

Two Wheeled Delivery Vehicle

Project guide

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Mobility and Vehicle Design

Scope



Scope



Market study - India



Features



Mostly bikes

Separate cargo box/bag

Prominent branding

Rear cargo space

Lack of design



Market study - India



Features



- Mostly bikes
- Separate cargo box/bag
- Prominent branding
- Rear cargo space
- Lack of design

Market study- Abroad



Features



Step through frame

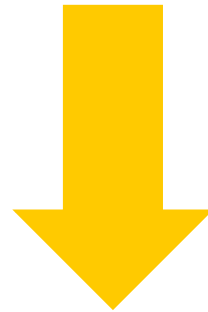
Rear cargo space

Prominent branding

Well designed

User study

- Activity analysis
- Questionnaire survey
- User observation



Design key words

Activity analysis



Questionnaire survey

Types of shipments?

Avg. daily delivery?

Avg. daily travel distance?

Things carry other than shipments?

Capacity of cargo space?

Current problems?

Why bikes?

Common answers

Electronic items, apparels, foot wear

35 shipments on an average
35 Km on an average

POS device, money, helmet, papers

110 litres on an average

Movement of big back pack, misbalancing,
safety of shipments

Mileage, design

User observation



Key points from research...

- Should have easy cargo handling facility.
- Should have enough storage space for cargos and other relevant things.
- The cargos should have enough safety while parking.
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- Should be single seat vehicle.

Design brief

Vehicle packaging

A single seat two wheeled vehicle with min 80 lit. cargo space and storage for other belongings.

Dimensional specification

Wheel base 124cm, Width 71 cm, Seat height 76cm

Aesthetics

Should match with current market trends, unisex

Power source

Electric powered with hub motor

Packaging design

Shipments



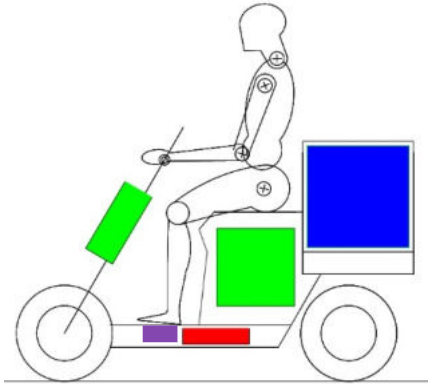
Usually carried in cuboidal boxes or pouches having max size of
33.5 cm x 18 cm x 12.5 cm

Other belongings

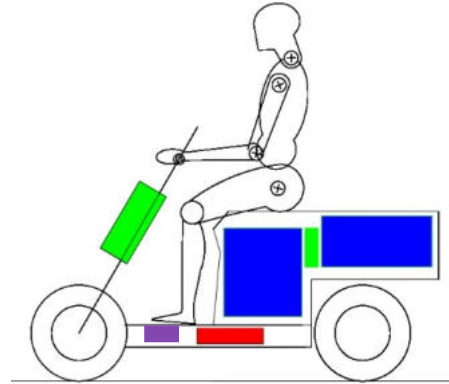


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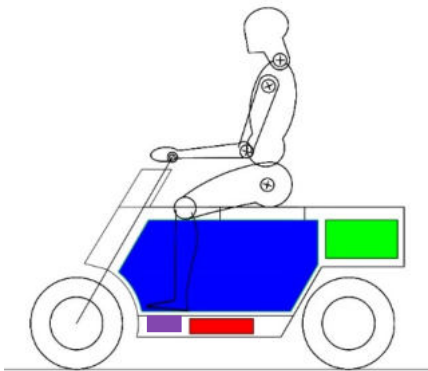
4 Concepts



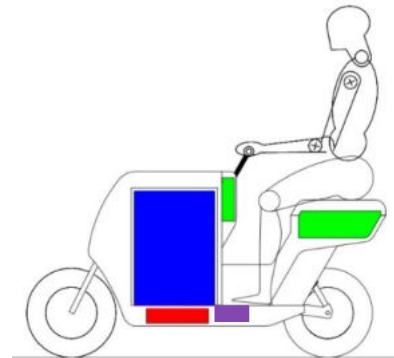
125 lit.



