Design of Electric Boat With Auxiliary Solar Power

A Leisure Boat for Calm Waters

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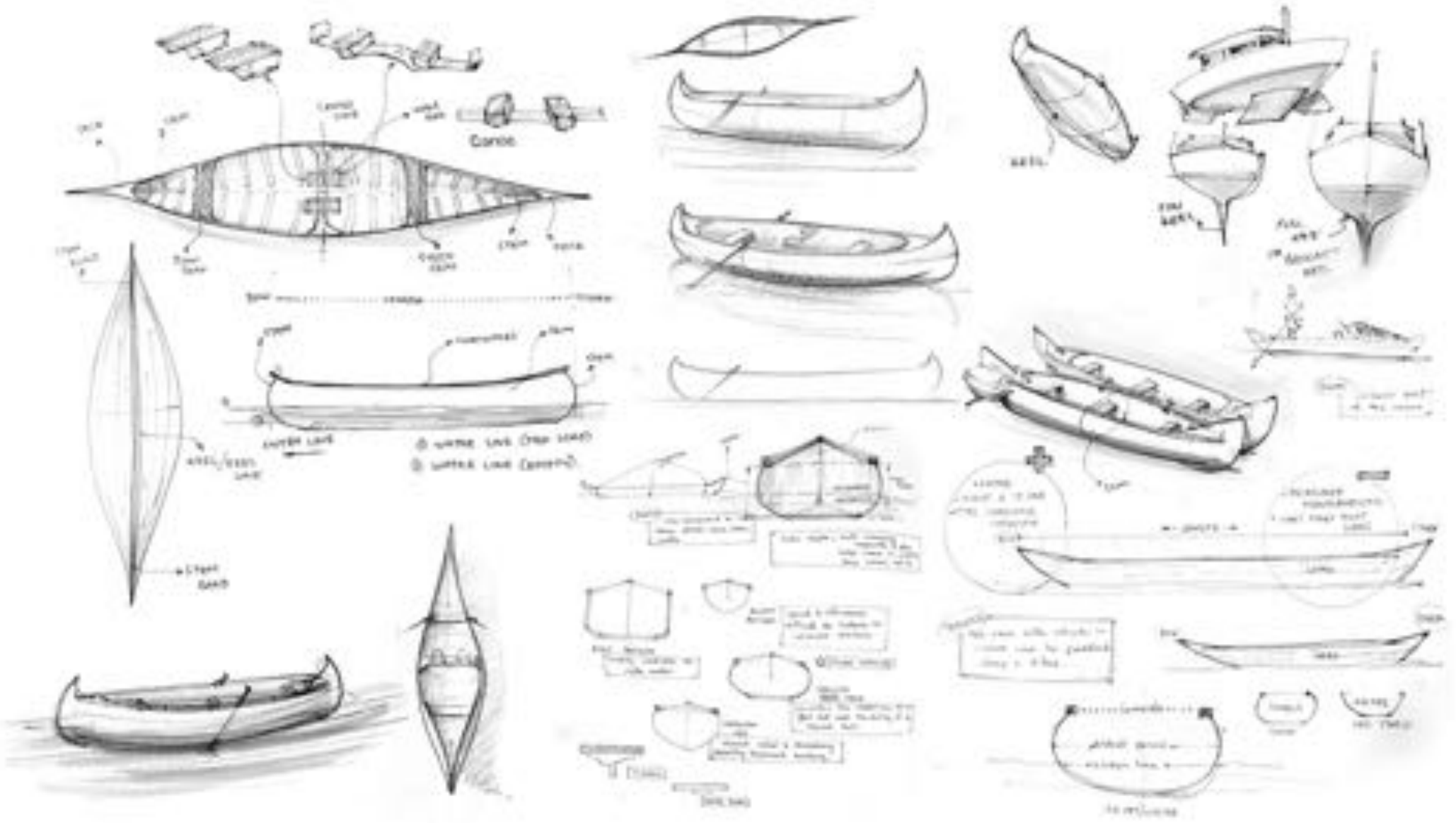
the art & science of
BOATBUILDING
SAMUDRA SHIPYARD (P) LTD.
Established in 1991, Samudra Shipyard (P) Ltd. is India's No.1
fibre glass boat building company. It is known for its lasting boat building
technology. Unlike others, Samudra Shipyard designs and manufactures
their composite boats up to 34m in length for travel, tourism, defence
and fishing. It also manufactures water sport equipments, marker buoys
and other marine related products.


