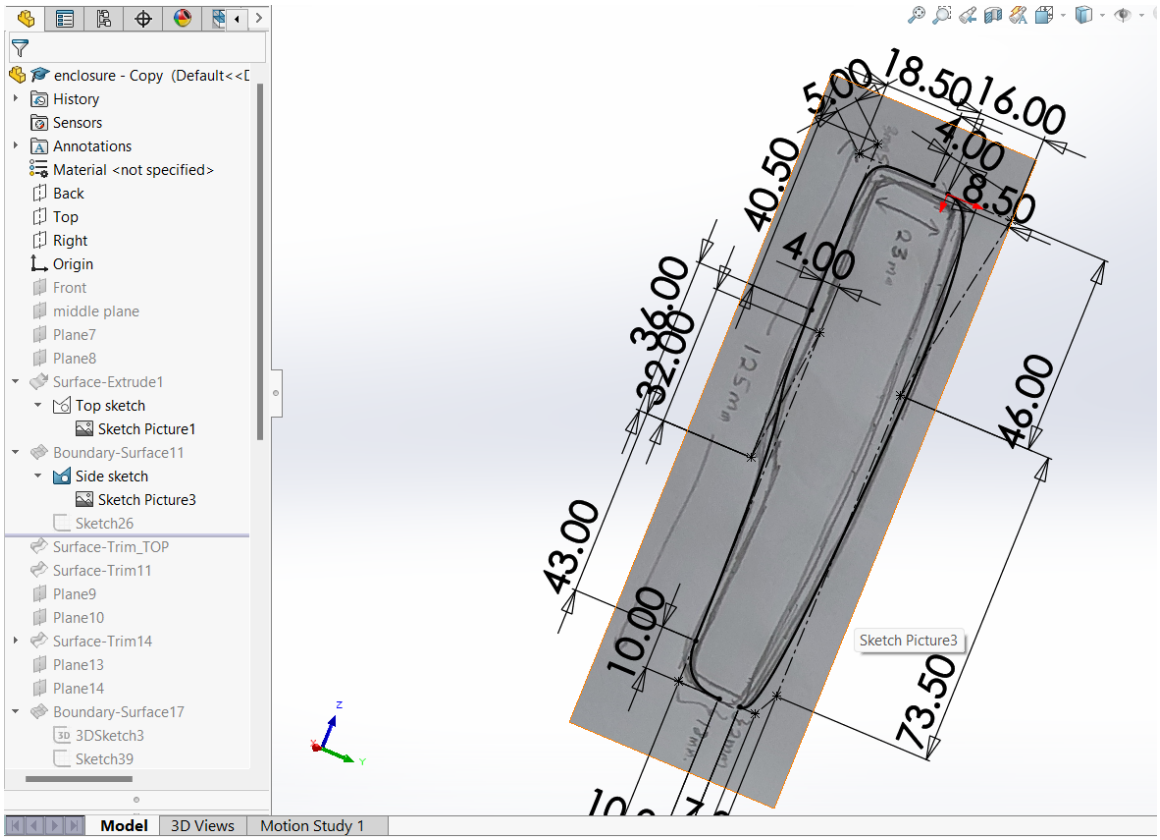


Figure 4: Tracing - 2

Then they are surfaced and the outline surface of the device is made. Using the steps shown in the model Tree.

