

Project III:
**PERSONAL MOBILITY VEHICLE
FOR THE FUTURE**

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Guide:

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Objective

- Designing a personal mobility vehicle,
- for individual person,
- with minimal footprint.

Why personal mobility vehicle?

- Occupancy rate
- Efficiency
- Personal trends
- Performance
- Affordability

Types of personal mobility vehicles



Segway i2



Easy Glider

Technology

- Self balancing/ Dynamic balancing

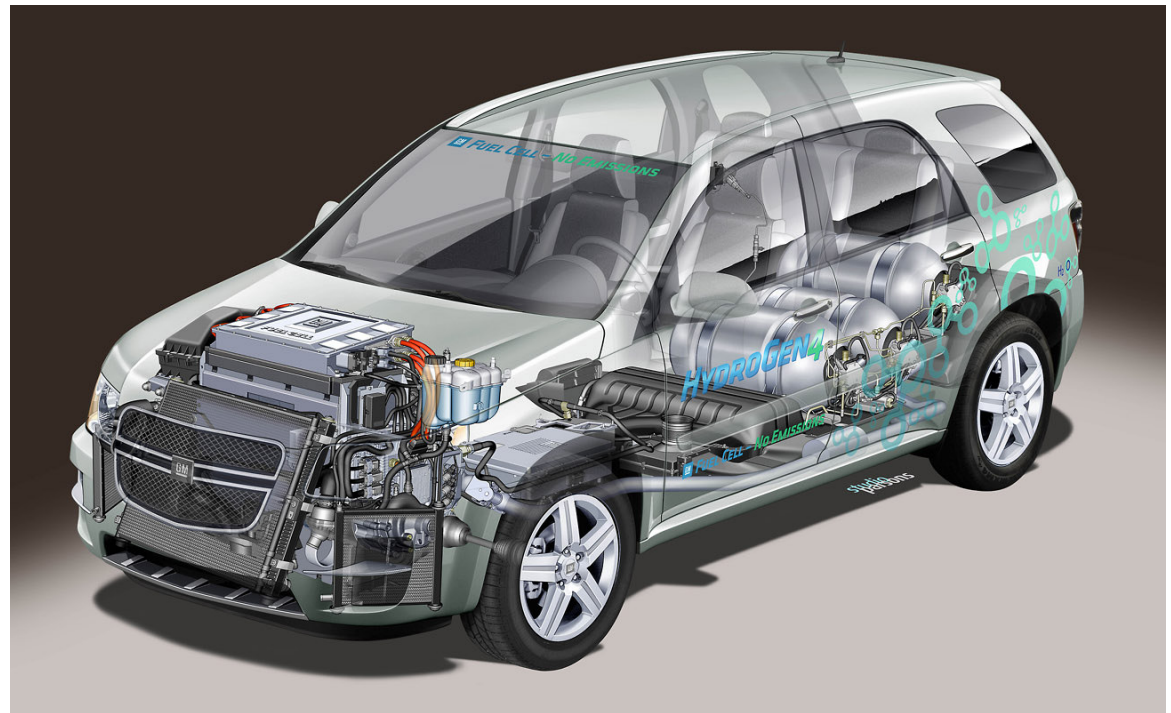
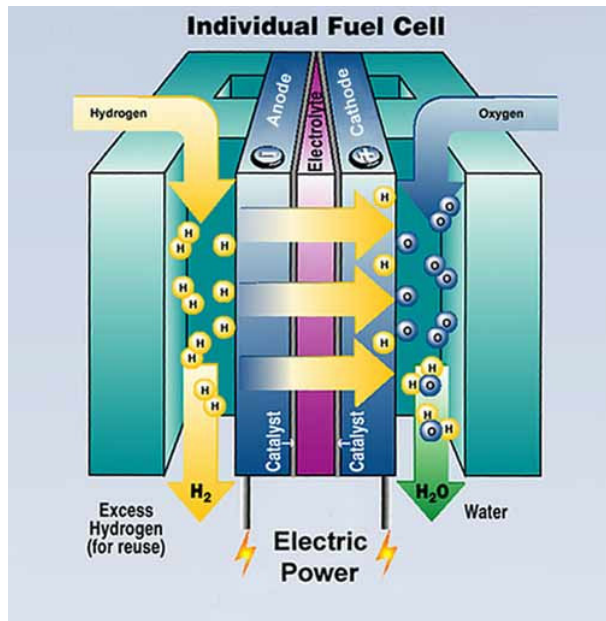


- Virtual Safety bubble:

Existing and next-generation active safety systems—those meant to prevent crashes—could essentially create a safety zone around a car to keep it from colliding with anything nearing it. In addition to mechanisms that construct a virtual safety bubble around a vehicle, some earlier systems, such as the familiar ABS, TCS and ESC technologies, help a car handle more surely and stop faster in hazardous conditions. Future active safety technologies are marked with an asterisk.

ANTILOCK BRAKE SYSTEM (ABS) —improves steerability and hastens deceleration during hard braking	EMERGENCY BRAKE ASSIST (EBA) —boosts brake effectiveness during emergency stops	FORWARD-COLLISION WARNING (FCW) —detects potential crash and sounds an alarm	AUTOMATIC BRAKING* —senses potential collision and applies brakes without driver input
TRACTION-CONTROL SYSTEM (TCS) —prevents driver from losing traction when maneuvering	BLIND-SPOT DETECTOR (BSD) —a so-called convenience feature that warns when vehicles occupy adjacent lanes	LANE-DEPARTURE WARNING (LDW) —sounds alarm when car strays from lane	LANE-DEPARTURE PREVENTION (LDP) —stops car from changing lanes when it discerns a hazard coming from behind in the next lane
ELECTRONIC STABILITY CONTROL (ESC) —detects and prevents skids	BACKOVER DETECTION* —warns driver of an unseen obstruction or person when car is backing up and brakes automatically if necessary	TRAFFIC-SIGN RECOGNITION (TSR)* —sounds an alert as driver enters a zone where traffic rules have changed	AUTOMATIC PEDESTRIAN RECOGNITION* —points out pedestrians or animals on the roadway ahead

- Hydrogen Fuel cell technology:



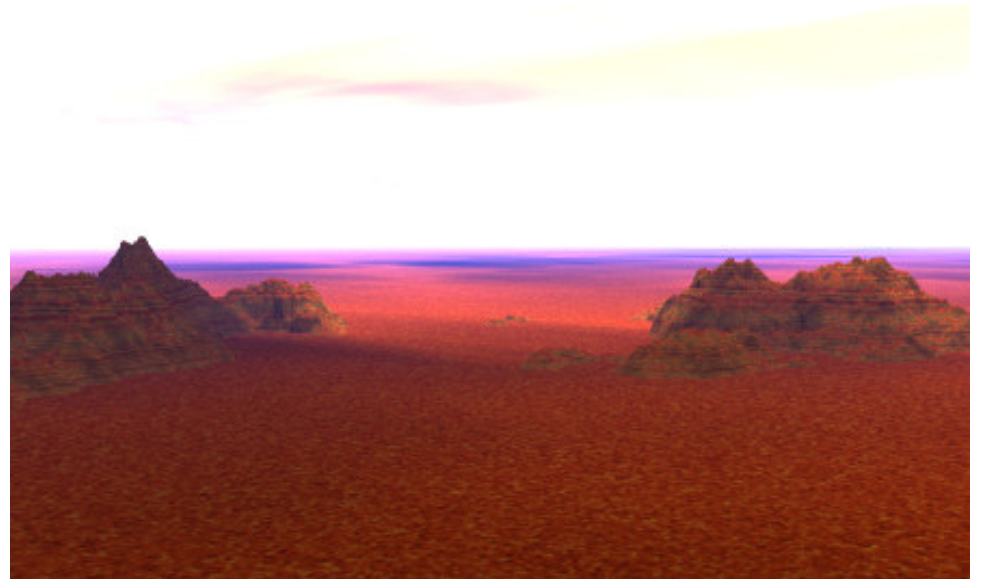
Modern day developments:



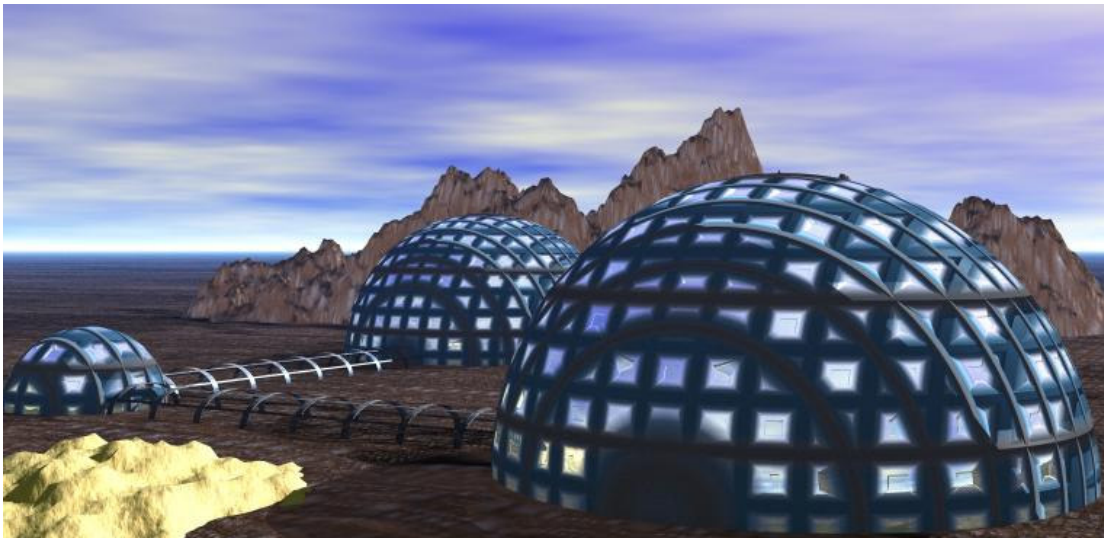
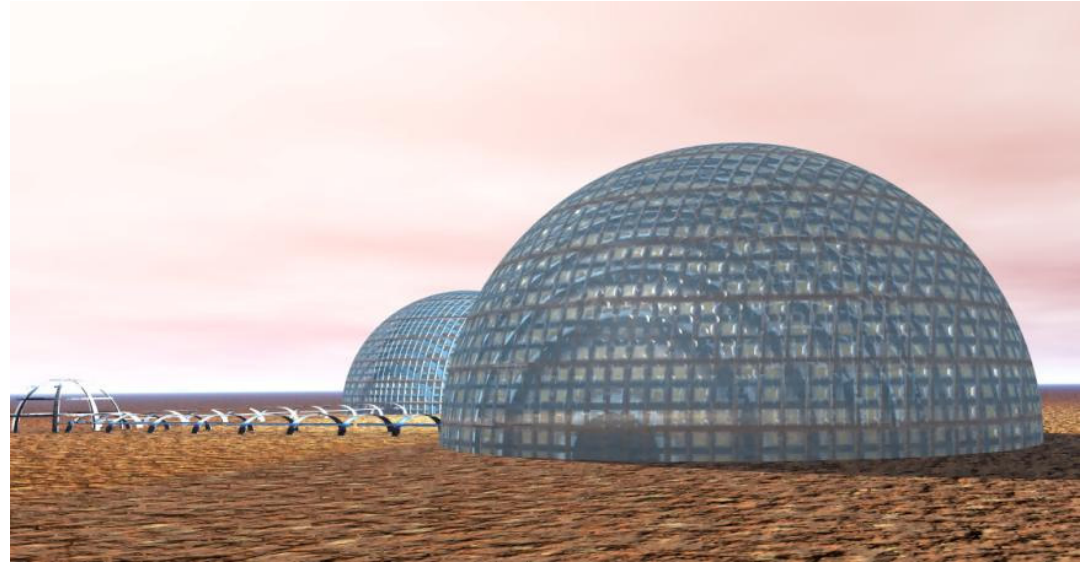
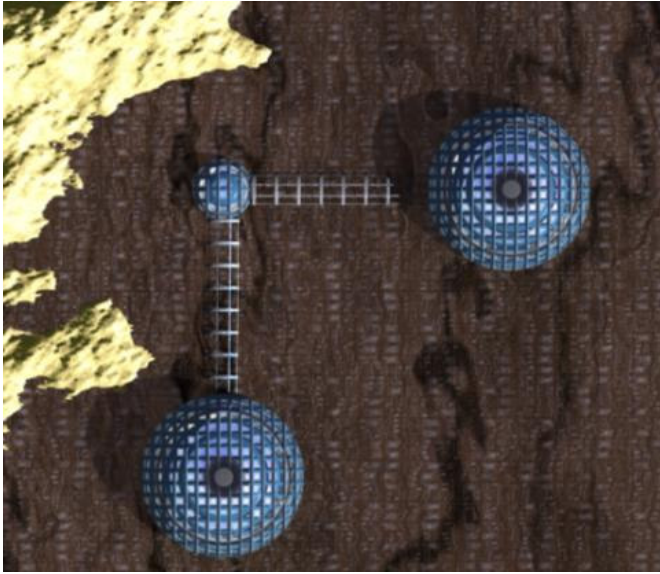
What could be the future?

