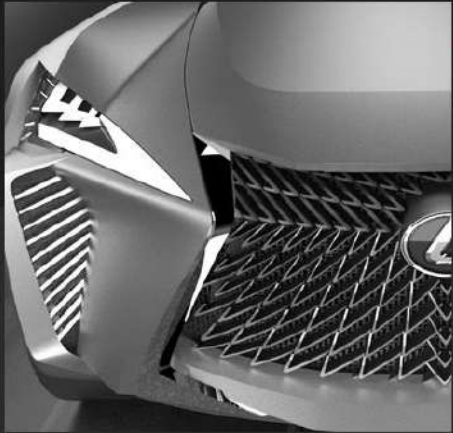




# port folio

---

Digital modelling



1

LEXUS UX



2

GENESIS  
VISION G



3

MERCEDES GT R

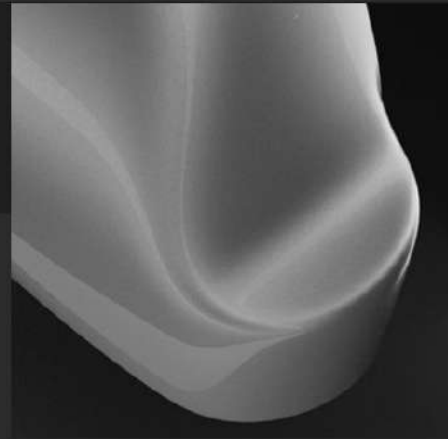
4

PORSCHE CYBERNETIC



5

CLASS A (ORVM)

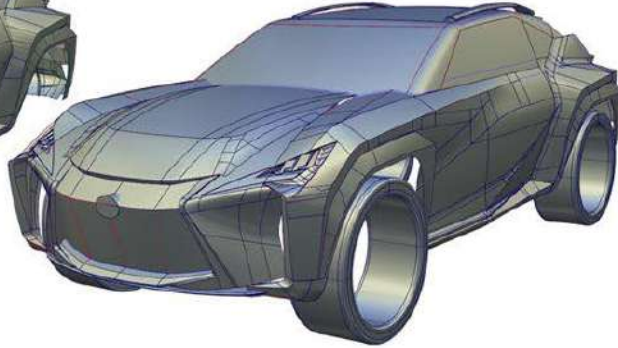
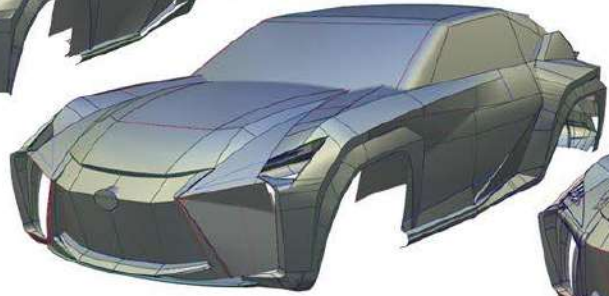
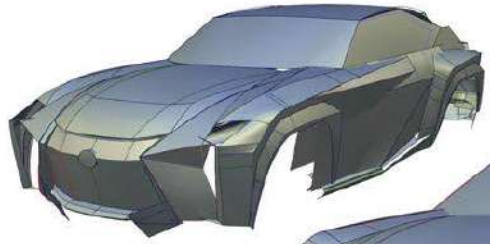




**UX concept**

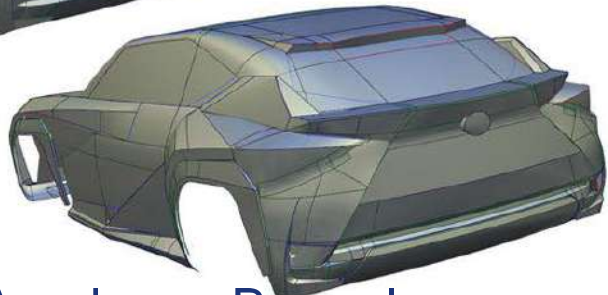
# Model Hierarchy

stages



01  
Rough volume

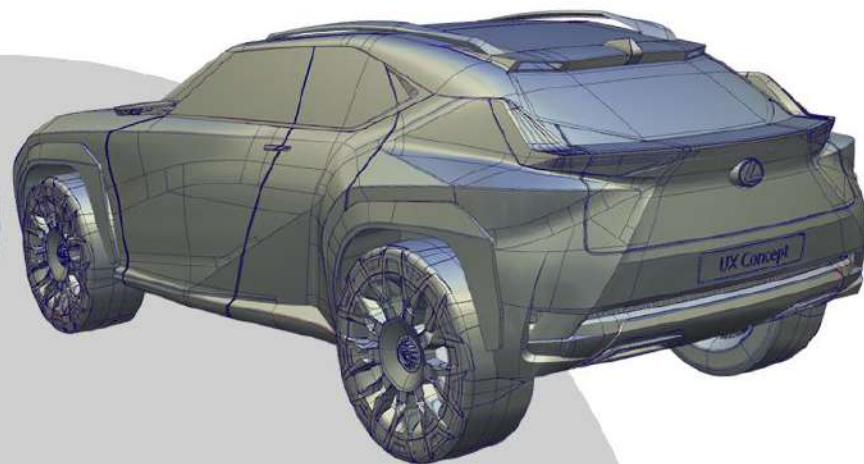
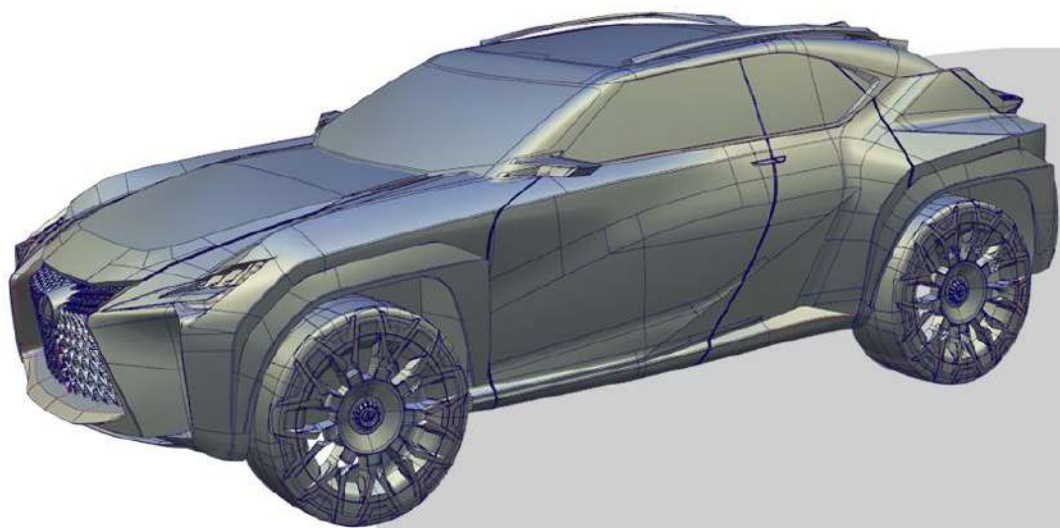
03  
Final model