90 lit.



70 lit.



110 lit.

Mood board



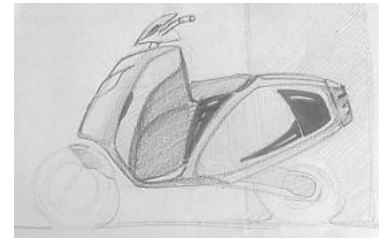
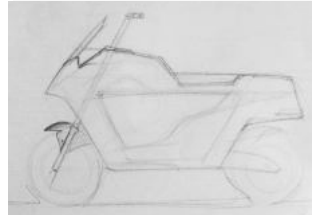
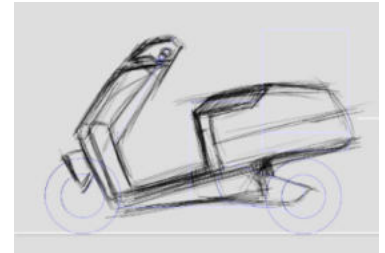
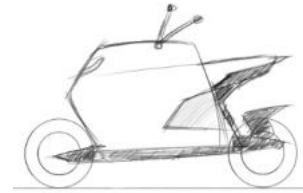
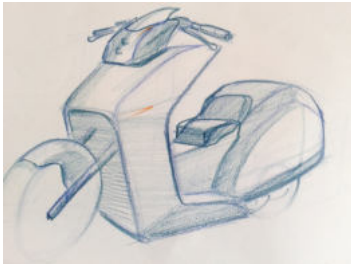
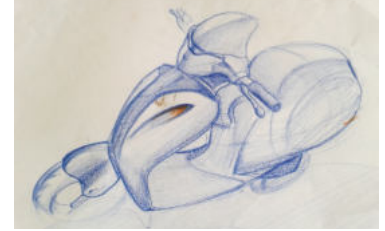
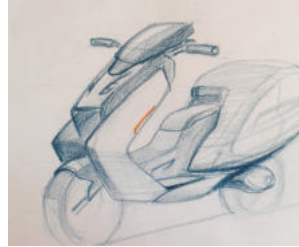
Fast



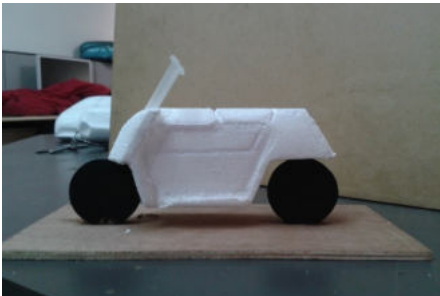
Features

- Pointed towards the direction of movement.
- Body lines are neither parallel nor perpendicular.
- Absence of pure geometric shapes.
- Most of them have sharp edges.
- Fluidic body curves.
- Contrasting colour scheme.

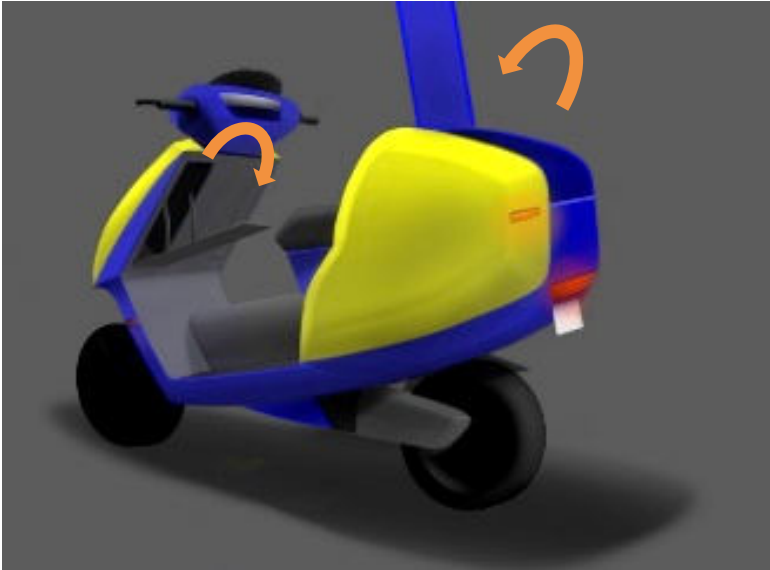
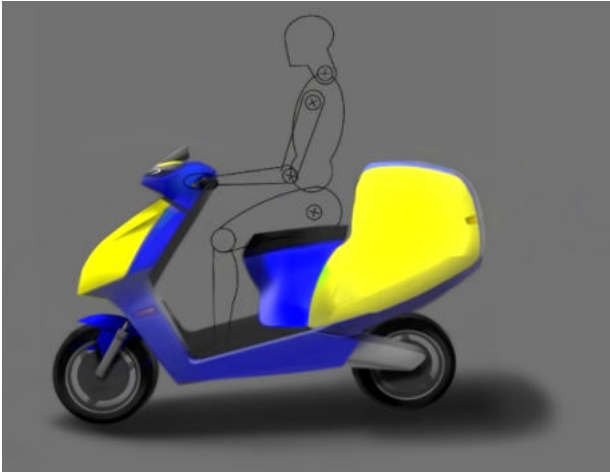
Ideation