Canoe

Leisure Boat

20 – 40 Minutes

4 to 5 Maximum

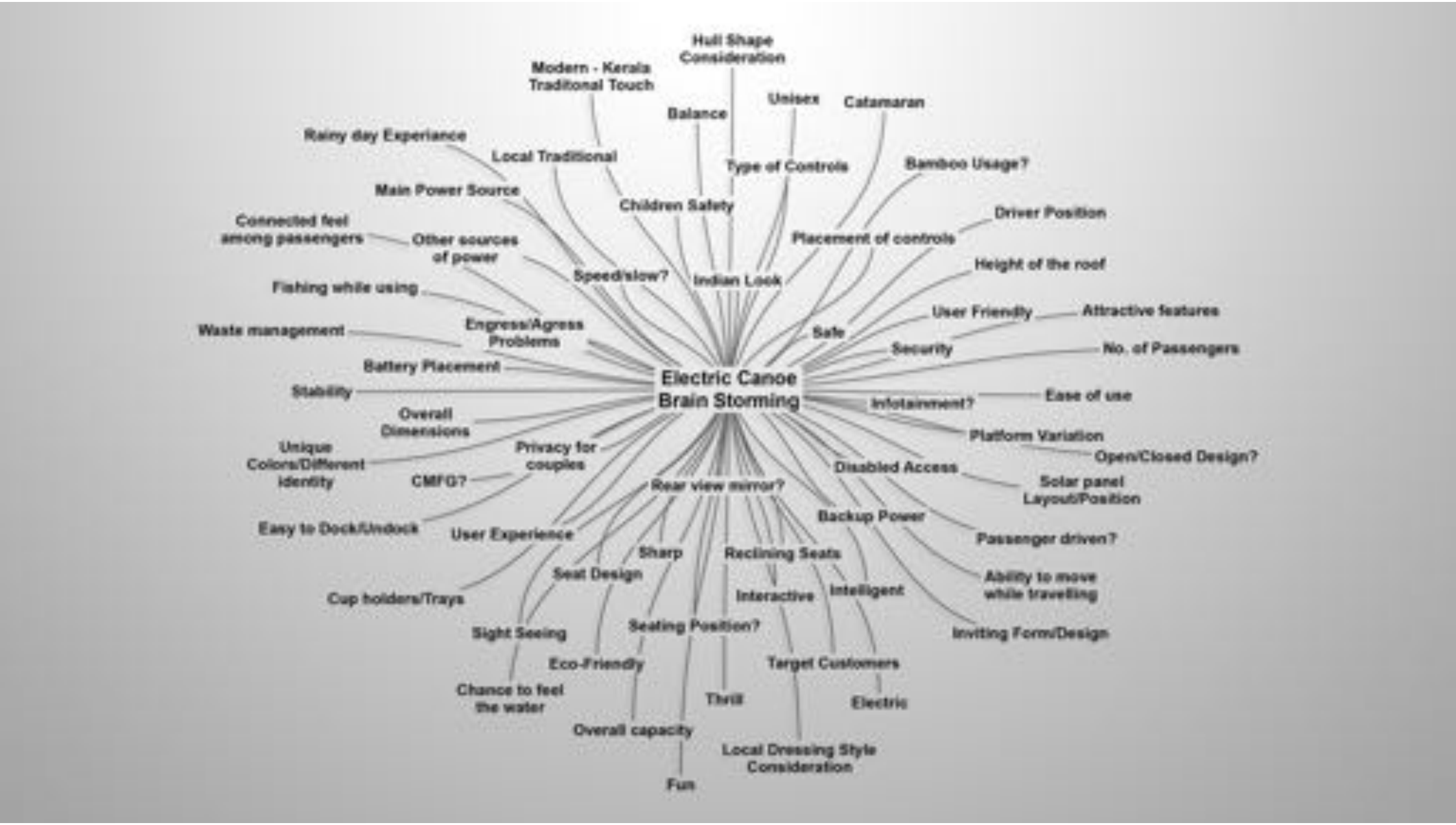
Includes Driver

Electric

DESIGN BRIEF

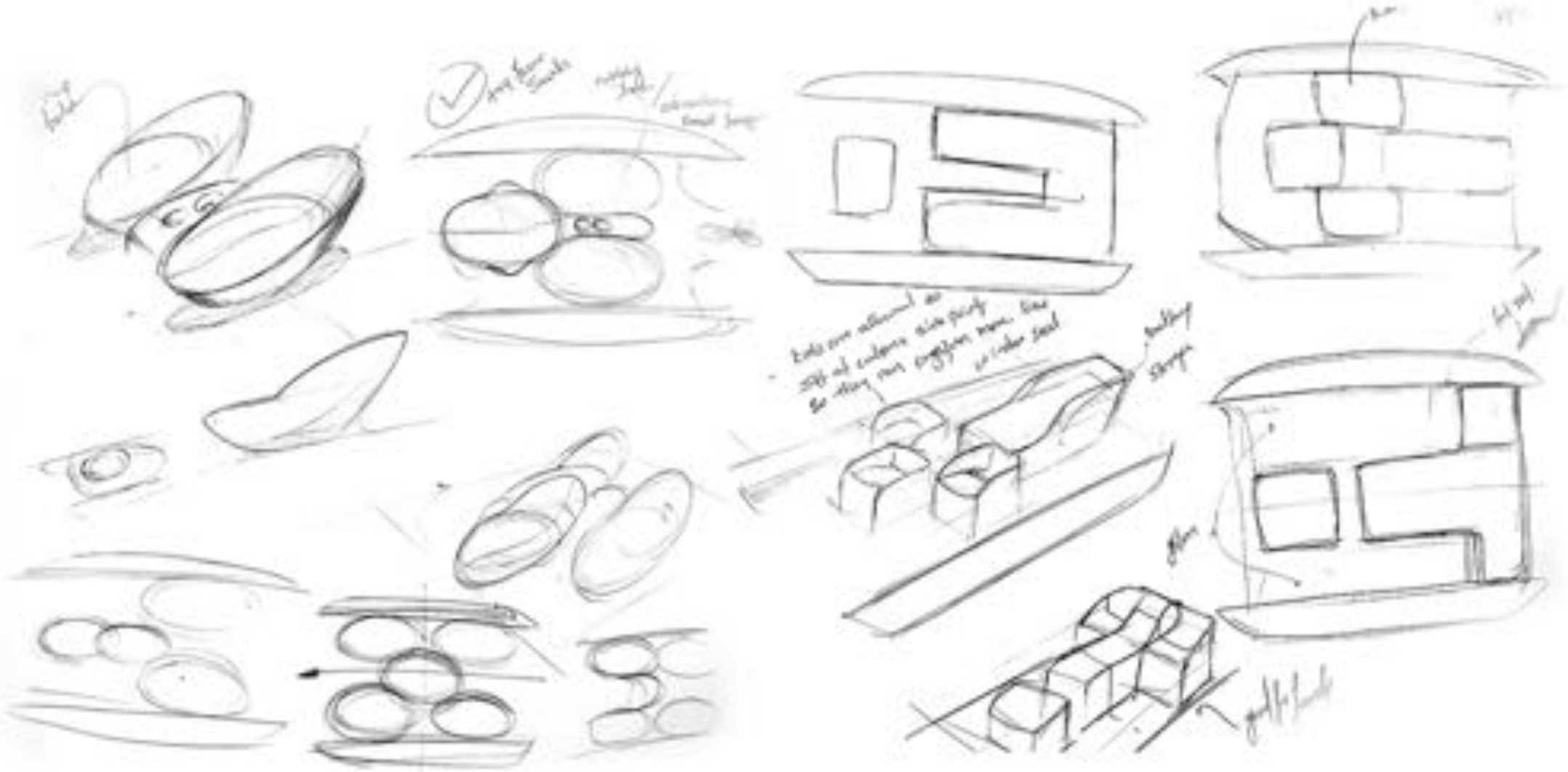
To design an electric boat with auxiliary solar power for leisure trips in calm waters. It can carry 4 to 5 people at a time and does not need an experienced driver.