02  
Basic filleting

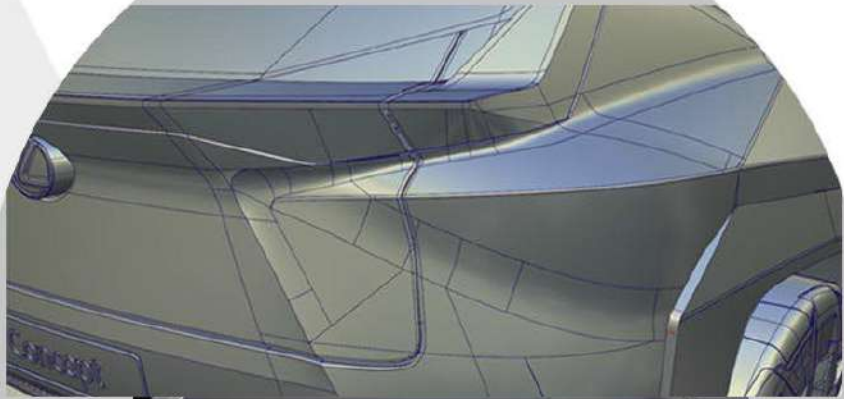


# Patch layout



highlights

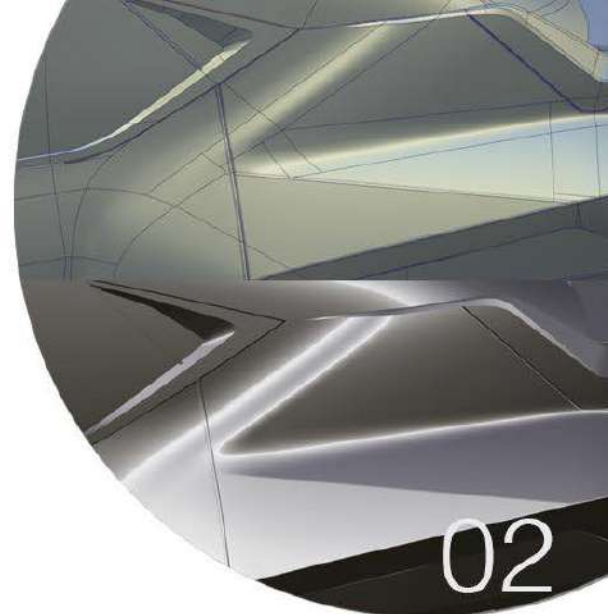
# Achieving Complex Areas



01

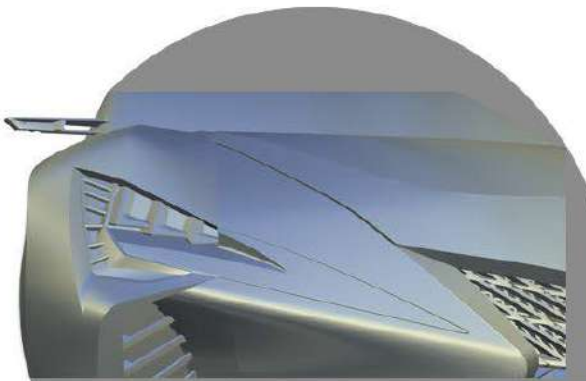


Shoulder line with vanishing

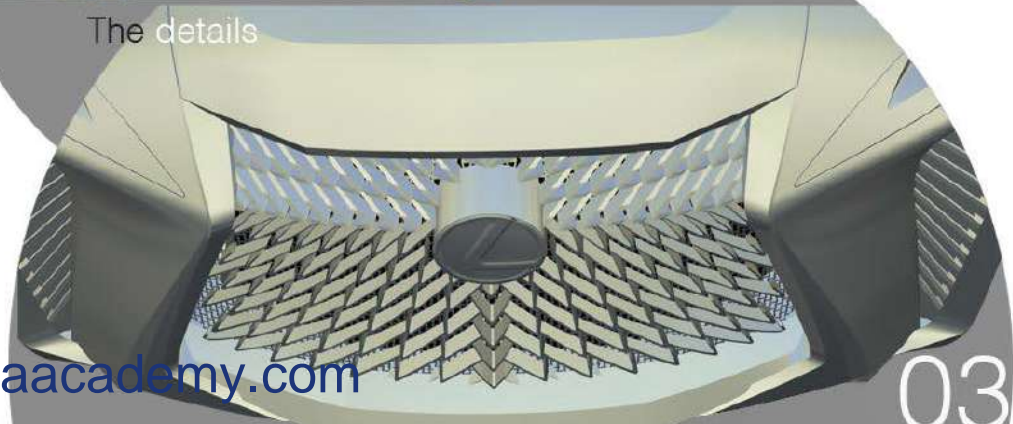


02

Blend with position feature corner



The details



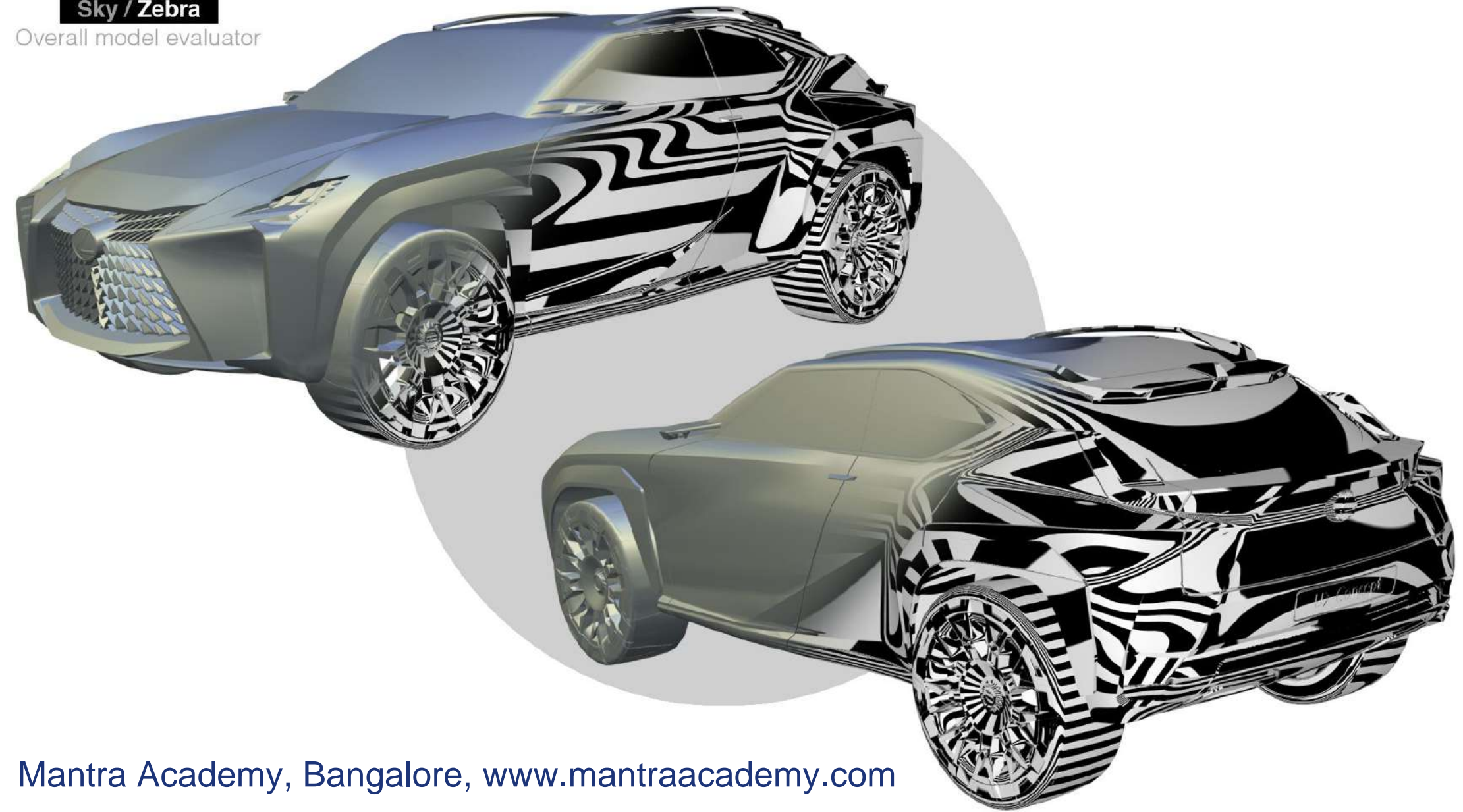
03

Spindle Grill



Sky / Zebra

Overall model evaluator



# VRED rendering process

ambient  
occlusion



final output  
studio light setup

assigning  
materials

Studio setup for environment





Enriching the beauty of the car's form  
with proper light setup to retain the visual appeal.







**GENESIS**

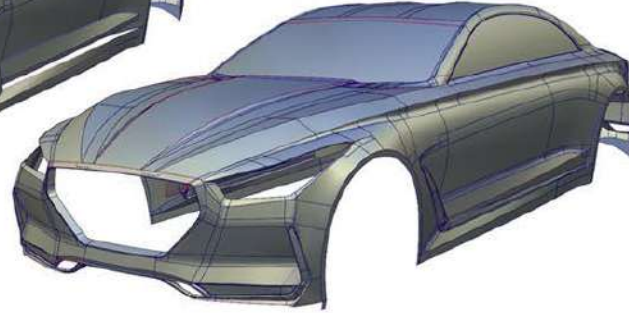
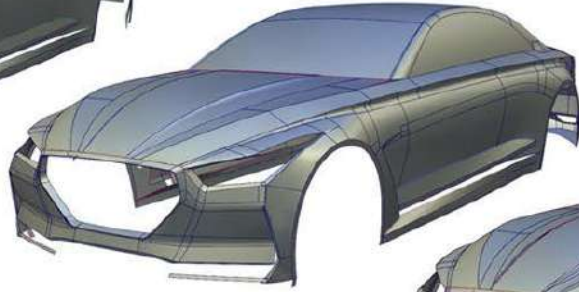
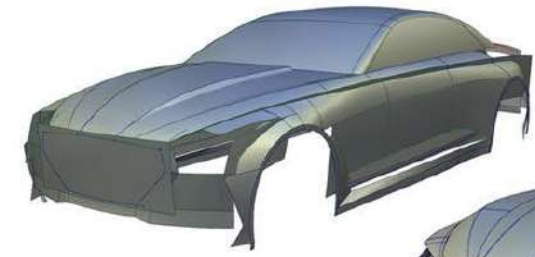


**VISION G**



# Hierarchy

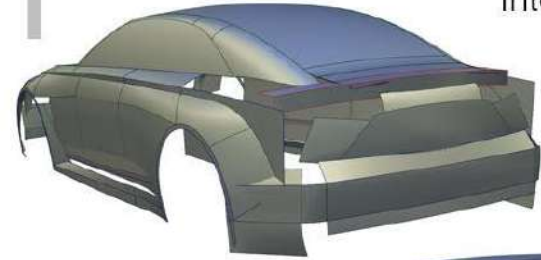
Model evolution



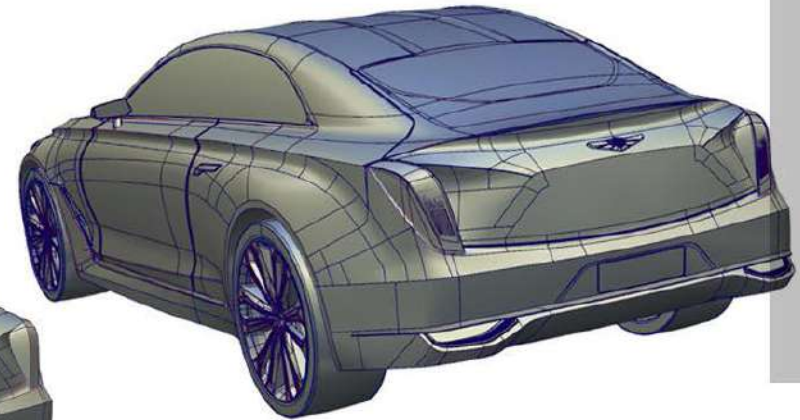
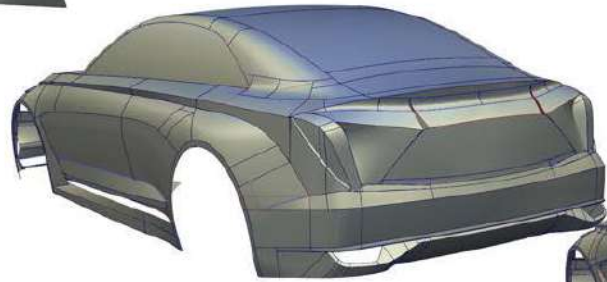
Rough volume

Intersection model

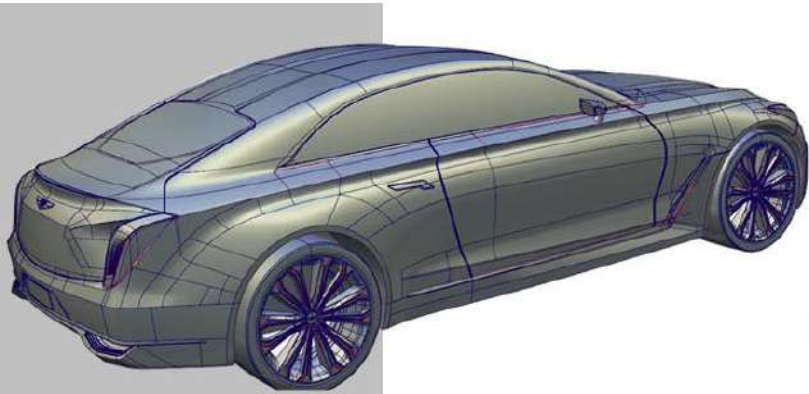
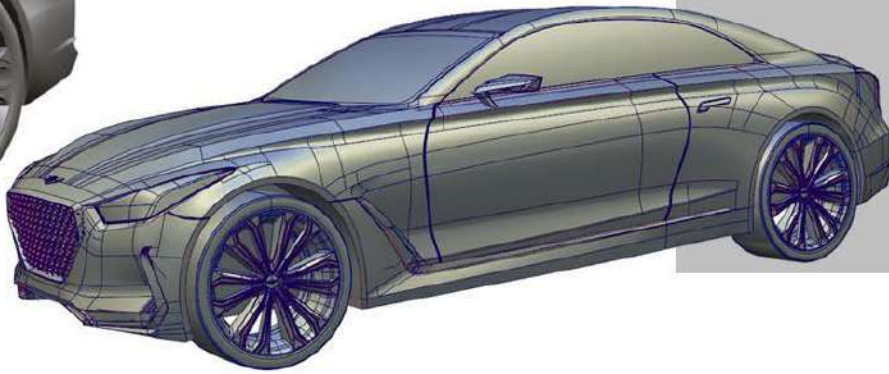
Final Detailed Volume



Basic filleted model



Final model



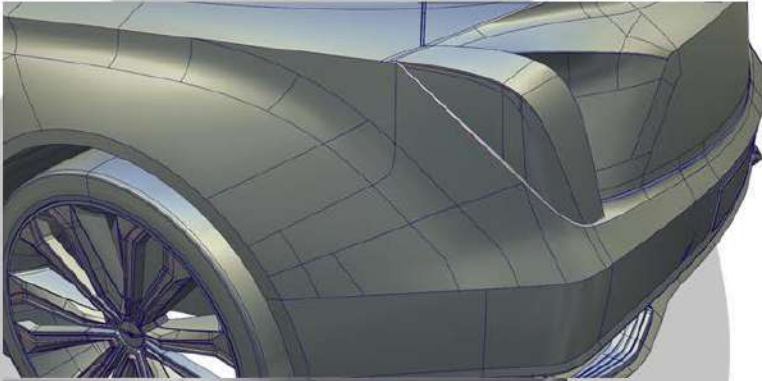
patchlayout





# Complex areas

Rear wheel arch

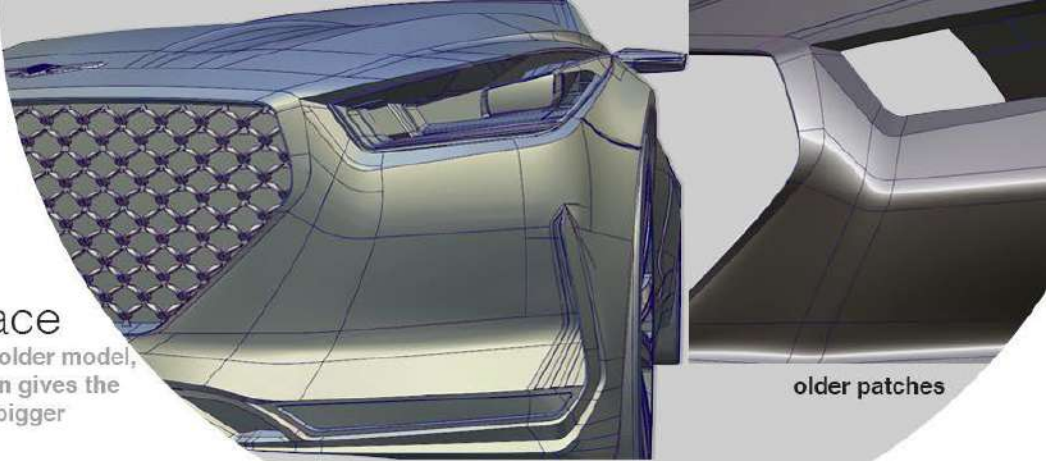


Lead In Surfaces

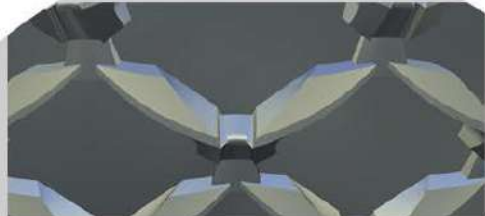
After making normal patch, aligning the position CV to the other end, reduces the patch and gives crisp dip.

## Smoother surface

Reducing the patches over older model, making a variable patch plan gives the desired smoothness and a bigger highlight turn.



older patches



## The Grills

Carries a wing motif which is multiplied throughout the area of grill using Array command.





# VRED visualization process



Ambient occlusion

Full Global Illumination  
with assigned materials



Perfect setup of lights enhances emotions of the car.







