Summer Internship

MIDCO Ltd., Bhandup, Mumbai

“Petrol pump dispenser unit Components “

Utkarsh Gautam-- 05613806

Acknowledgements

I would like to express my deep gratitude towards Mr. Manoj Dubey for giving me the opportunity to do my summer training at **MIDCO Ltd, Mumbai**
I would also like to thank Mr. Irfan kazi, for their help in design process and solving my different problems.

It is because of the help of above mentioned people that I was able to complete my project on time. They not only helped me with the design process but helped me understand the working of the company.

I am also indebted to **IDC** for their efforts in coordinating for summer training.

- Company profile
- My place
- Job assigned
- Design process
- Ideation
- Exploration
- Conceptual approaches
- Refinements
- Soft modeling (2D & 3D)
- Finalization
- Conclusion

Introduction

Mercantile & Industrial Development Company Limited (MIDCO Ltd.)

Midco was incorporated in the year 1949 and has been in the business of manufacturing petroleum dispensing units since the early 60s. Its Head Office is in Mumbai (Bombay) and has Production units at Mumbai (Bombay) as well as in the city of Ahmedabad.

Midco's R&D is aimed at continuously adding value to its existing line of products as well as developing new components, products and solutions for its customers.

The R&D Department is based in Mumbai (Bombay) and shares work with premier Indian technology institutes and with foreign companies and agencies in ensuring that it is always up-to-date in all areas of technology within the scope of its products.

Midco

An ISO 9001 COMPANY

Present products in the market

Electronic pump

Display door

Printer panel

Nozzle boot

Mechanical pump

Multiproduct pump

Premix pump

The Product cycle

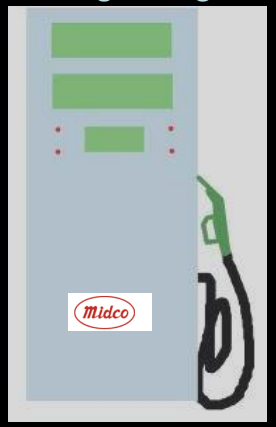
- Situation analysis- understanding and evaluating need for a new product
- Product proposal- area
- Data collection and analysis
- **Idea generation**
- **Concept development and soft modeling**
- Product detailing
- Evaluation and improvement
- Prototype development
- Testing and assessment
- Final nod for mass manufacturing

Product Brief- The Task

- To improve on the design of display panel, side panel and nozzle boot
- To develop the product having flexibility of installation in multiple range

Scope of work

- Study the existing range, understanding, the basic look, materials, display and output
- Getting in familiar with the company and product
- Getting used to their style of working, the office environment and also the factors affecting design



The Stages involved

Study

Ideation

Concept generation

Concept refinement

Concept finalization

Basic components

- Of display door – LCD Panels+ led’s indication
- Of printer panel – input buttons+ LCD screen + emergency button + printer out let

Reference –

The theme taken had to be relative to the road and the environment. Studying that condition; the theme of speed represented by the basic geometric shape of triangle was decided.

The importance of colour as the one of the basic elements in the visual impact .

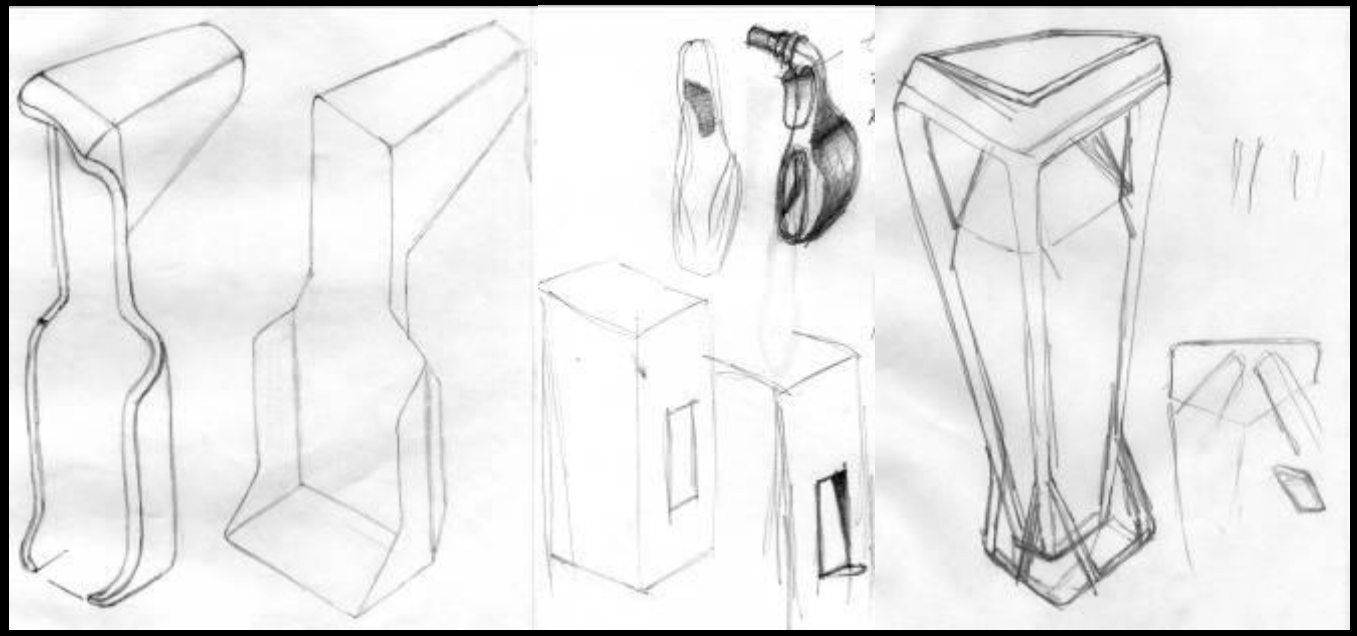
The information provided by the display panel to both the attendant and customer helping in the easy and satisfactory completion of the task

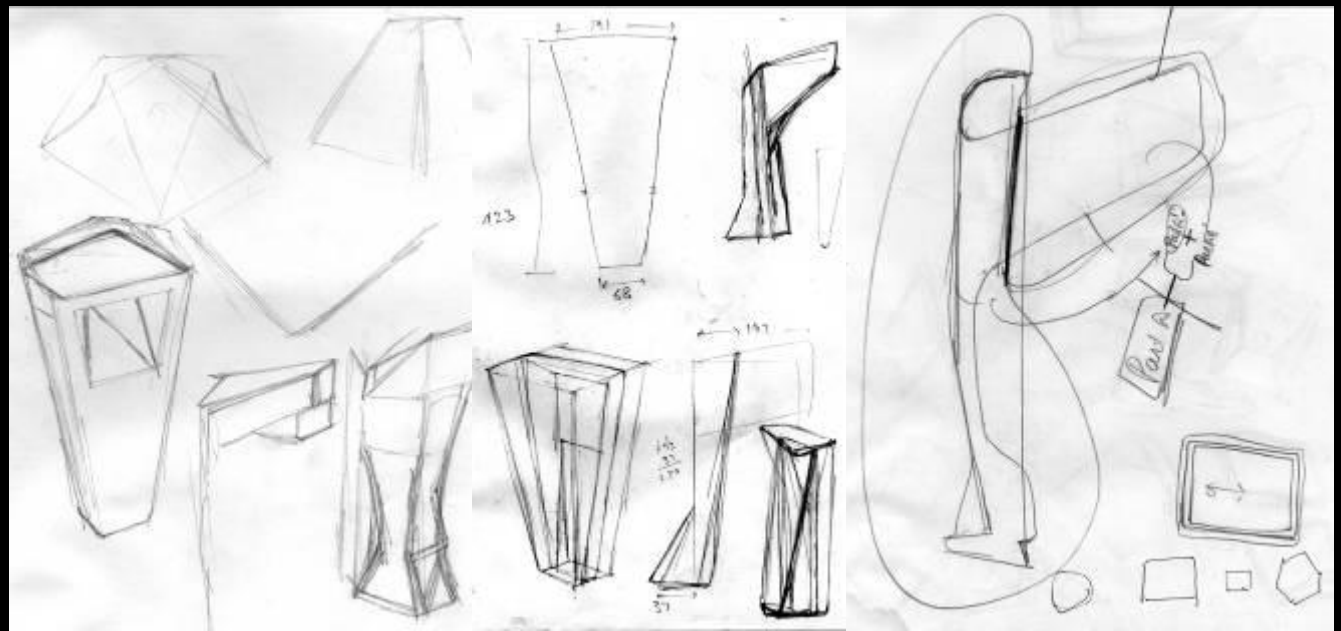
Ease of operation under emergency conditions

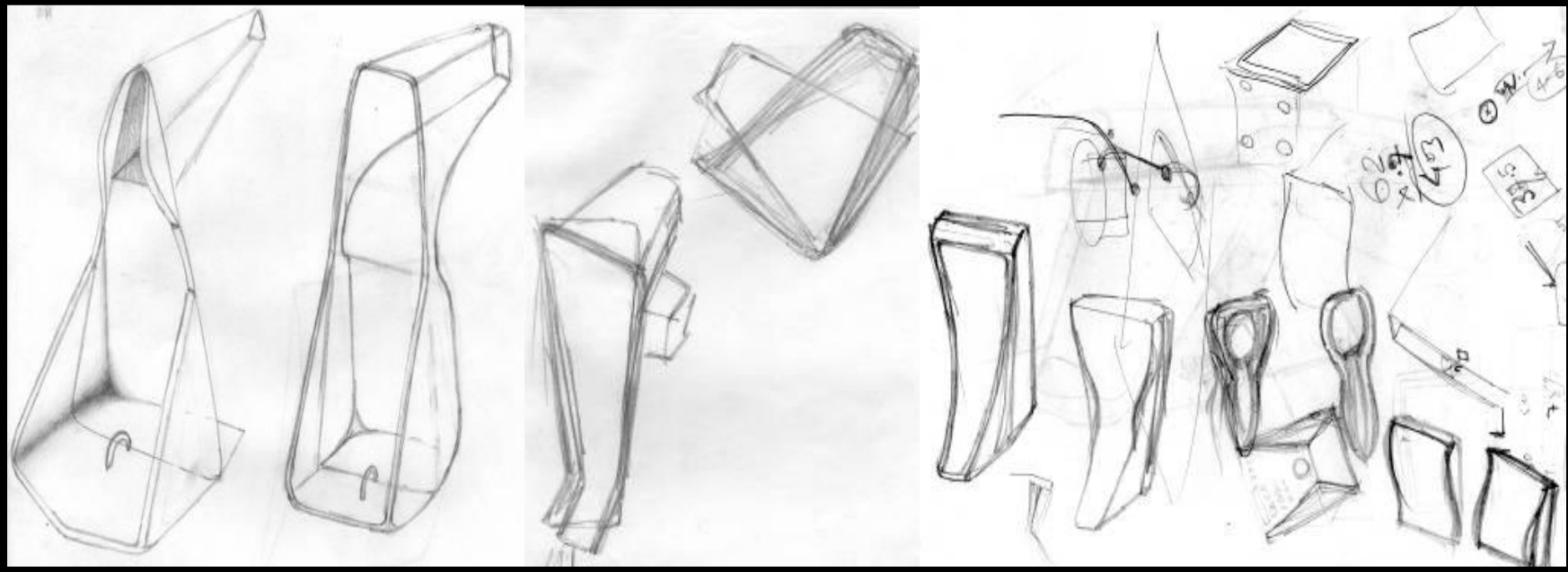
Metaphoric essence

Ideation (nozzle boot)

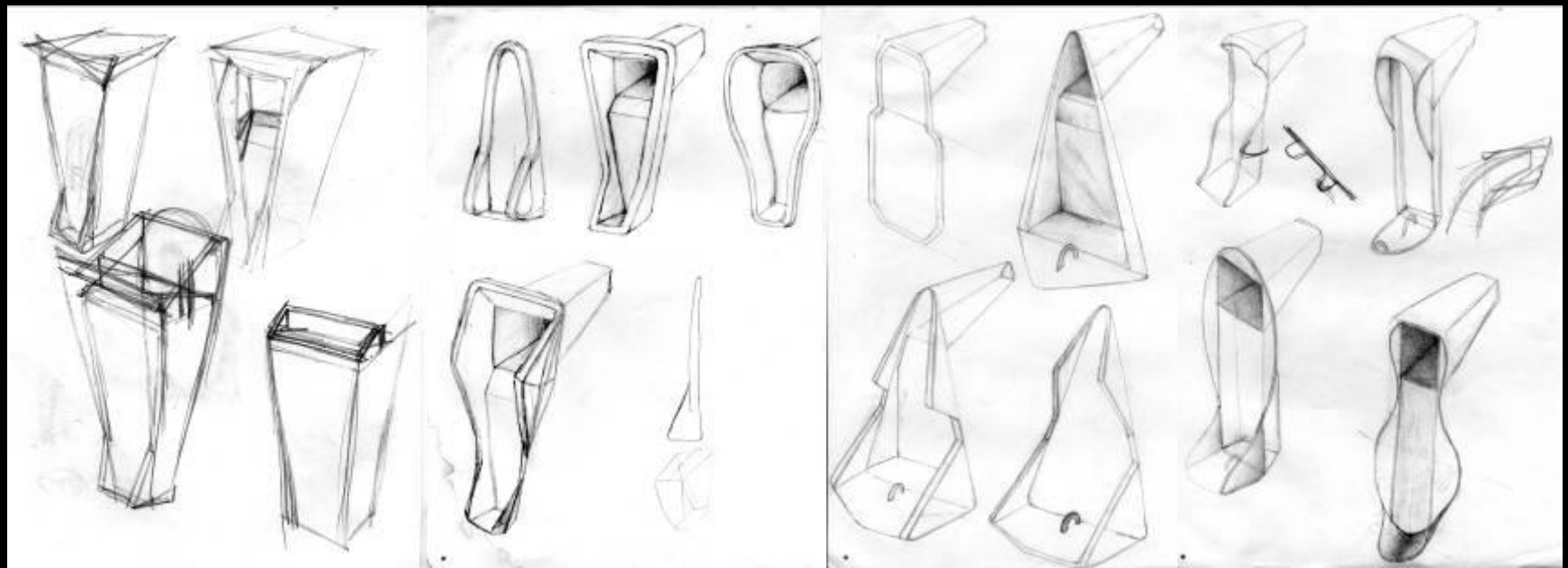
Taking the theme of speed and soothening effect of other elements on the disturbance created by it