- Ever increasing pollution
- Growing concentrated population
- Global warming
- Global Meltdown

- Unstable natural environment
- Arid and unsettled terrain
- Humans reside in controlled environmental cities
- Most activities and life is spent within the controlled environment
- Concentration of population high in super cities and has well developed infrastructure
- Cities and business hubs, remotely located, are connected through highways called 'Space ways'
- Space ways are not completely controlled environments



Life Scenario



- Super cities

Inner spaces



Architecture



Spaceways



Objective

**Designing a personal mobility vehicle
for the 2K generation youth**

Youth/ Uth

- Radical
- Powerful
- Fun loving
- Trendy



- Responsible towards the society
- Passionate
- Personalization
- Technology taken for granted

Image board



Trendy

Dominant



Radical

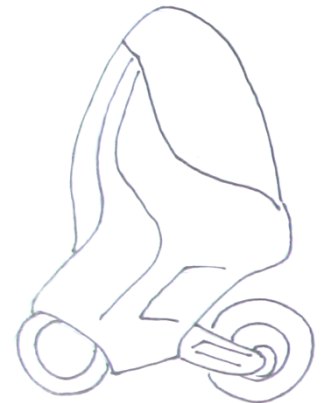
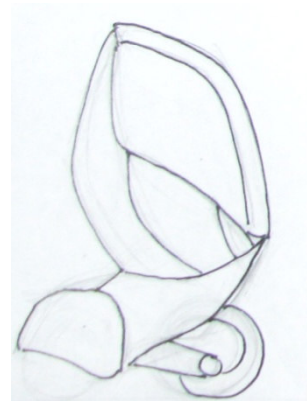
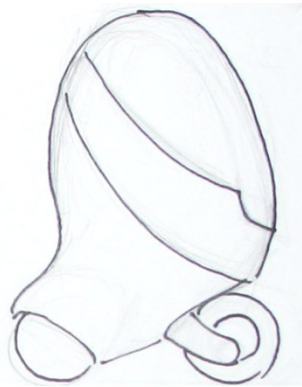
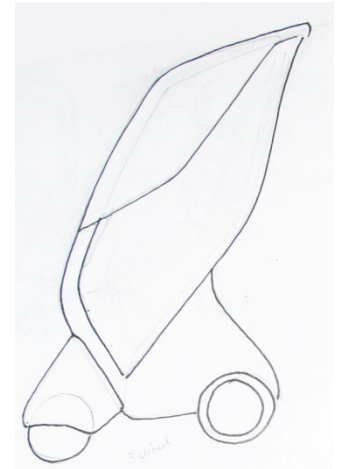
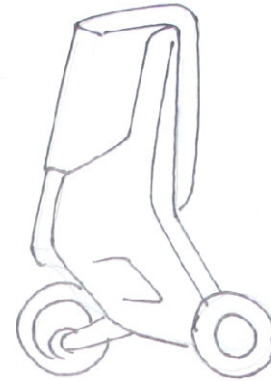
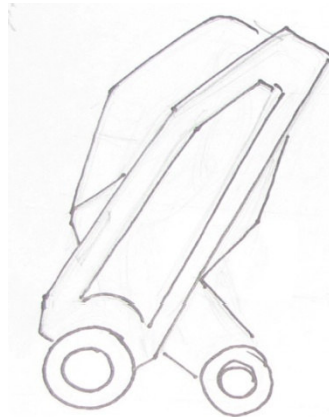
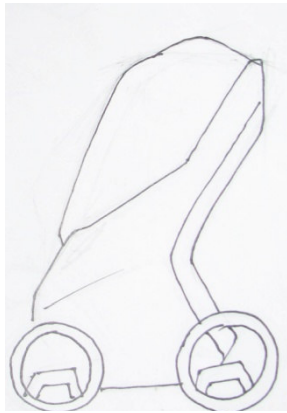
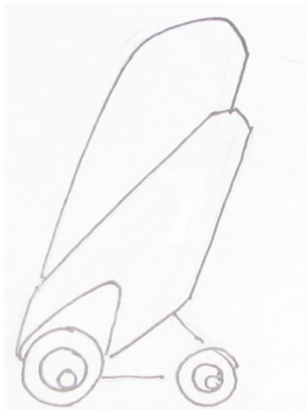