GENESIS







GENESIS

Mantra Academy, Bangalore, [www.mantraacademy.com](http://www.mantraacademy.com)



Mercedes-Benz



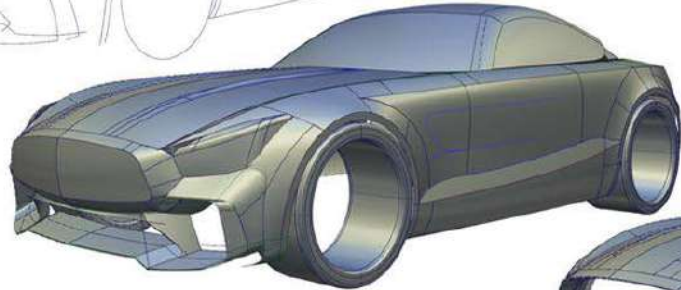
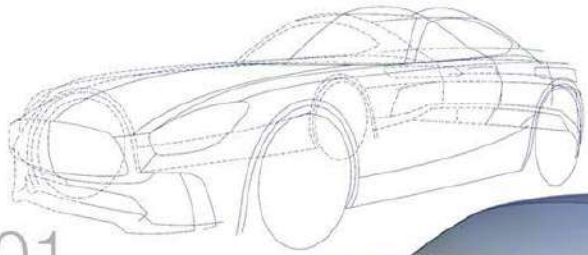
GTR



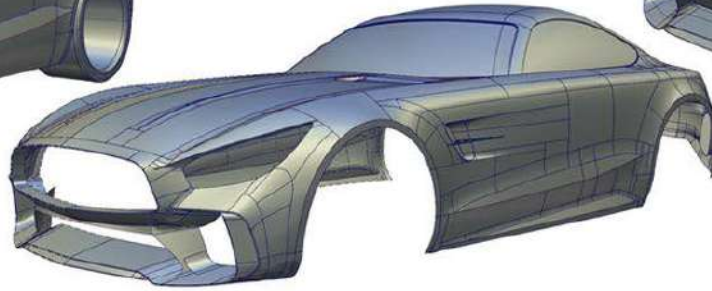
# Model Hierarchy

the process from edge to round model

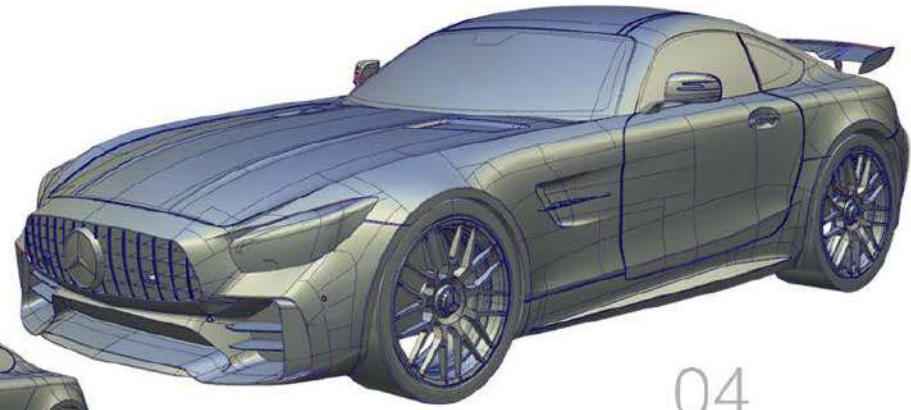
01  
Curve  
Network



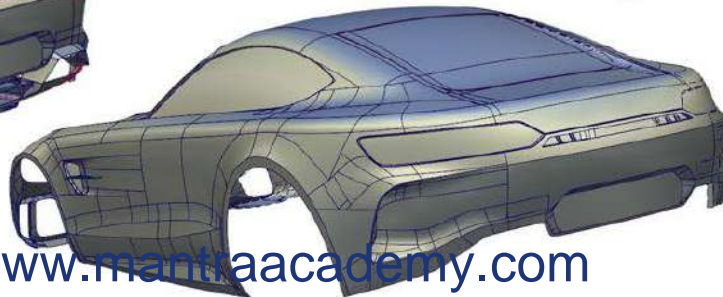
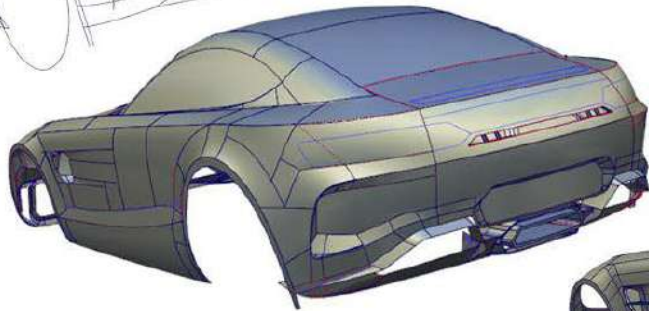
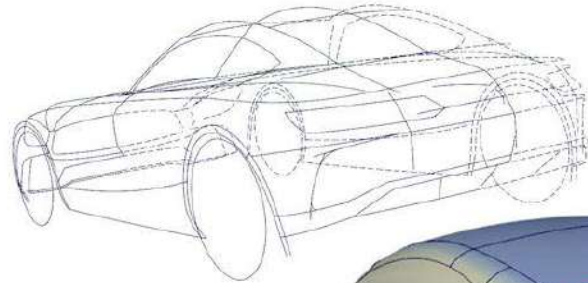
02  
Basic Intersection



03  
Basic filleting



04  
Final model  
with refined surfaces

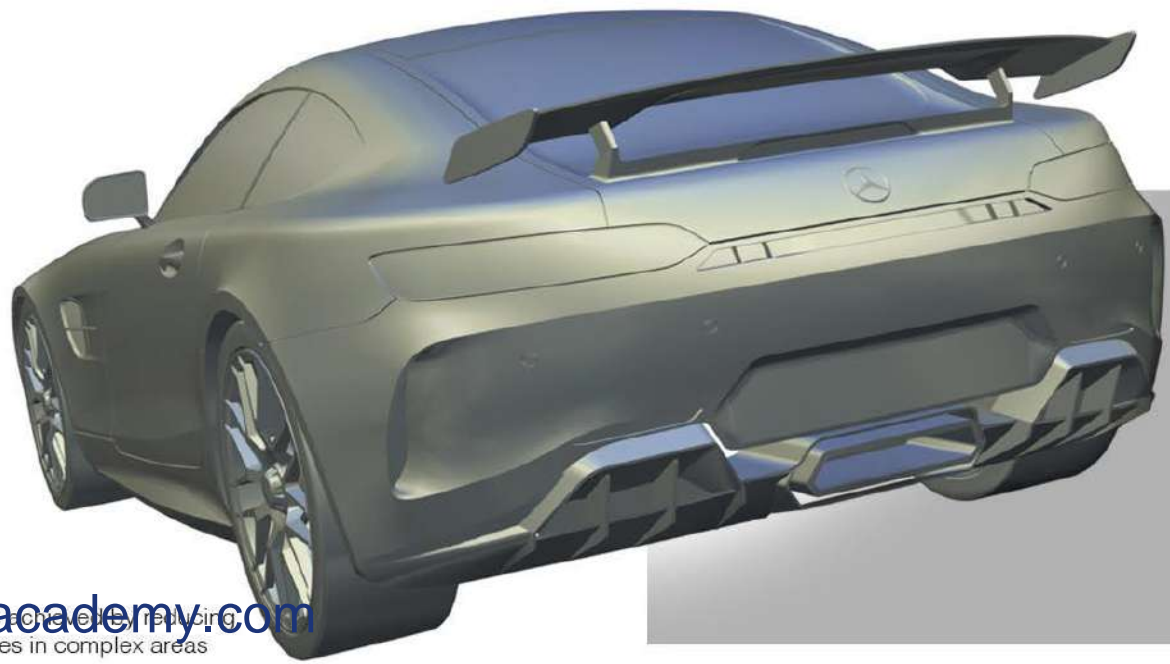
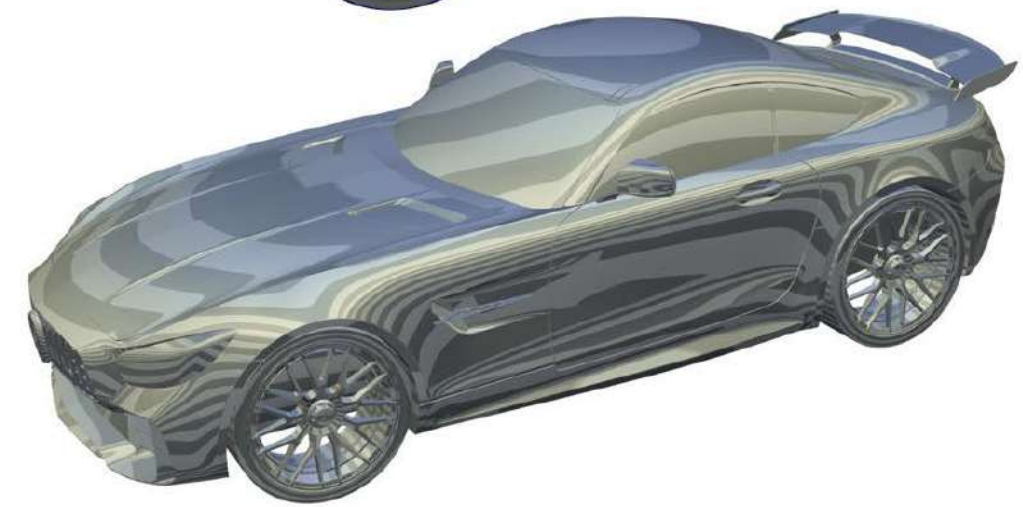
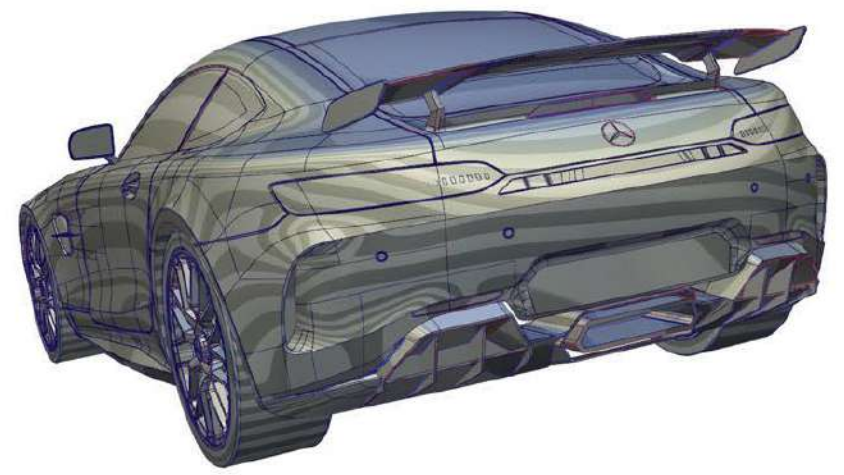
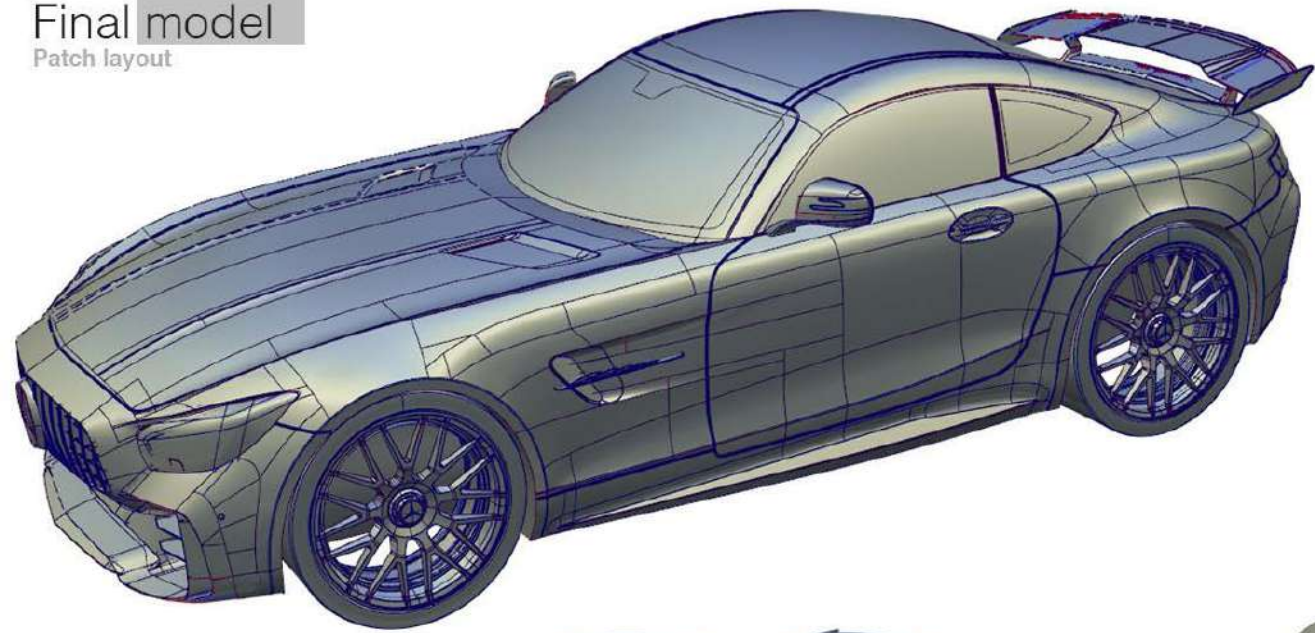


**Final model:**  
:: Refined surfaces for highlights  
:: Reduced patches  
:: Better CV flow & distribution  
:: Added details



