
SUMMER INTERNSHIP PROJECT

COMPANY : TATA ELXSI LIMITED, BANGALORE

PROJECT TITLE : STYLING OF A TRACTOR

DURATION: 16TH MAY - 28TH JUNE

**GUIDES: NARENDRA GHATE (SR. SPECIALIST, ID)
SATISH KOMARAGIRI**

SUBMITTED BY : SARABJIT KALSI 05613805

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A decorative line graphic consisting of a horizontal line that transitions into a diagonal line segment, followed by another horizontal line segment extending to the right edge of the page.

ACKNOWLEDGEMENT

I thank TATA Elxsi Limited for giving me a rewarding experience for getting trained in their esteemed organisation.

I would also like to convey my regards to Mr.Narendra Ghate, Senior Specialist Industrial Design who encouraged me for my involvement in a live project of 'Styling of a tractor'.Also I thank Mr.Satish Komaragiri, Senior designer who has helped me a lot in terms of understanding the project and coming up with innovative ideas in the field of design.

Also I thank my colleagues especially Mr.Ranbir Kalha and Mr.Akkireddy Challa for their sincere efforts in helping me with my rendering skills.



COMPANY OVERVIEW



TATA Elxsi is a public limited company promoted by Tata Industries Limited and Tata Technologies Pte. Ltd, Singapore. 40% of the equity is held by the Tatas and remaining 60% with the public.

The company began in 1989 with its corporate office in Bangalore and has consistently registered an annual growth rate of 40% in the last four years.

From Automotive to Aerospace, Bioinformatics to Consumer Electronics, Entertainment to FMCG, media to Storage, Semicon to Telecom, we provide customized design solutions to companies across the globe. Conforming to strict processes, a highly motivated skilled workforce driven by strong design principles and ethical business practices ensure cost-effective, time-to-market solutions.



COMPANY OVERVIEW



Value Statement:

Engineering creativity with the best of breed technology, Tata Elxsi will strive to deliver solutions high on innovation, all the time conscious of quality, time and cost and most of all designed according to your needs.

Vision

To be world leaders in creativity, design and emerging technologies.

Mission

We will deliver value to our customers through technical excellence and constant innovation. We will build trust with all customers, employees, shareholders and communities that we serve in, across the world.



DEPARTMENTS

PRODUCT DESIGN SERVICES

Designing technology products including hardware / software across the product lifecycle.

DESIGN ENGINEERING SERVICES

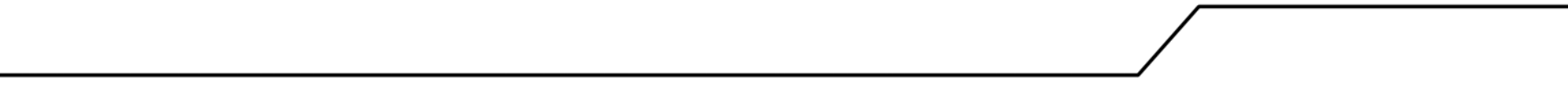
Providing integrated mechanical designs solutions to give shape to products.

VISUAL COMPUTING LABS

Making possible the creation of compelling digital content for the entertainment industry.