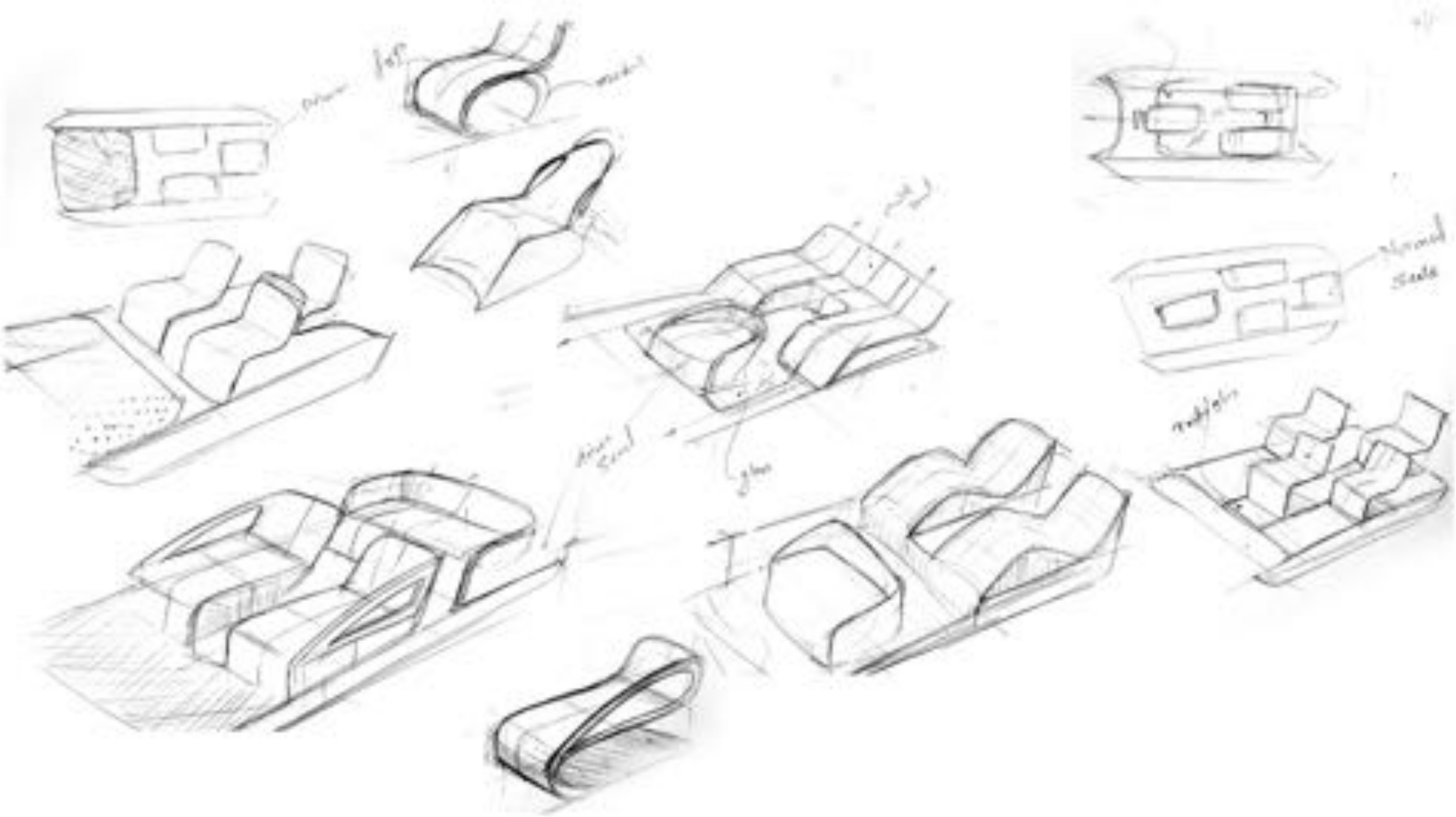
BRAIN STORMING

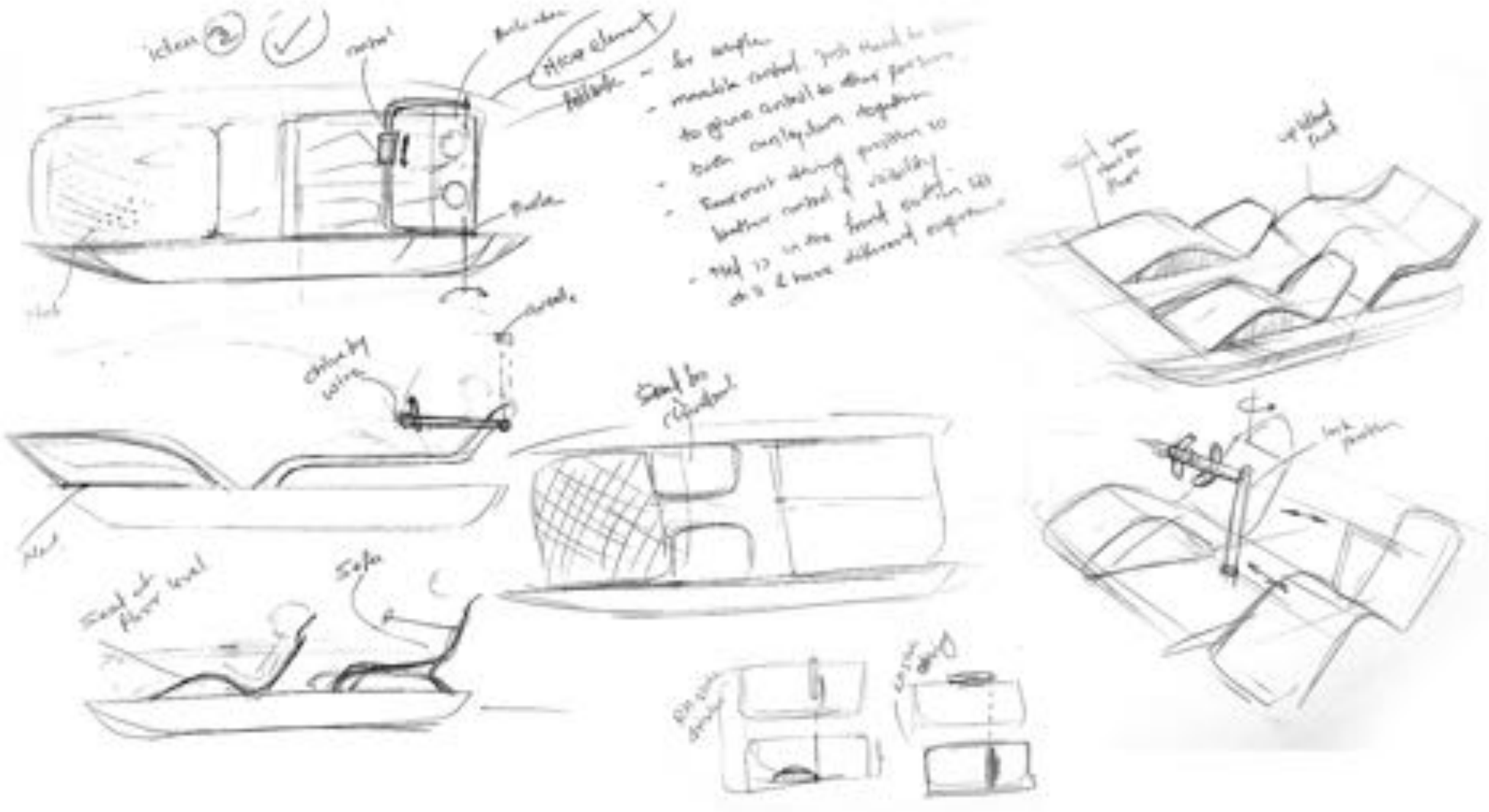

Electric Canoe
Brain Storming
Hull Shape Consideration
Modern - Kerala Traditonal Touch
Balance
Unisex
Catamaran
Rainy day Experiance
Local Traditional
Type of Controls
Bamboo Usage?
Main Power Source
Children Safety
Connected feel among passengers
Other sources of power
Placement of controls
Driver Position
Speed/slow?
Indian Look
Height of the roof
Fishing while using
User Friendly
Attractive features
Waste management
Engress/Agress Problems
Safe
Security
No. of Passengers
Battery Placement
Stability
Infotainment?
Ease of use
Overall Dimensions
Platform Variation
Unique Colors/Different identity
Privacy for couples
Open/Closed Design?
Disabled Access
CMFG?
Rear view mirror?
Solar panel Layout/Position
Easy to Dock/Undock
Backup Power
User Experience
Passenger driven?
Sharp
Reclining Seats
Seat Design
Ability to move while travelling
Cup holders/Trays
Interactive
Intelligent
Seating Position?
Sight Seeing
Inviting Form/Design
Eco-Friendly
Target Customers
Chance to feel the water
Thrill
Electric
Overall capacity
Local Dressing Style Consideration
Fun