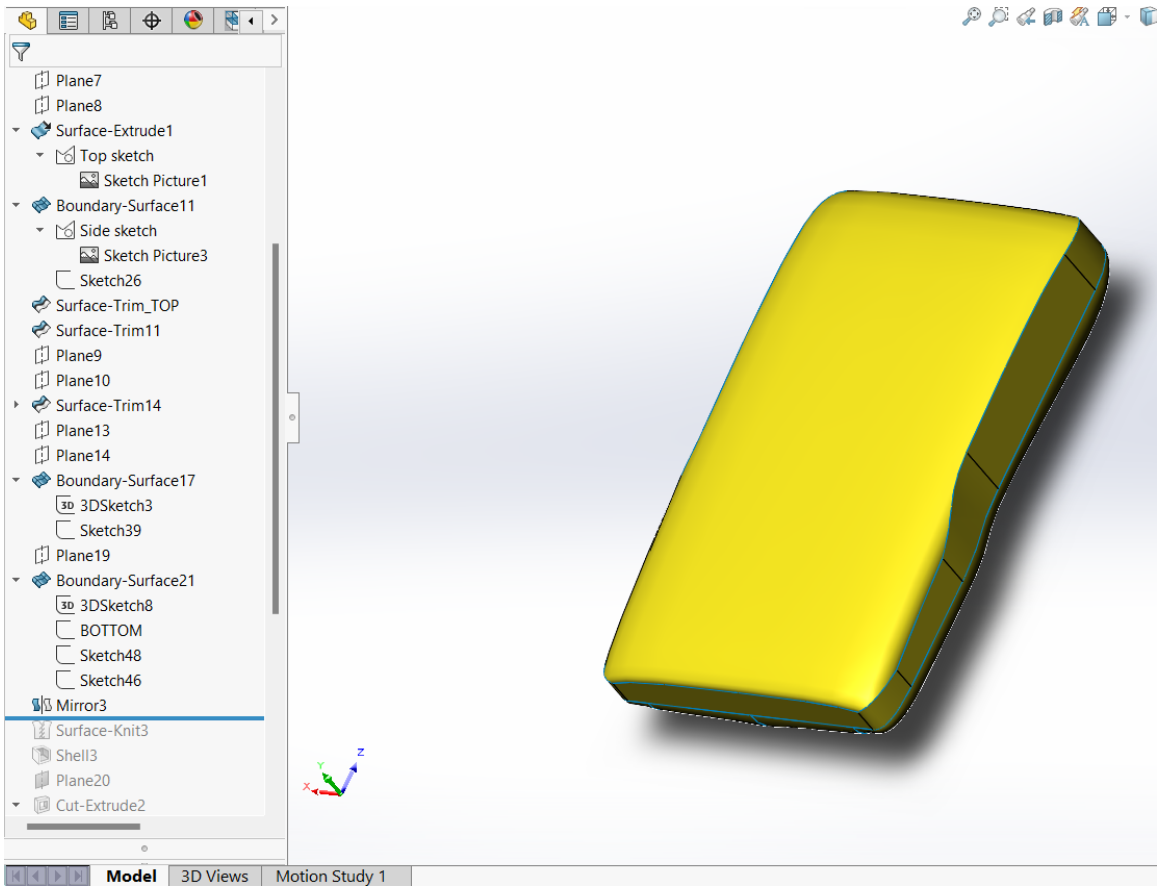


Figure 5: Modeling the surface

Then fine details of the device are created after knitting and shelling the above surface. Here I have used the 3rd and Final sketches.