Aggressive

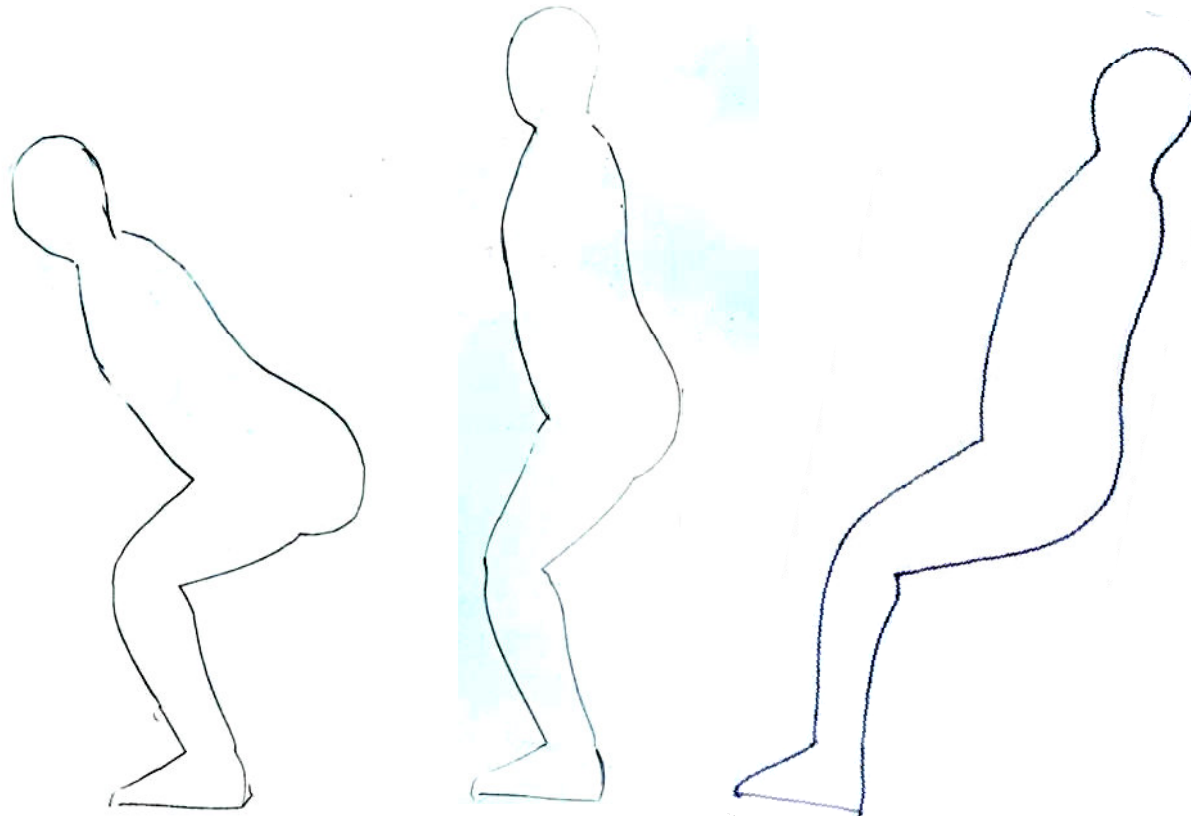


Approach

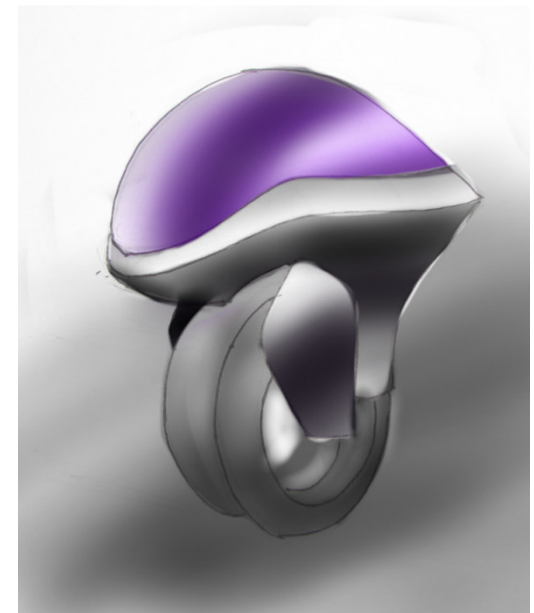
- Ideation



Posture analysis



Initial explorations



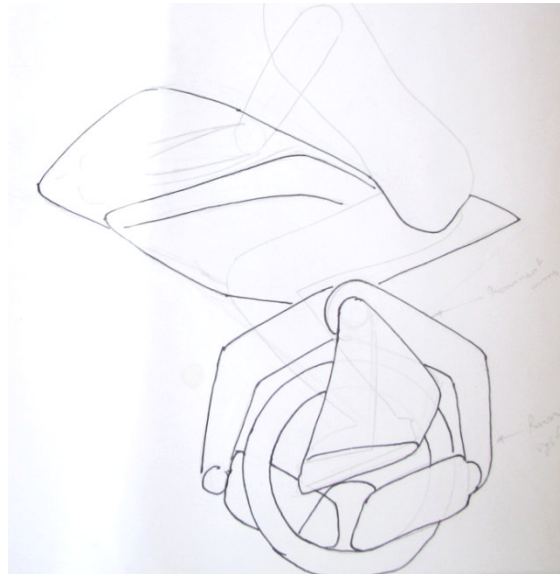
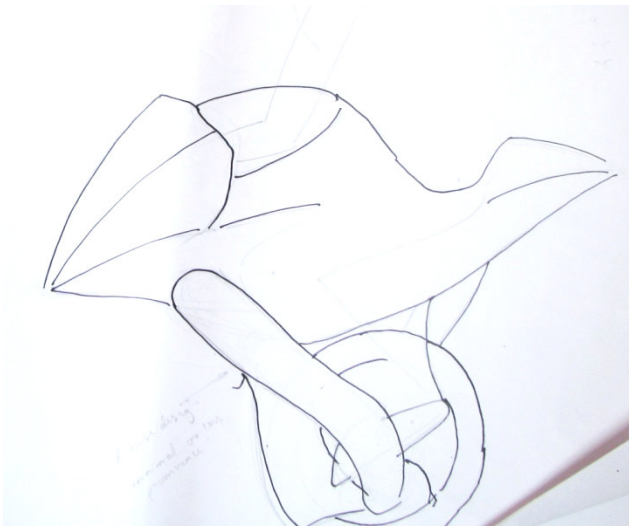
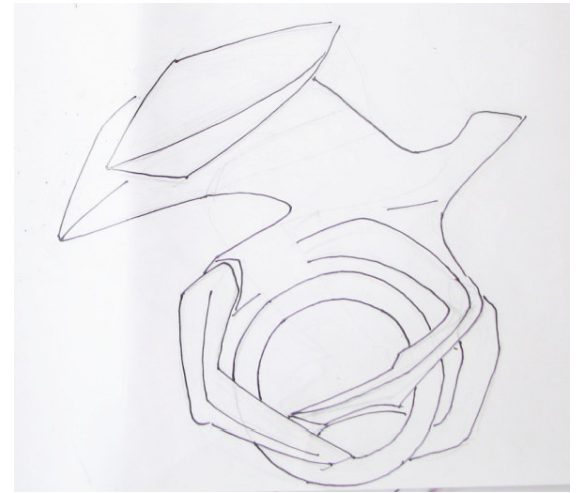
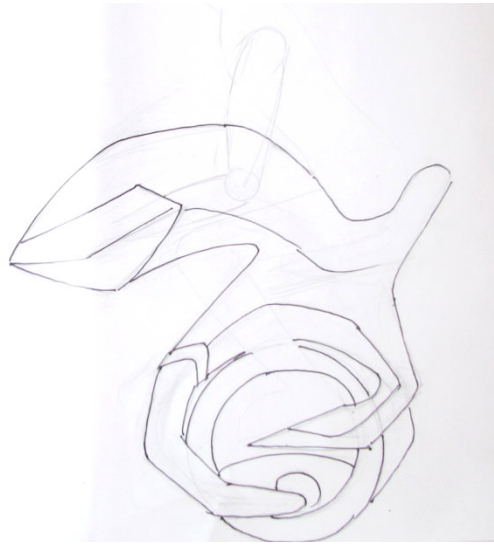
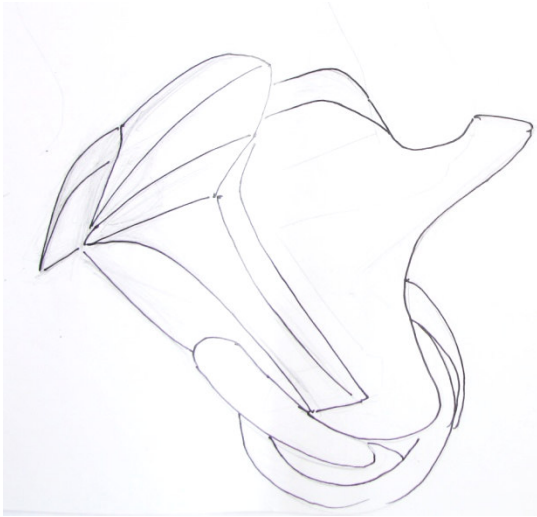
Ideas