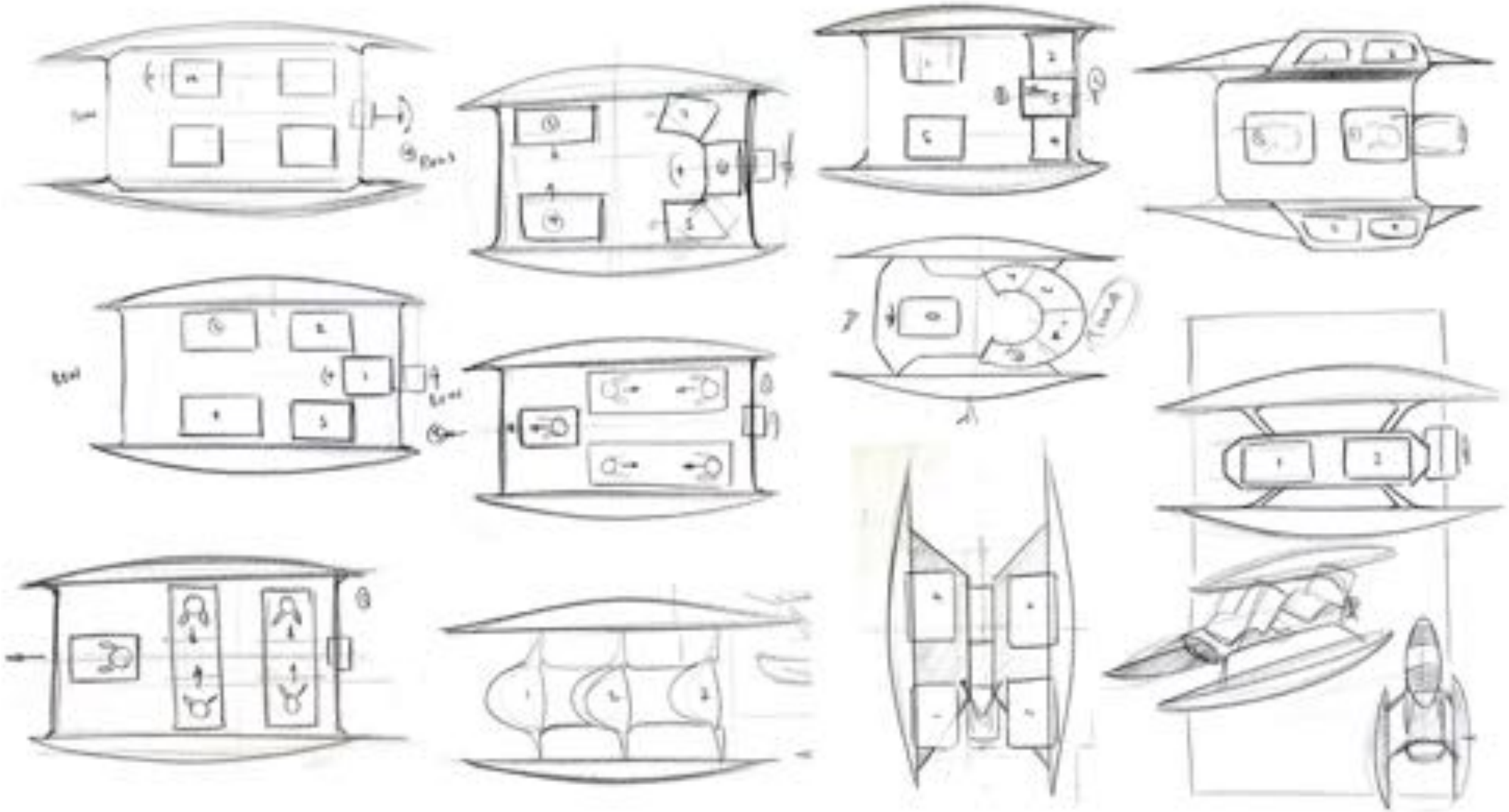

Electric Canoe
Brain Storming
Ergonomics
Seat Recline Angle
Comfort
Traditional Clothing
Indian Dressing Style
Docking Problems
Height of the roof
Ladies Comfort
Ingress/Agress
Seat Reclination
Disabled Access & Control
Seat Design?
Experience
Rainy Day Experience
Exciting Feel
Relaxed
Connected feel among passengers
Ability to move while travelling
Fun
Chance to feel the water
Thrill
Hassel Less Controls
CMFG
Weaving
Braiding
Coir, Cane, Bamboo
Modern Touch
Exploring local & Traditional Materials
Color Identity
Visual Aspects
Family Look?
Inviting Form/Design
Local Tradition
Balance
Modern
Unique Identity
Kerala Tradition
Stable
Electric
Indian
Sharp
Safety
Security
Secondary Power Source
Confidence
Backup Power
Stability
Children Safety
Eco Friendly
Features
User Friendly
Infotainment
Cup Holders
Tray
Waste Management
Specifications
Battery Capacity?
Reverse gear?
Max Speed?
Engine Capacity? Watts?
Canoe Runtime?
Solar Power?
Battery Type?
Driver Position
Main Power Source
Packaging
Platform Variation?
Catamaran
Seating Layout
Open/Closed Design
Hull Shape?
Passenger Capacity
Battery Placement
Others
Rear View?
Tourists
Fishing While Cruising
Unisex
Exciting for foreigners
CMFG
Rearview Mirror?