Mock-up

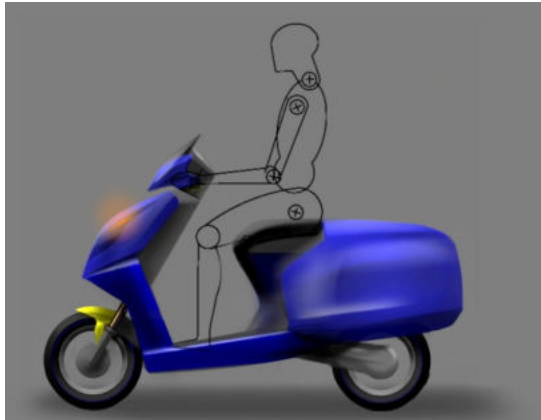


Concept renderings



Concept 1

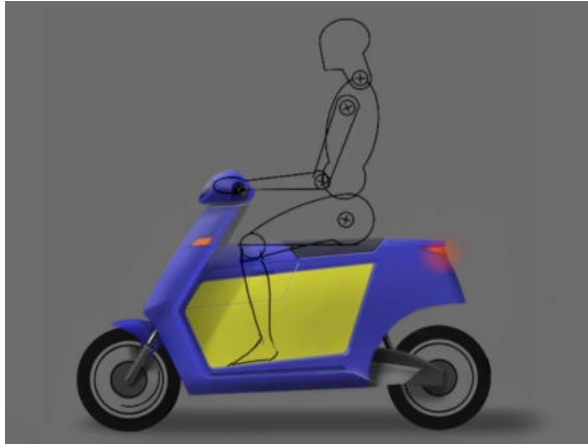
Concept renderings



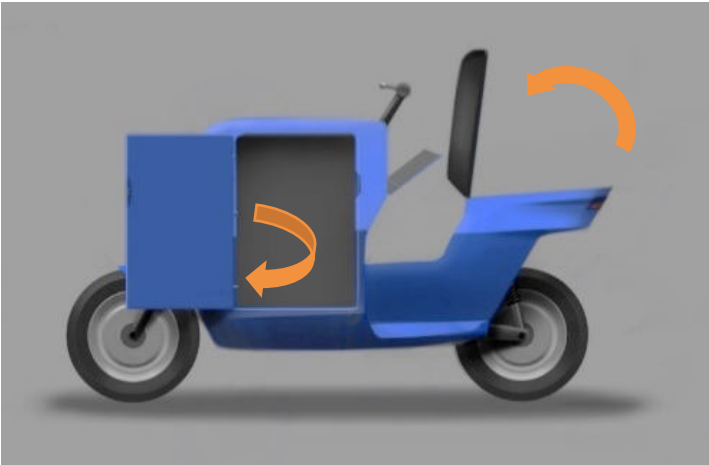
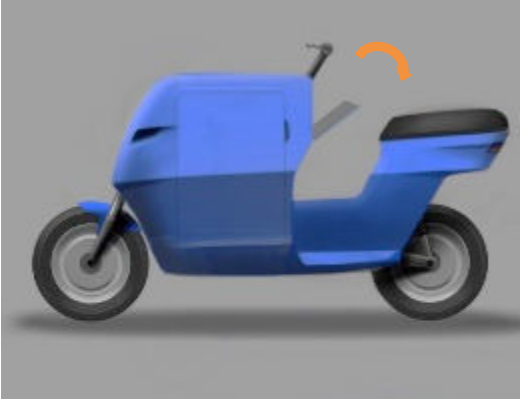
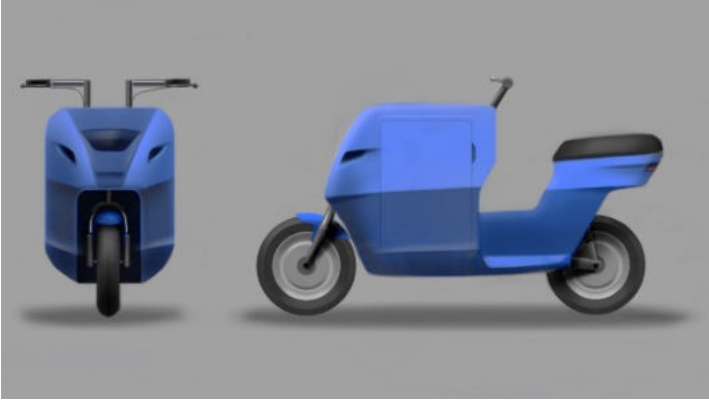
Concept 2



Concept renderings



Concept renderings



Concept evaluation

Key points

1. Cargo handling
2. Comfort
3. Safety