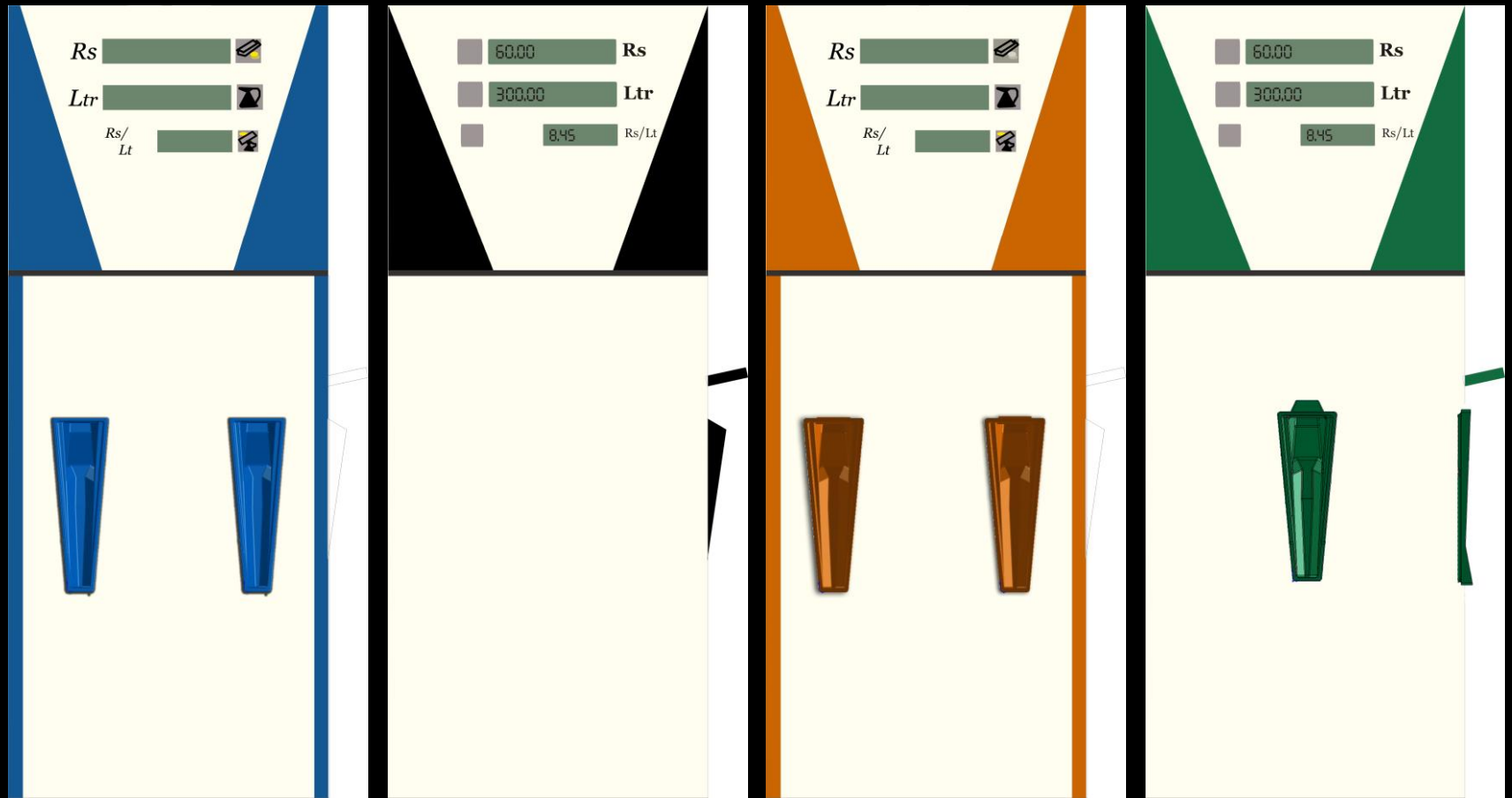


Ideation (nozzle boot)



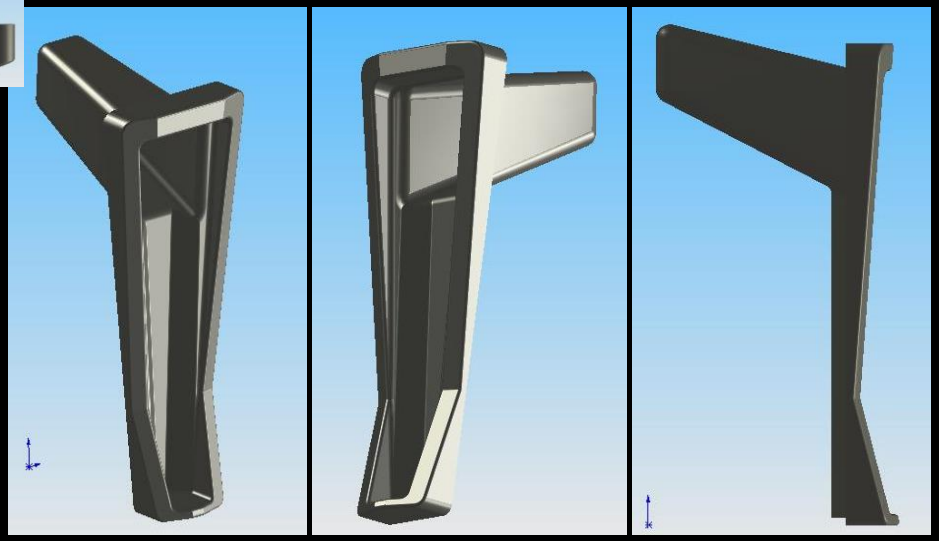
After taking an initial idea sketching the effort now involved to get a hold of the unit as a whole so some exploration was done using 2 D rendering as the tool for quick exploration…
Photoshop was used for this purpose