PACKAGING DESIGN





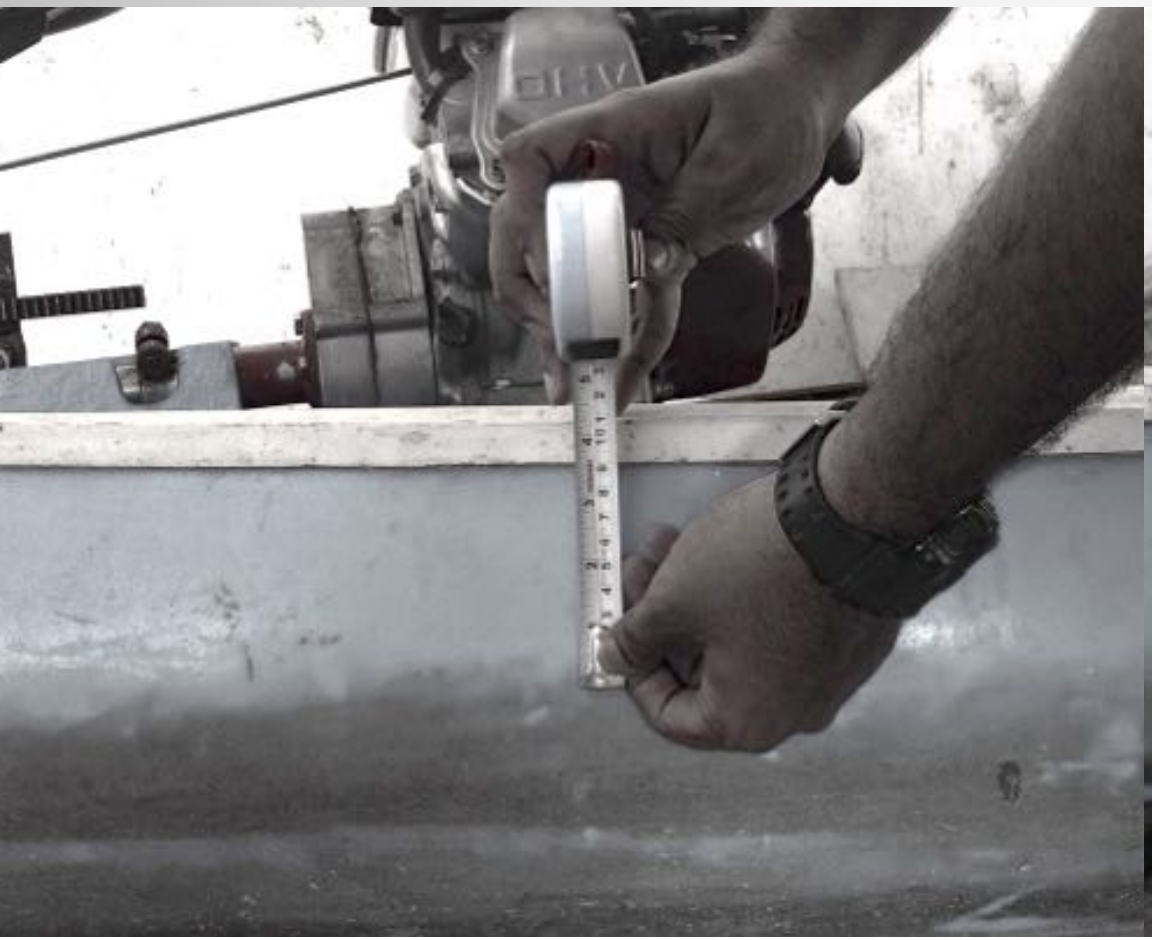




MOCK UP MODEL

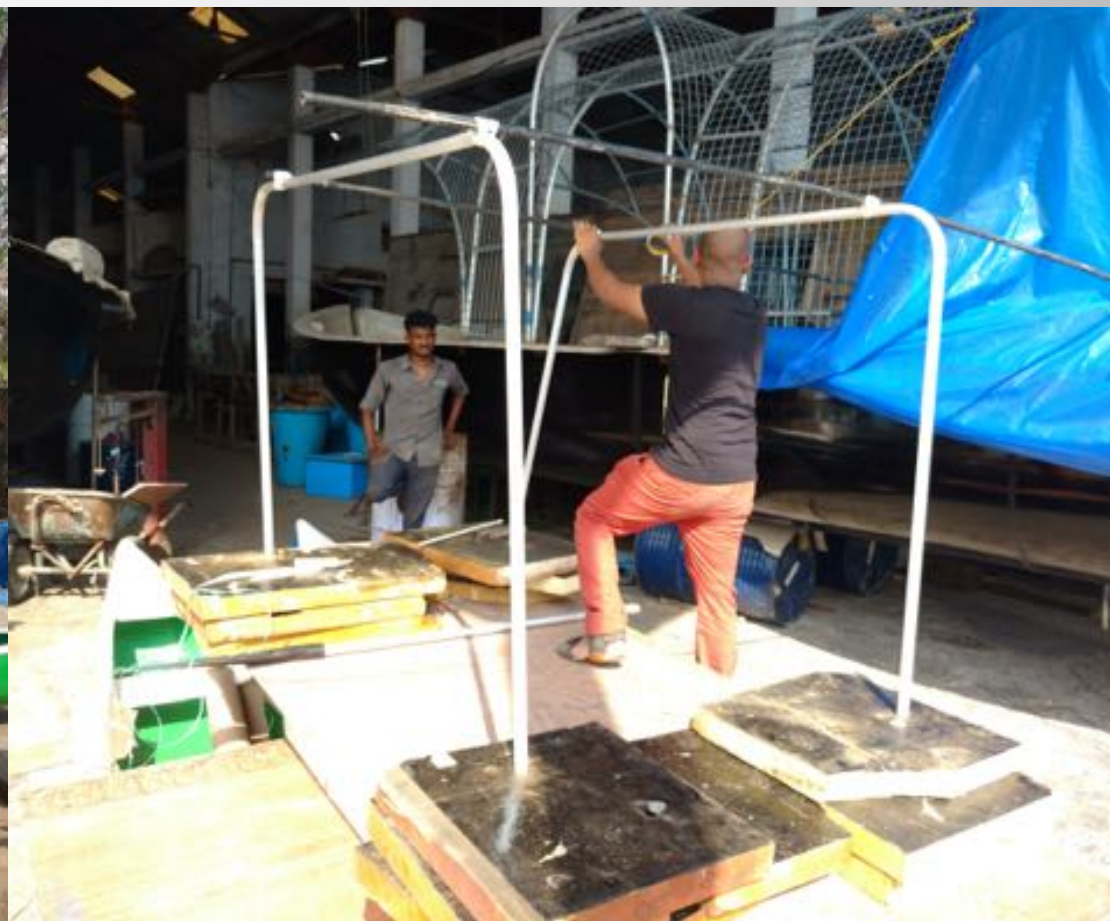
Mock Up Model

Mock Up Model



Mock Up Model

Mock Up Model

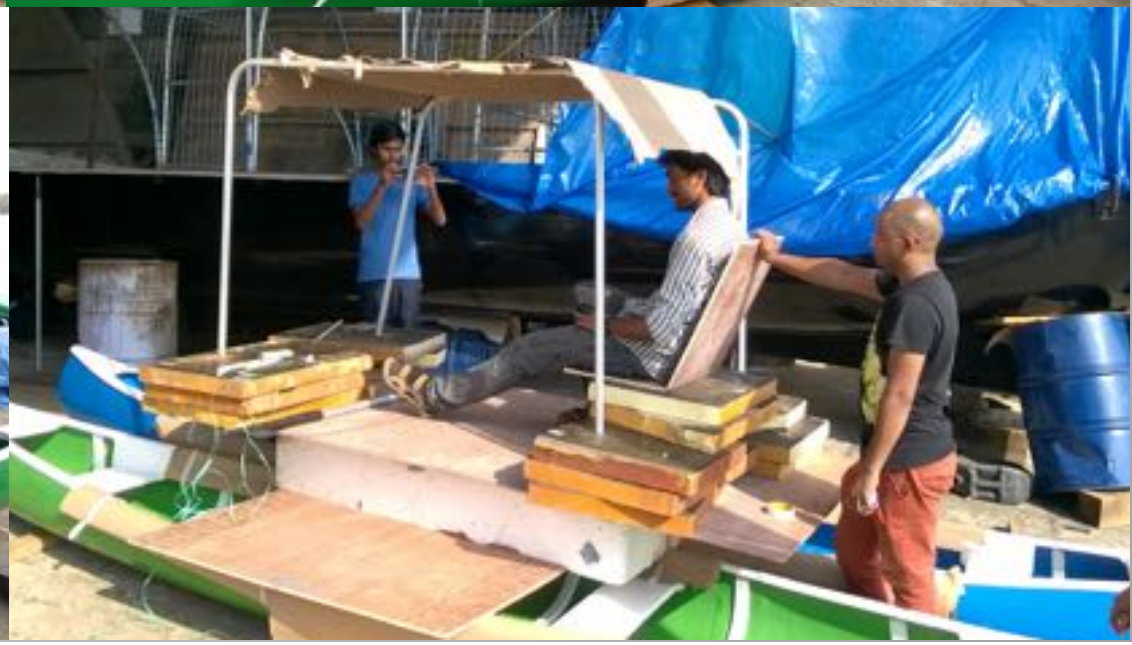


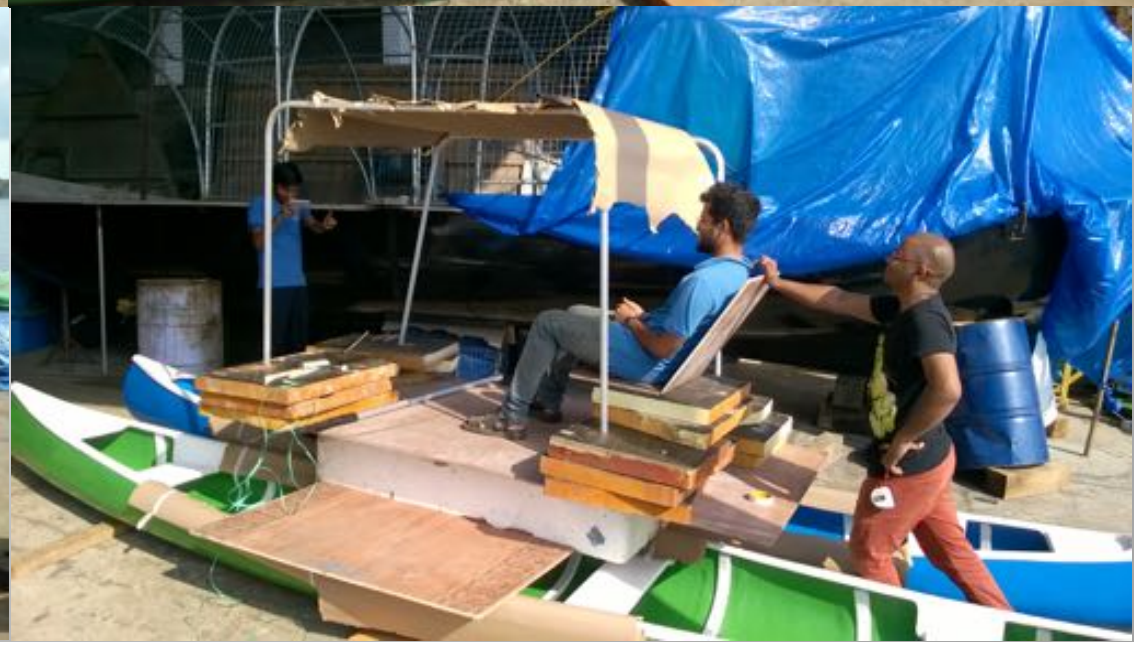
Mock Up Model

Mock Up Model

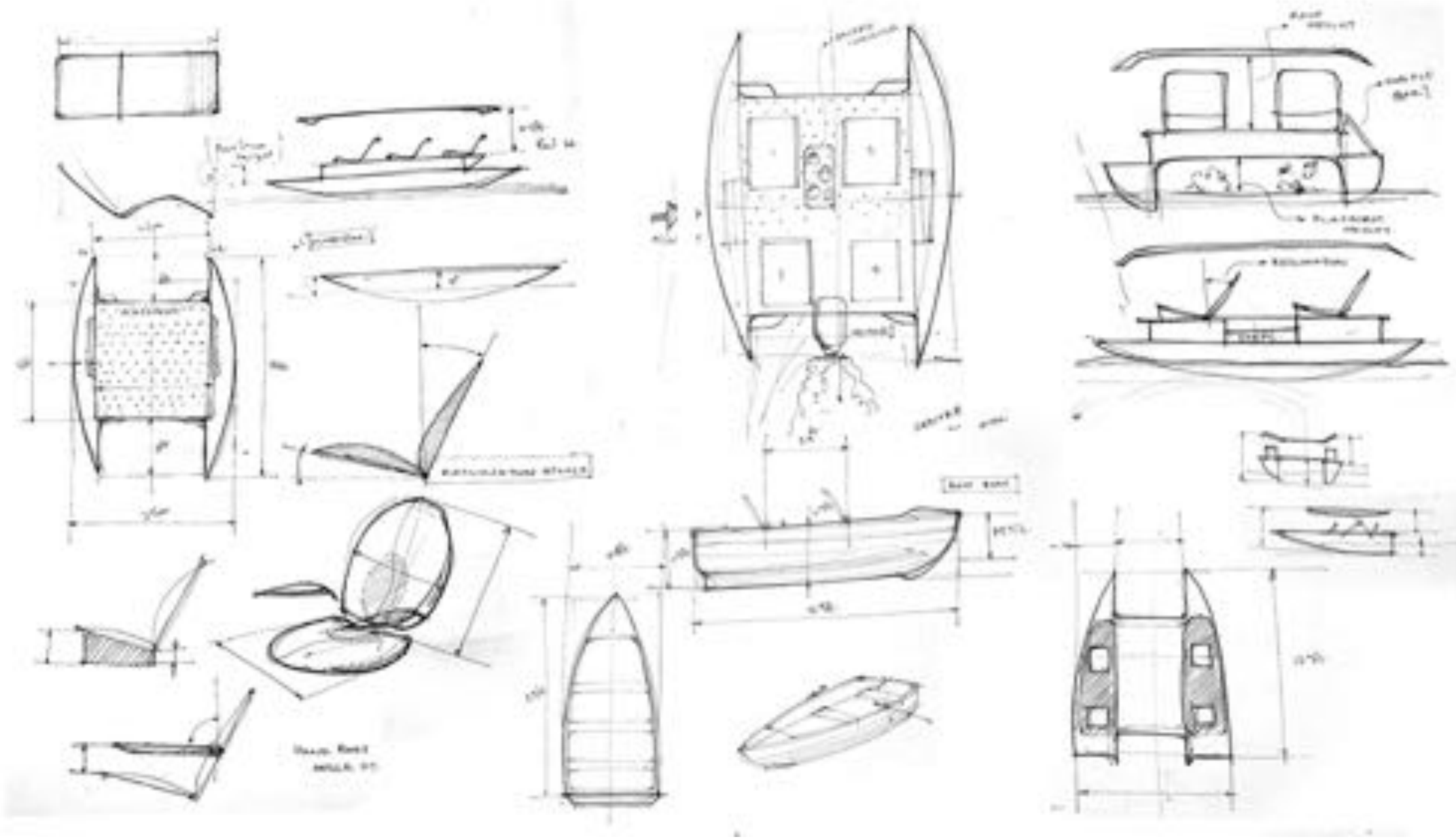
Final Mock Up Model

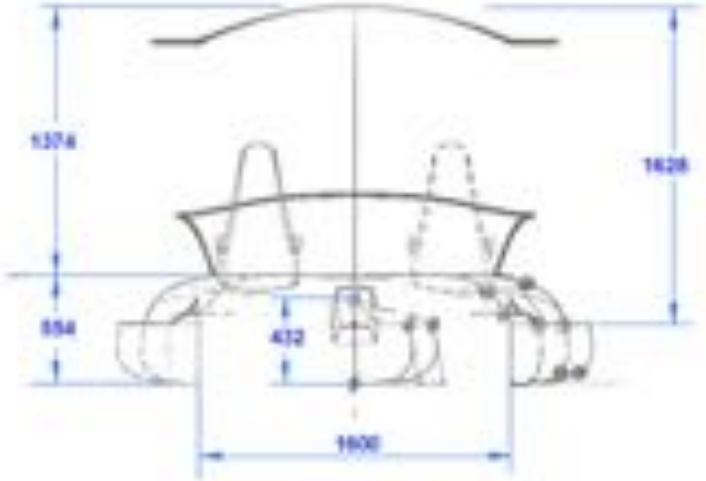
BODY STORMING

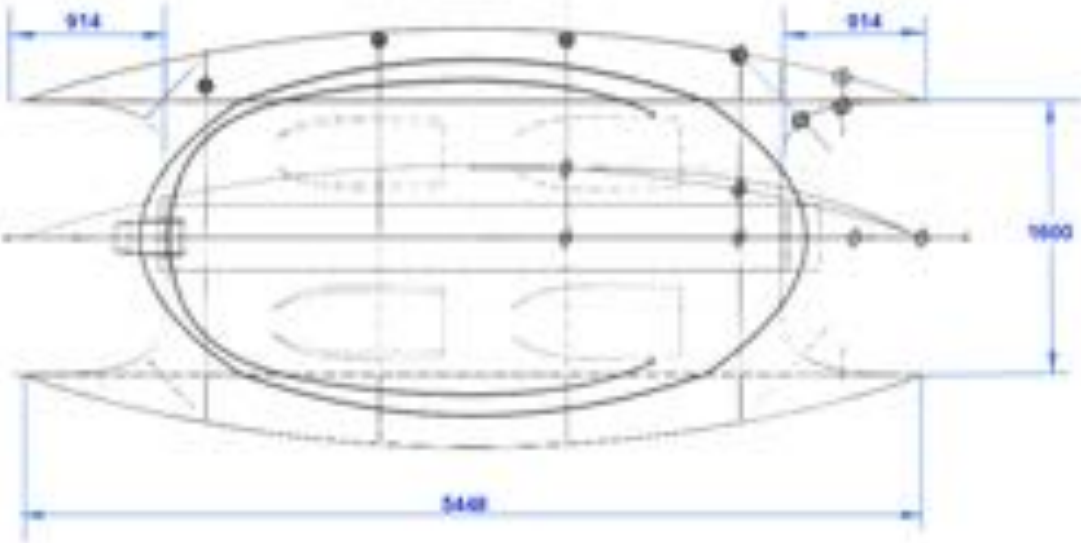




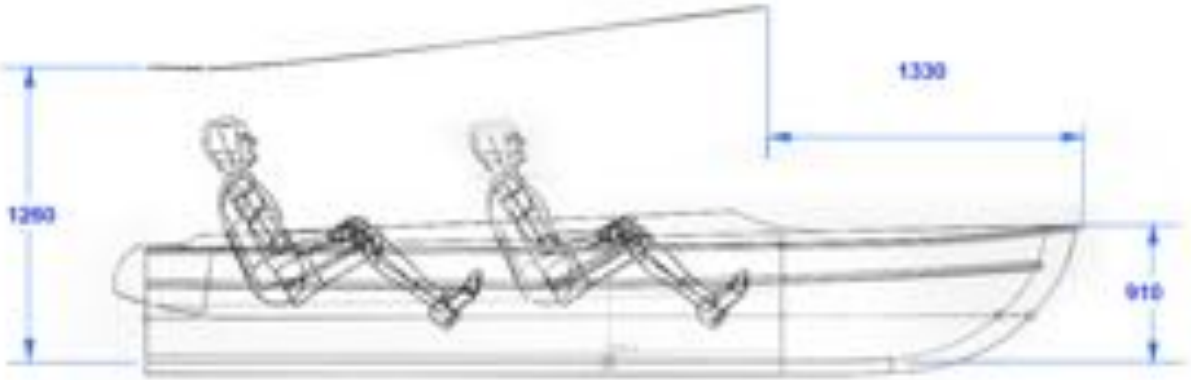


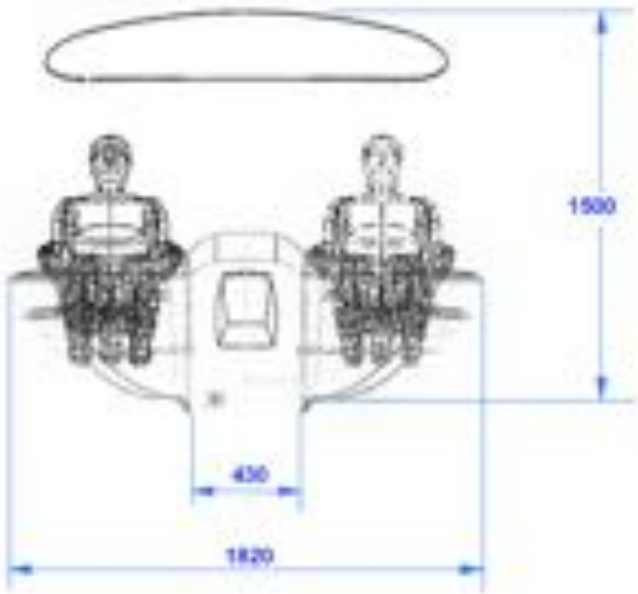



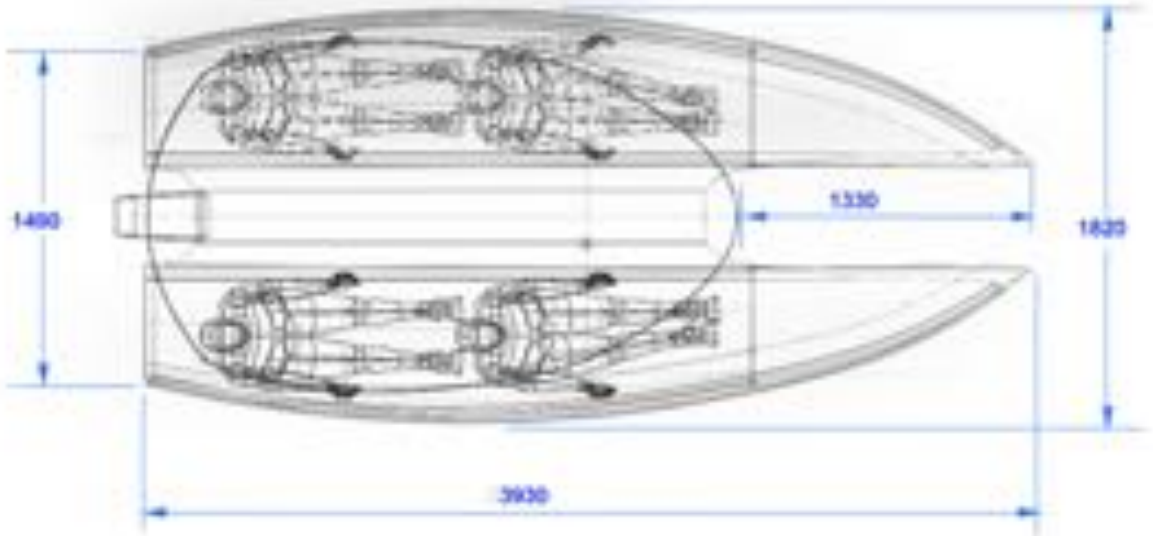




ALL DIMENSIONS ARE IN MM







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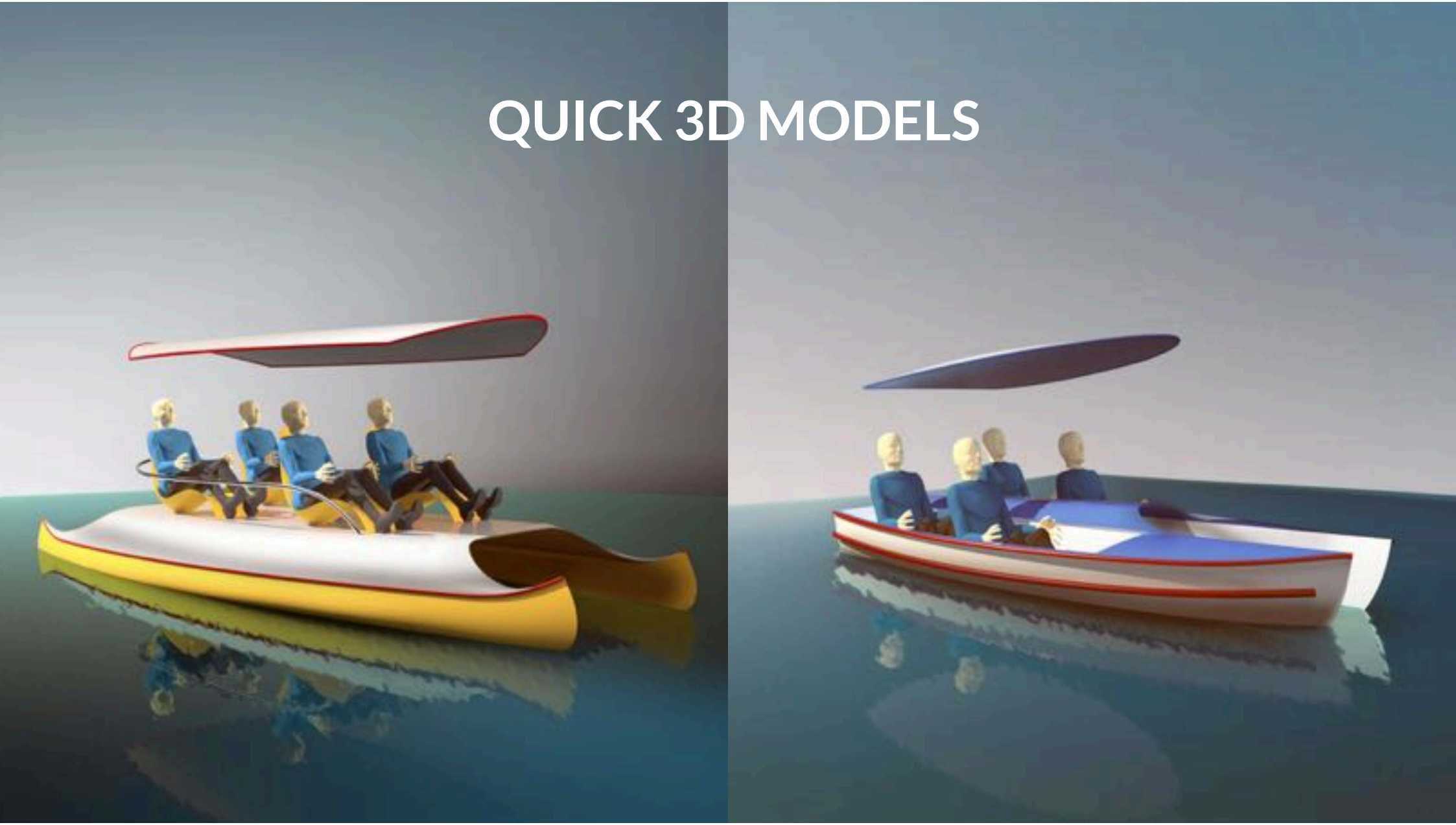
QUICK 3D MODELS



INVESTOR REVIEW

- Interested in canoe based design. Thinks it is more stable, safe and good looking.