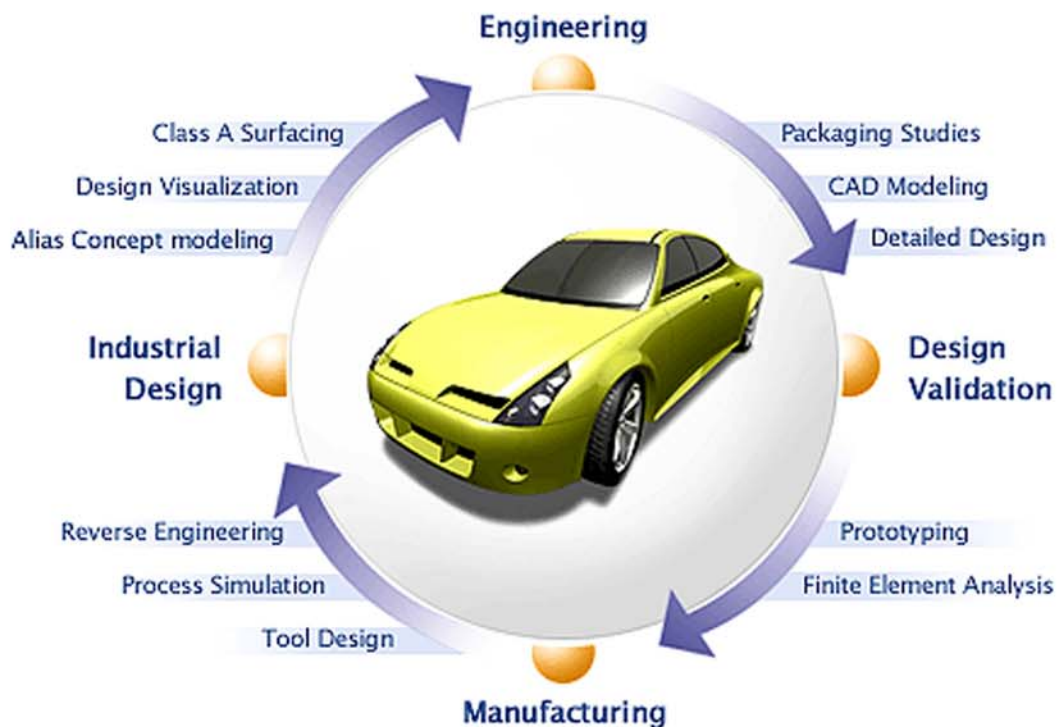
SYSTEMS INTEGRATION SERVICES

Enabling the setting up of world class design environments by assimilating resources, implementing complex design solutions and architecting total integrated solutions.



DESIGN ENGINEERING SERVICES : TRANSPORTATION

Tata Elxsi has been partnering with Automotive OEMs and suppliers, to deliver design support services from India and at client locations.



PROJECT TITLE

Styling of a low hp tractor on the basis of the cost and manufacturing constraints.

PROJECT DELIVERABLES

Detailed conceptual sketches rendered in Photoshop based on the material used, cost involved and manufacturing constraints.



DESIGN PROCESS AND METHODOLOGY

The entire process starts with the client submitting a product brief in which he states all his design intents.

Then on the basis of all the metaphors given a simple and elegant design solution is found going through a series of Idea Sketching, Concept Sketching and Concept refining.

The concepts are then refined on softwares like Photoshop and 3D Modelling softwares whenever there is a doubt.

Also while making these concept refinements great care is taken for the choice of materials used and also the cost and time involved in the process of manufacturing these products.



PROCESS INVOLVED IN TRACTOR STYLING

1. PRODUCT BRIEF

2. STUDY OF COMPETITOR TRACTORS

3. IDEA SKETCHING

4. CONCEPT DEVELOPMENT

5. CONCEPT REFINING

6. CONCEPT FINALISATION



PROCESS INVOLVED IN TRACTOR STYLING

INITIAL DATA PROVIDED BY THE CLIENT:

The data given by the client was in terms of,

1. The layout/hard points of the tractor.
2. The Hp rating of the tractor (15 Hp).
3. The applications for which the tractor will be used.
Eg: Orchard applications.
4. The conditions in which it will be used.
5. The cost considerations in the development.

PROCESS INVOLVED IN TRACTOR STYLING

PRODUCT BRIEF

'AGNI' THEME



Horse symbolizing **VERSATILITY** and **ROBUSTNESS**.



COMFORT as in the case of a beach seat



EASY OPERATION as in the case of Nokia mobiles



CONSISTENT PERFORMANCE as of Rahul Dravid



The **PRIDE** and **HONOUR** same as our Indian Flag.



STRONG, COMPACT AND STURDY as in the case of Bajaj Pulsar.



AESTHETICALLY ATTRACTIVE as in the case of a famous tractor



EASE of **ASSEMBLY AND DISMANTLING** as in the case of a bicycle.



EMOTIONAL ATTACHMENT as in the case of Bullocks.