Exploration with object placement and colouring scheme

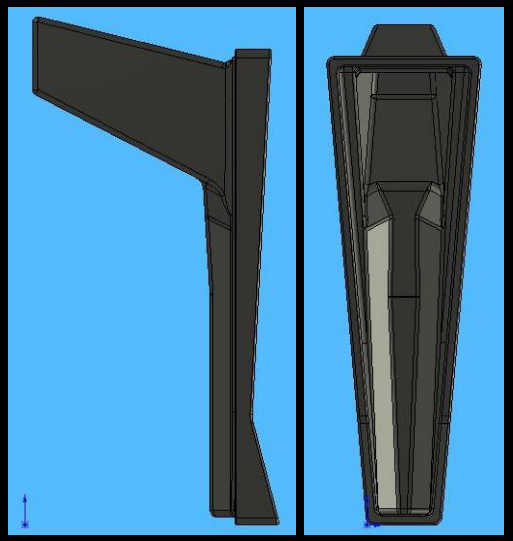


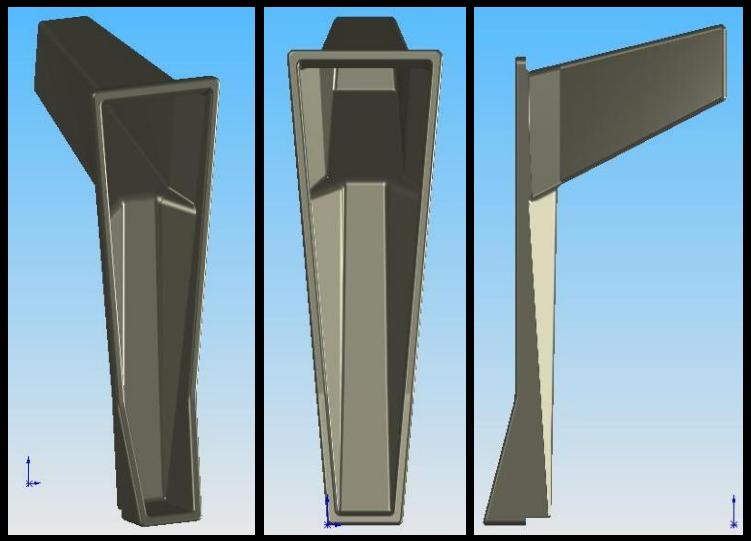
Soft Modeling of the nozzle boot

Concept 1a



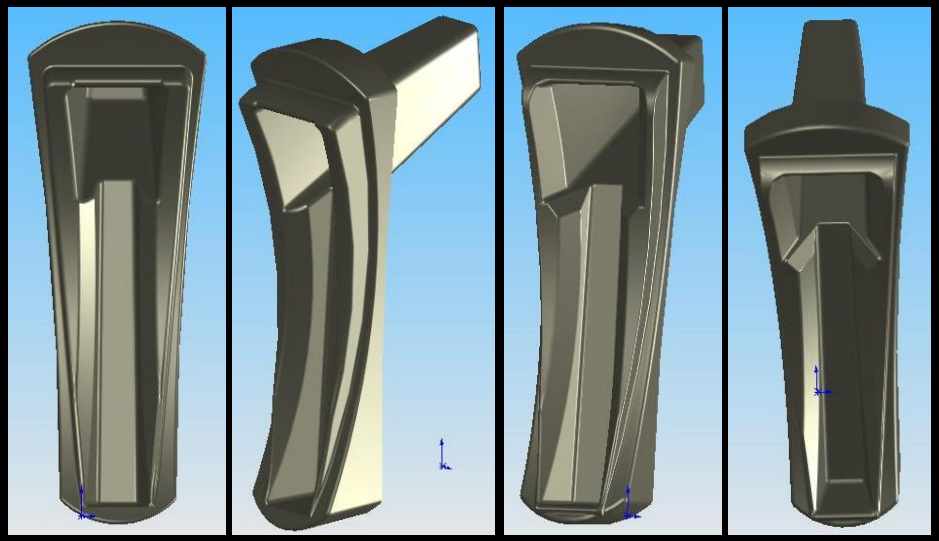
Concept 1b



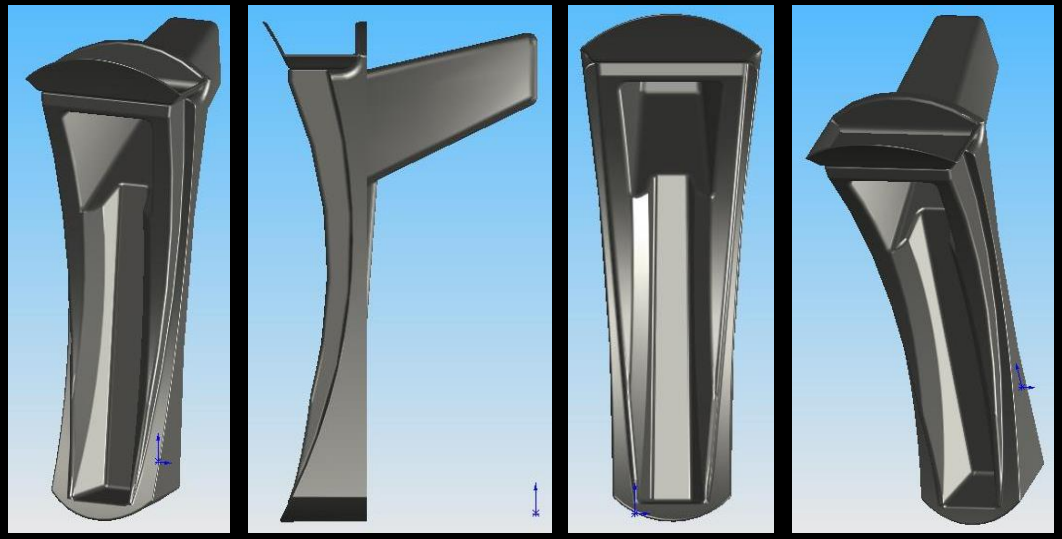


Concept 1c

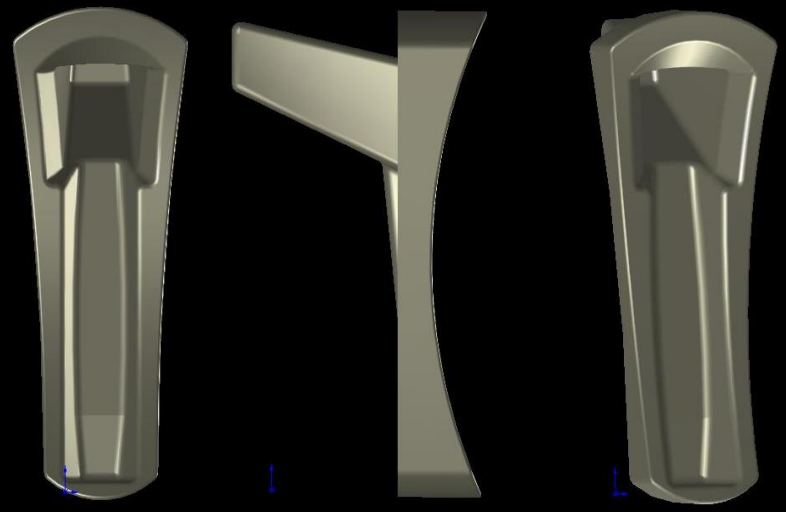
Concept 1d



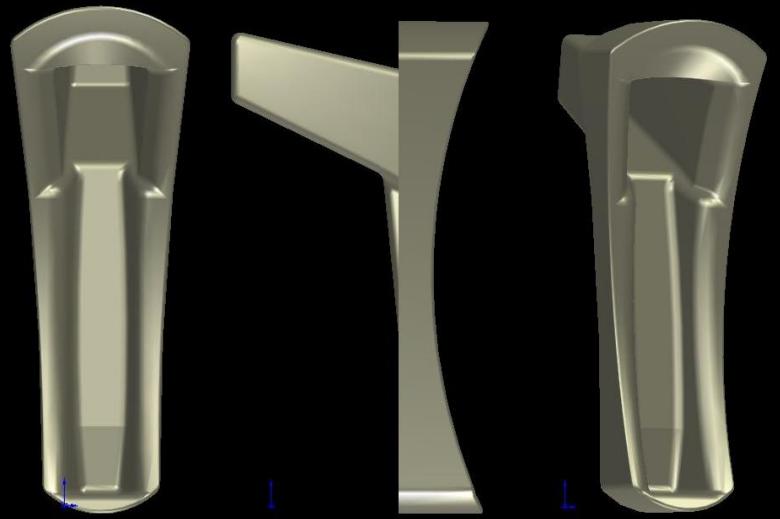
Concept 1e

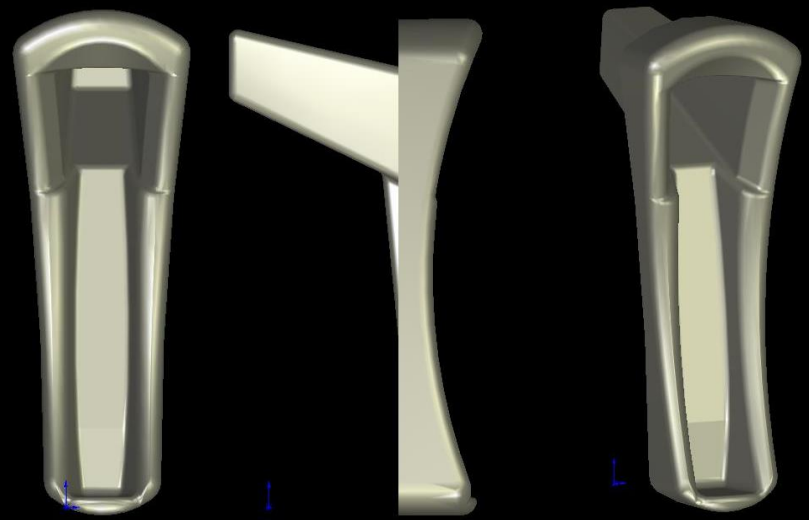


Concept 1f

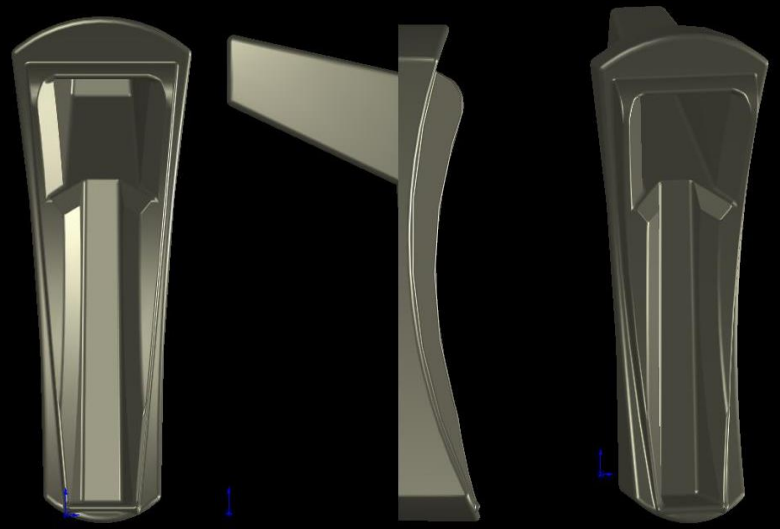


Concept 1g



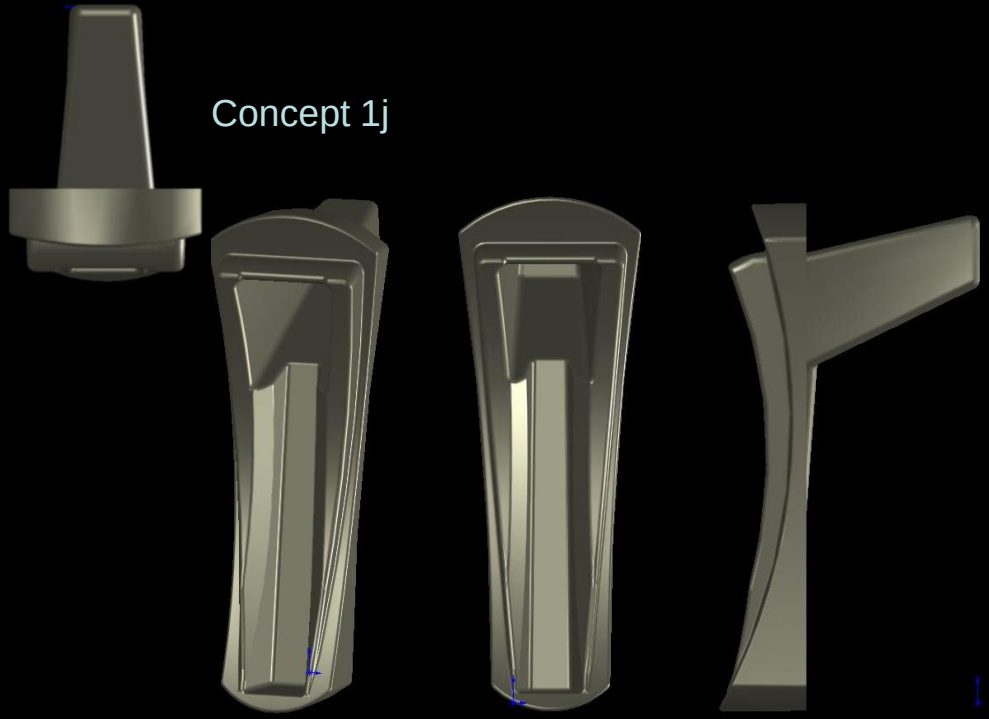


Concept 1h

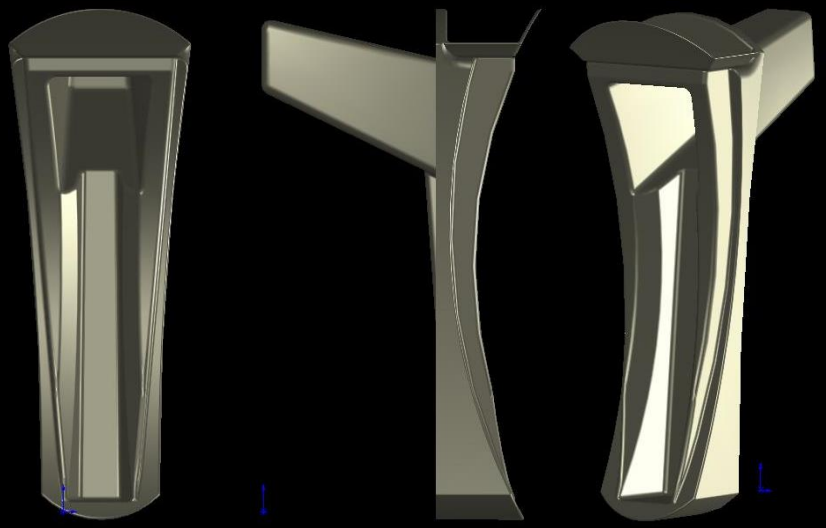


Concept 1i

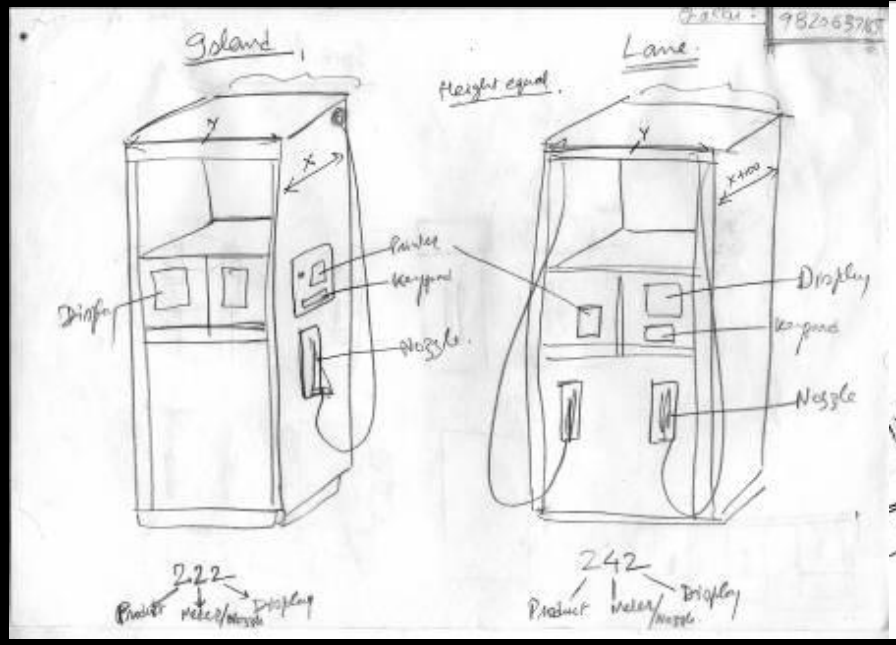
Concept 1j

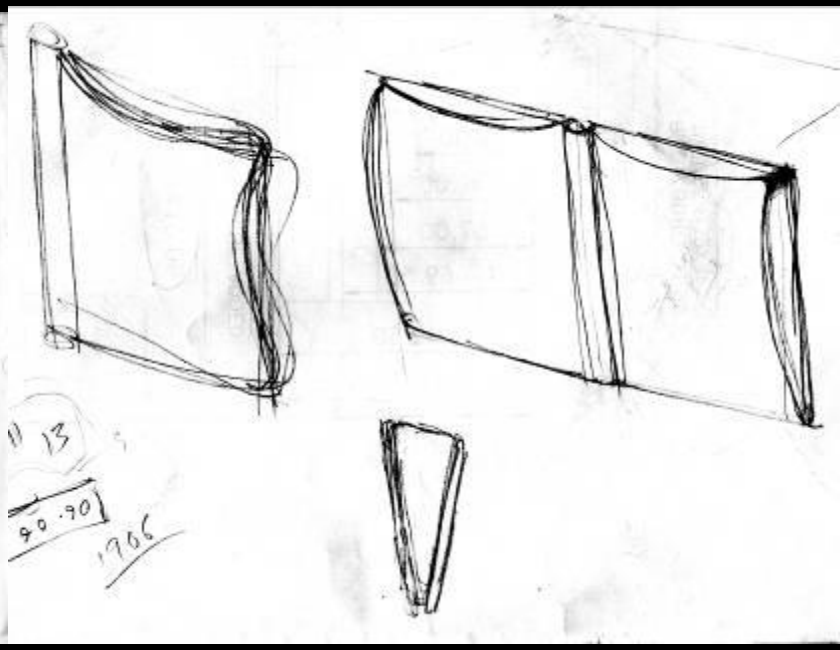


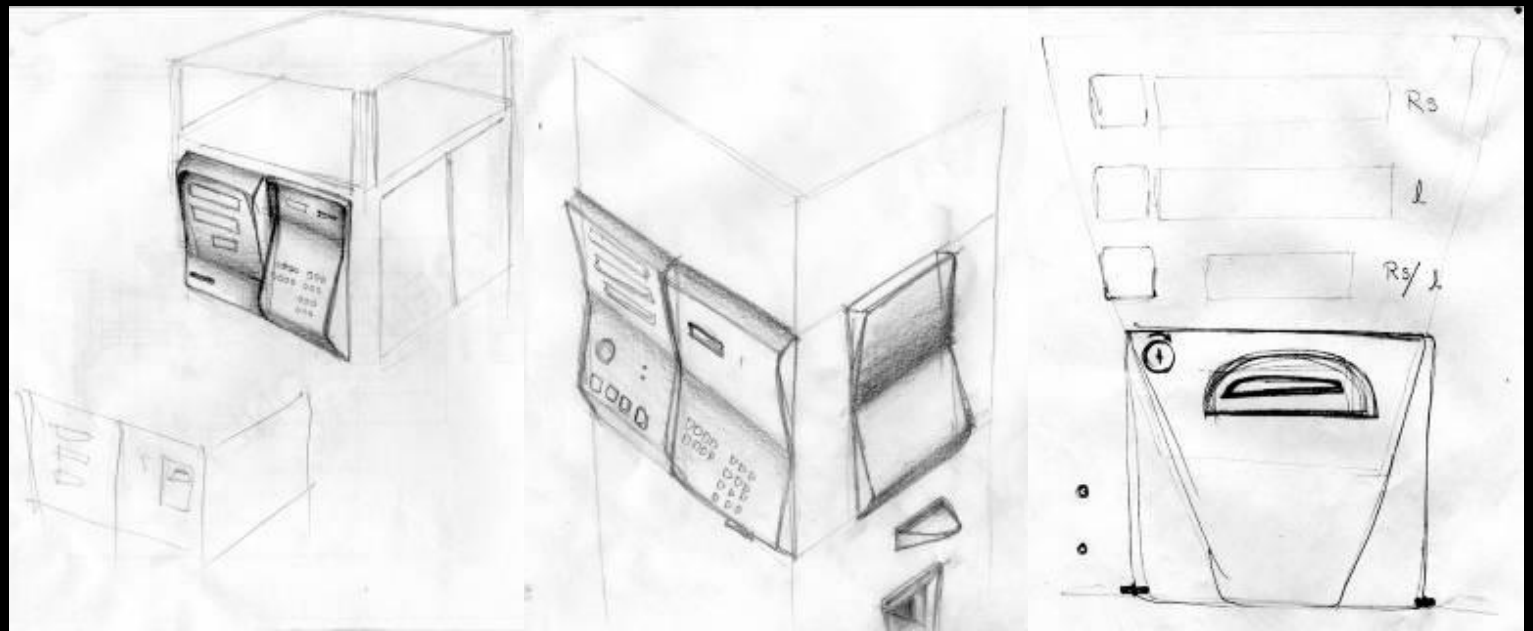
Concept 1k

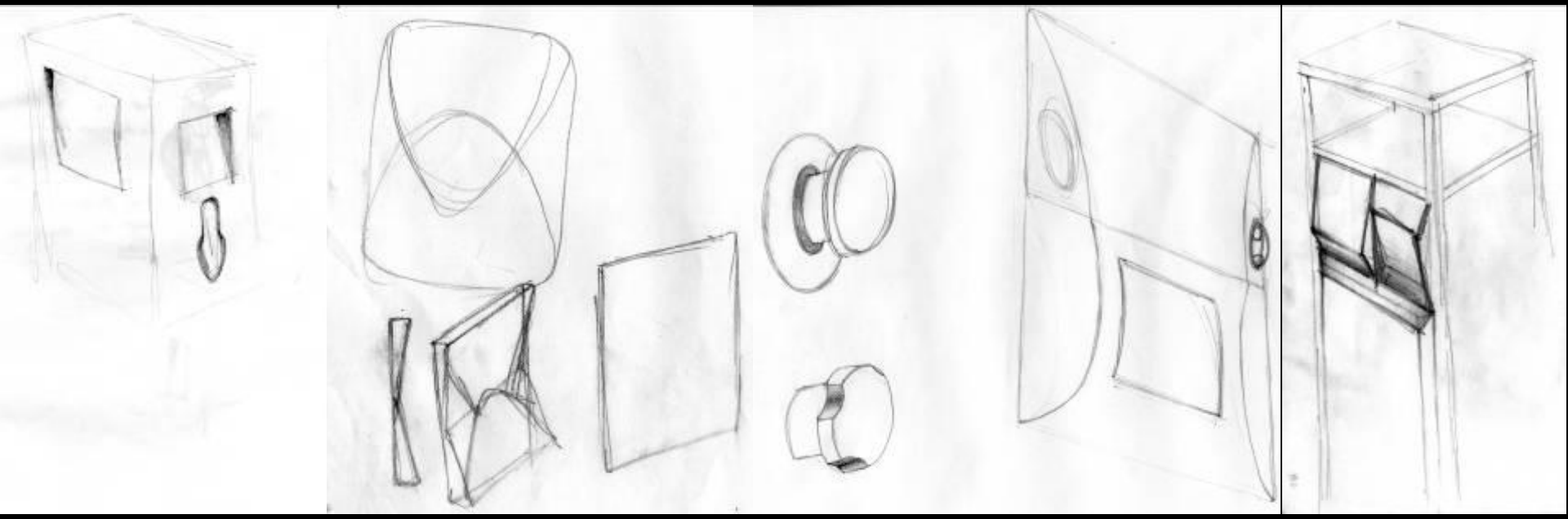


Ideation (display doors)