4. Comparison with existing
5. Styling

Concept 1 with rear cargo space has been selected as final.

User feedback and suggestions

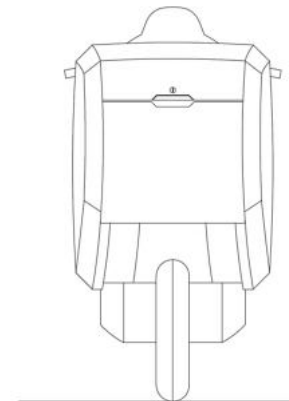
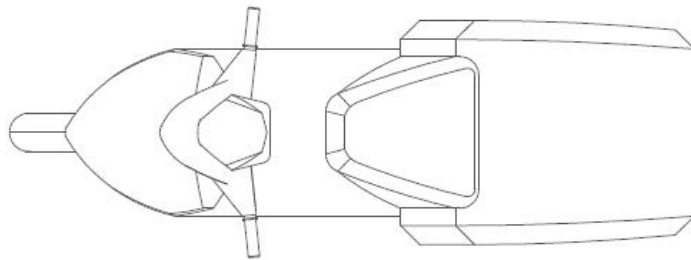
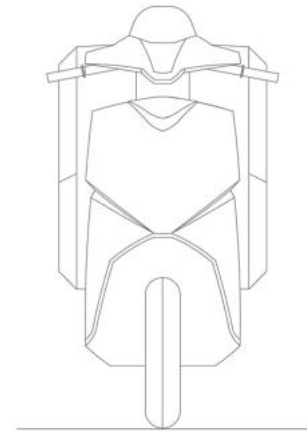
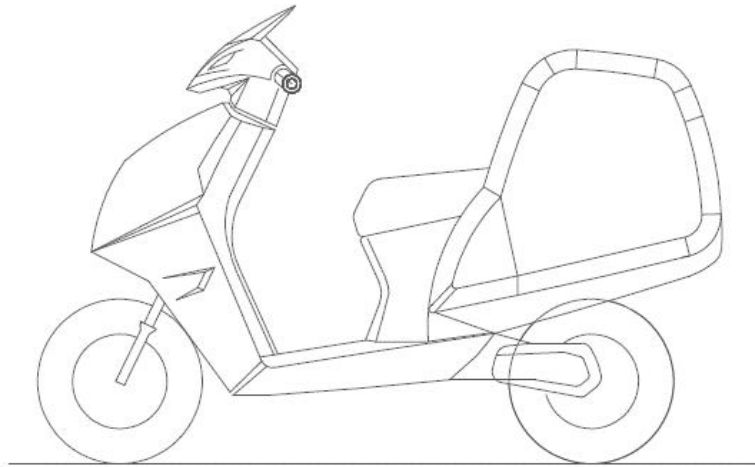
“Need some storage facility some where out side the cargo box, to keep small shipments” (Romeo- e-Kart logistics).