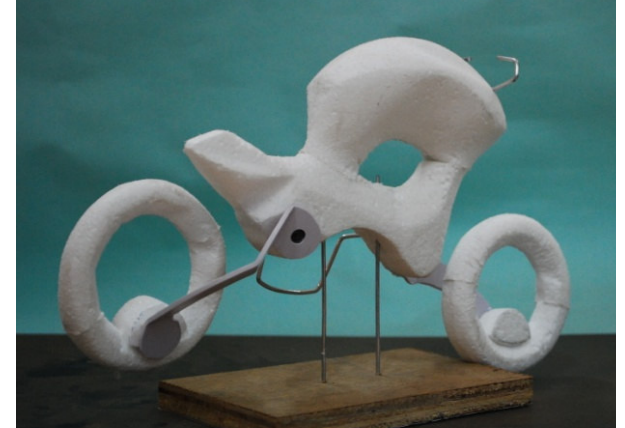
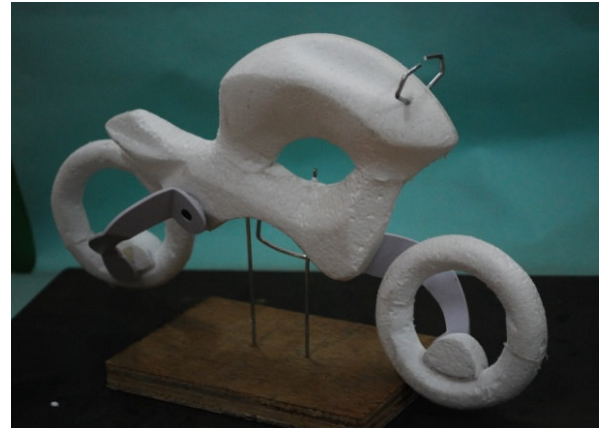
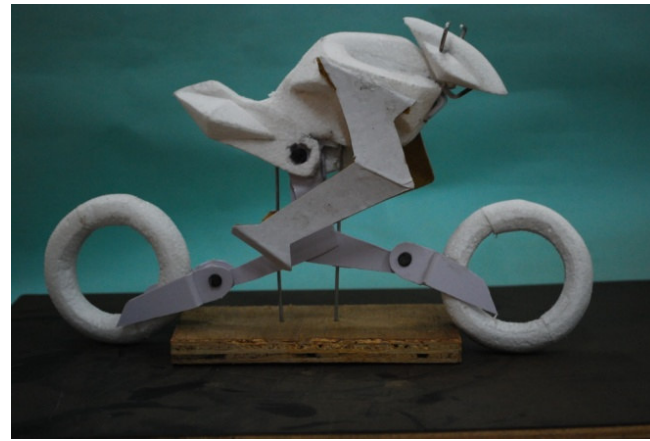
Refined Ideas



