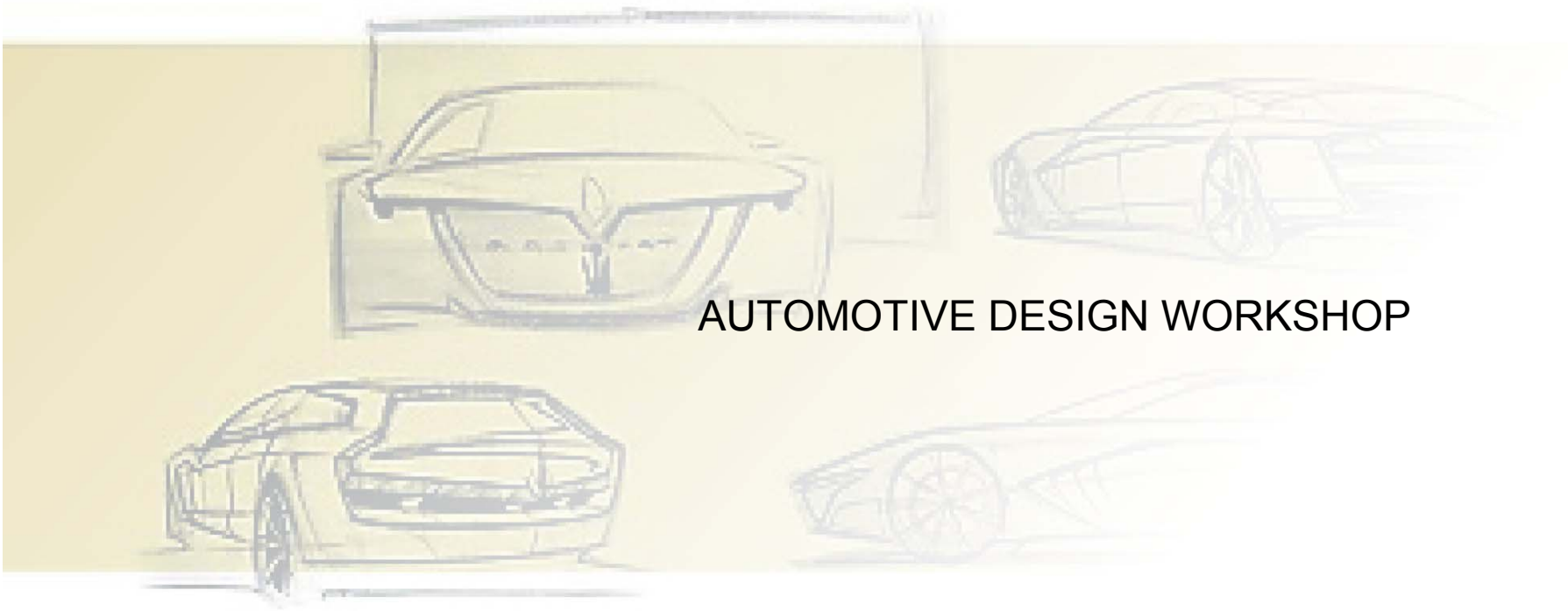
SUMMER TRAINING REPORT



AUTOMOTIVE DESIGN WORKSHOP

Conducted at IIT-Guwahati
by
Mr. Haruhiko Ito [Industrial designer, Japan]

Thomas George
02613808

Acknowledgement

The ‘Automotive Design Workshop’ conducted at IIT Guwahati provided us with an opportunity to explore our potential in the vast arena of automotive design. This was possible because of the combined efforts and genuine hospitality of all at the Indian Institute of Technology, Guwahati.

We, therefore express our gratitude to all of them, especially the faculty, staff & students of the Department of Design.

We, wish to thank Mr. Haruhiko Ito, who not only conducted an eye opening workshop, but in a short span of one month, gave us the greatest exposure we have yet had in this field. The gains from this workshop were due to his vast knowledge and professional experience in the field of automobile design and the hunger to learn more.