- Concerned about passengers sitting close to the water in the row boat.
- Canoe based design is economical than row boat based design.

USER REVIEWS

Which one do you like the most? Why?

Are you afraid of travelling in water?

Which one looks more safe to you?

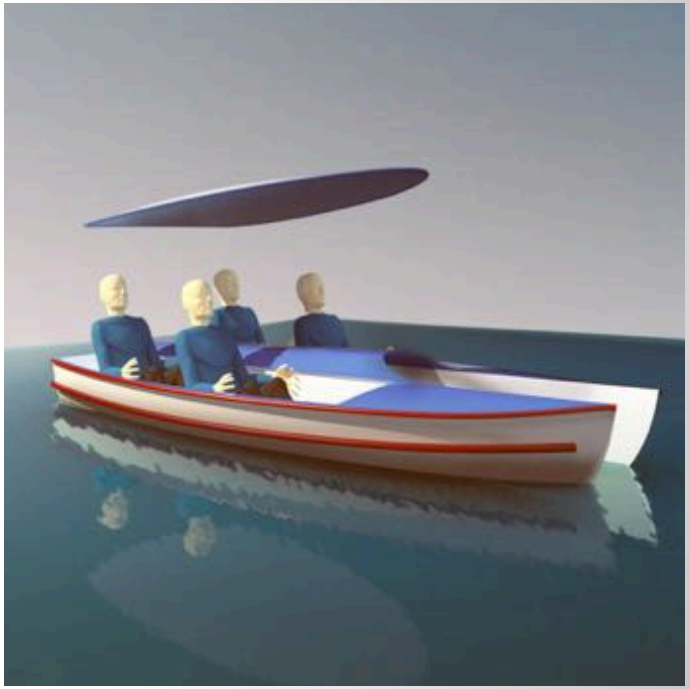
Do you like sitting close to the water while in a boat?

Which one looks more safe to travel with children?

Which one would you pick for a ride with your family?

Which one do you like the most?

65.7%



34.3%

Why?

65.7%

Looks very comfortable

Looks stable

Seating layout looks very comfortable

Dynamic form and stability

Form is clean and unconventional

Safe from rain

Design is awesome

Spacious

Good feeling

Interesting look

Looks big and nice!

Looks practical