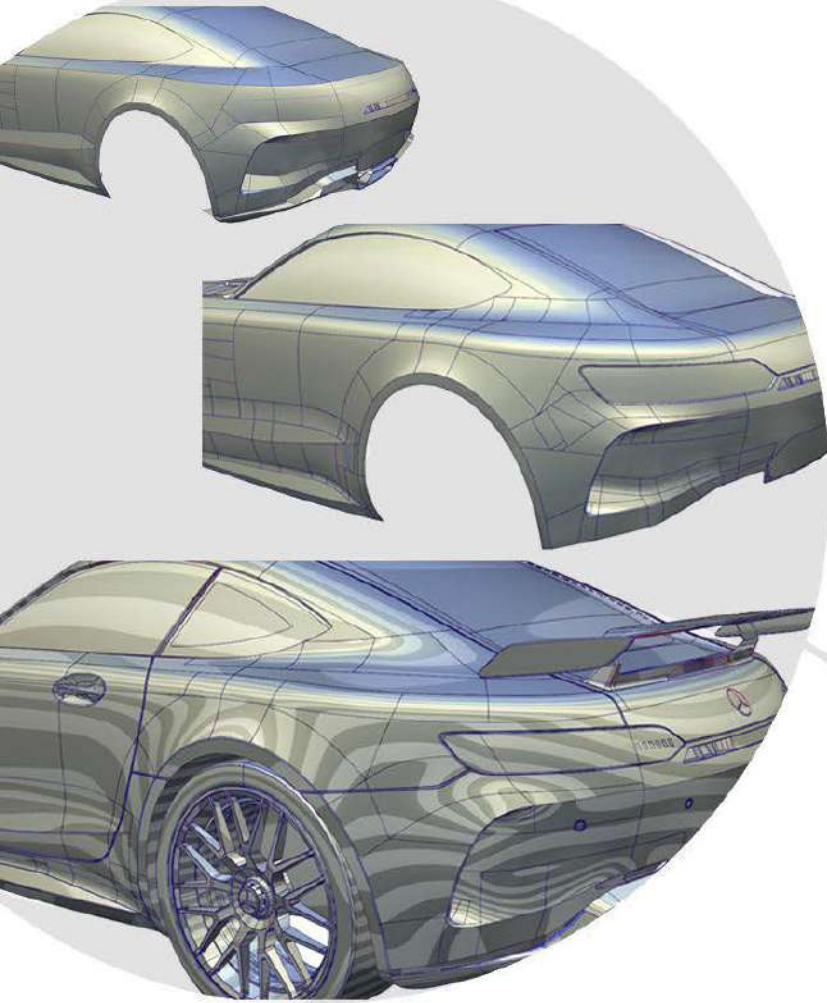
Final model  
Patch layout

Zebra / Sky shaded model



# Complex areas

Rear wheel arch blend



# Vanishing on hood

Blends with grill housing and hood shoulder intersection



Development from Intersection to final model

Mantra Academy, Bangalore, [www.mantraacademy.com](http://www.mantraacademy.com)

Details



Studio setup to bring the green Hulk to life











Mantra Academy, Bangalore, [www.mantraacademy.com](http://www.mantraacademy.com)

Mercedes-Benz



# PORSCHE

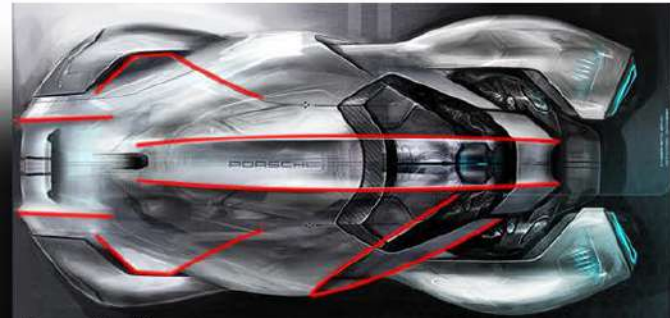
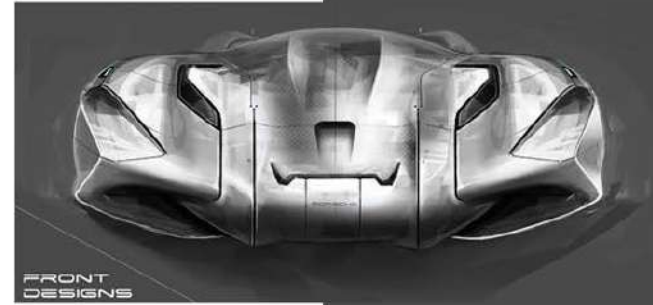
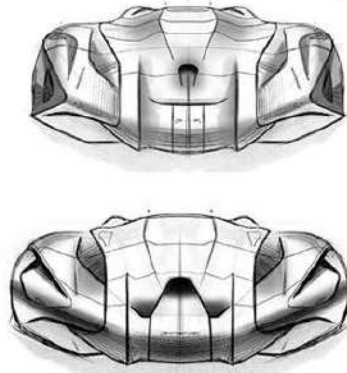
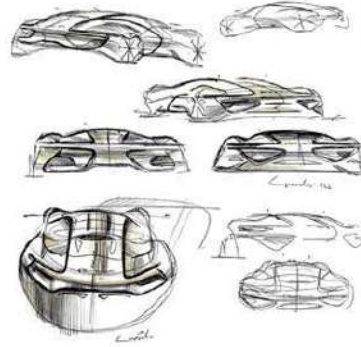
CYBERNETIC



# PORSCHE CYBERNETIC



Hanbin Youn  
ArtCenter, 2013



character lines

**Analysis**  
realize characteristics  
surface relation  
design theme  
observe details

**Evolution**  
of Physical Model



Final physical model  
for Alias reference

**Shutlines**  
cutaways creates divisions

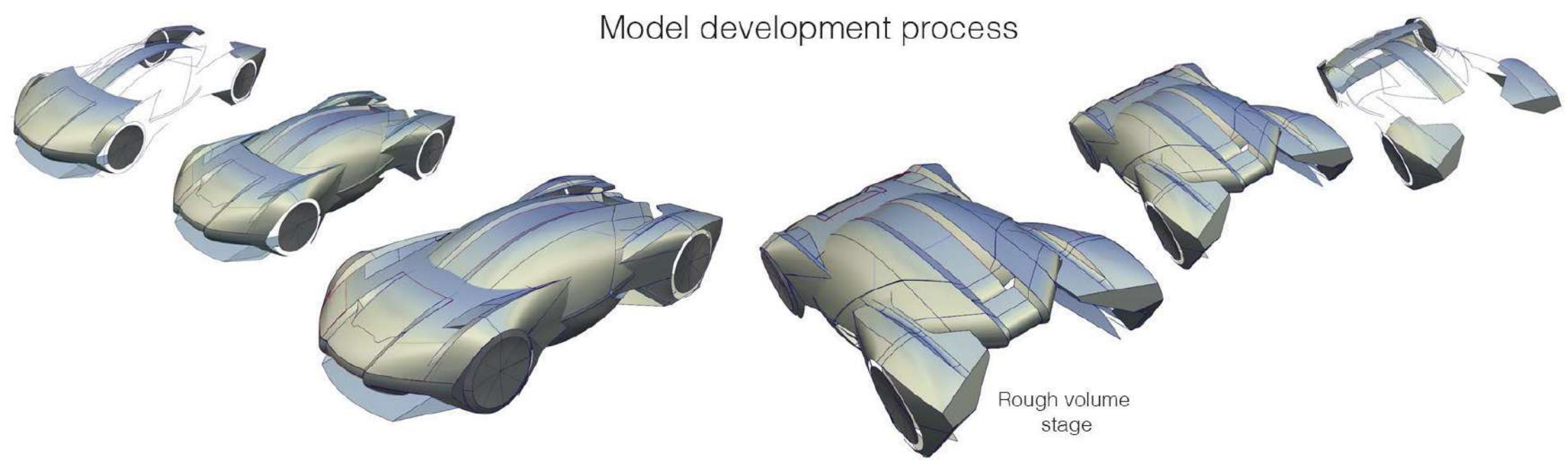
**Details**



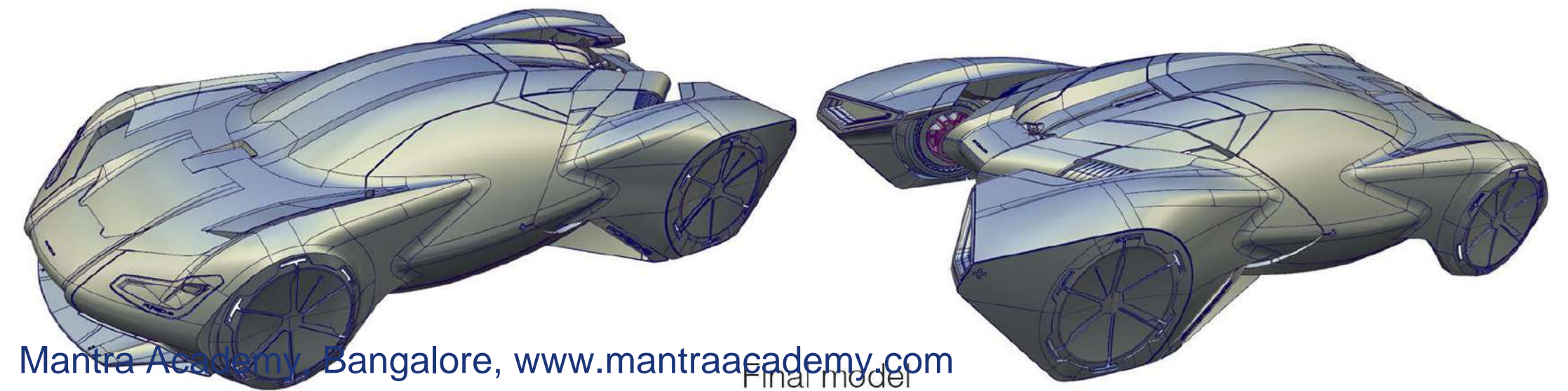
Desired changes  
in rear shown in  
physical model



# Model development process



Rough volume stage

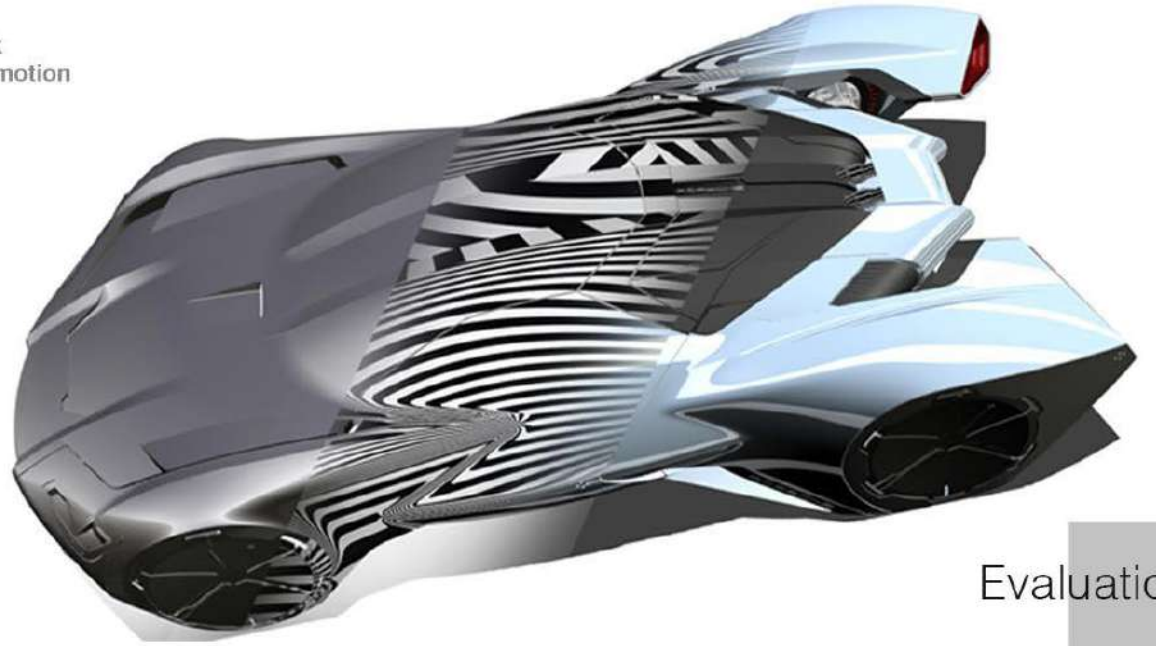
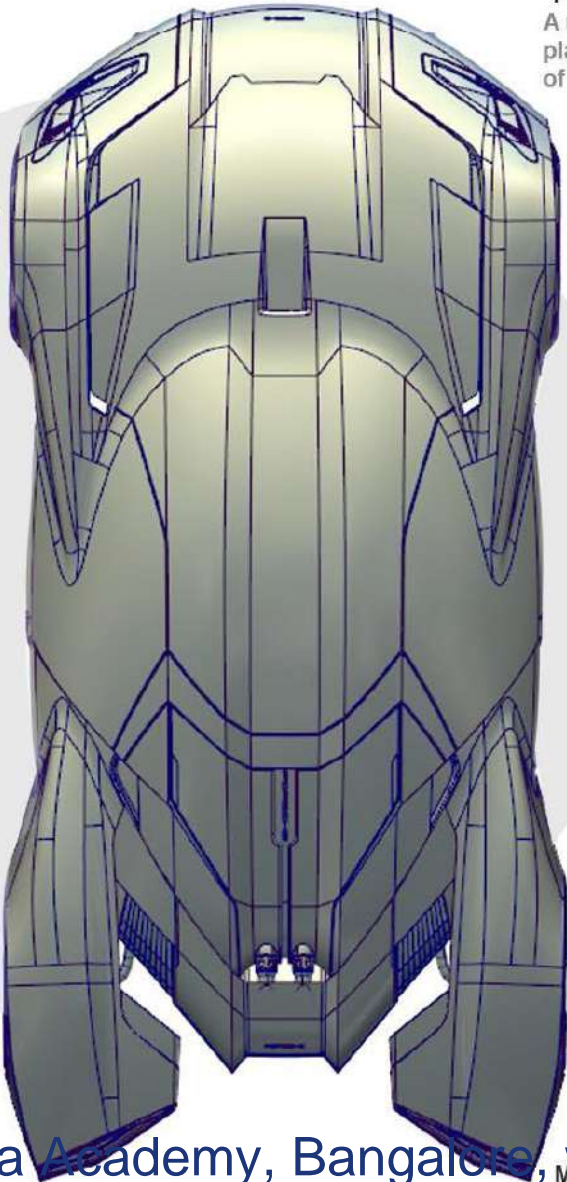