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Sequence of Activities

Sketching

Exterior styling – Concept (Form) generation

Learning the use and importance of anthropometric data

Conversion of final concept into dimensional drawing

Tool and template preparation

Scribers, right angles and sweeps

Front, rear and side profile templates

Base plate (Wood)

Model Making

Preparation of Thermocole core

Clay modeling

Plaster mould making

Final plaster casting

Finished model preparation (Refining surface, applying putty, painting, graphics and stickers)

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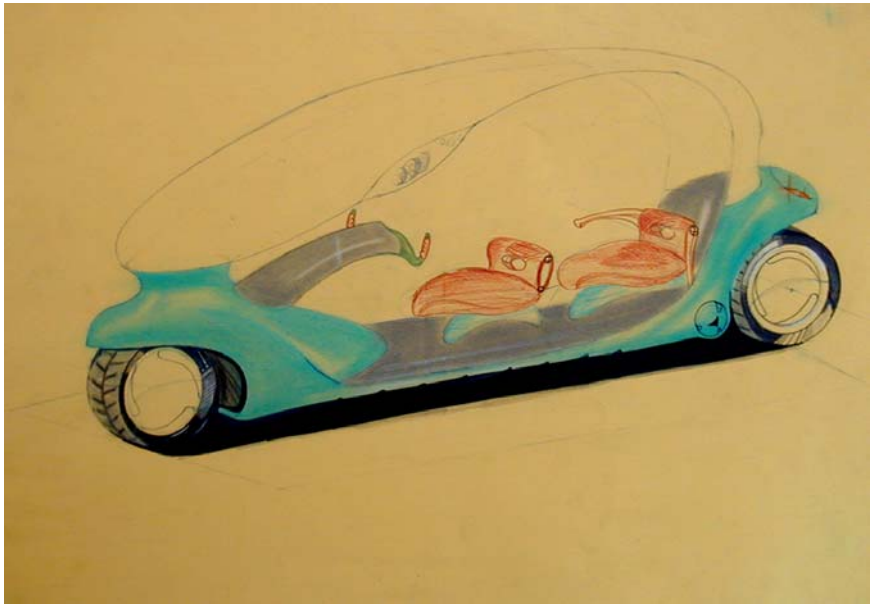
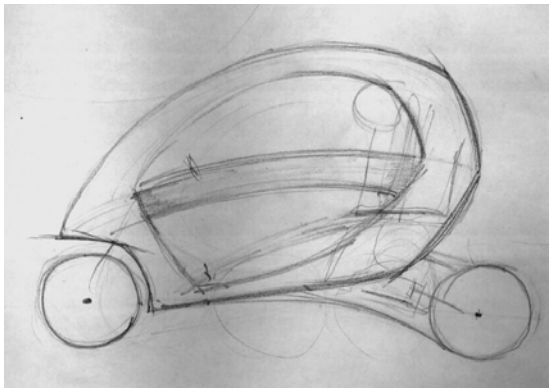
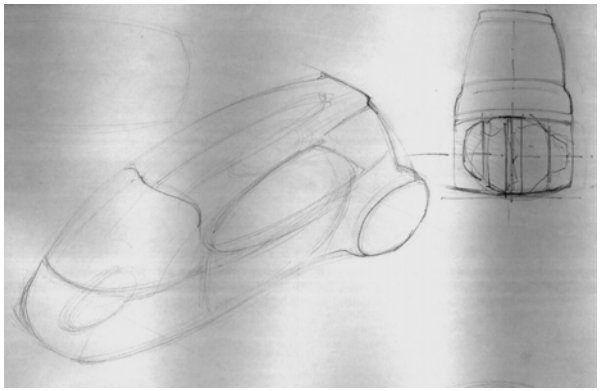
Exterior styling – Concept (Form) generation

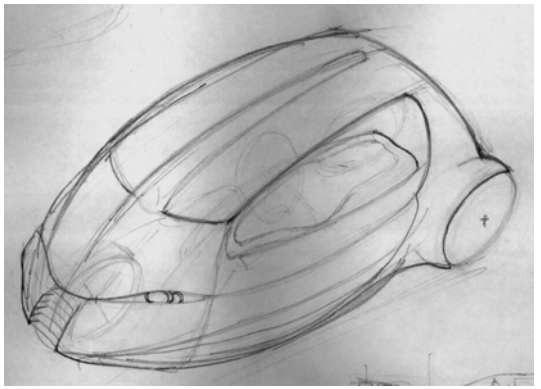
Concept generation for a mega cruiser

(large capacity scooter for two people)