People seating together

Wide base area looks safe compared to 2nd Boat

High seating position. Hence, a better view!

Why?

Sharp edge looks attractive

Safety

Seating position
looks comfortable

Looks classy!

Storage

Everyone is close to each other

Safe from rain

Looks stable

Close to Water

Easy Conversation

Interesting look

Gives a protected feeling

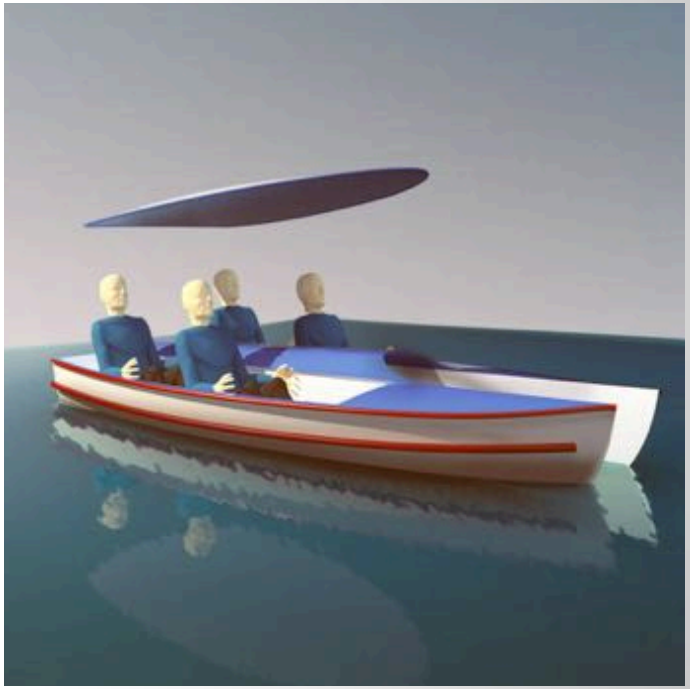
Looks better
than the other

People seating together

Looks sporty

Shape looks good

Simple



34.3%

Which one looks more safe to you?

45.7%

54.3%

Why?

High seating position

Wide base area

More balanced

Looks strong

Looks light

Protected Feel

Easy Maneuverability

Stable design

Which one looks more safe to travel with children?

42.9%

57.1%

Which one of these would you pick for a ride with your family?