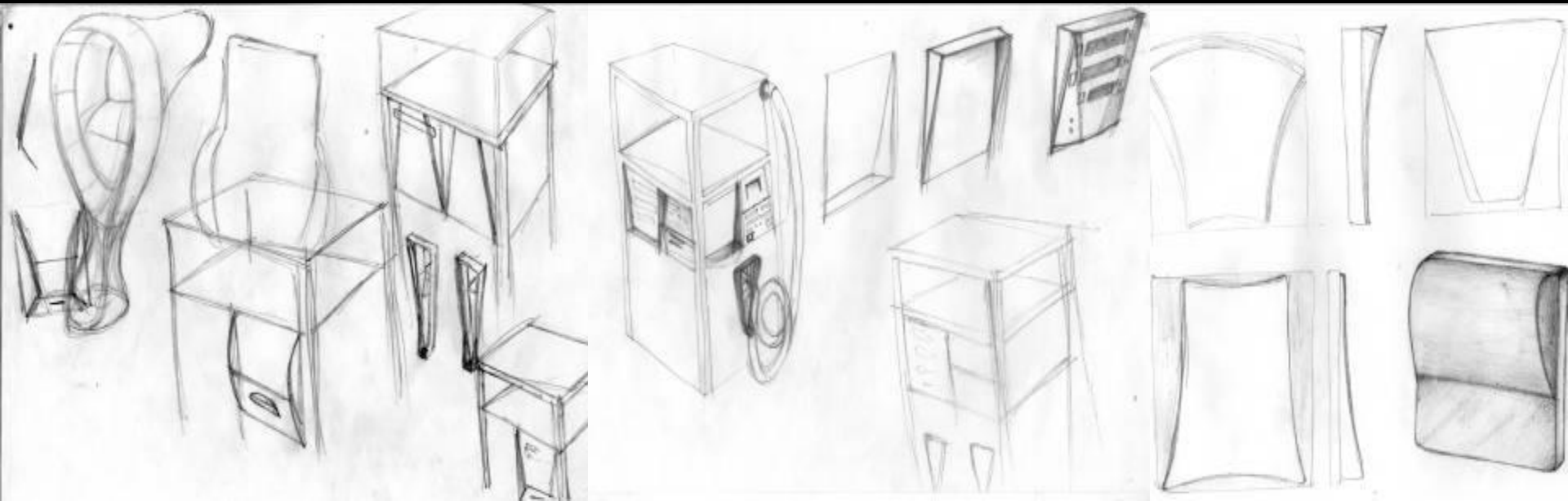


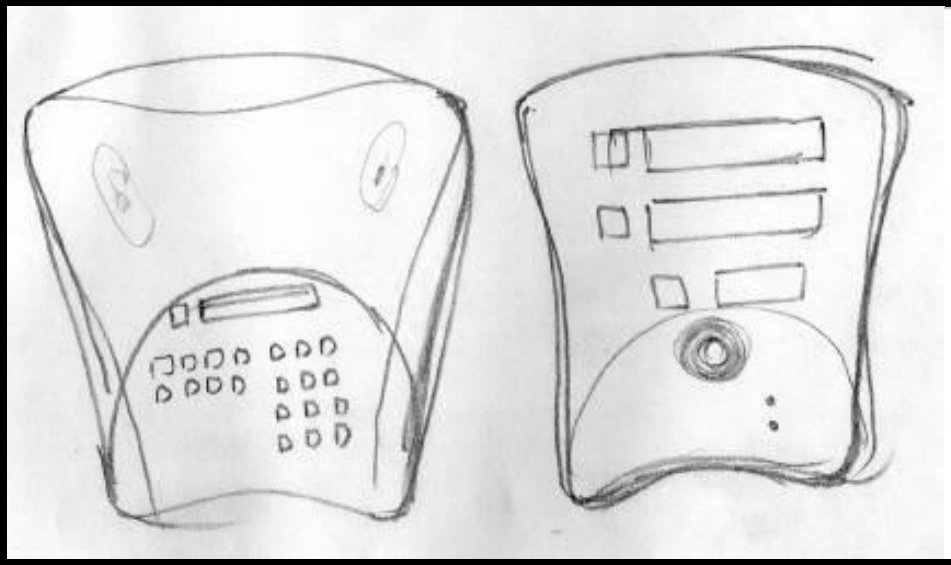


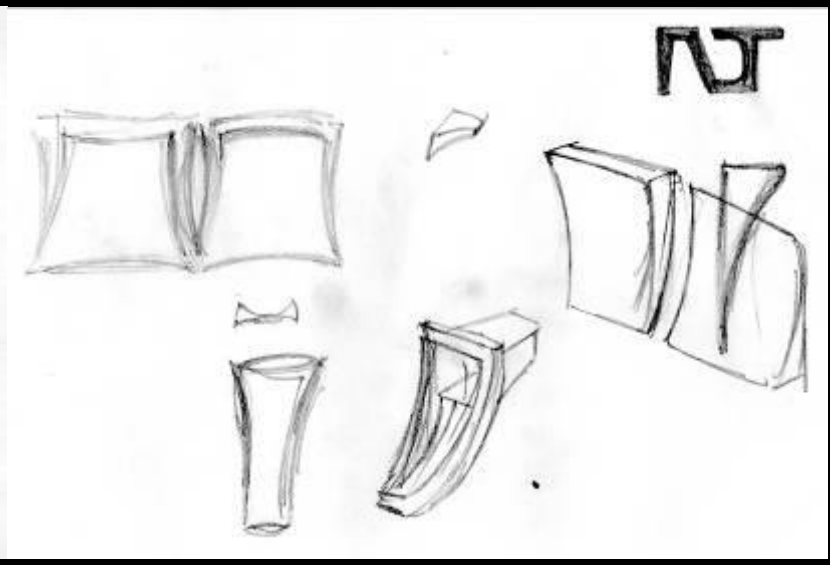




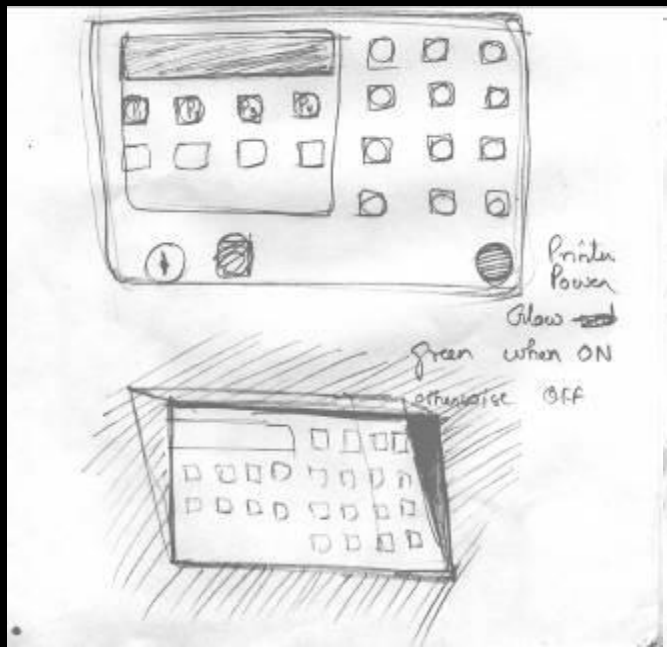
Ideation (display doors)

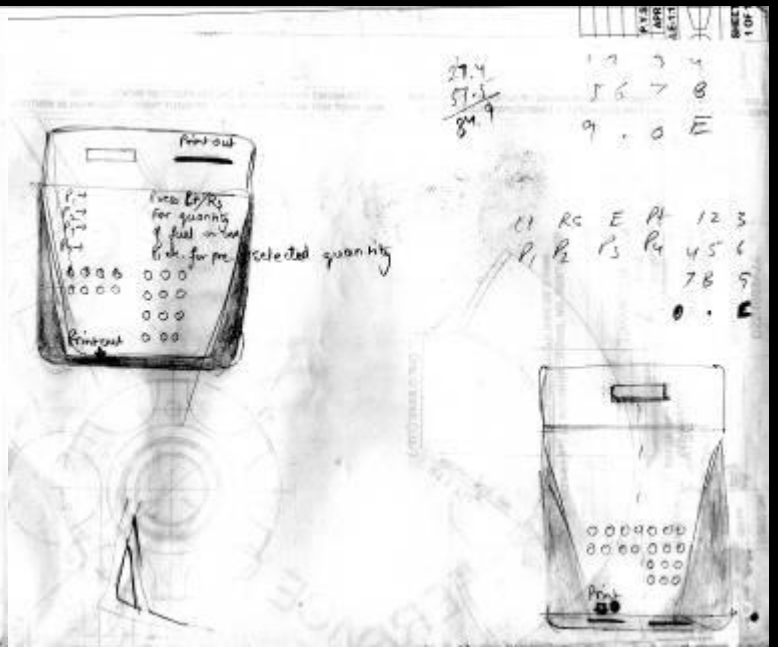




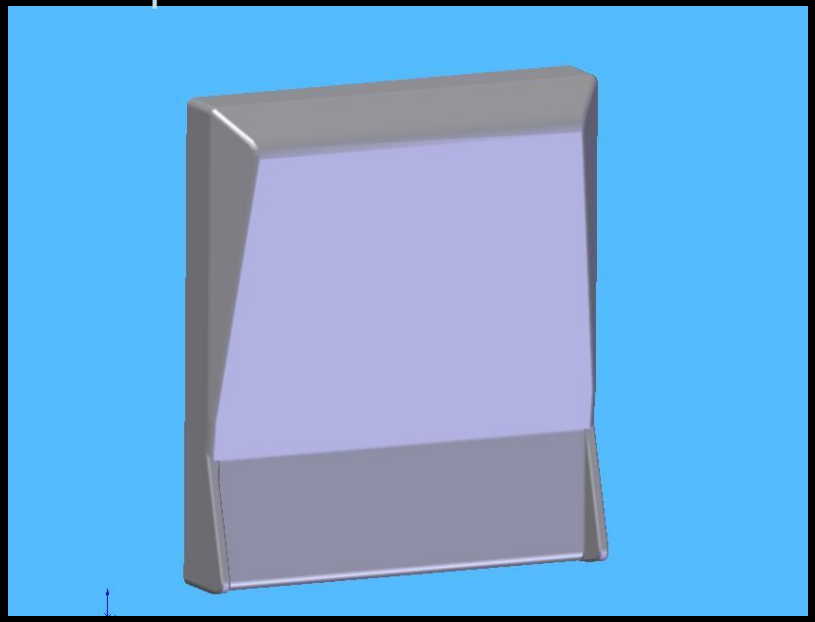


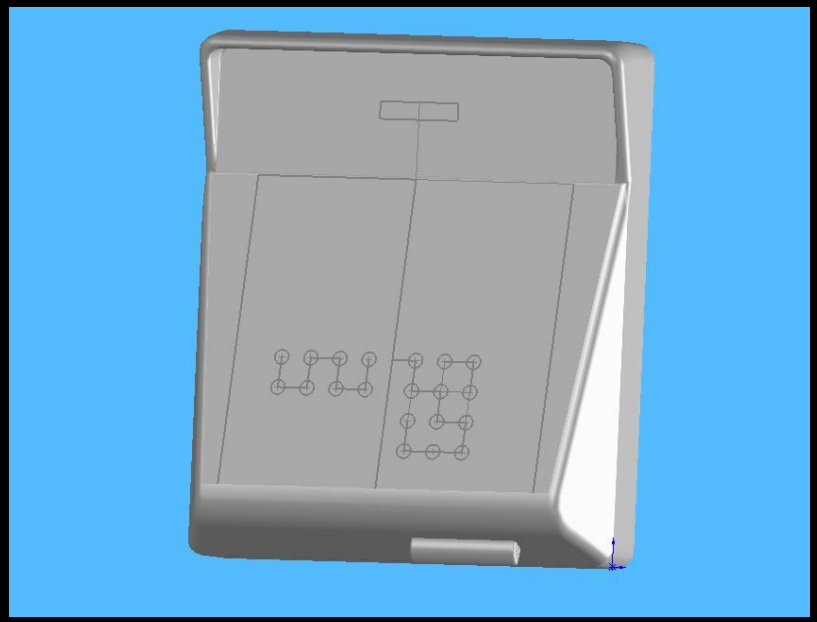
Ideation (display doors)