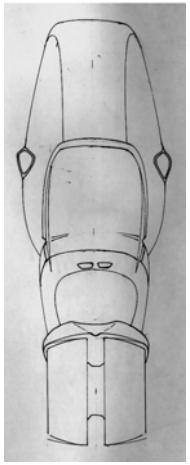


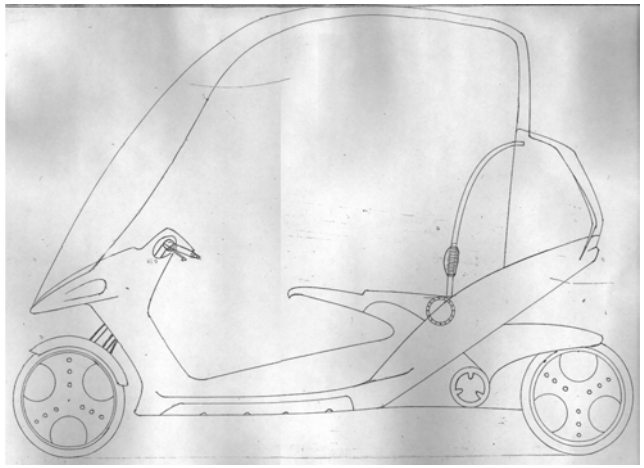


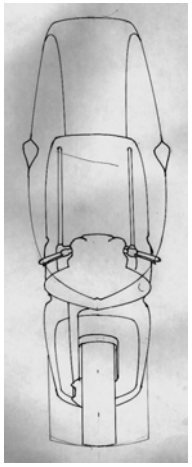




Final Concept (Rendering & Scaled views)







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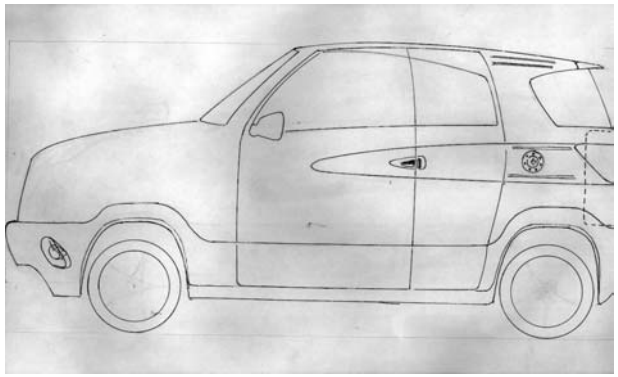