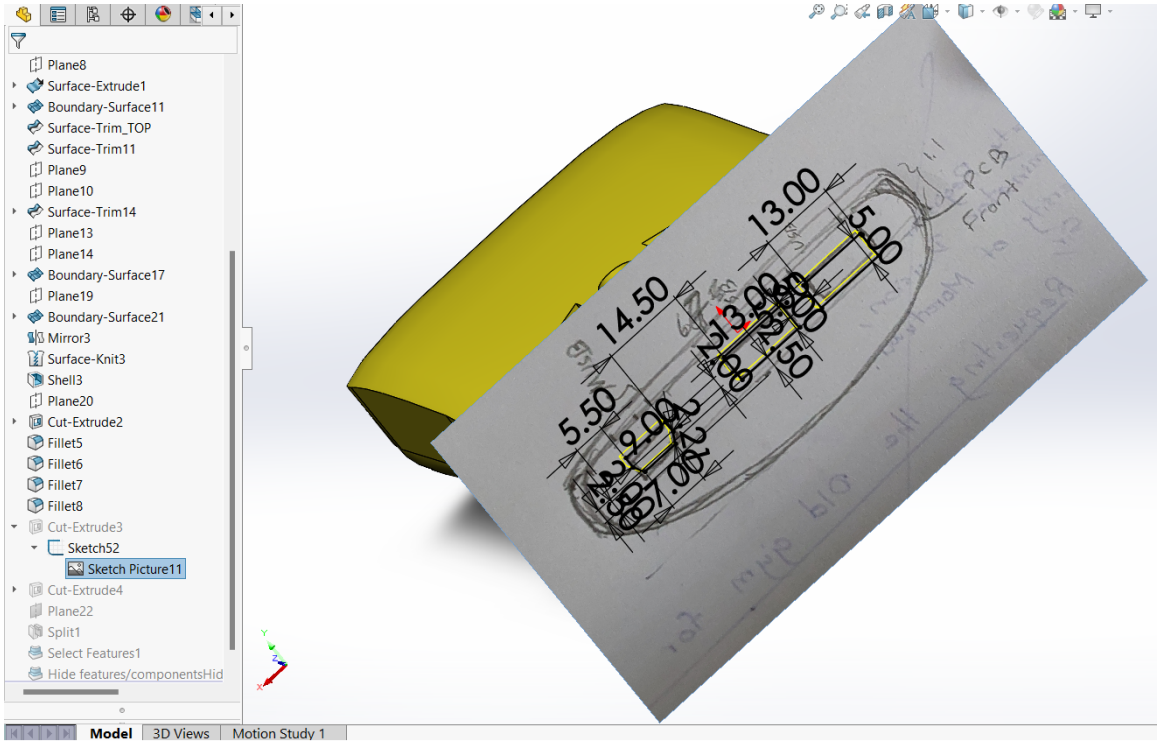


Figure 6: Tracing - 3

The final view of the product is shown below.

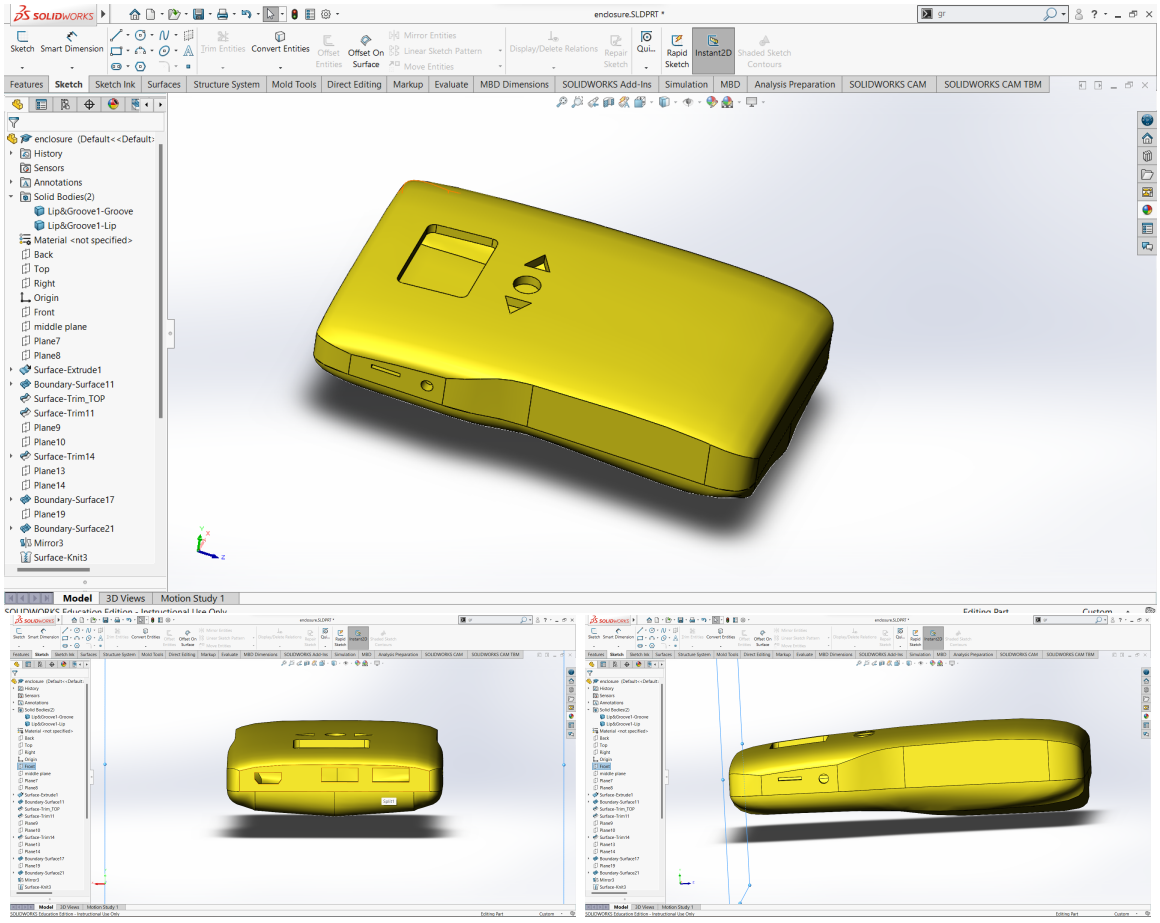


Figure 7: Final look

Then the two sections are created using the split function and the Lip/Groove function.