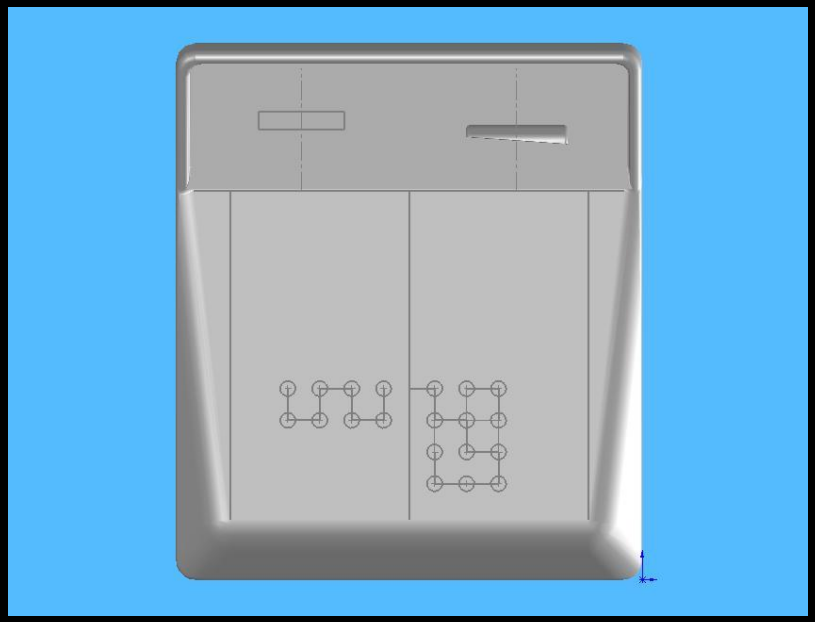


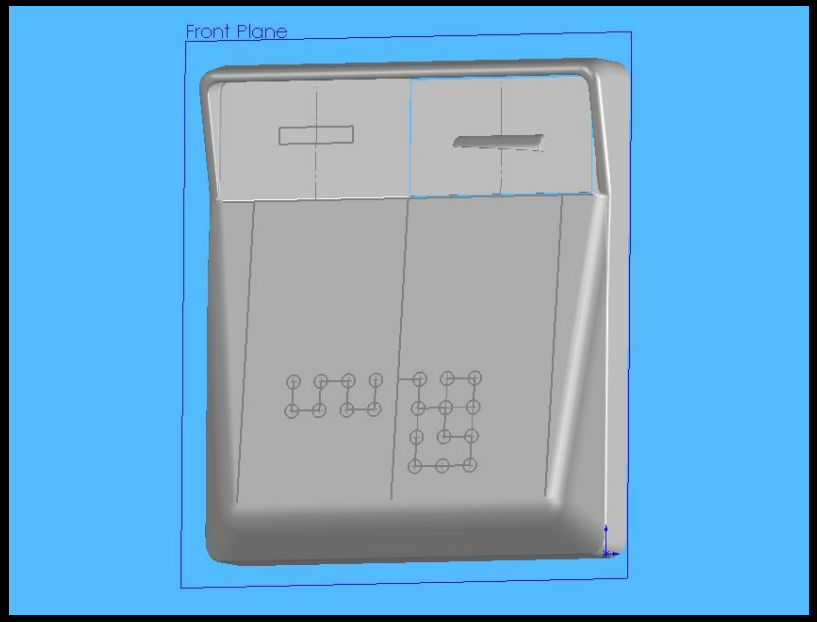


Concept 1a

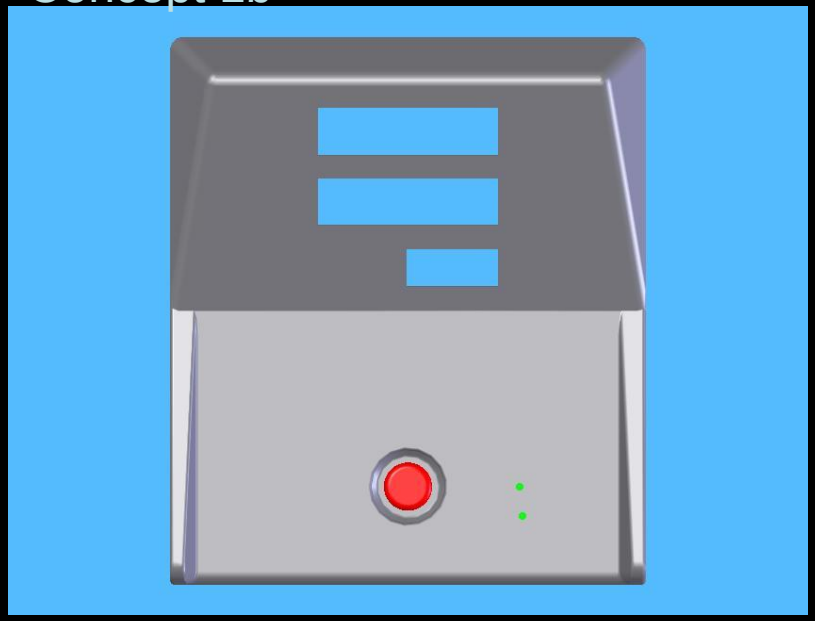


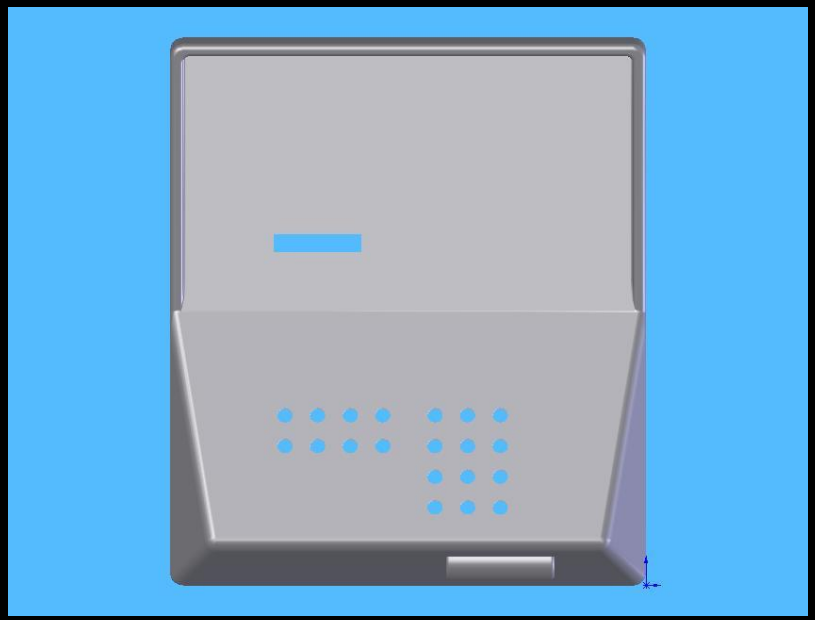




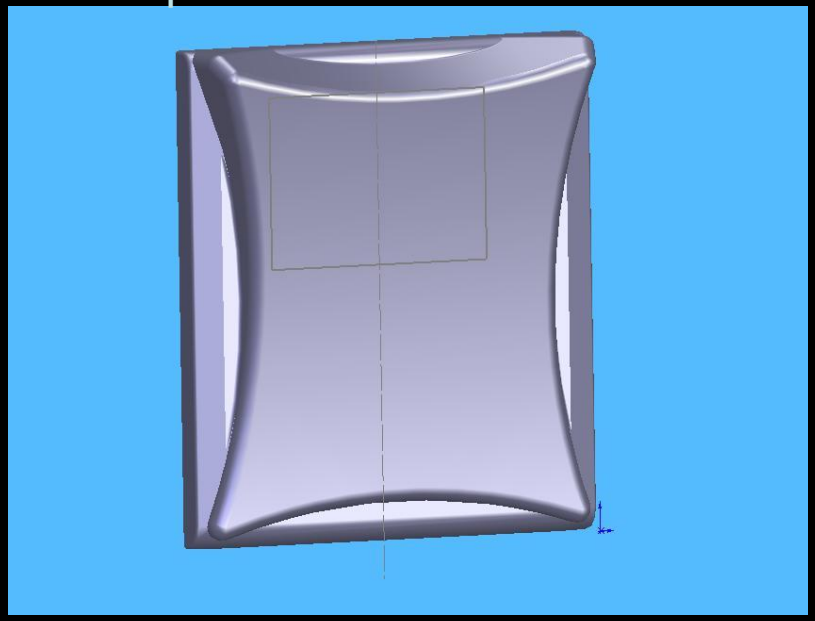


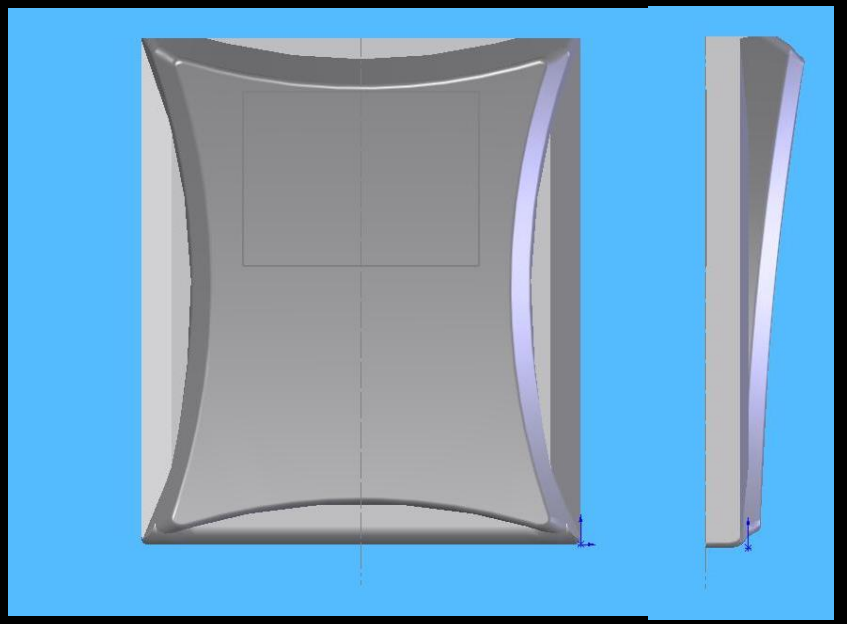
Concept 1b

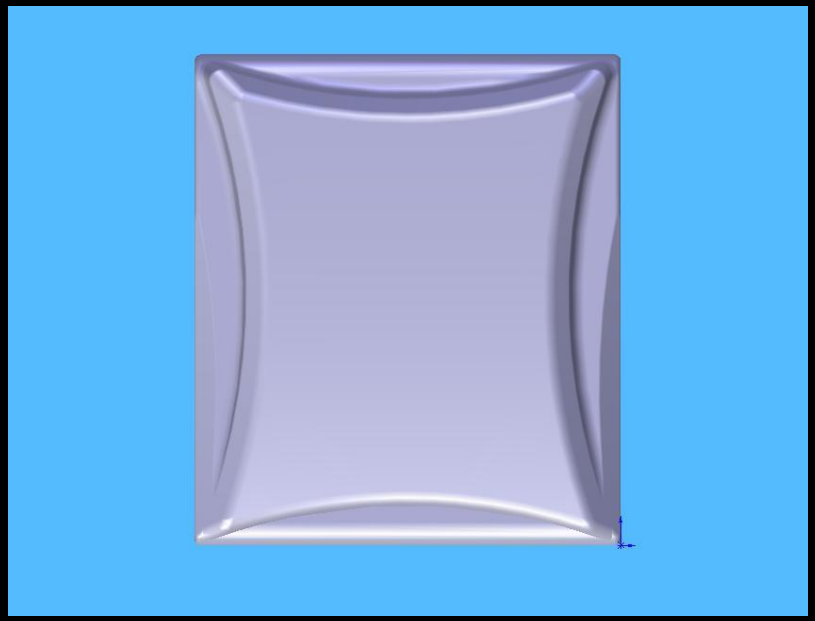


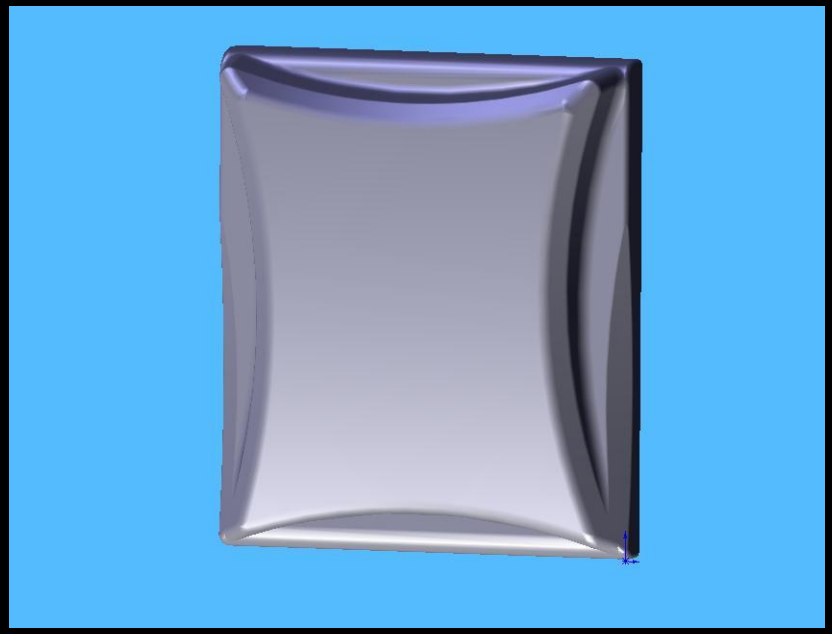


Concept 2

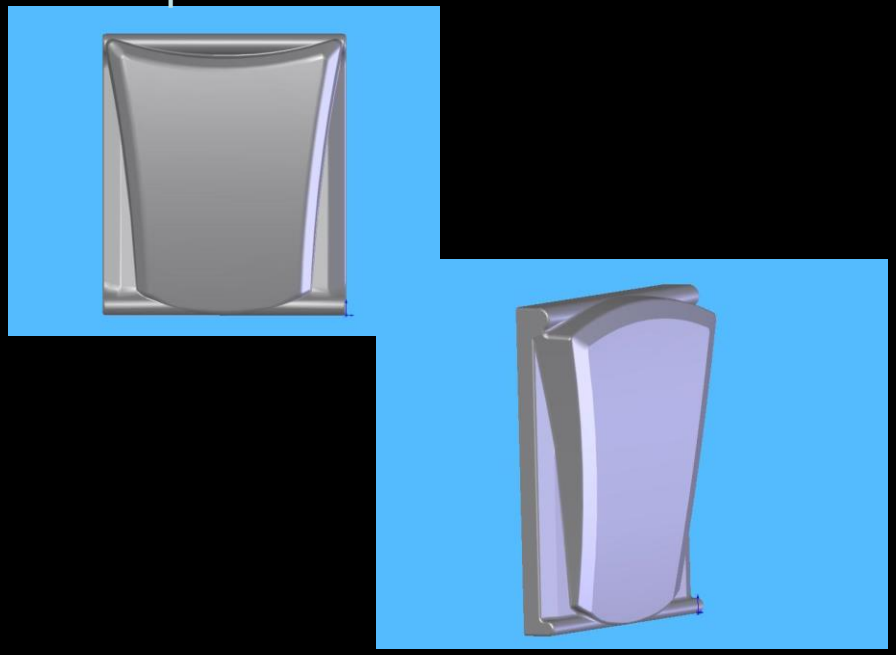




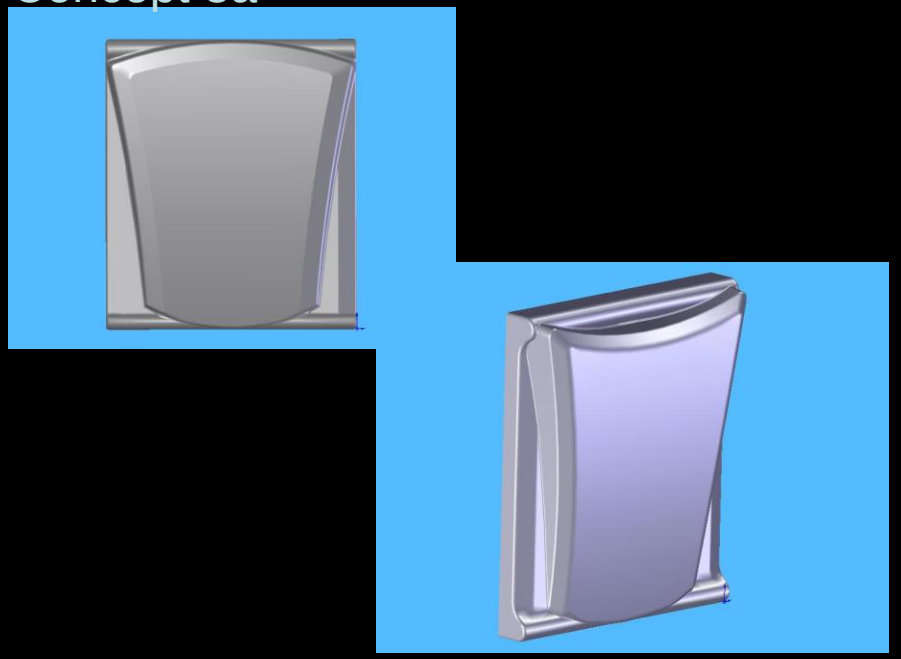




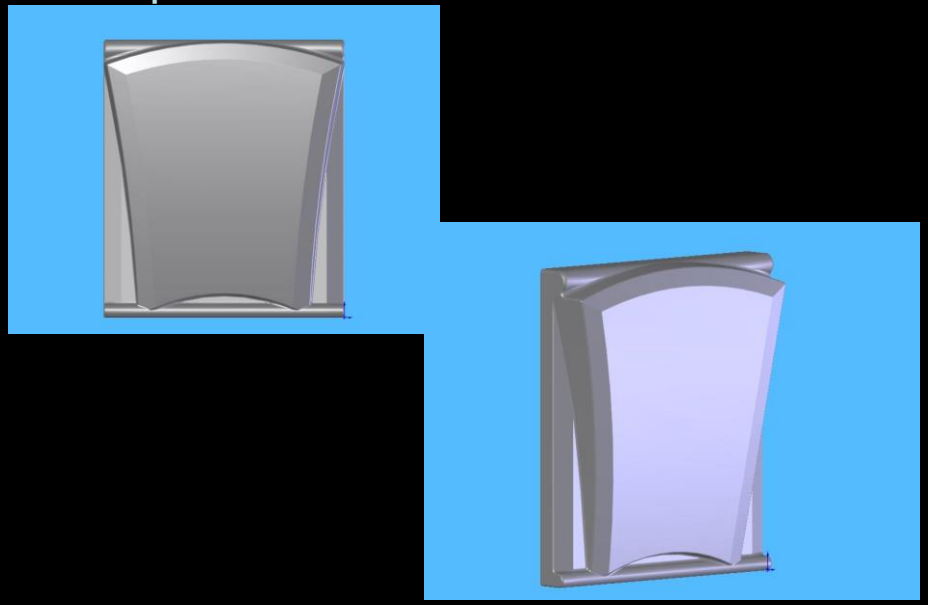
Concept 3b

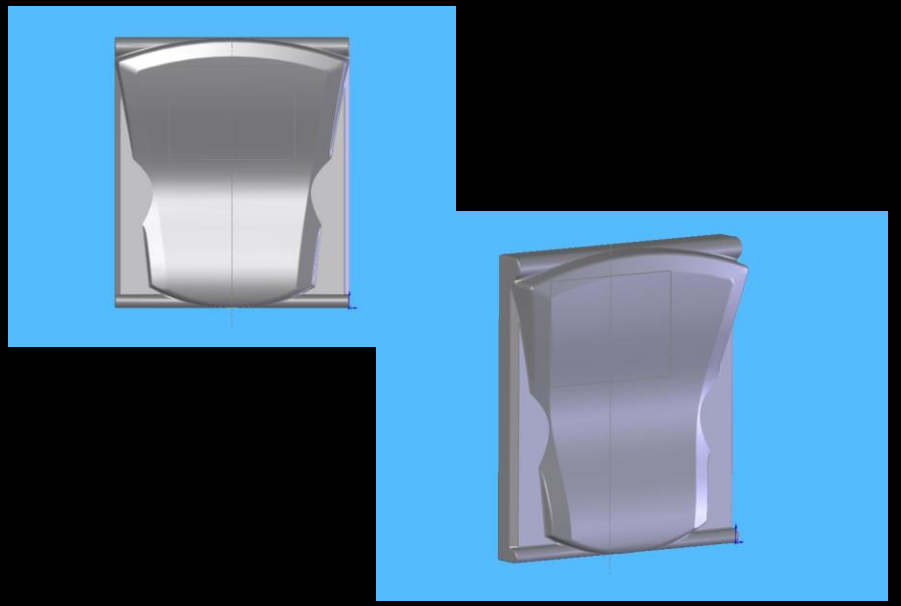


Concept 3a

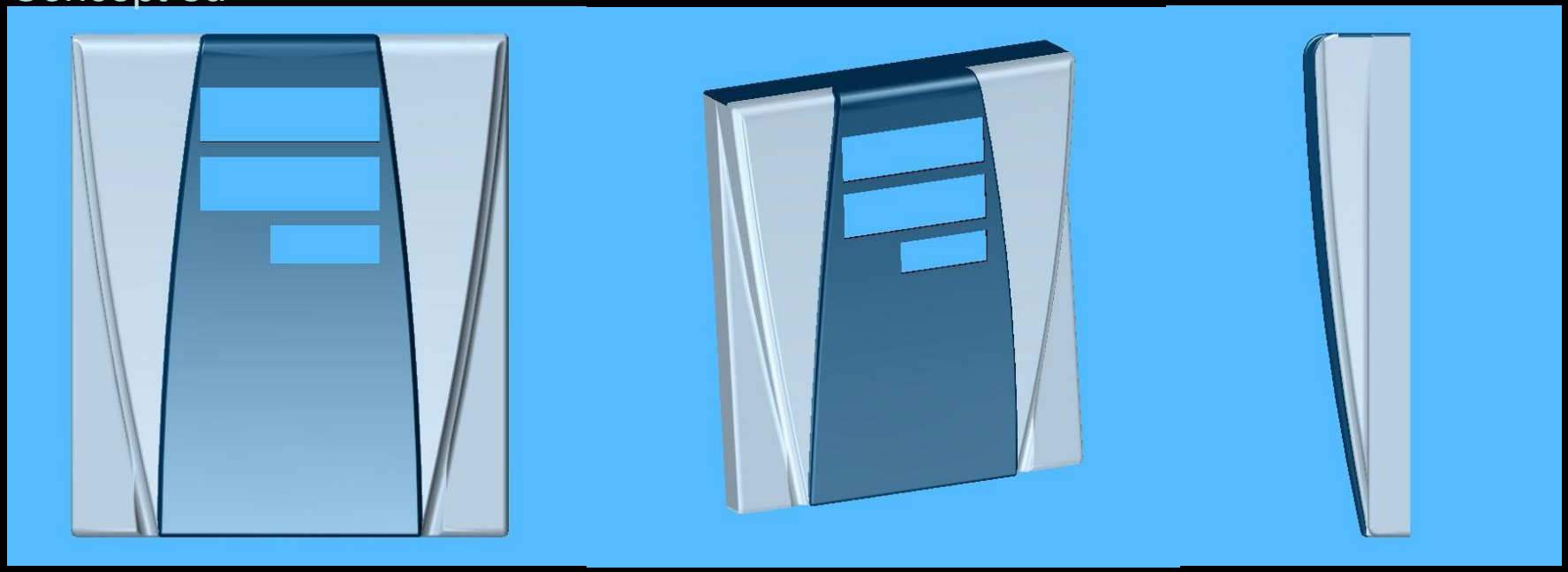