Final model

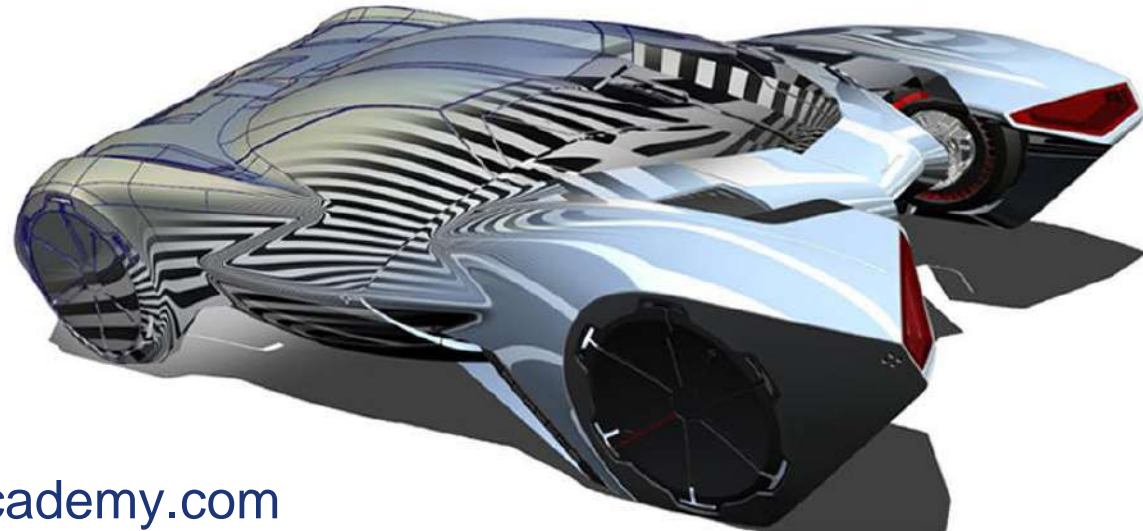
## Top view

A unique form where linework plays major role in defining emotion of the car.

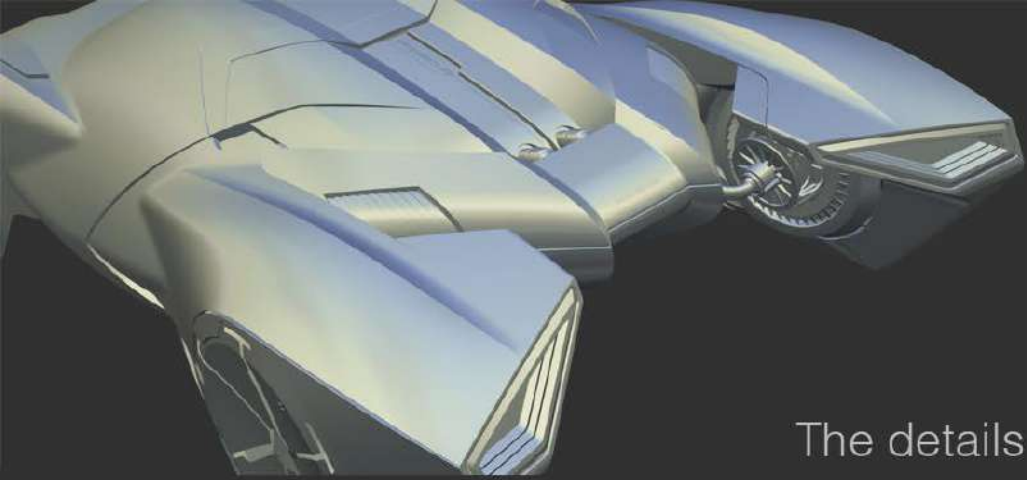
More sculpted



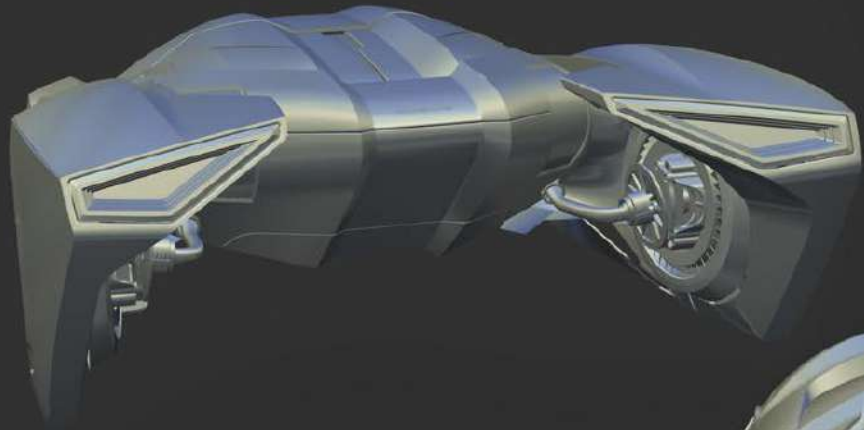
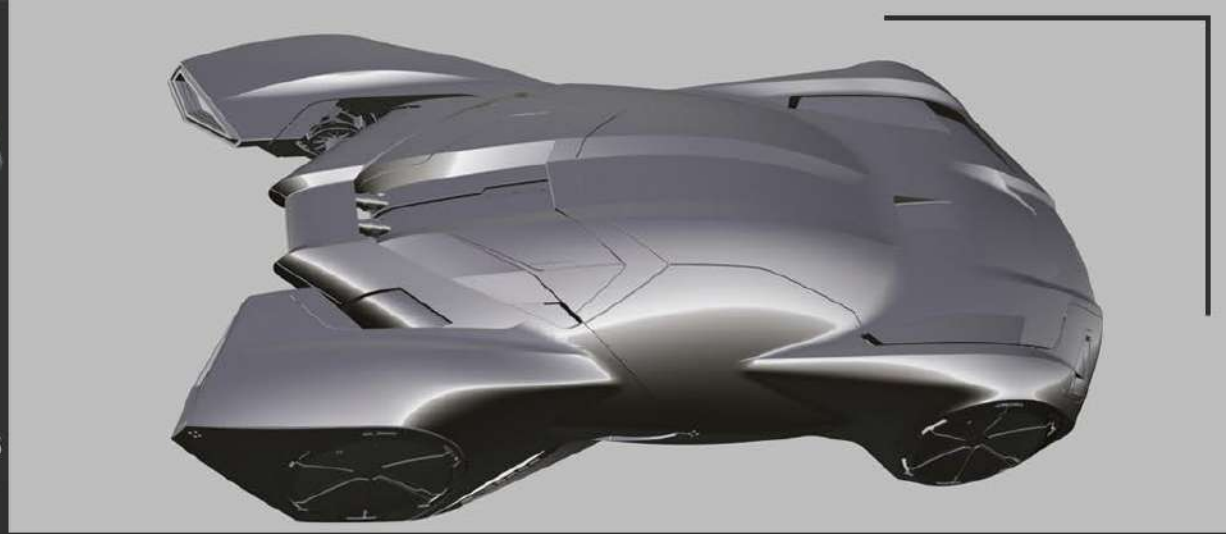
Evaluation





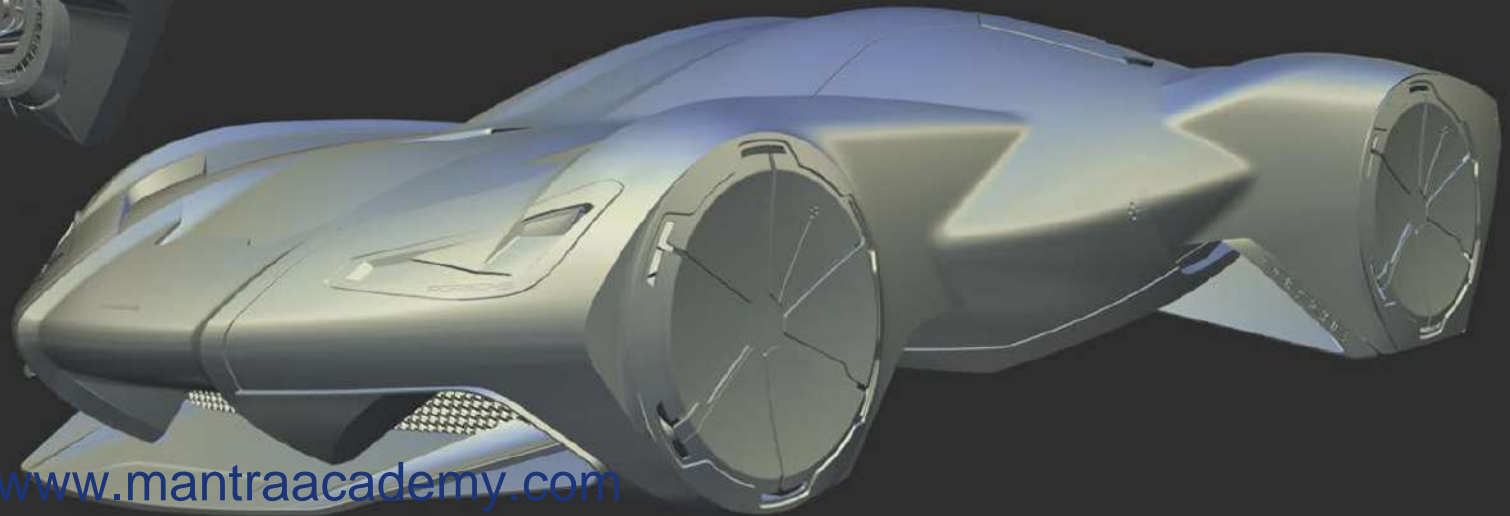


The details

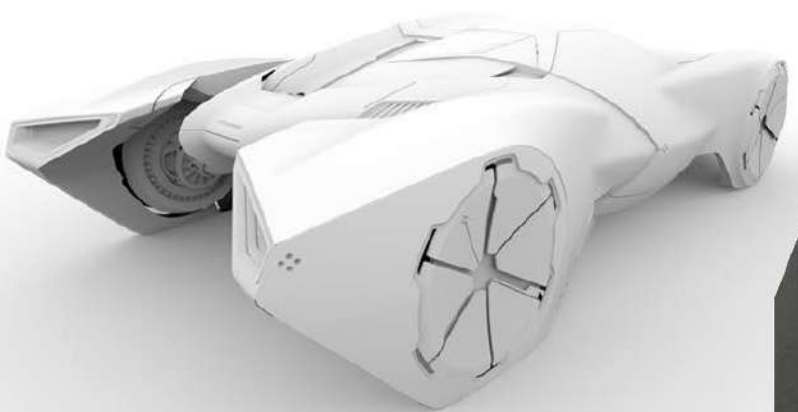
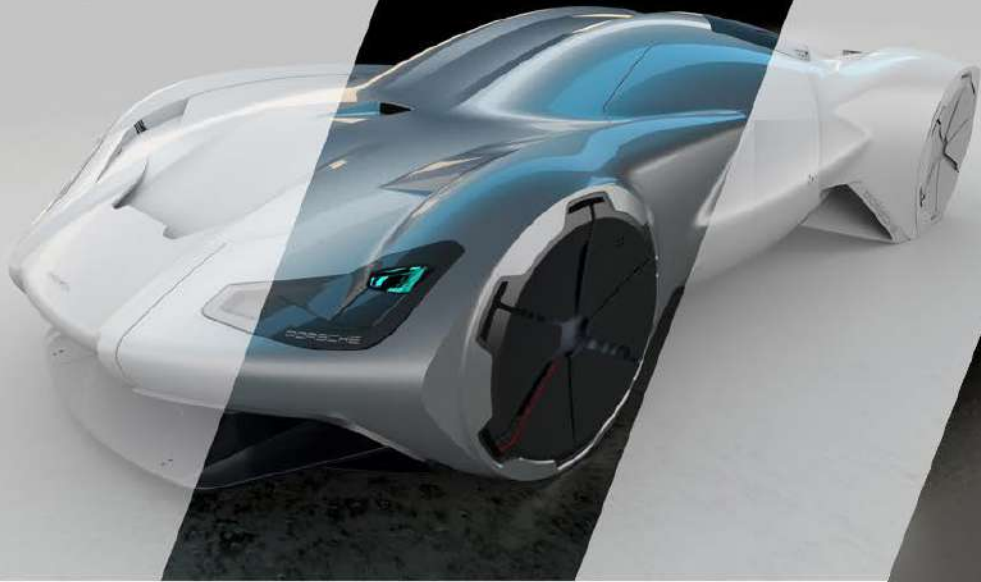