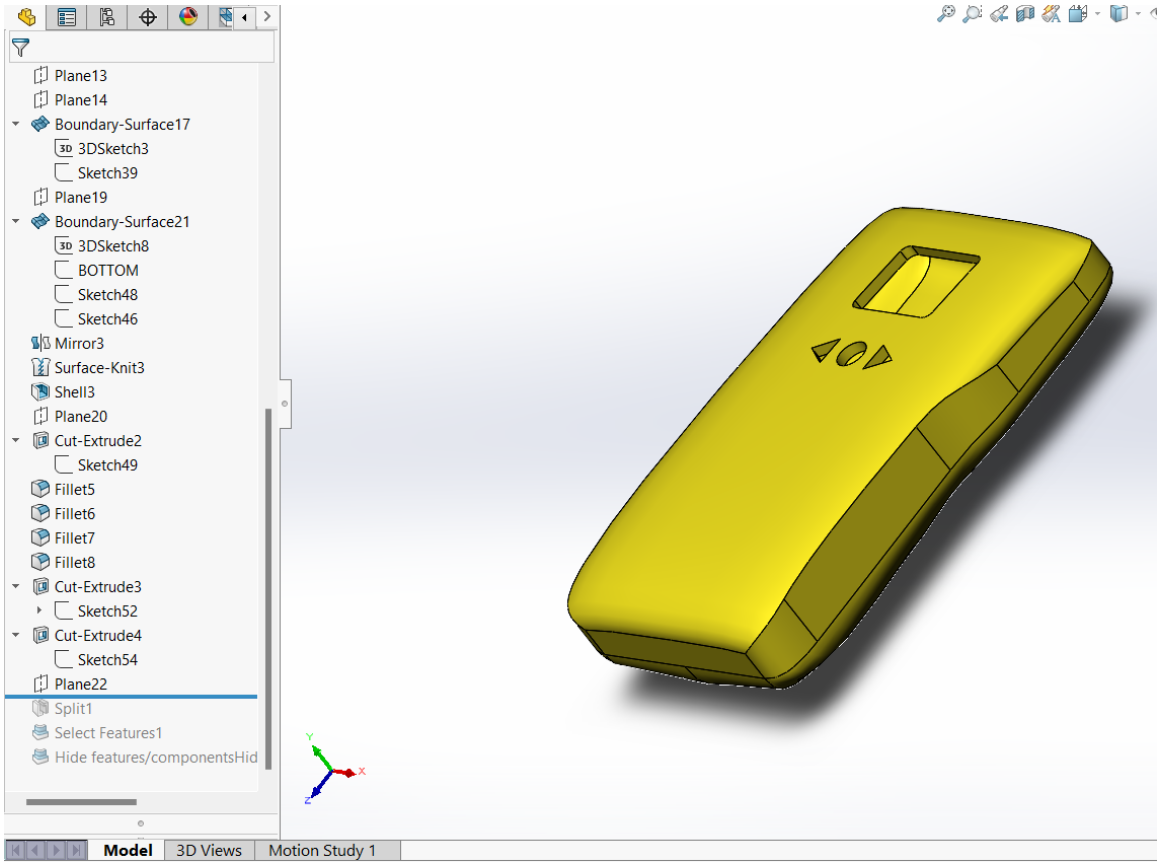
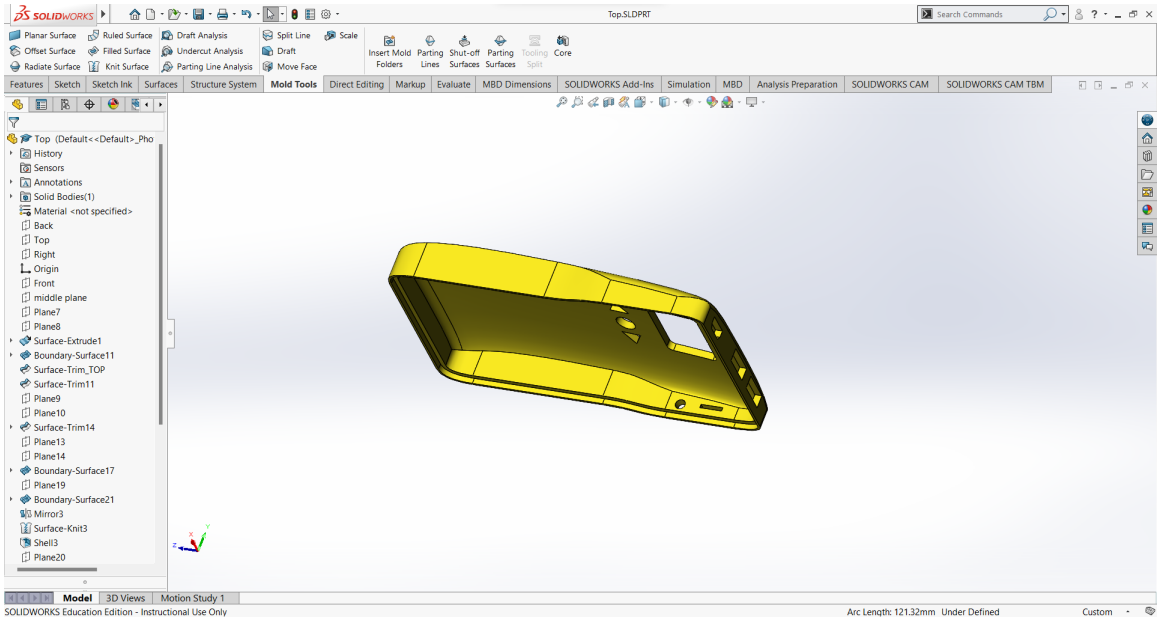