“It has space for everything and feels more comfort for the drivers” (Avinash Savant – Domino’s Pizza).

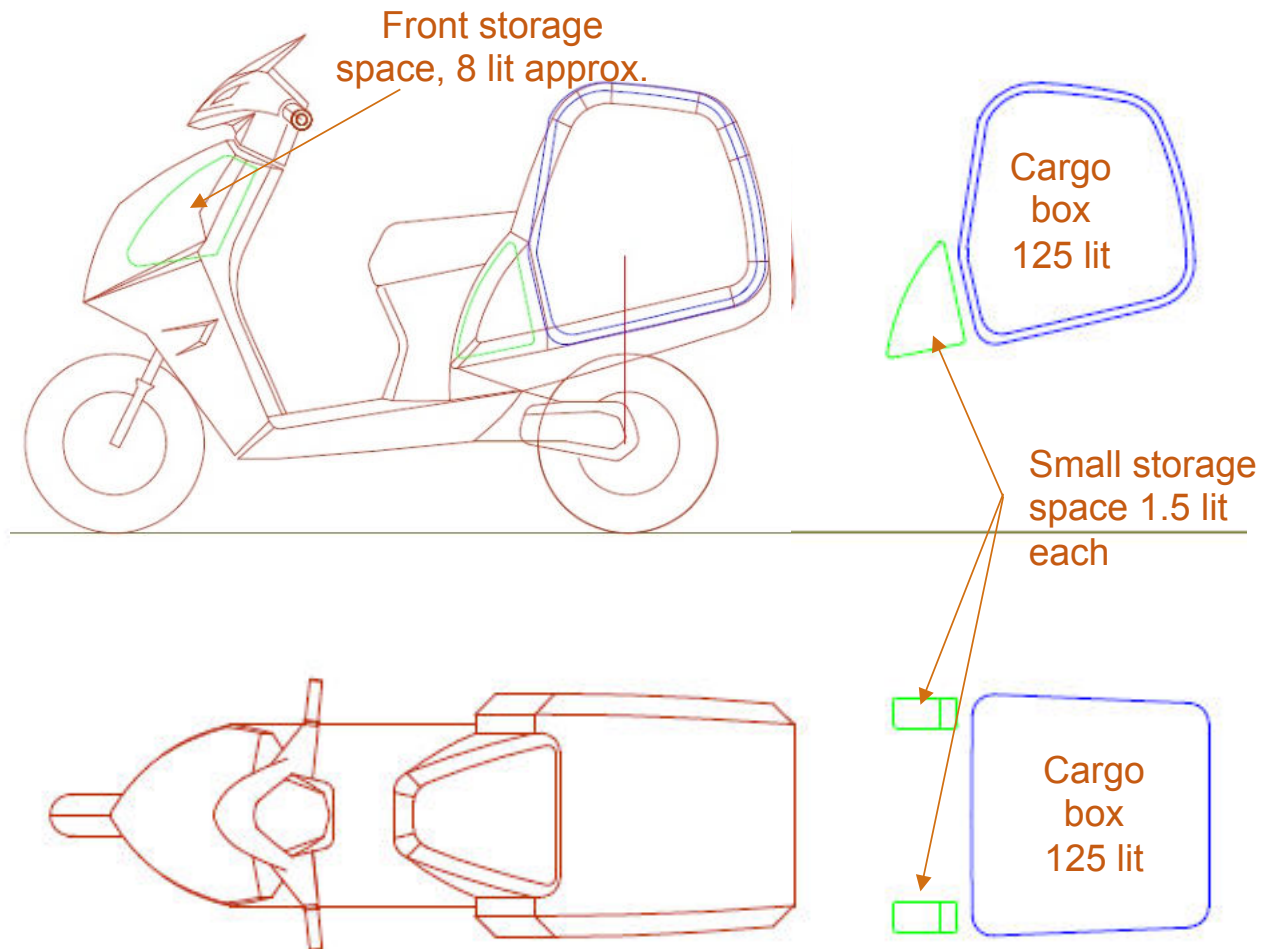
“ Lockable cargo area reduces chances of theft” (Sashi Singh – Domino’s Pizza)