The rear

Dedicated to all the motors that runs the car



VRED process



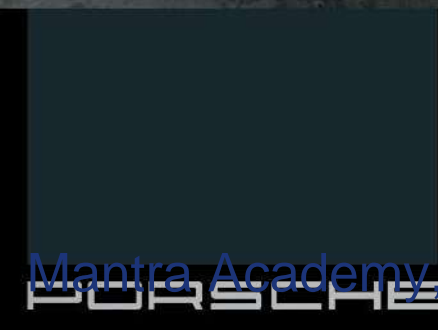
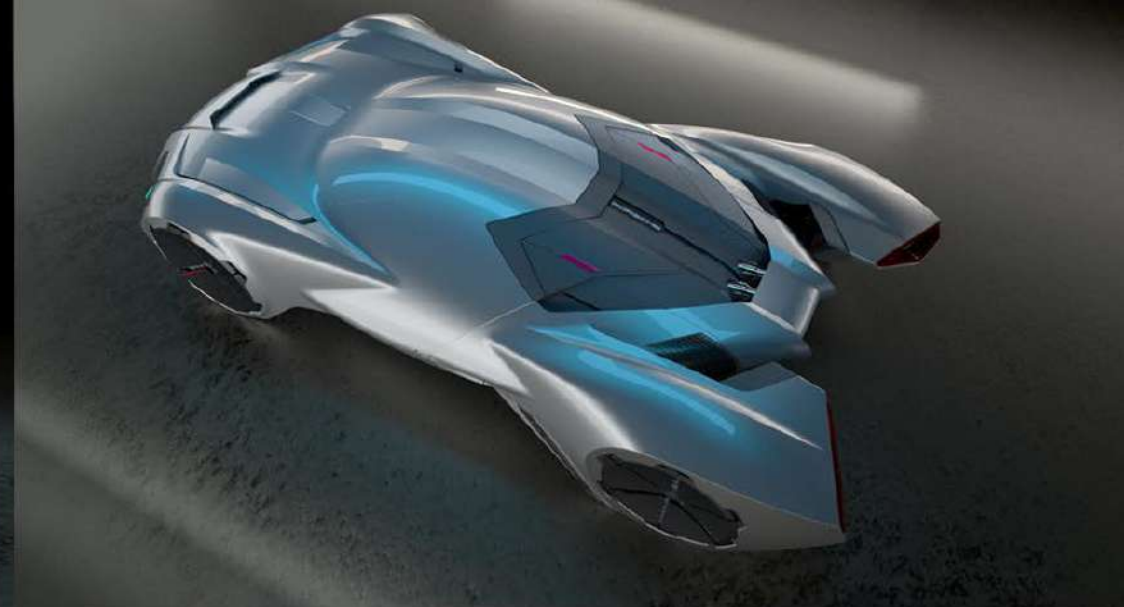
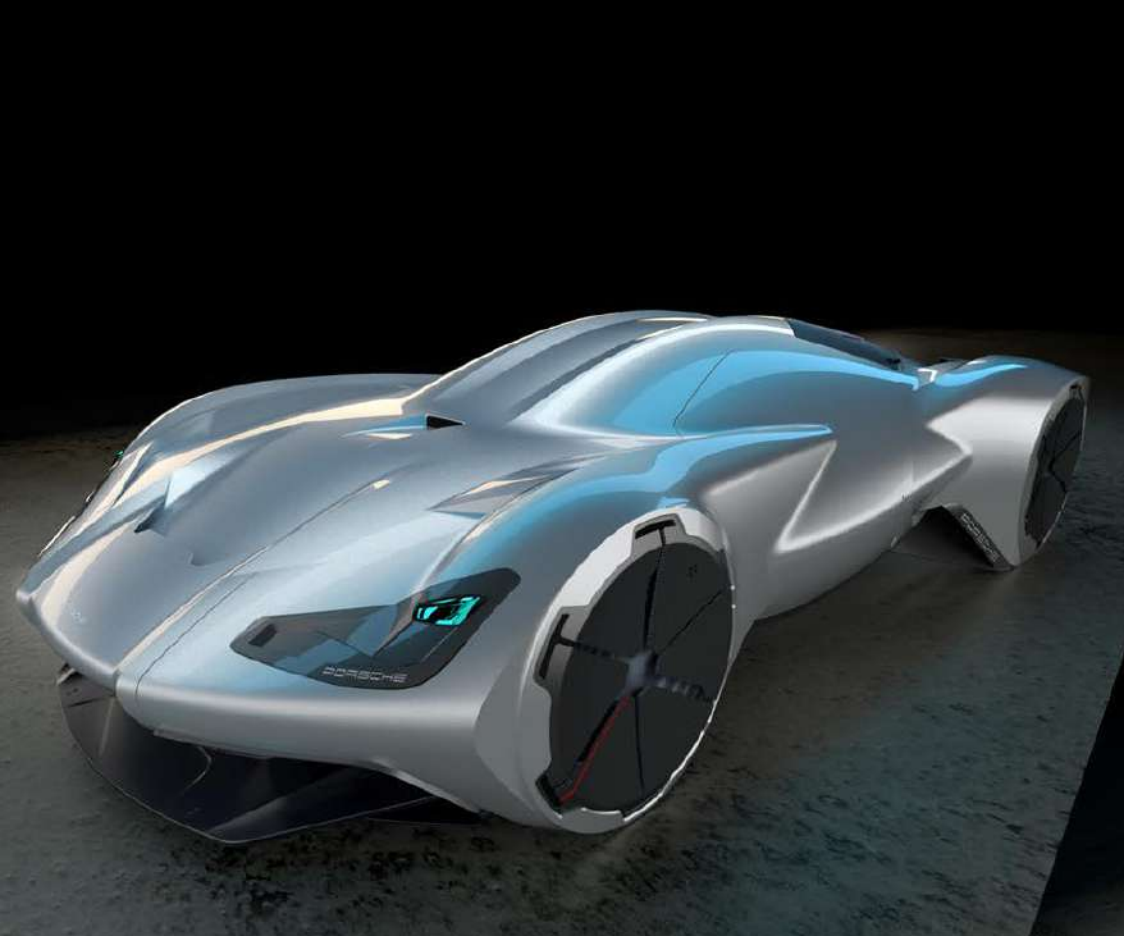
Ambient occlusion baked

Mantra Academy, Bangalore, [www.mantraacademy.com](http://www.mantraacademy.com)