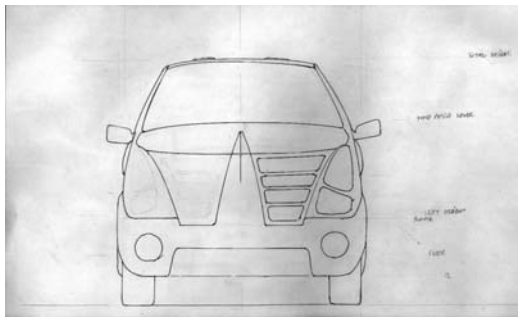

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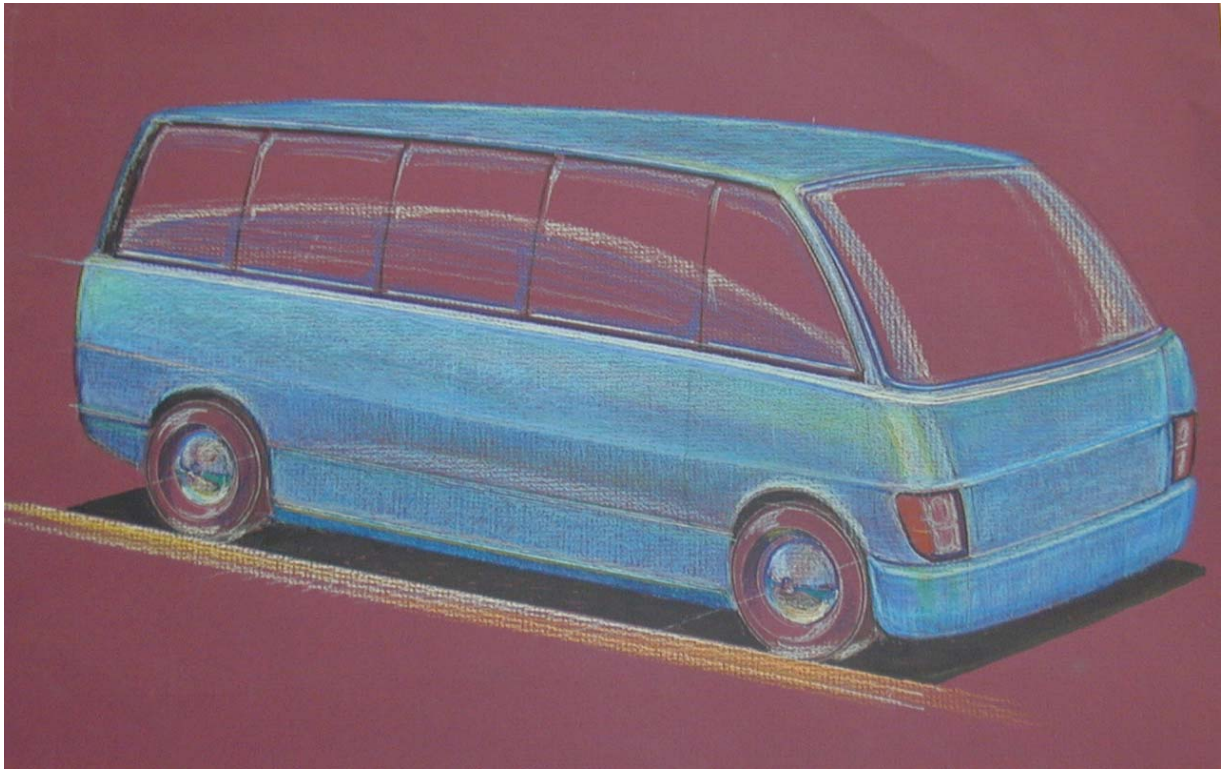
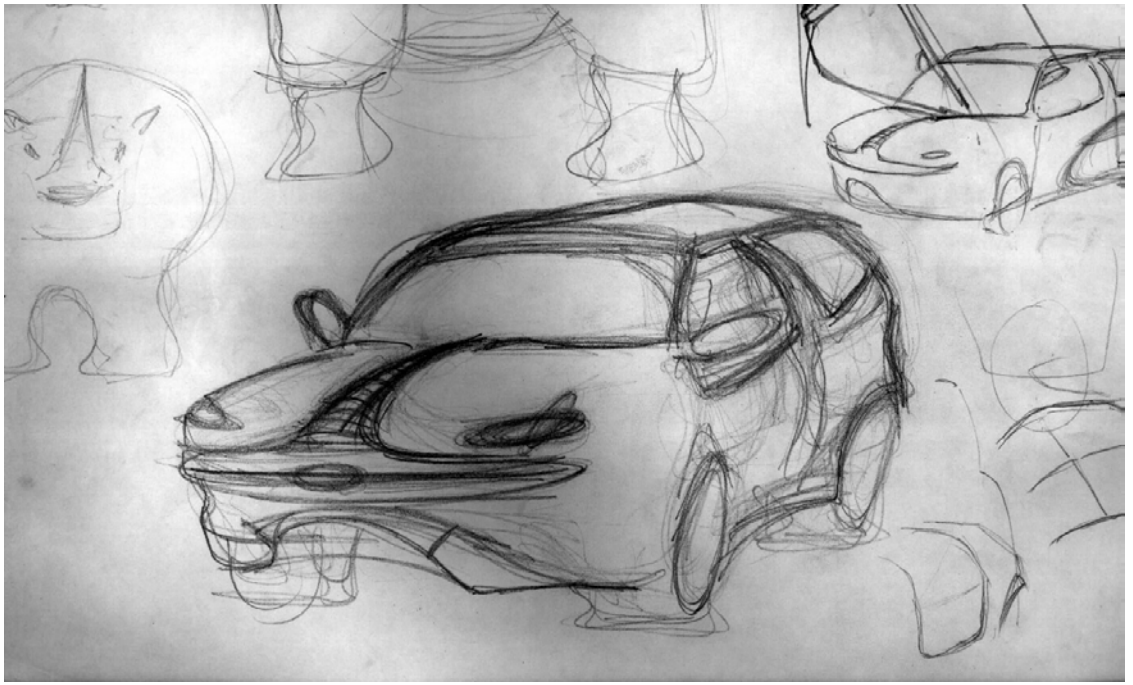
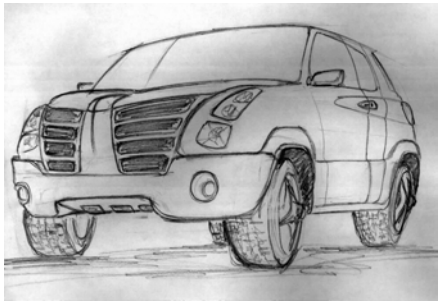
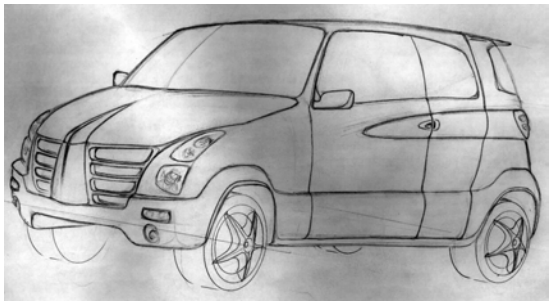