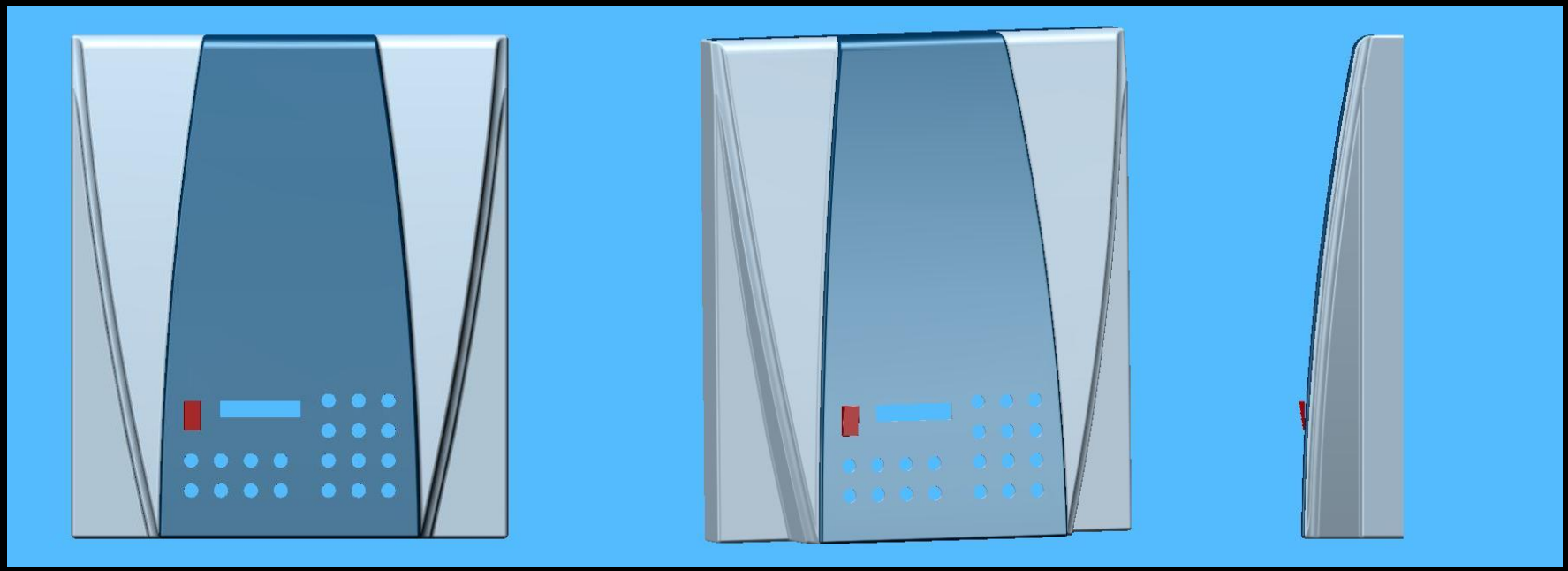
Concept 3c

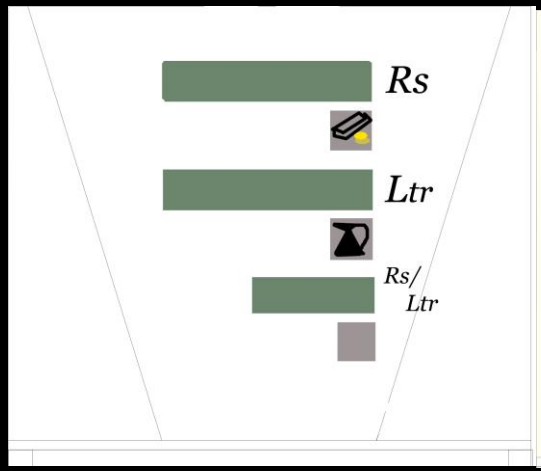


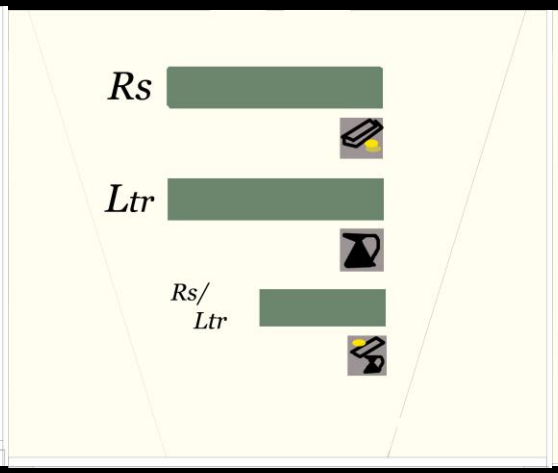


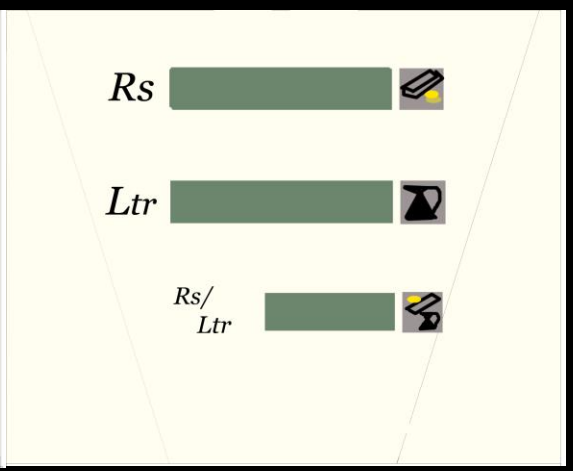
Concept 3d



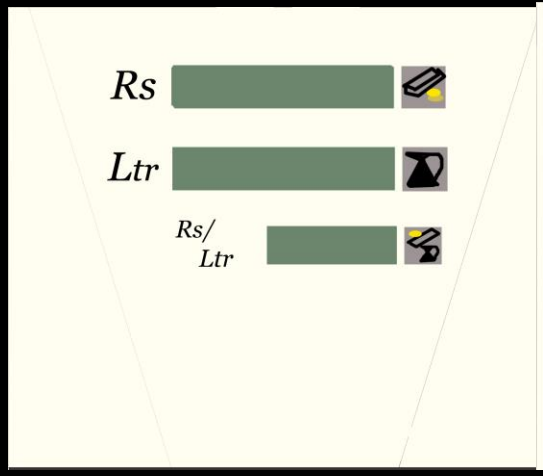


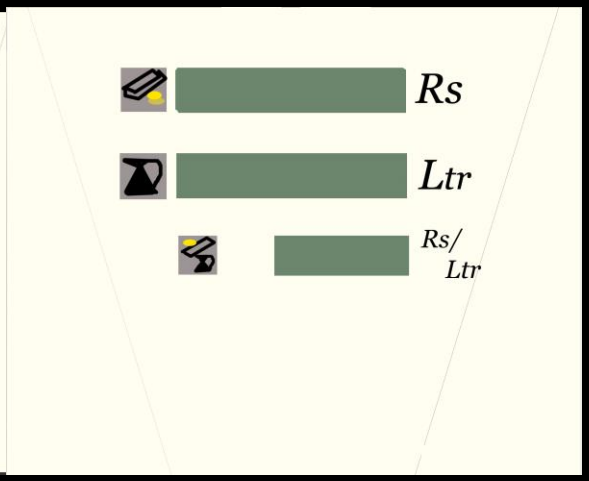




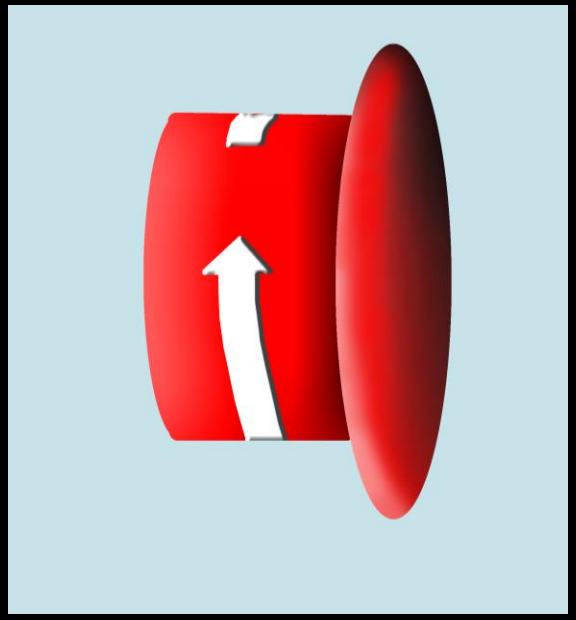


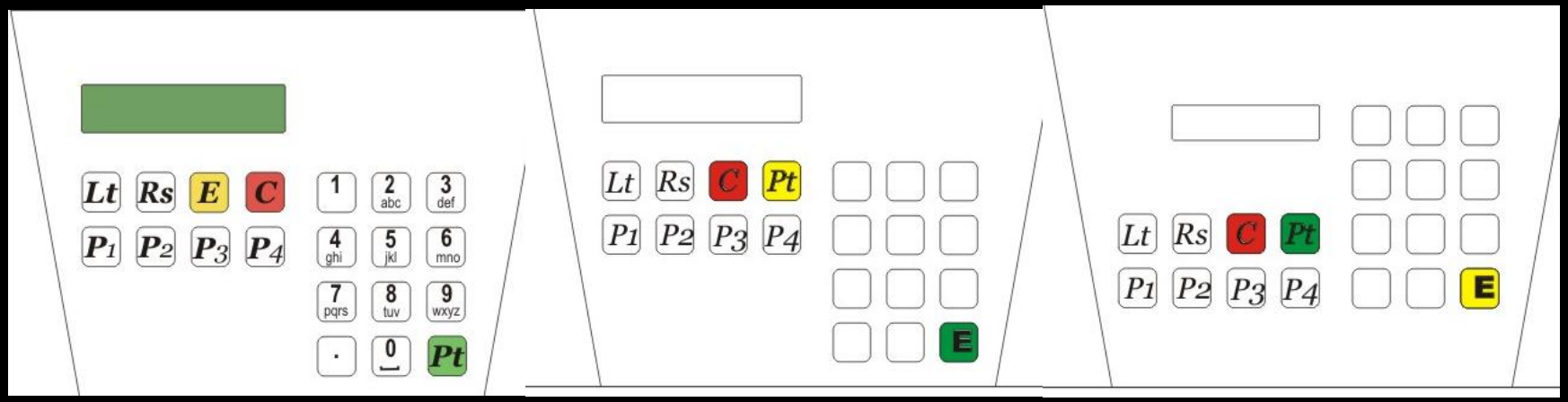
Exploring the arrangement between written and symbolic information



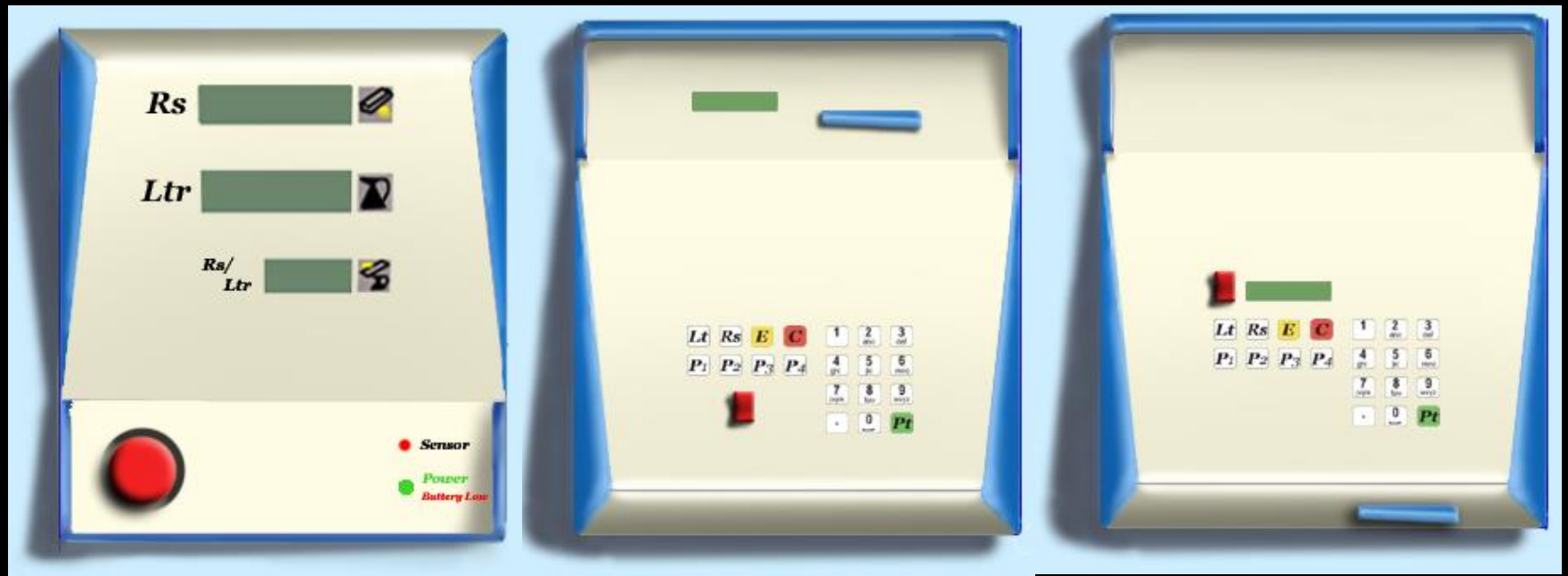


Compatibility for guidance by the symbols and prioritizing the information





Positiong the buttons according to the hierarchy of use and place, as well as visual appeal