Studio light setup

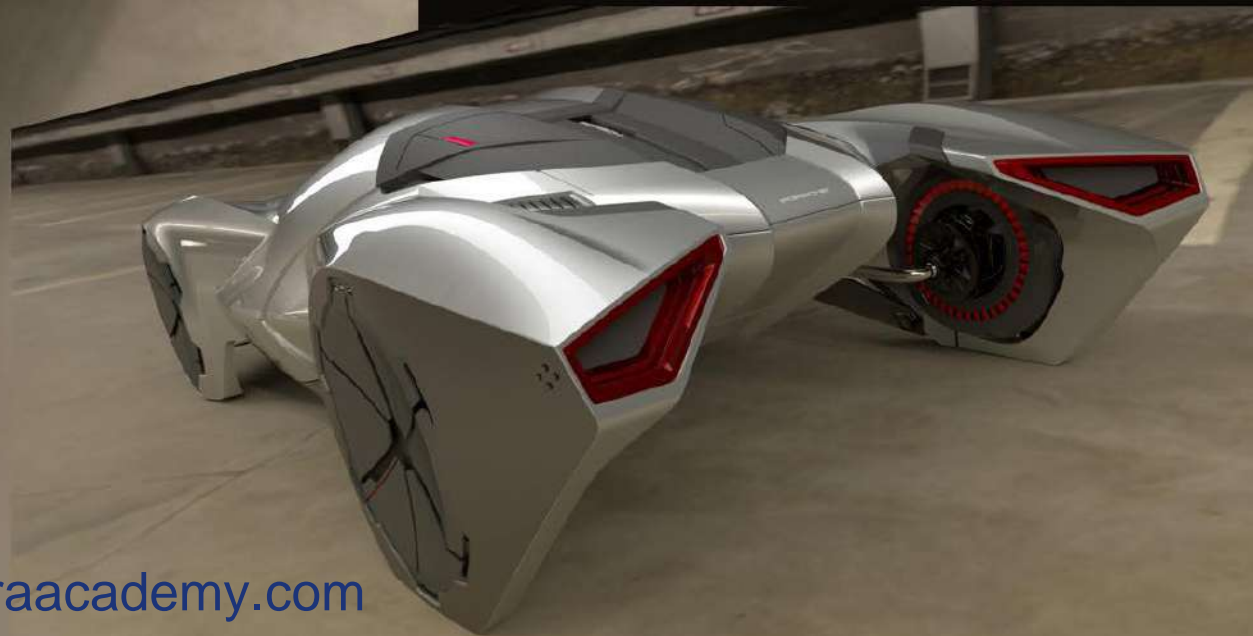








PORSCHE



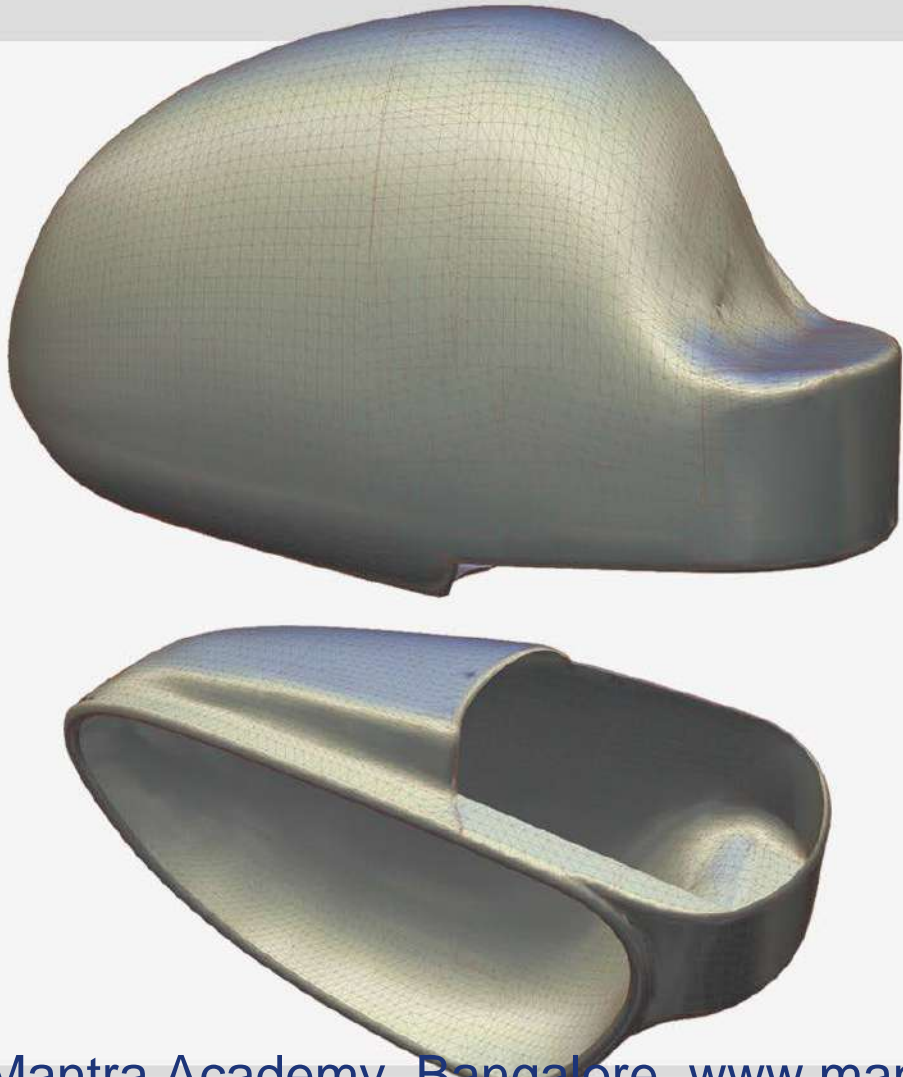


# Class A

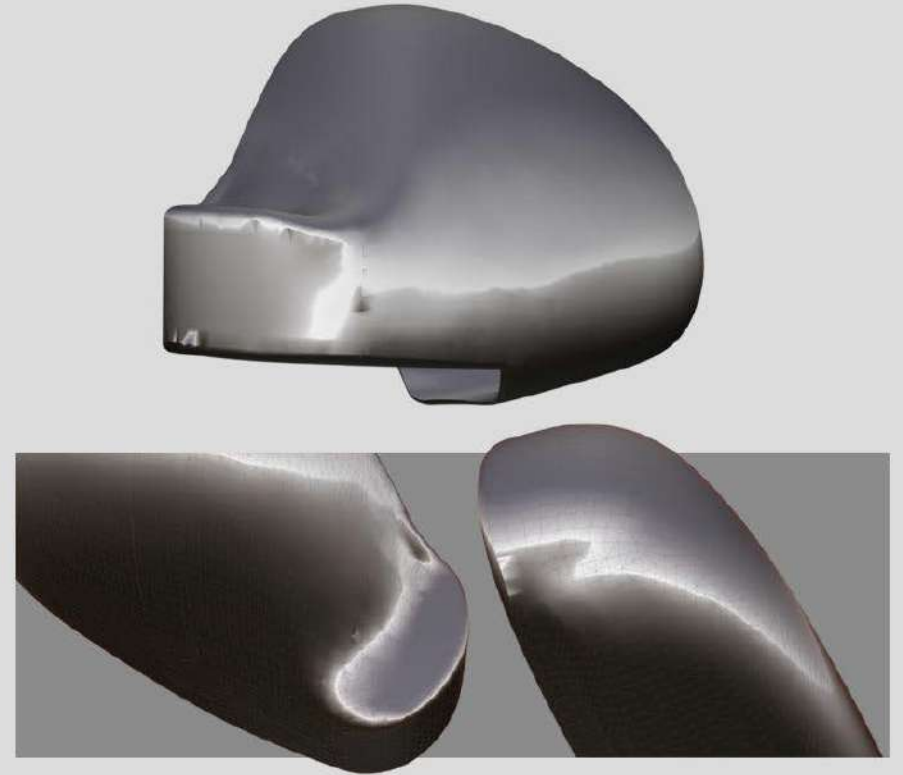
## Surface Modeling

Scan Data

## Scan Data



## Features & Deviations



### Modeling Criteria:

- 1: Surface Deviation : 0.5mm(Tolerance)
- 2: Neglect impurities in Scan Data to achieve Smooth surfaces(in some areas)

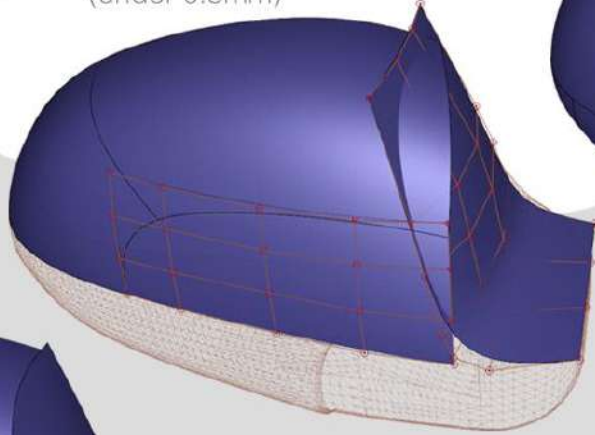


# Development Process

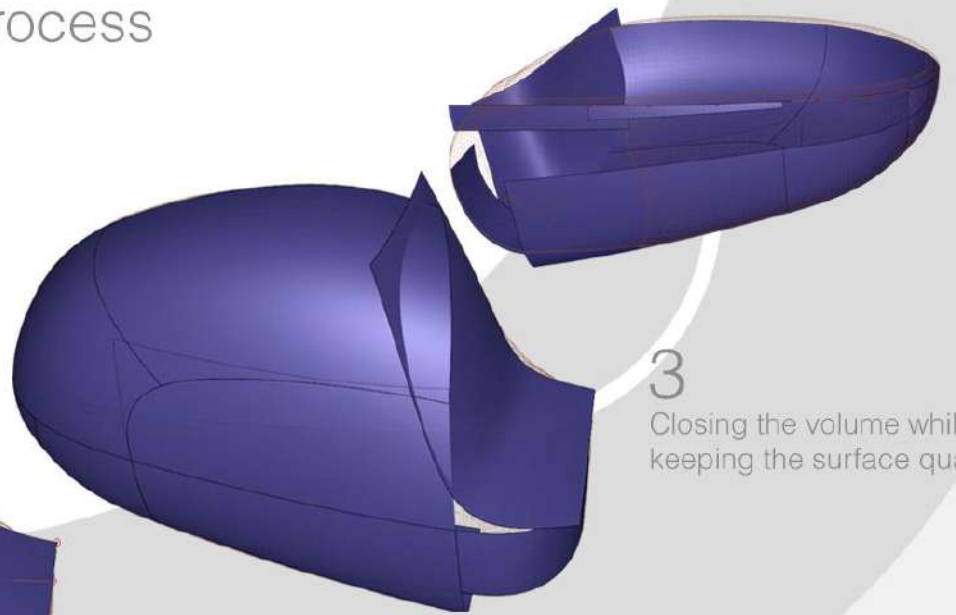
1  
Tracing & perfecting curves  
using Dynamic Sections in X,Y,Z axis.



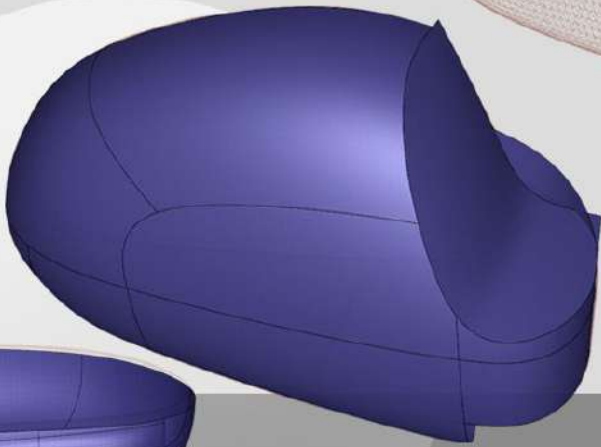
2  
Laying surfaces while checking  
Surface to mesh deviation  
(under 0.5mm)



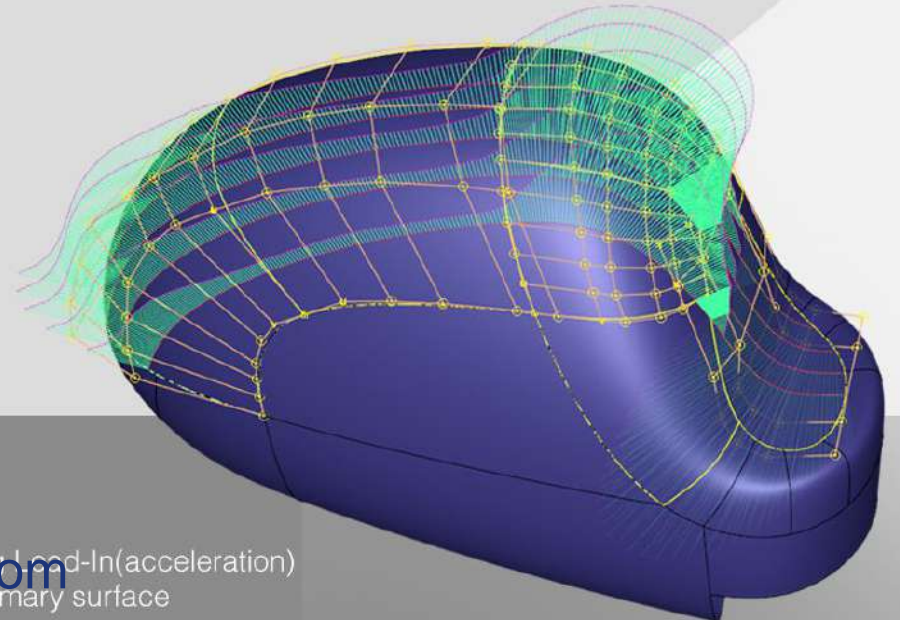
3  
Closing the volume while  
keeping the surface quality



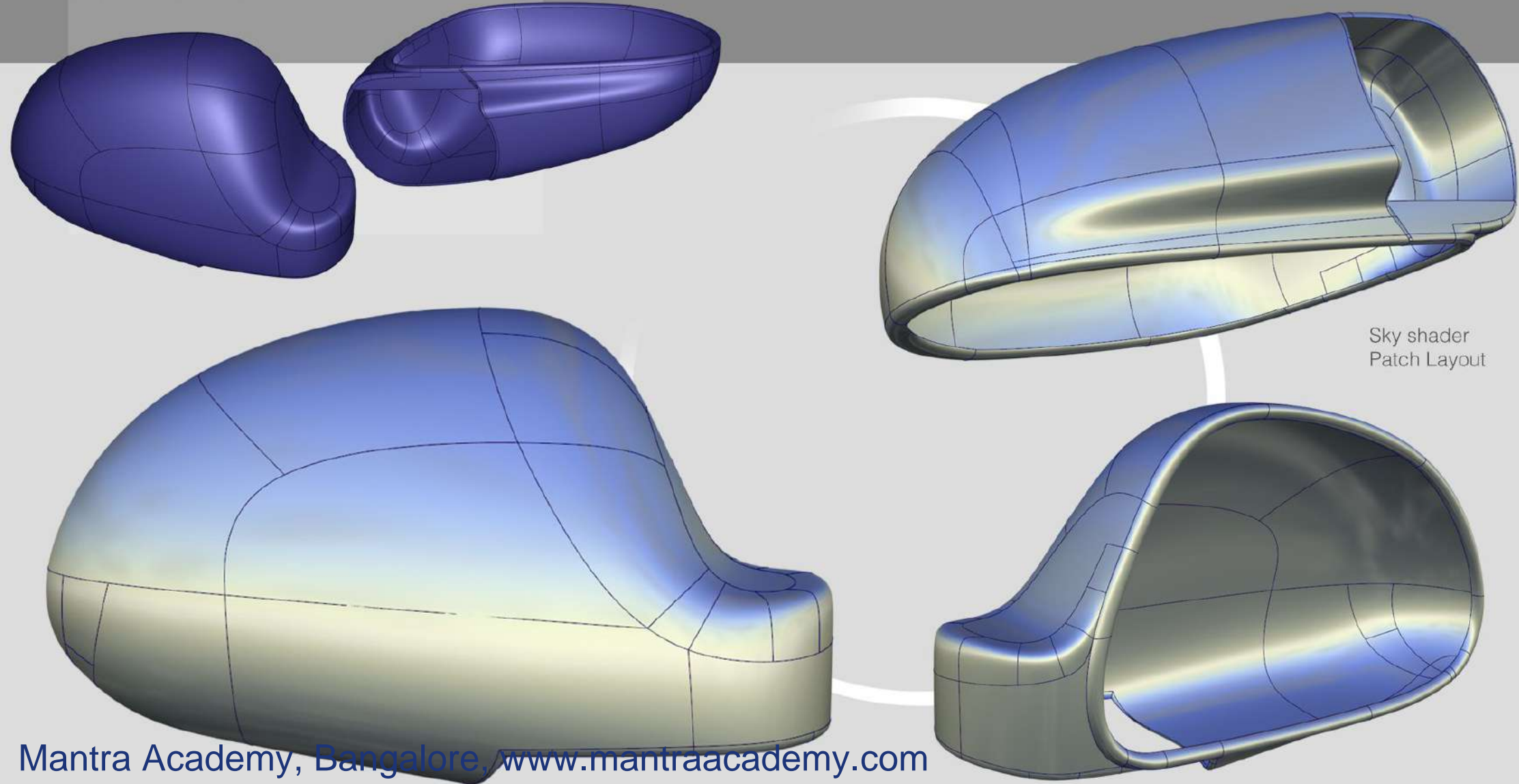
4  
Final intersection model  
with refined & reduced patches