Exterior styling – Concept (Form) generation

Concept generation
For
Sports UTILITY VEHICLE







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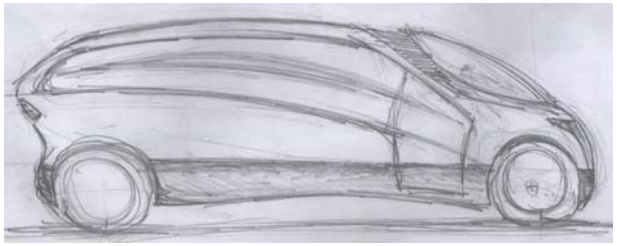
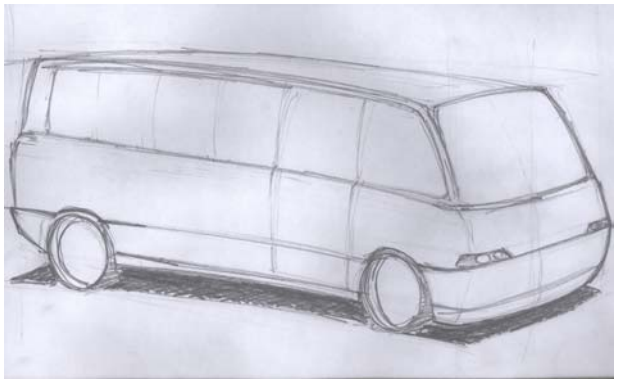
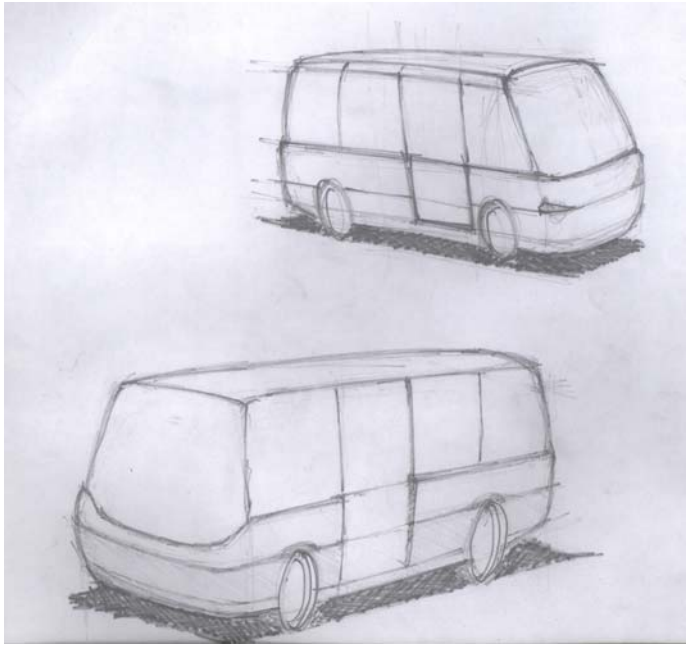
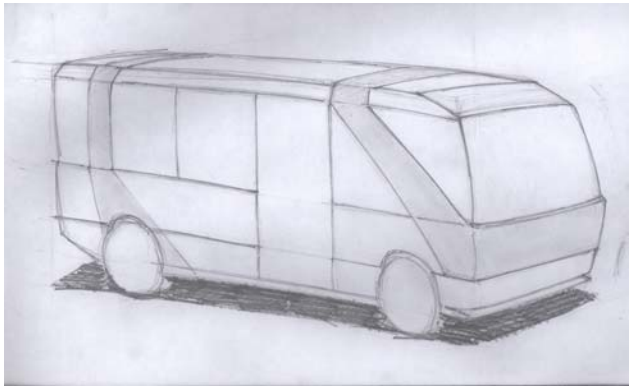
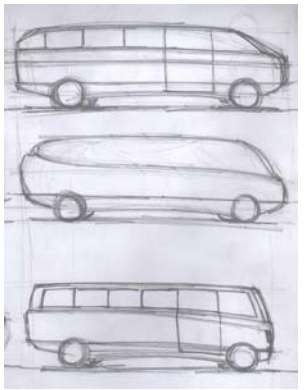