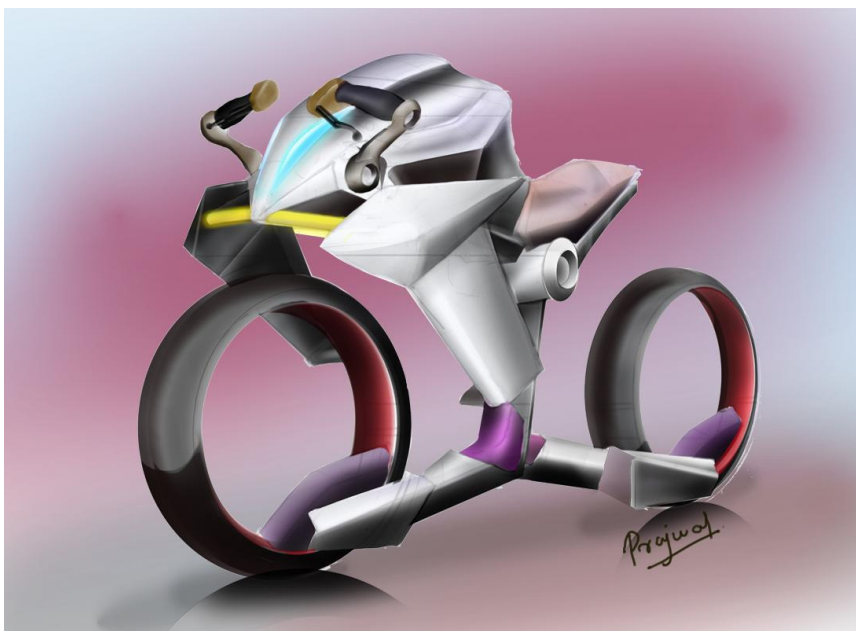
Concepts



Concept mock ups

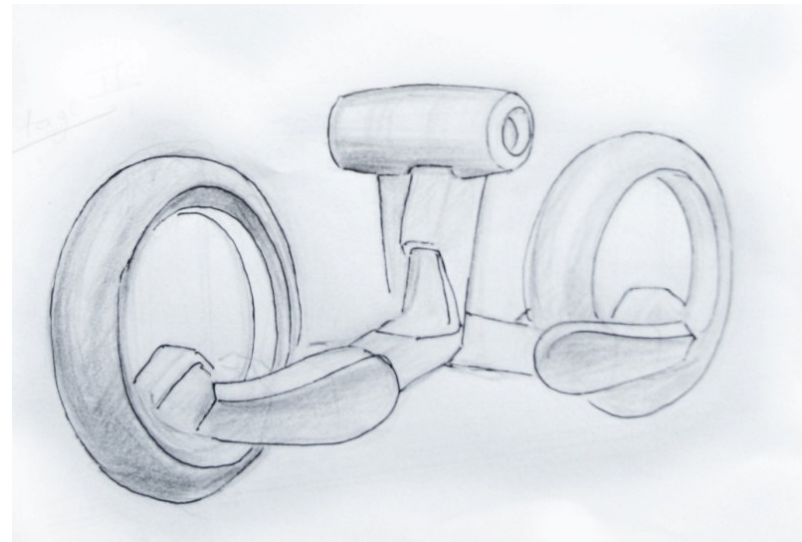
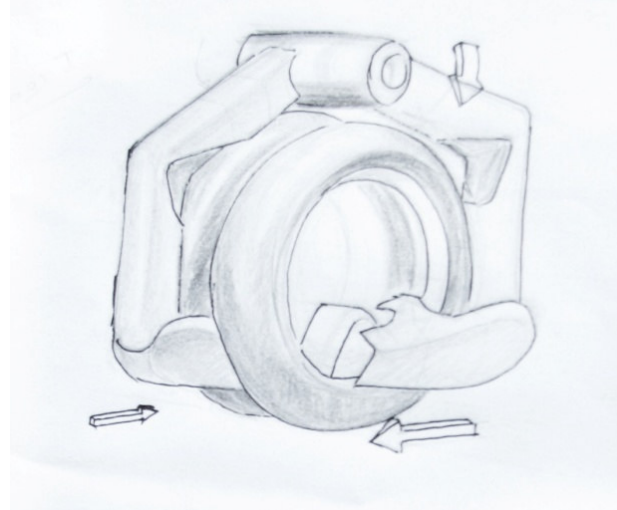
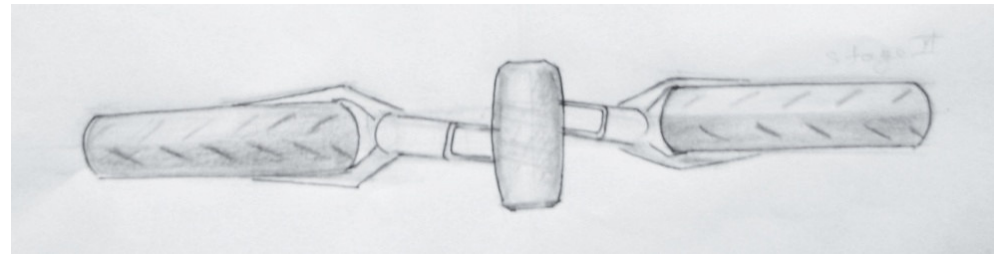
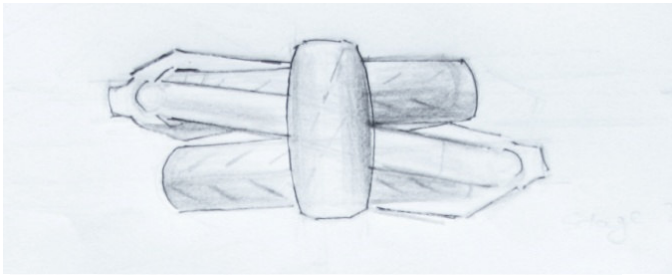


Final concept rendering



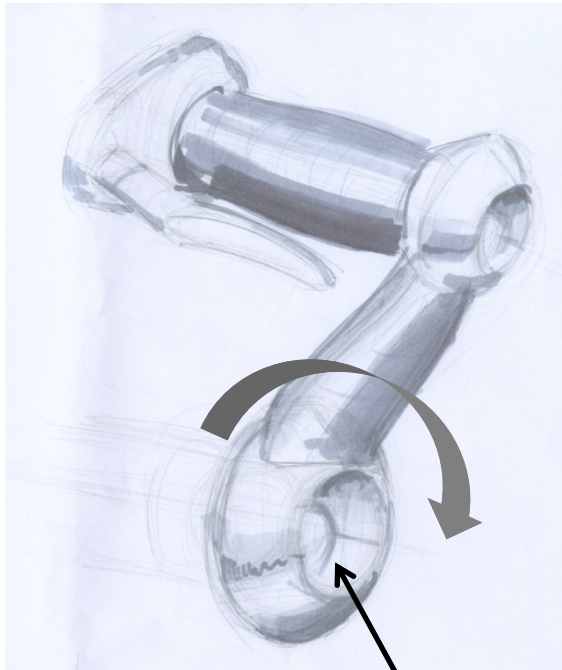
Details

- Cross over Transformation:



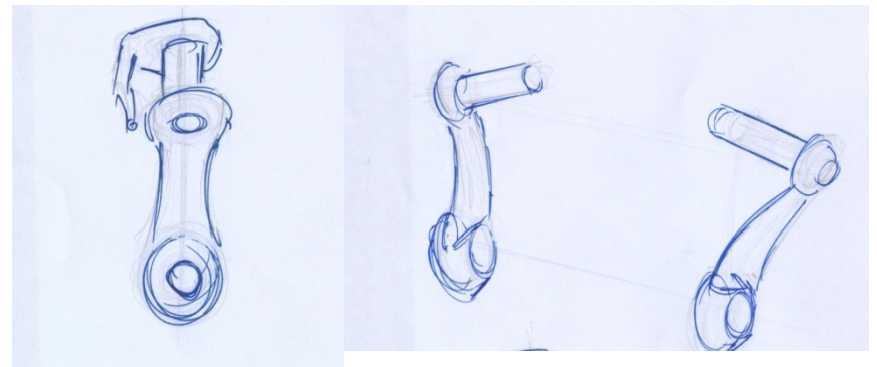
Handle

- Width adjustable handle

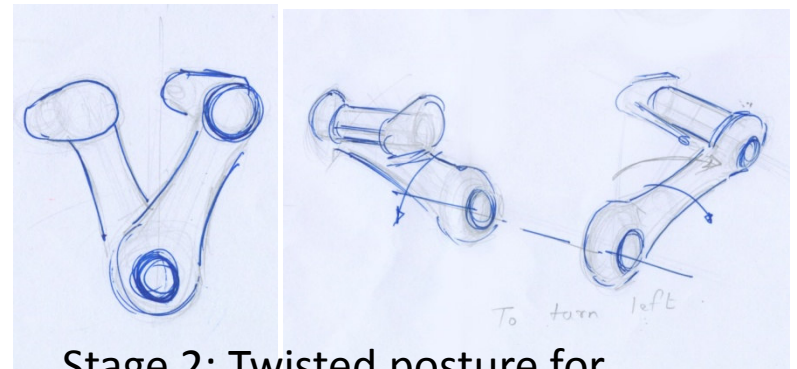


Ball type joint with restricted path
Allowing the user to adjust width as
per his requirement