AFFORDABLE as in the case of a Maruti 800 car

PROCESS INVOLVED IN TRACTOR STYLING

STUDY OF COMPETITOR TRACTORS



NEW HOLLAND



JOHN DEERE



MASSEY FERGUSSION



PUNJAB TRACTORS



SWARAJ



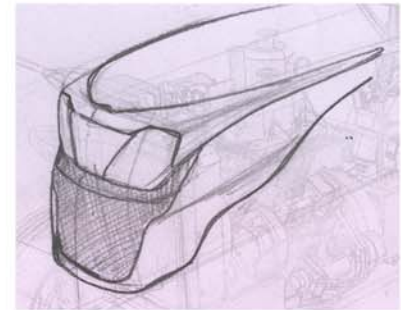
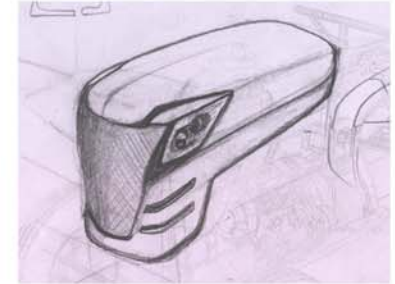
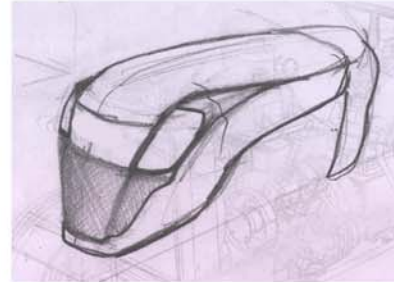
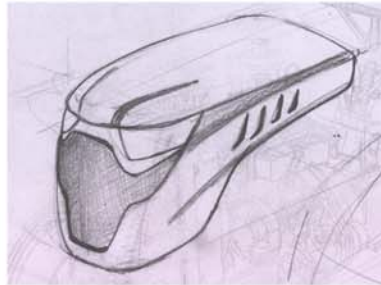
FARMTRAC

PROCESS INVOLVED IN TRACTOR STYLING

IDEA SKETCHING

Metaphor: BULL

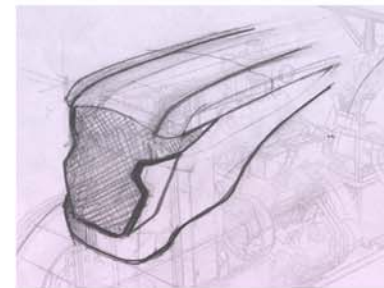
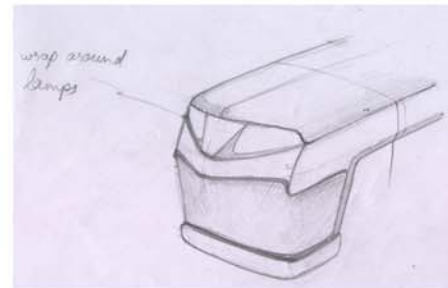
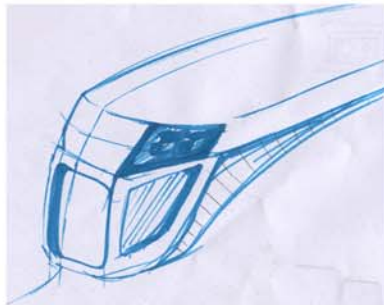
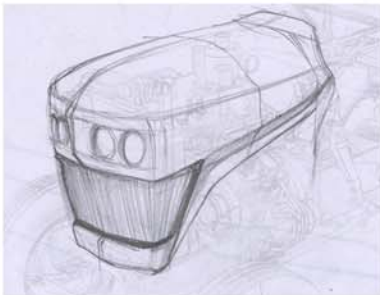
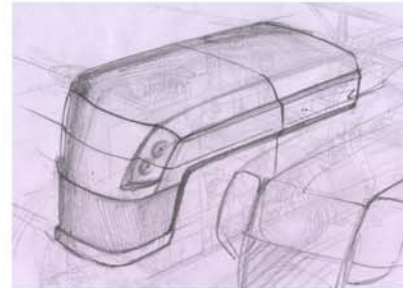
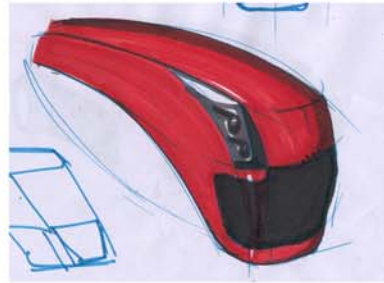
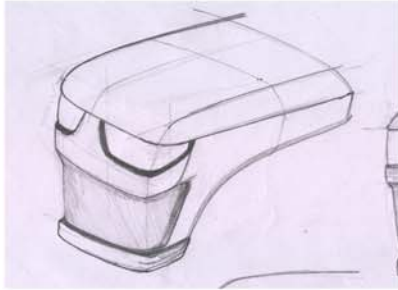
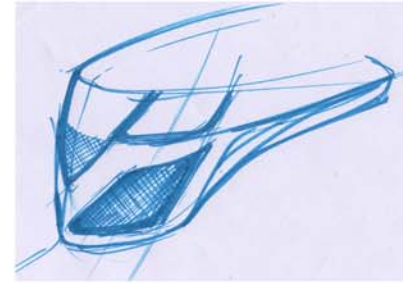
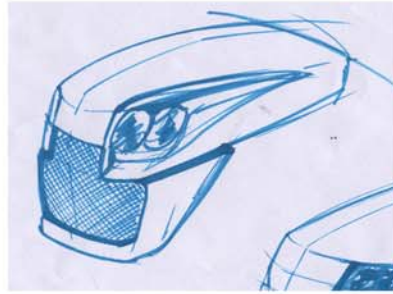
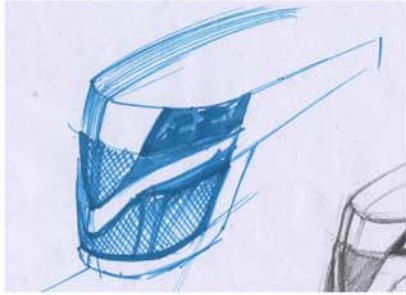
Some of the idea sketches were drawn considering the characteristics of the bull such as the triangular face and the horns.