Figure 8: Separating Two parts



Part files - 1

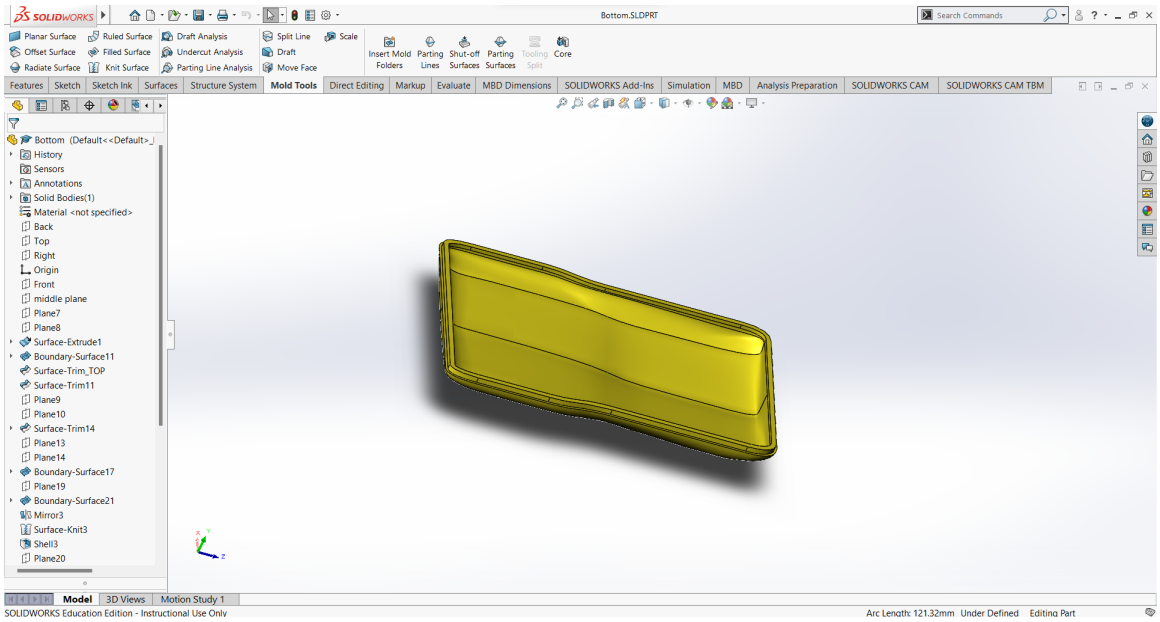
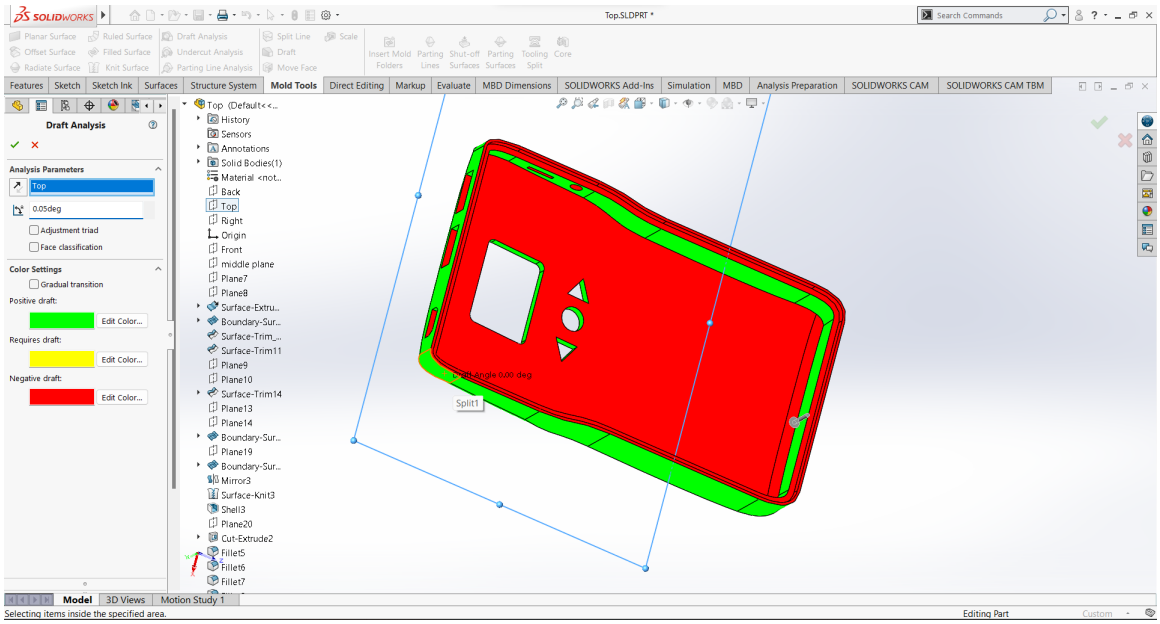