Twisting type motion for
turning the vehicle



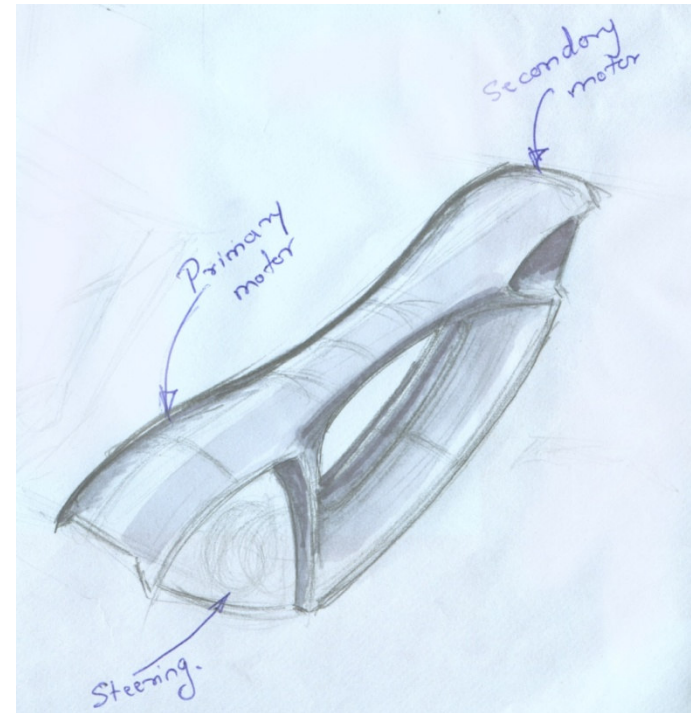
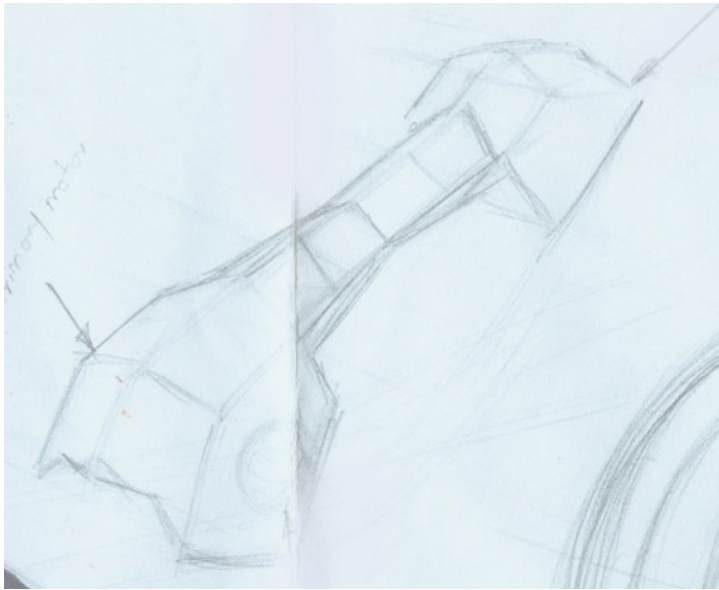
Stage 1: Normal posture



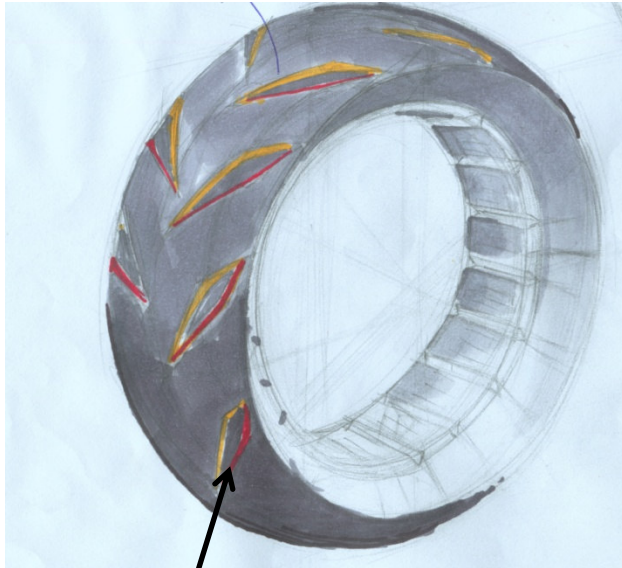
Stage 2: Twisted posture for
turning, in this case turning left

Motor

- Compact housed dual motor:
 - Primary motor provides power
 - Secondary motor active during high power requirements or else acts as reversible braking system stalling the vehicle



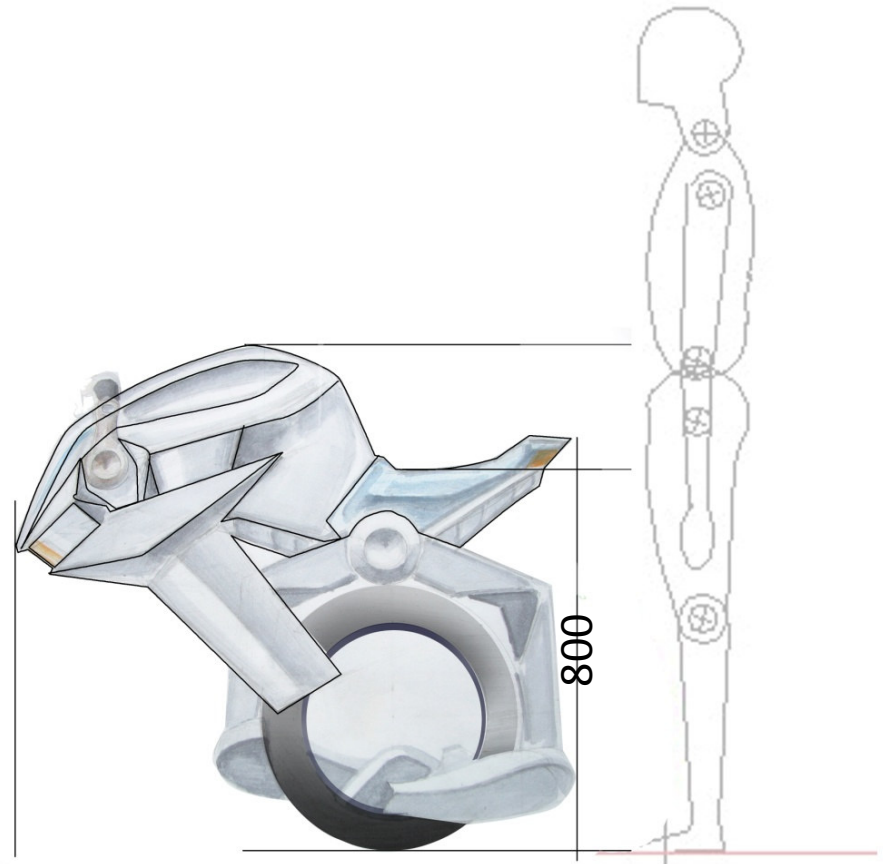
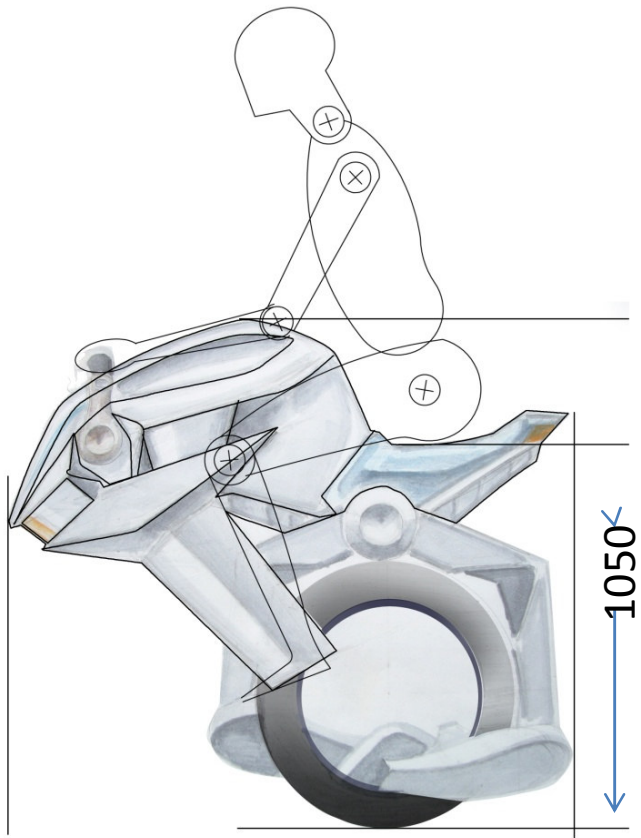
Wheels and tyres