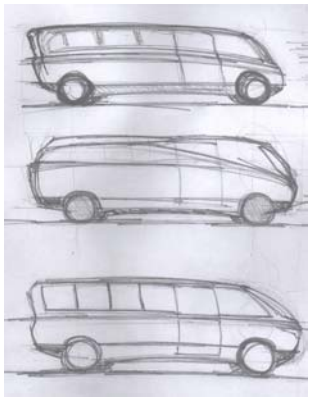




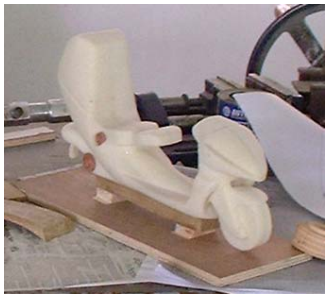
Concept generation
For
mICROBUS

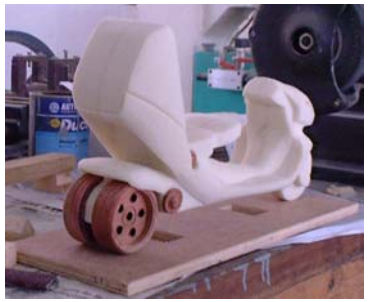






Evolving the Final Model (in PU Foam)

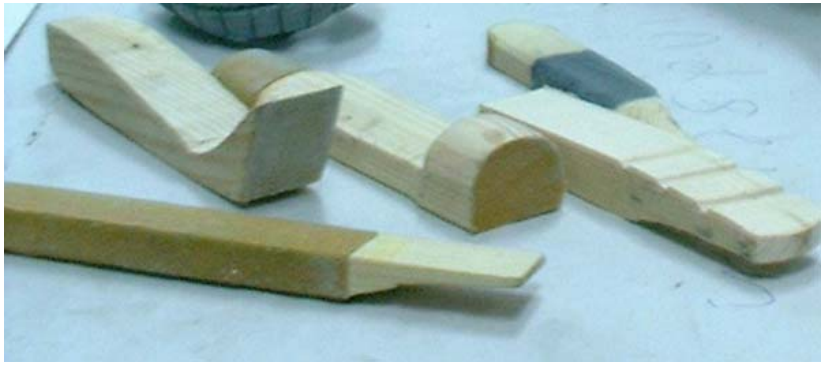




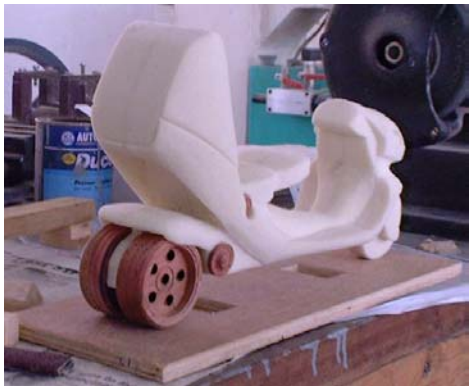
Evolving the Final Model (in PU Foam)

Tool and template preparation

Working with PU foam was a good experience in model making as it is very easy to carve with blades, knives and also to abrade with sand paper. However the making of simple tools enabled me to produce a model with greater speed and with more accuracy.



The easiest way to make my own tools was by using sandpaper and wood, especially soft wood. This allowed me to work on flat surfaces, contours, etc with equal ease. By using different grades of sandpaper, one can achieve better results than by using the sandpaper by hand.



Templates are needed for the front and side profiles to check the maximum dimensions. These are made in either wood or styrene sheets with drawings on graph paper.

A base plate made of wood is necessary to work with the model. The size of this is based on the size of the model and clearances on all sides. Its sides must be perfectly flat and perpendicular to each other to enable use of templates with it.

Wheels, tyres, lights and other details

Wheels and tyres, I realized, were often neglected in model making and could result in an otherwise good model looking mediocre. After trying out plaster, PUfoam and wood , I selected wood as the main wheel component . This was made on a lathe to dimensions and rubber treads and foam alloy wheel components were added on.

The steering components are added on separately and other details such as mock crankcase cover , an acrylic front glass and wooden mock canopy are addred.