DESIGN : CUES → POWERFUL → BUFFALO
STRONG → BULL
STRENGTH
STAMINA

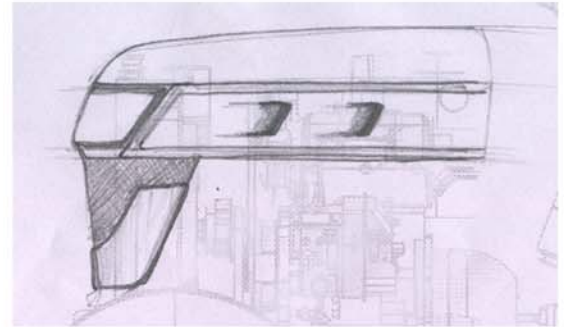
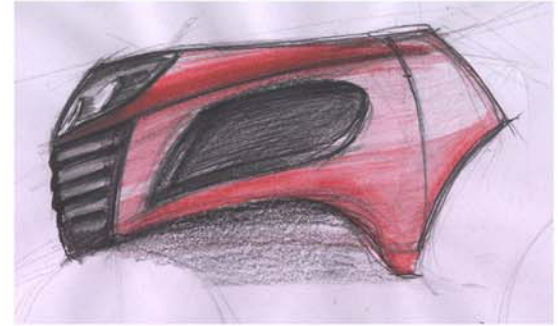
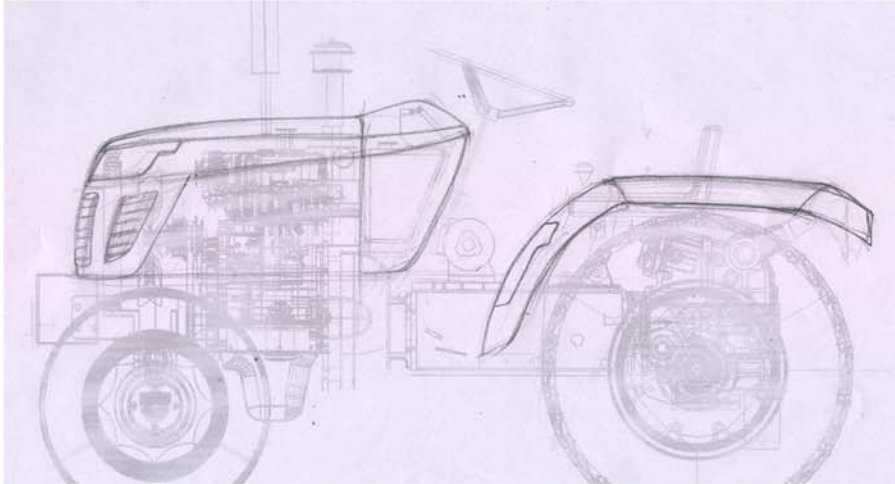
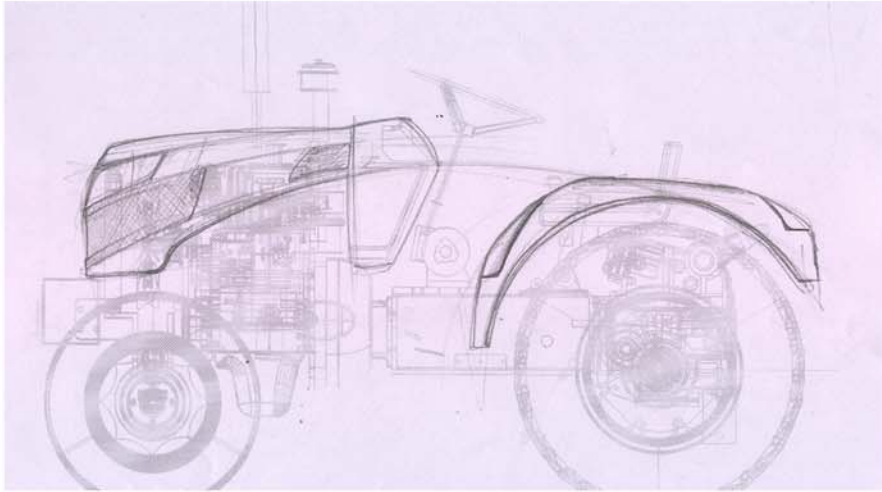
PROCESS INVOLVED IN TRACTOR STYLING