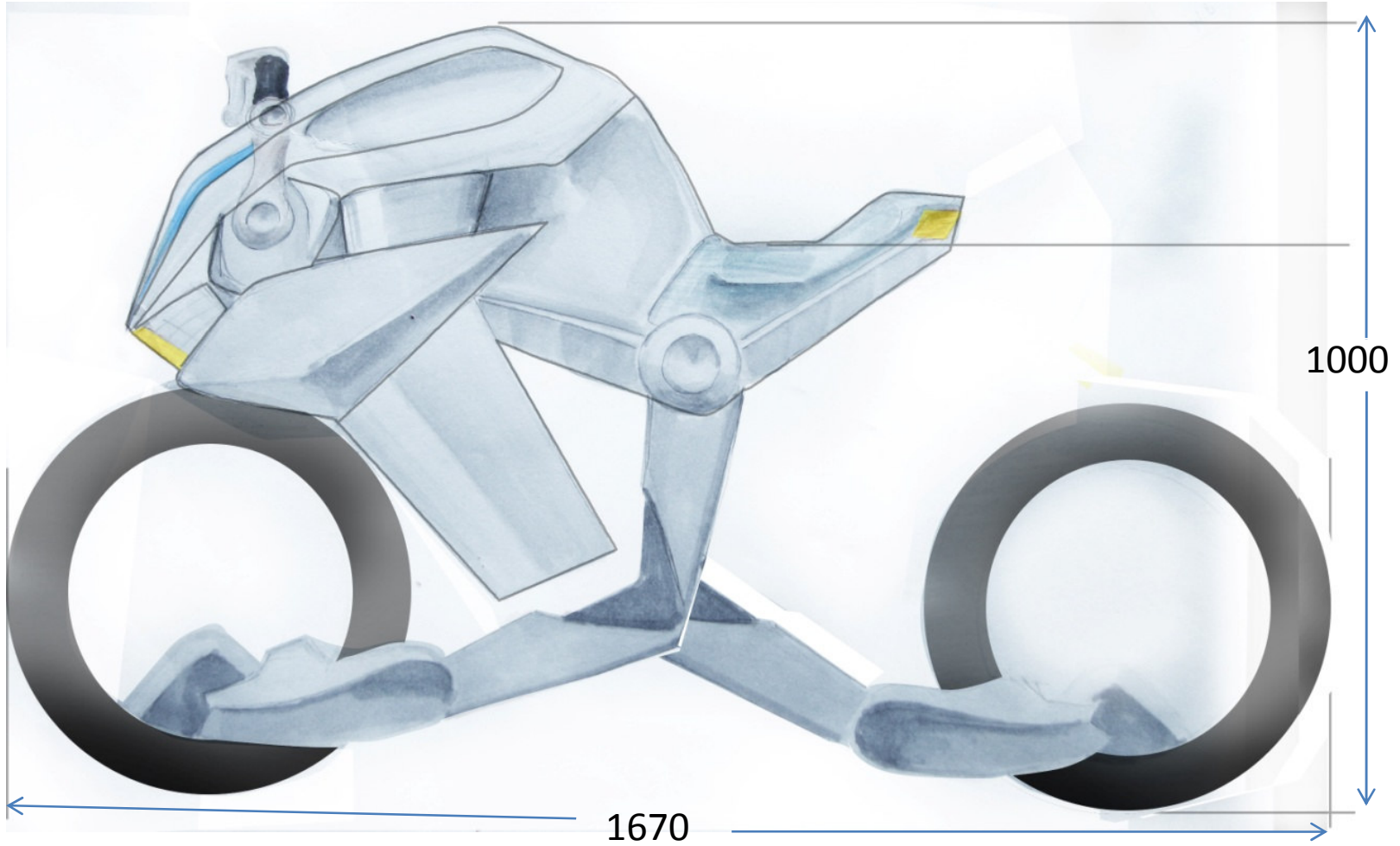


Glowing elements

- High grade low profile slick yet high grip tyres housing dual neon type elements
- Neon type elements act as side indicators or brake light indicators depending on type of need
- Positioned in deep grooves

Packaging

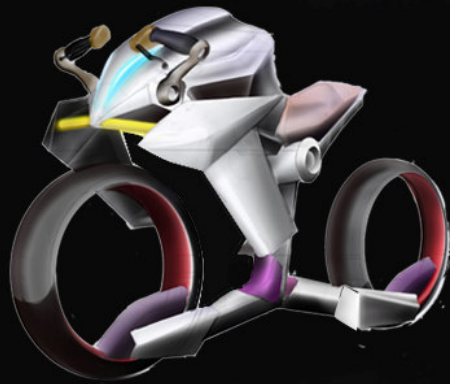




Final concept model **SYNXOS**







High Speed travelling, Highways



Low speed travelling,
Inside City

Thank You...

Special Thanks to all my batchmates for helping me
around when are wherever possible