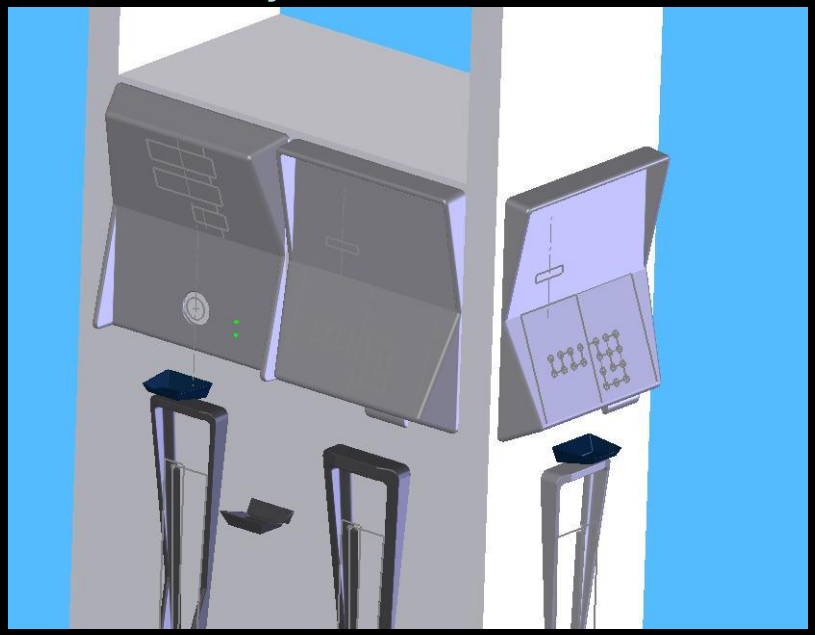
Directions on printer panel

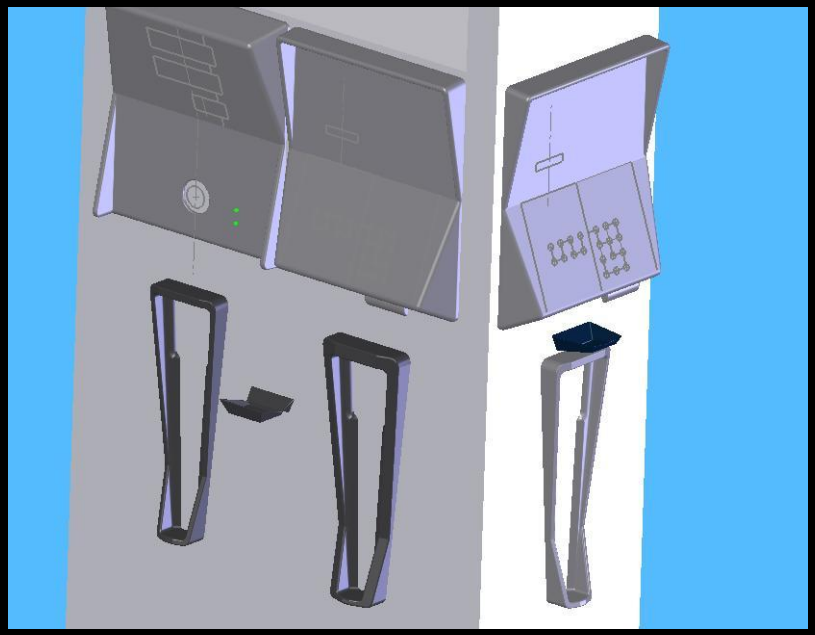
- Switch ‘ON’ the printer button and press 1
- Enter the code
- Now press Lt or Rs for amount of fuel to fill
- Then press the digits for requisite amount / Or press P1, P2, P3, P4
- P1 – 50
- P2 – 100
- P3 – 500
- P4 – 1000
- Press ‘E’
- If you want to cancel the amount press ‘C’
- Now take the nozzle to fuel tank opening and insert and press lever
- Remove when fuel filled and put nozzle back to stand
- Enter vehicle no. and then press print button for taking print out