IDEA SKETCHING



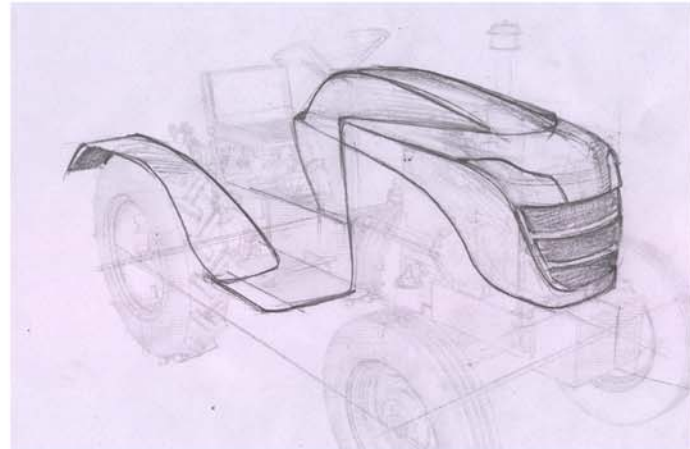
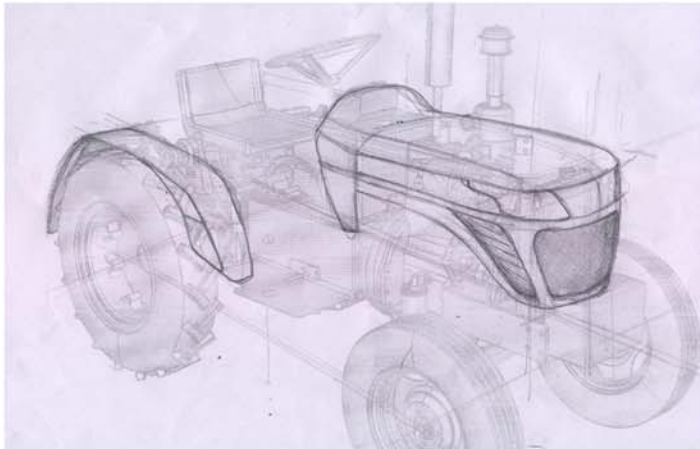
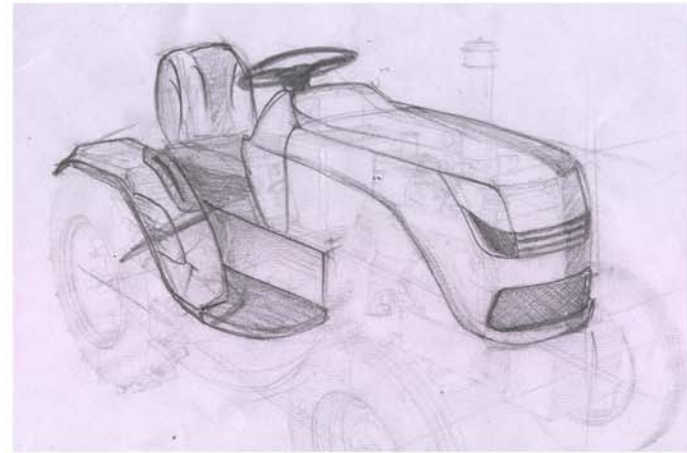
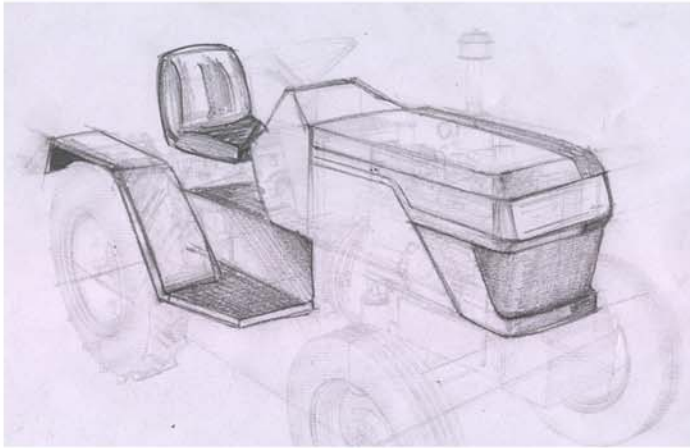
PROCESS INVOLVED IN TRACTOR STYLING