Selected concept

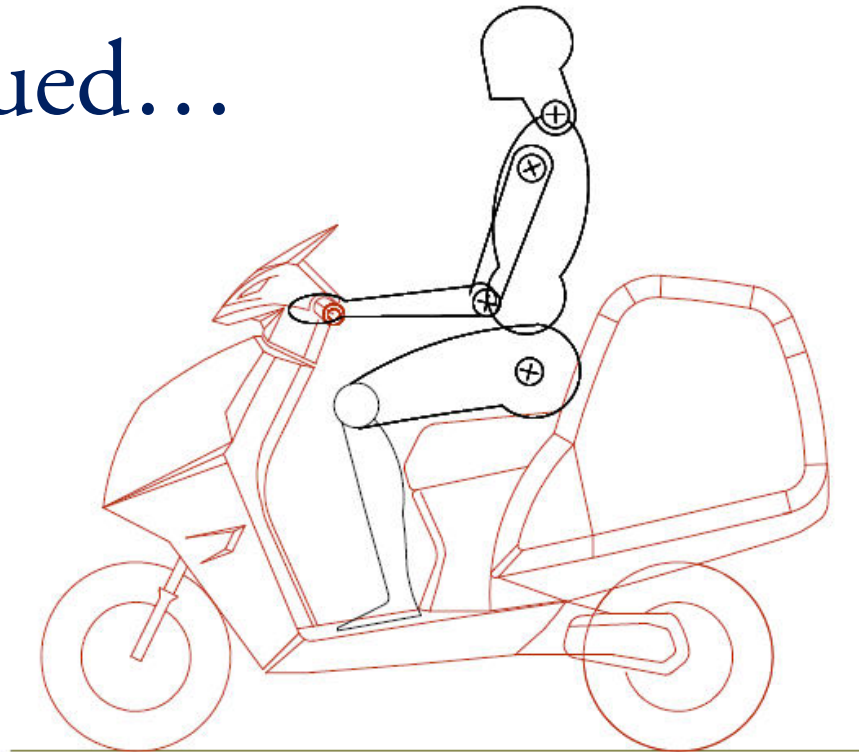
Layout



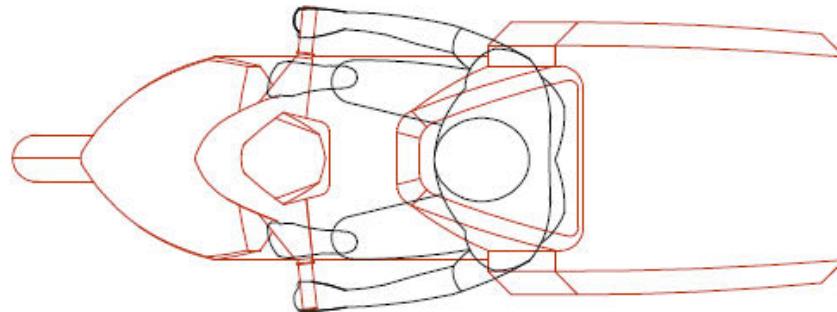
Cargo space layout



Continued...