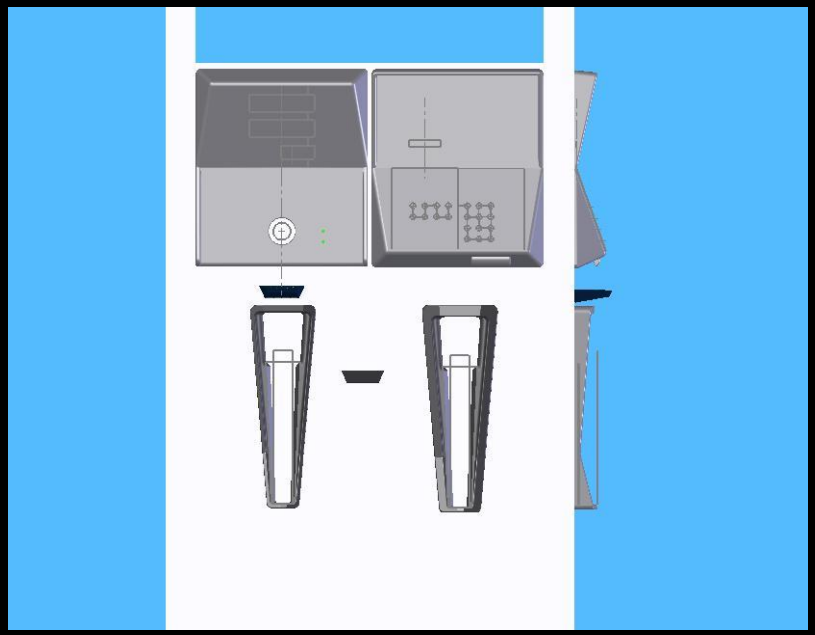
2D Assembly of concept 1

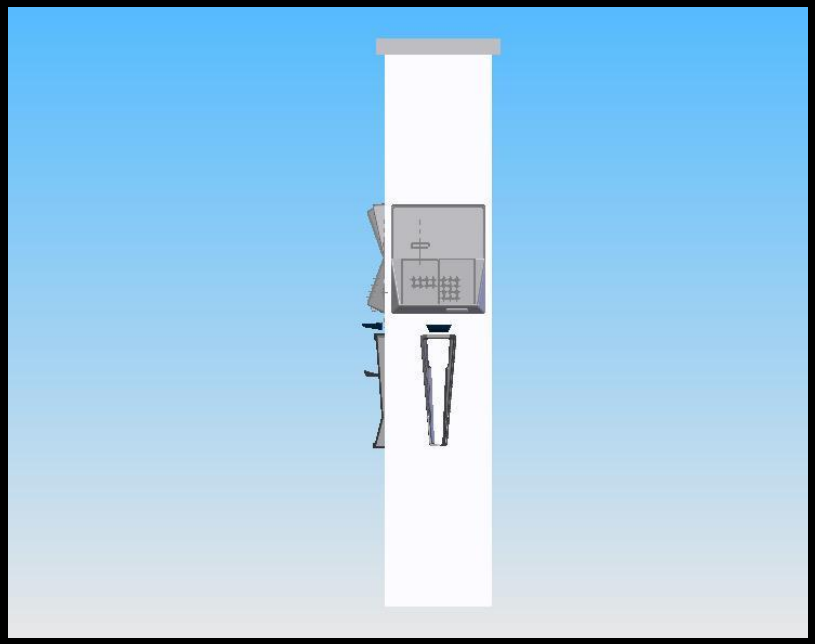
2D Assembly of concept 1

3D Assembly 1

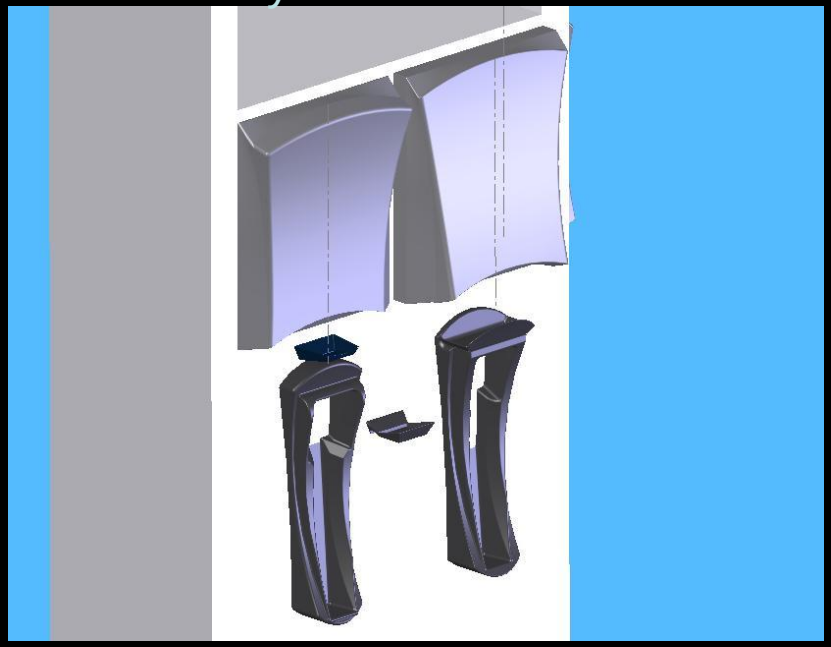


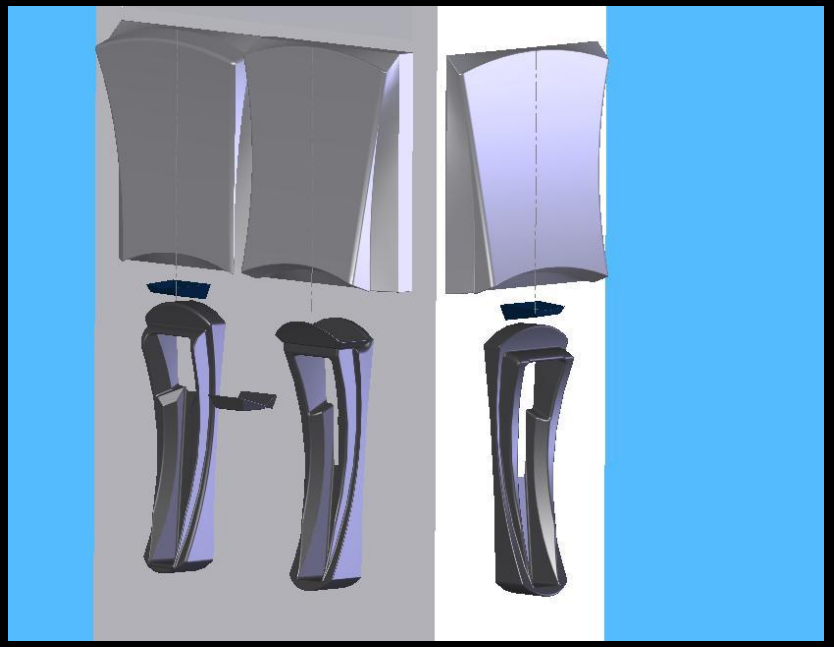




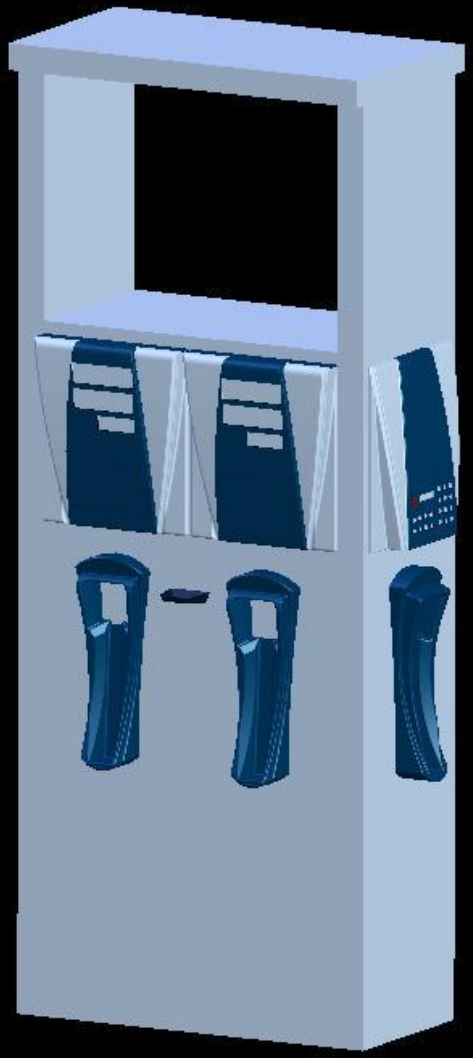


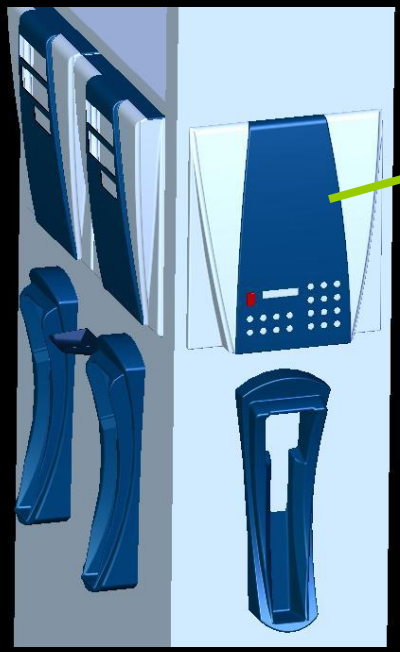
3D Assembly 2

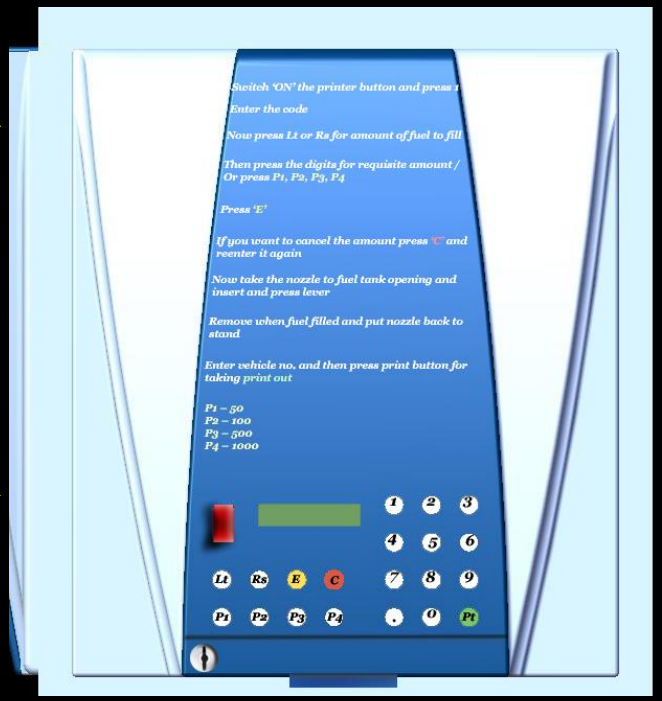




3D Assembly 3

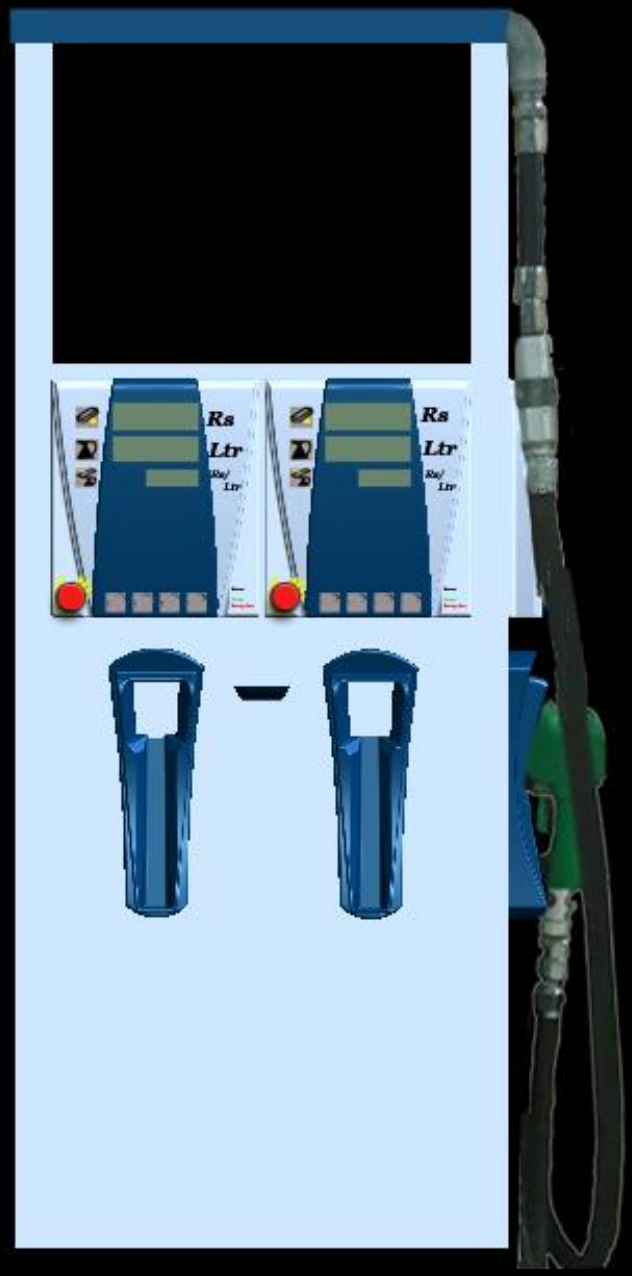


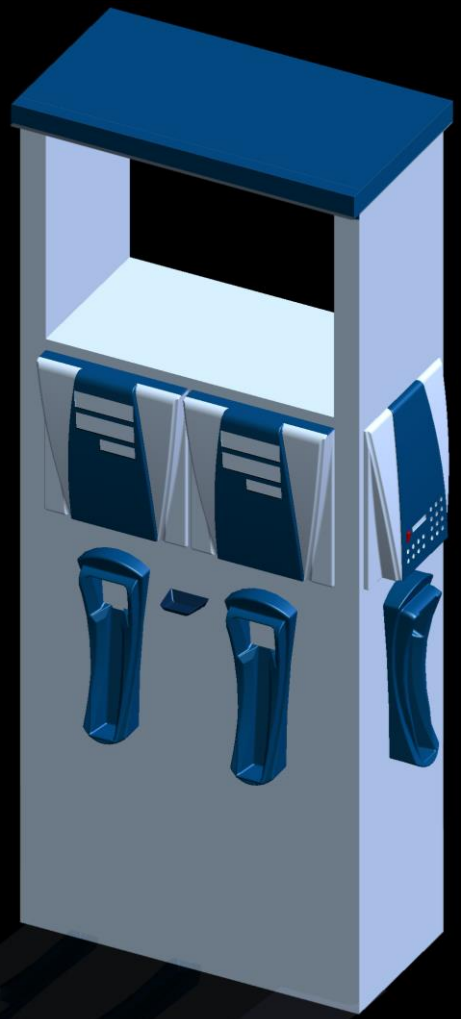




The directions were mentioned on the panel

Final assembly





Conclusion

The internship experience proved a rewarding experience for the proper understanding of the design process and also as a measure of self evaluation to fill the lacunae .
Overall it gave a first hand insight into the designer’s way of working and relation with the work environment.