IDEA SKETCHING



PROCESS INVOLVED IN TRACTOR STYLING

IDEA SKETCHING



CONCEPT DEVELOPMENT

The concept sketches were made keeping in mind that none of them resembles the other company's tractor.

Also the tractor should look like a tractor, should not have a drooping hood and also it should have a negative rake in the front.

PROCESS INVOLVED IN TRACTOR STYLING

CONCEPT DEVELOPMENT

C1



C2



C3



C4



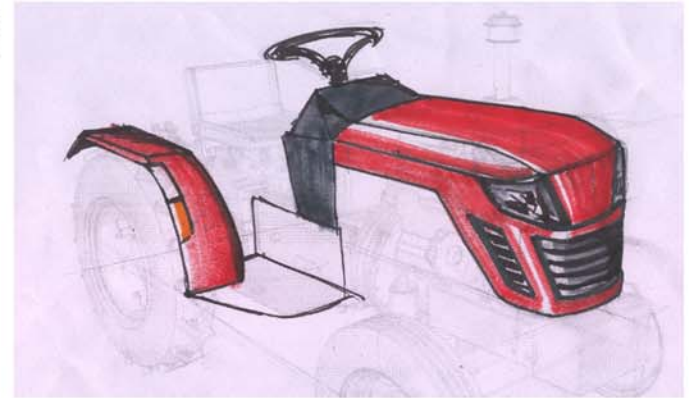
PROCESS INVOLVED IN TRACTOR STYLING

CONCEPT DEVELOPMENT

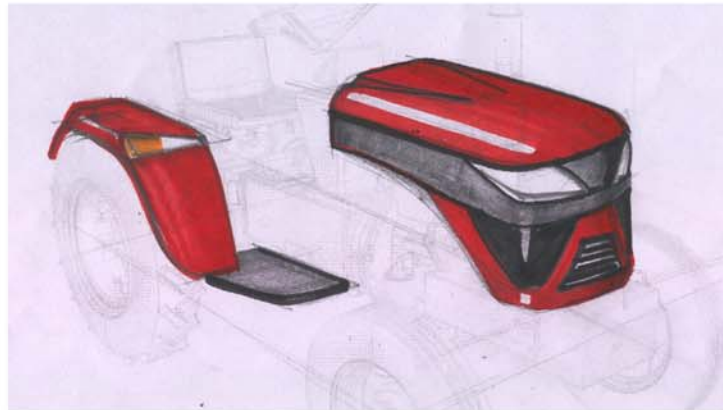
C5



C6

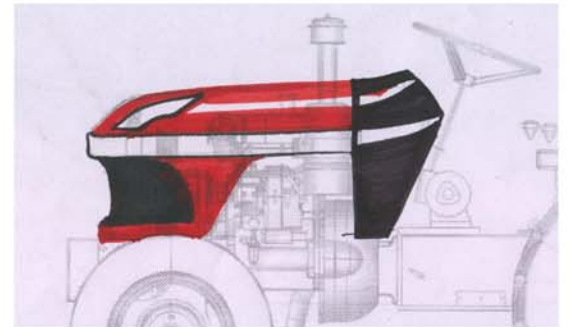
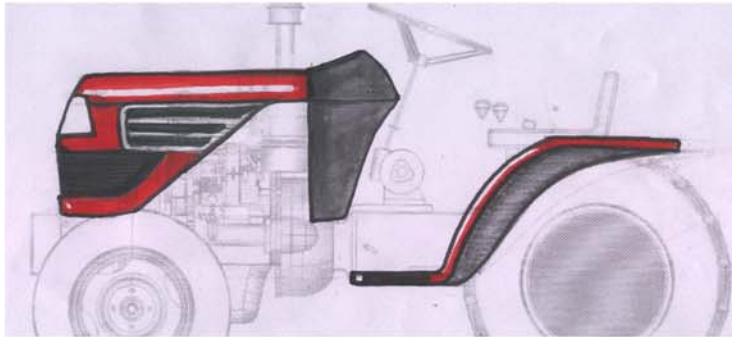
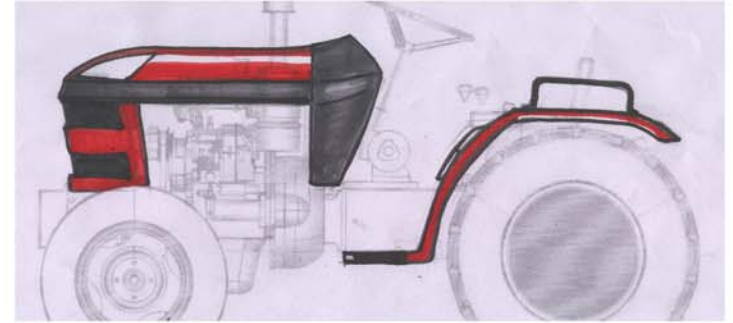
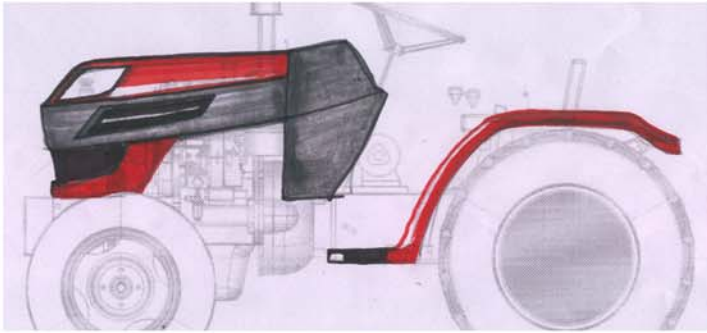


C7



PROCESS INVOLVED IN TRACTOR STYLING

CONCEPT DEVELOPMENT



CONCEPT REFINEMENT

The concept refinements were done keeping in mind the type of material used to manufacture different components, the cost involved in making the entire exteriors and the manufacturing methods used.



PROCESS INVOLVED IN TRACTOR STYLING

CONCEPT REFINEMENT



The refinement involves the inclusion of other details such as the fenders, seat, scuttle, steering and the air filter to get an overall perception of the tractor.



PROCESS INVOLVED IN TRACTOR STYLING

FINAL CONCEPT



LEARNINGS

It was a great opportunity for me to know about the practical scenario while designing for a client

Have learnt the techniques for quick renderings and also gave me a brief idea of how actually the design process is carried out in the company.