95th %ile Indian male



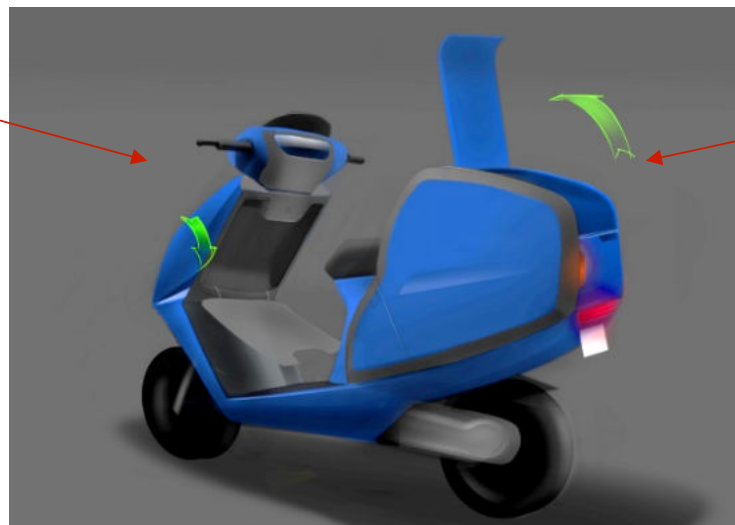
Final concept render



Features...

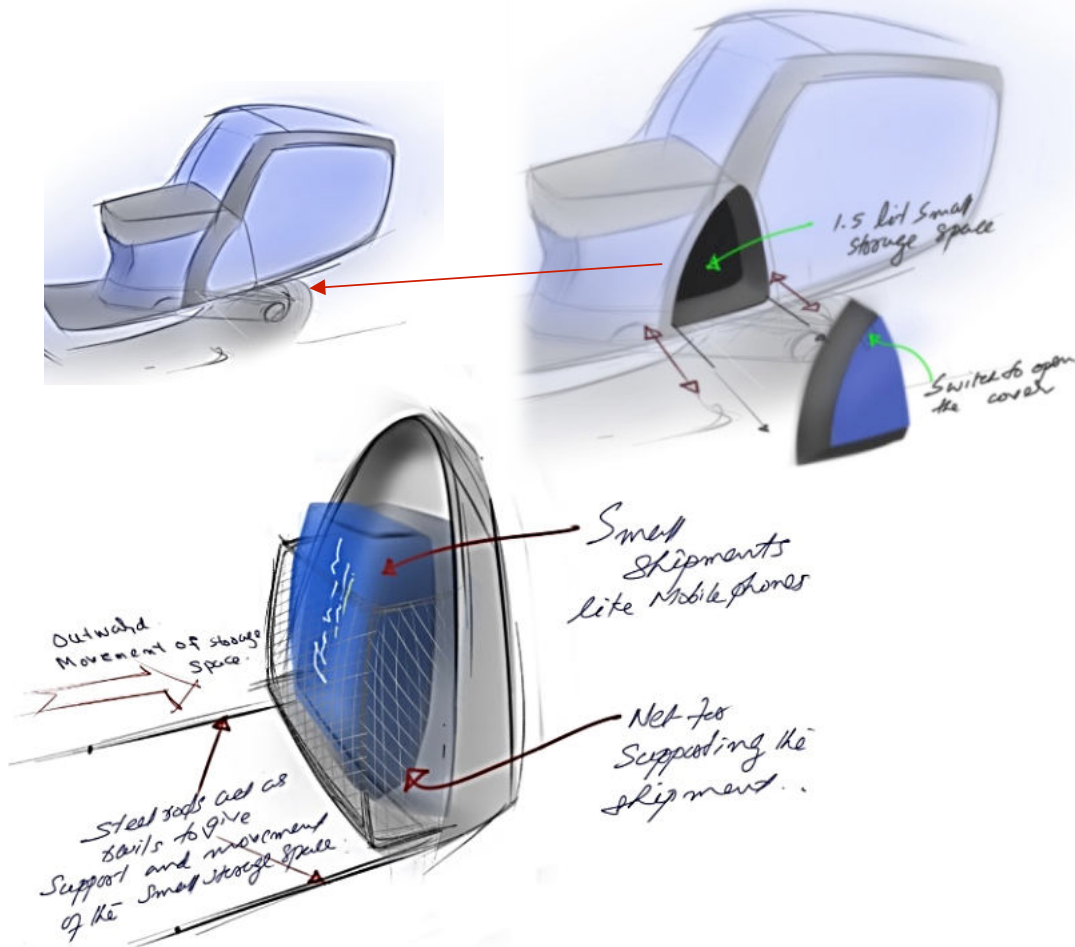


Front storage
space
opening



Rear cargo
space
opening

Features...



Thank you