5  
Providing Lead-In (acceleration)  
to the primary surface



# FINAL MODEL

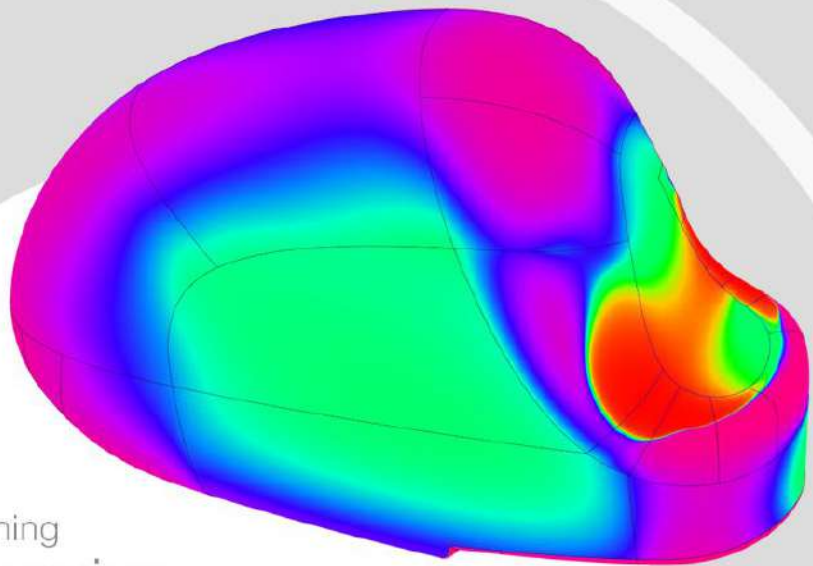


Sky shader  
Patch Layout

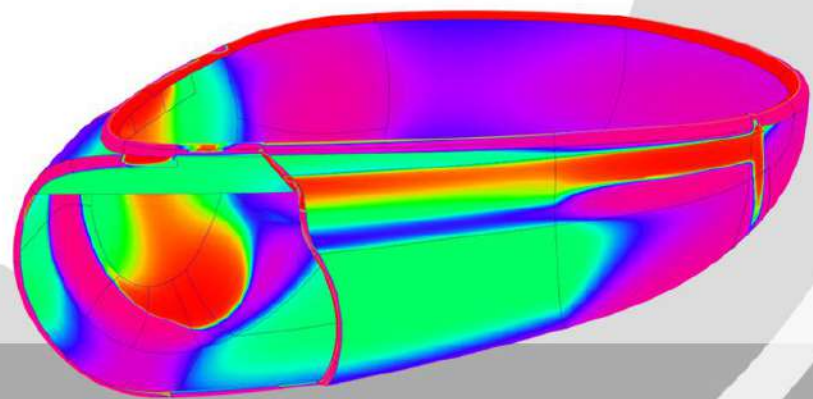


# Highlights





Refining  
Gaussian  
Curvature Evaluation



Zebra Shader  
Surface Evaluation  
after Lead-in

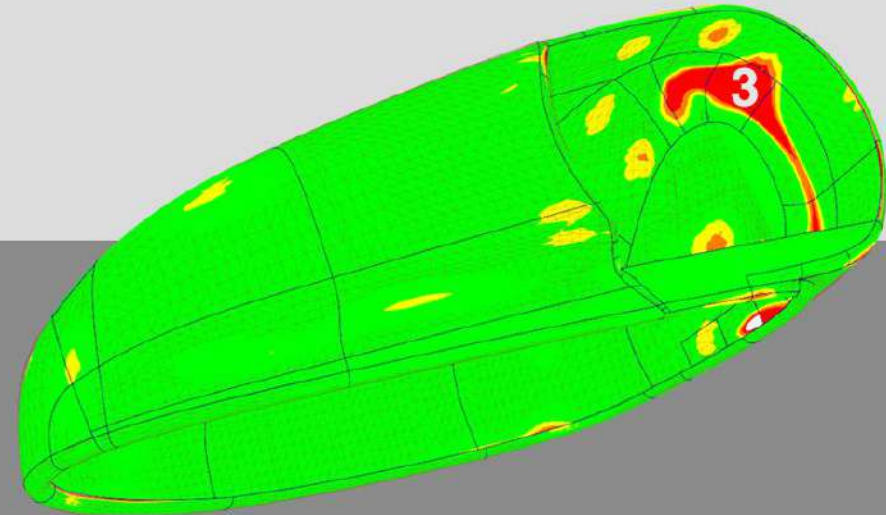
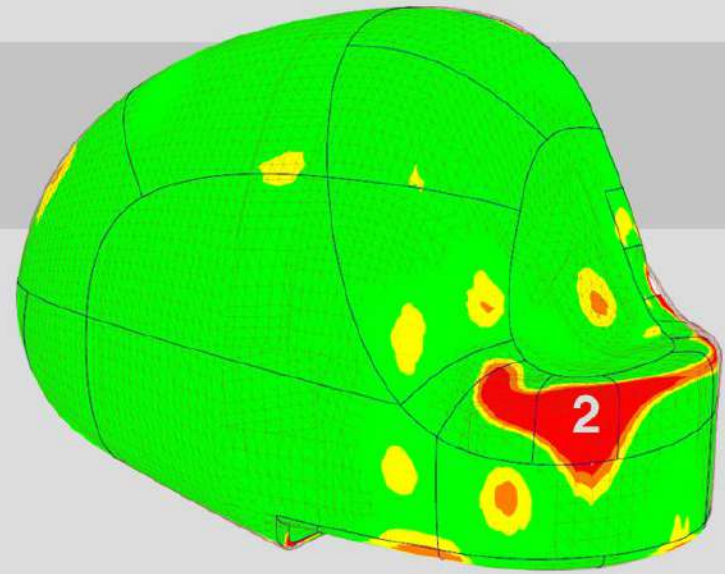
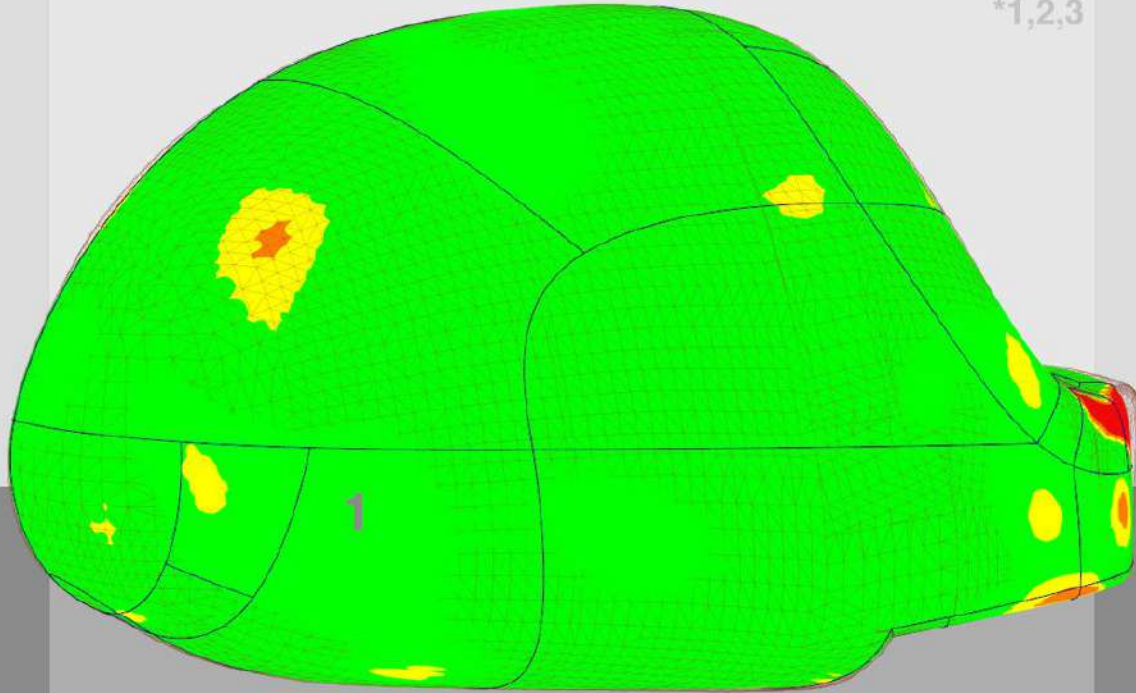




# Surface Deviation

To mesh  
0.5mm

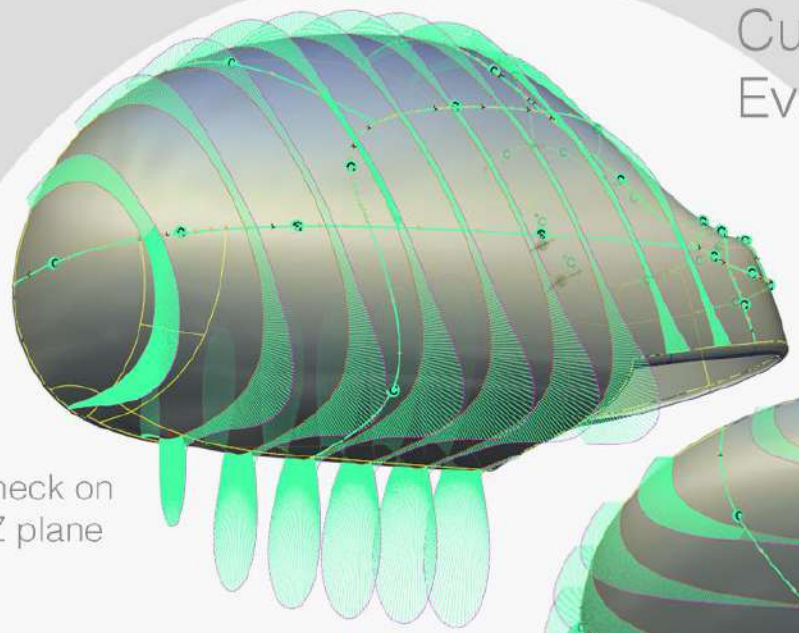
Achieving smoother transitions  
while keeping more tolerance  
for \*impure areas in the mesh  
\*1,2,3



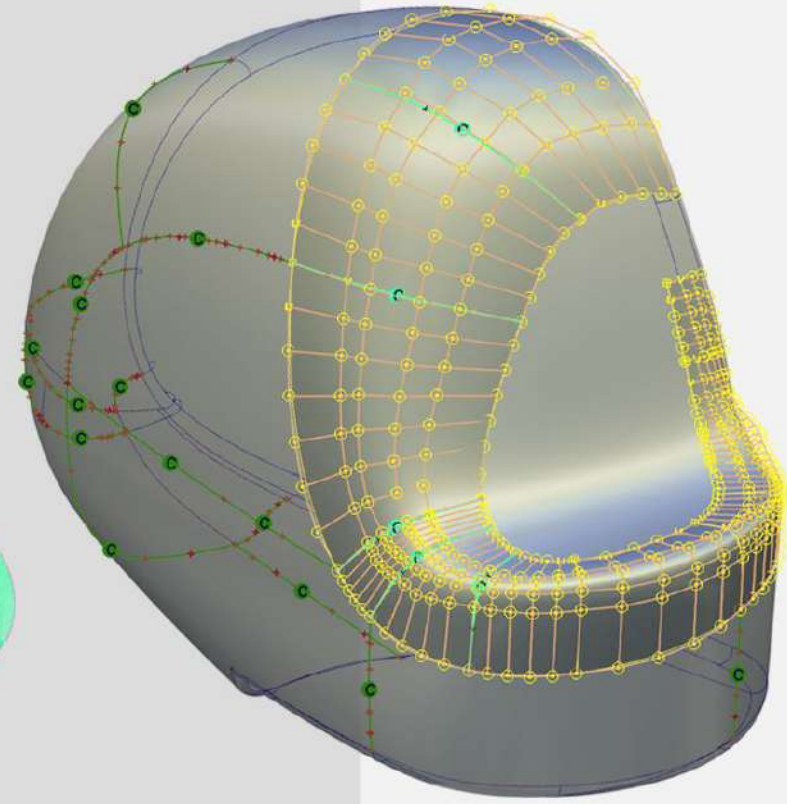
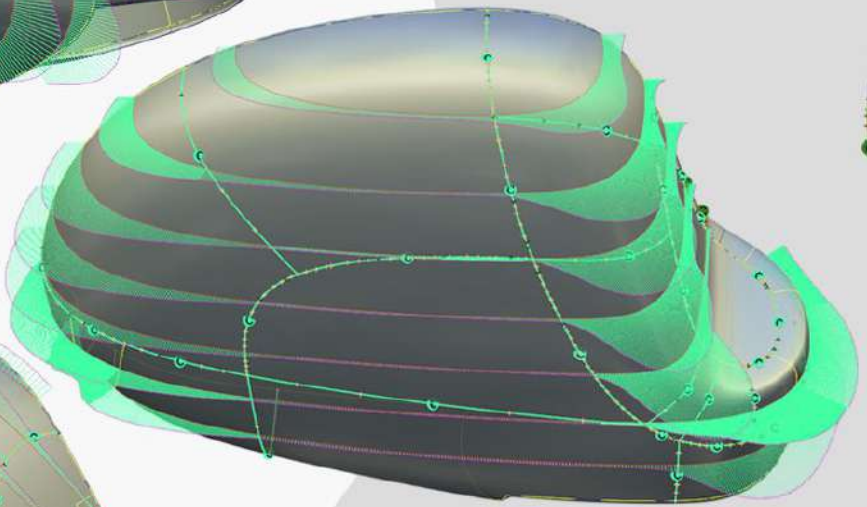
Maximum focus on capturing major areas under deviation after providing lead-in while satisfying Gaussian & Zebra shader.

# Curvature Comb Evaluation

Check on  
YZ plane



Check on XY plane



CV Layout



**thank you**

Mantra Academy, Bangalore, [www.mantraacademy.com](http://www.mantraacademy.com)