Figure 9: Part files - 2

Draft Analysis



Draft Analysis - 1

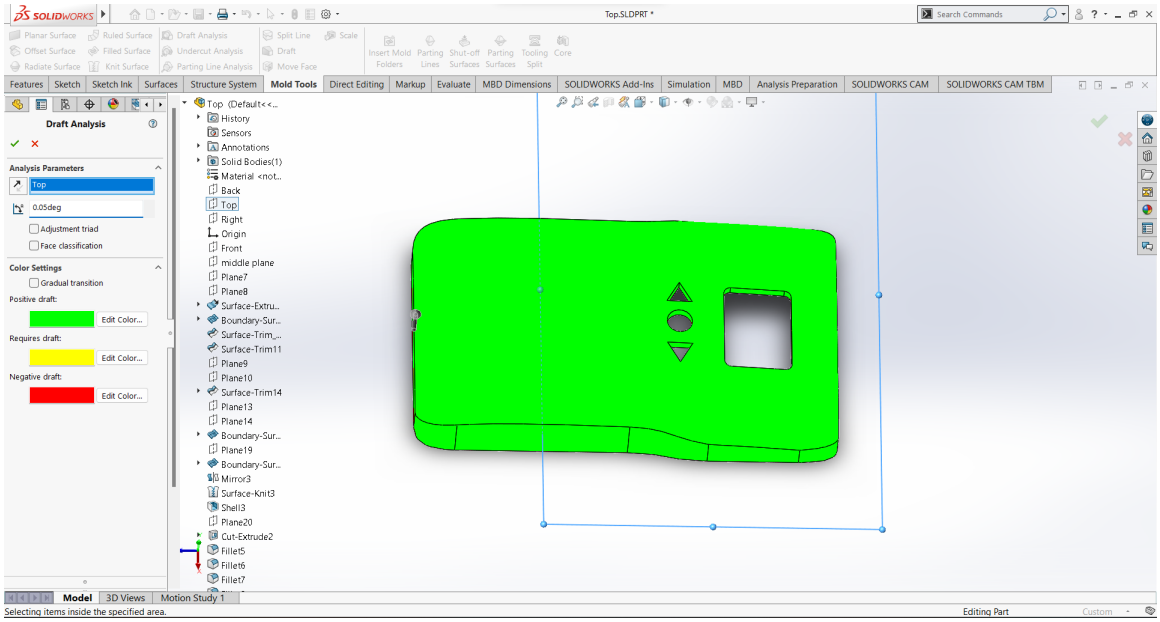
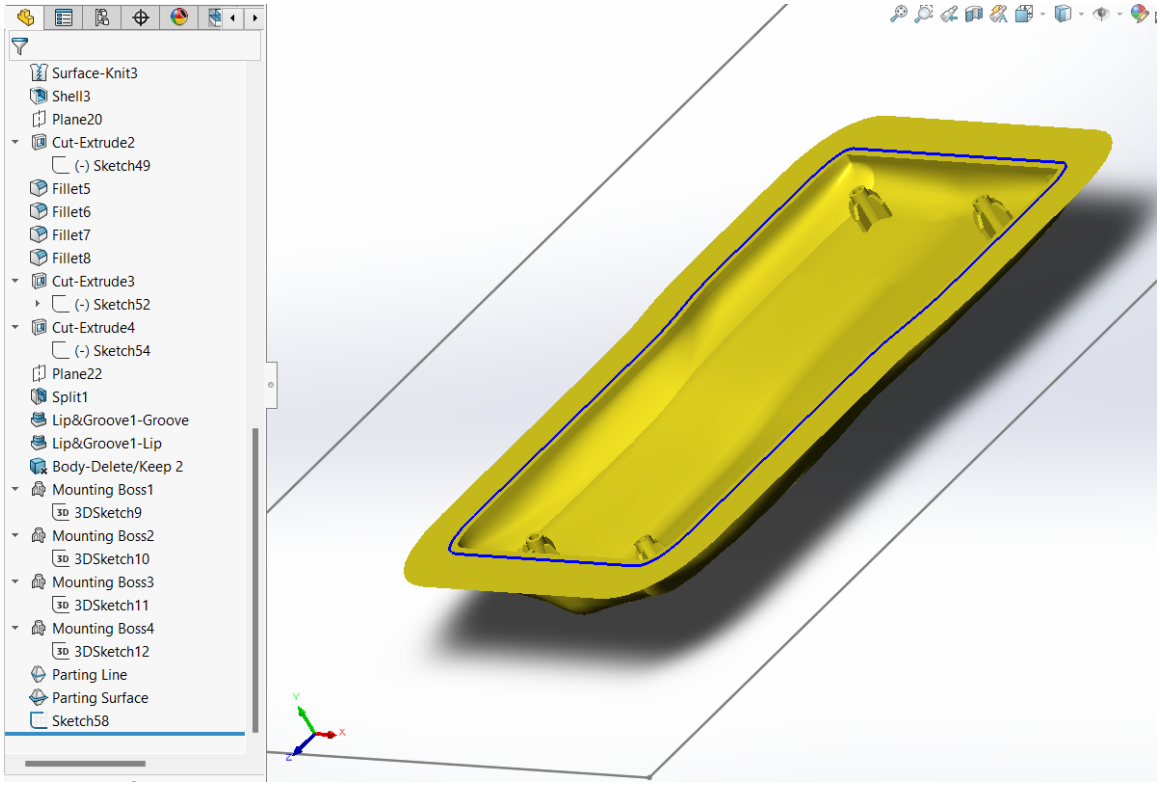


Figure 10: Draft Analysis - 2

Mold Design

First a parting line and parting surfaces are created.



Parting surface

Parting line were not properly created due to Lip/Groove being not uniform. Hence I could not generate die and cavity for moulding. Sorry for the inconvenience

References

All the following references are provided bibliography.

1. Youtube: Consumer Product Design Using Solid works : https://online.uom.lk/mod/url/view.php?id=322664
2. Youtube: Mold Design Using Solidworks : https://www.youtube.com/watch?v=mTtkLf6y5_Q
3. Youtube: Guidelines for injection molded plastic part design : https://www.youtube.com/watch?v=HVNAD14ja9o