57.1%

42.9%

OBSERVATIONS

USER NEEDS?

Protected Feel

Balance

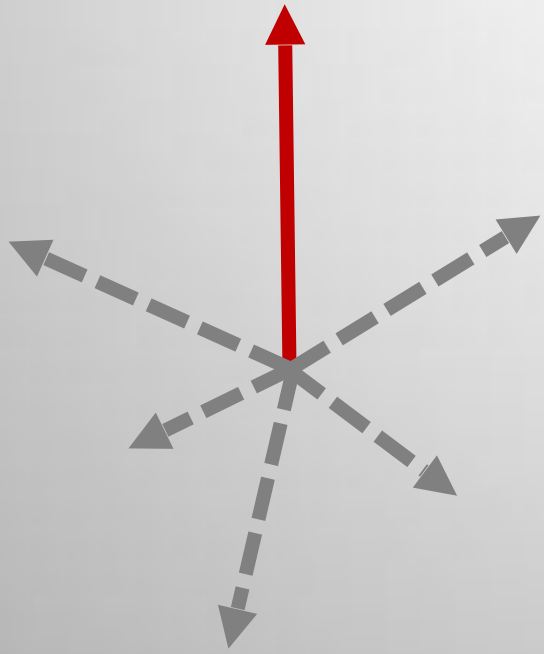
Comfort

Safety

Open View

Confidence

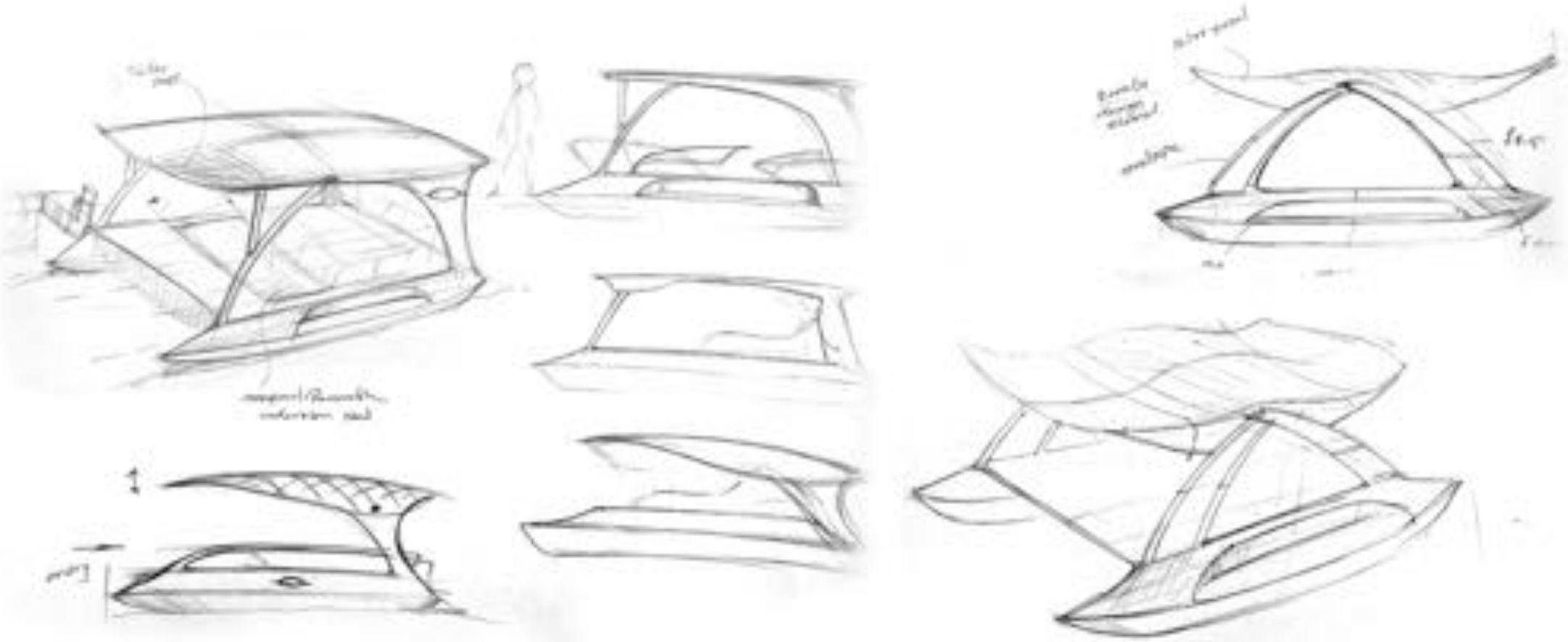
Easy Controls

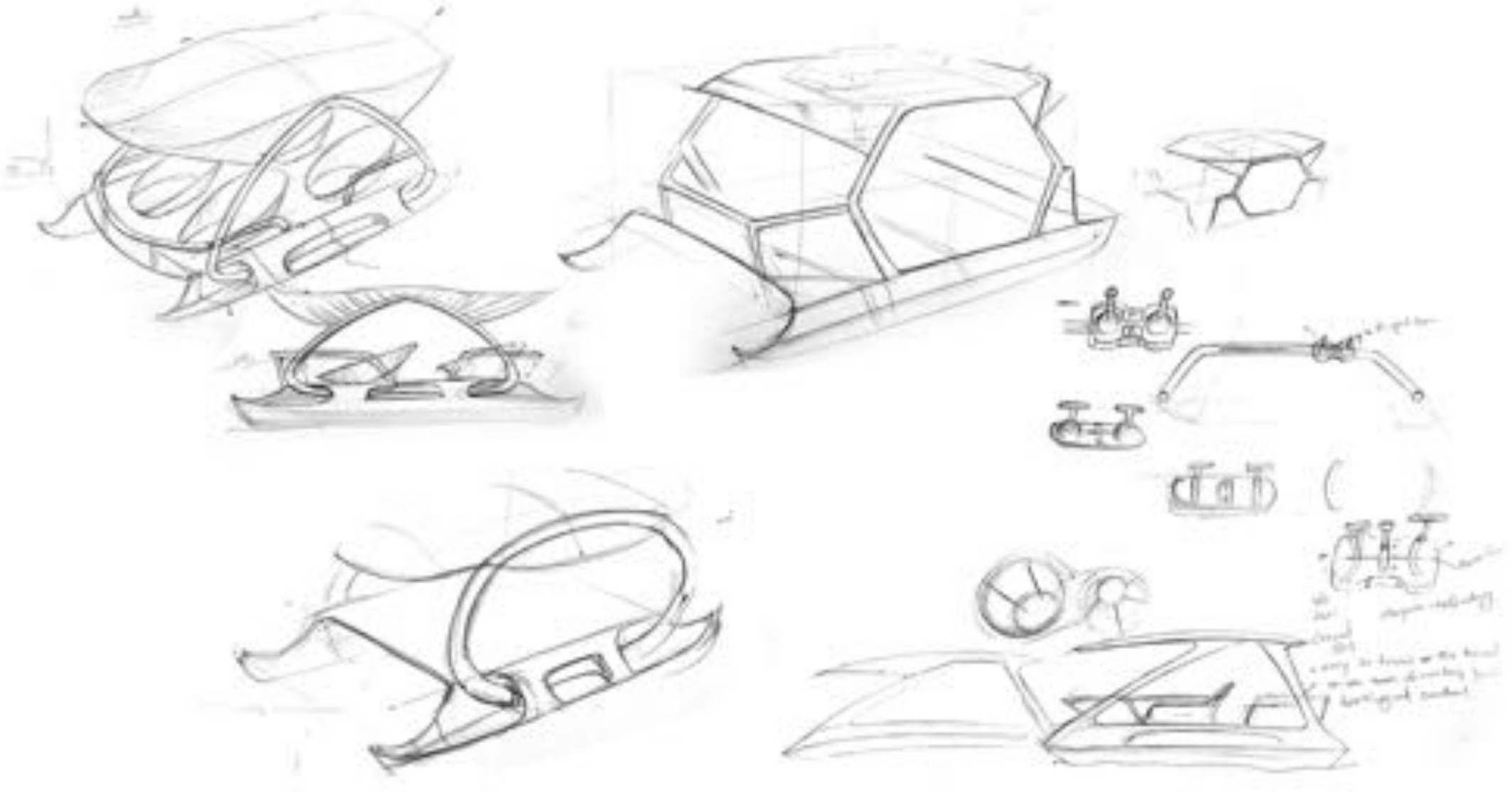


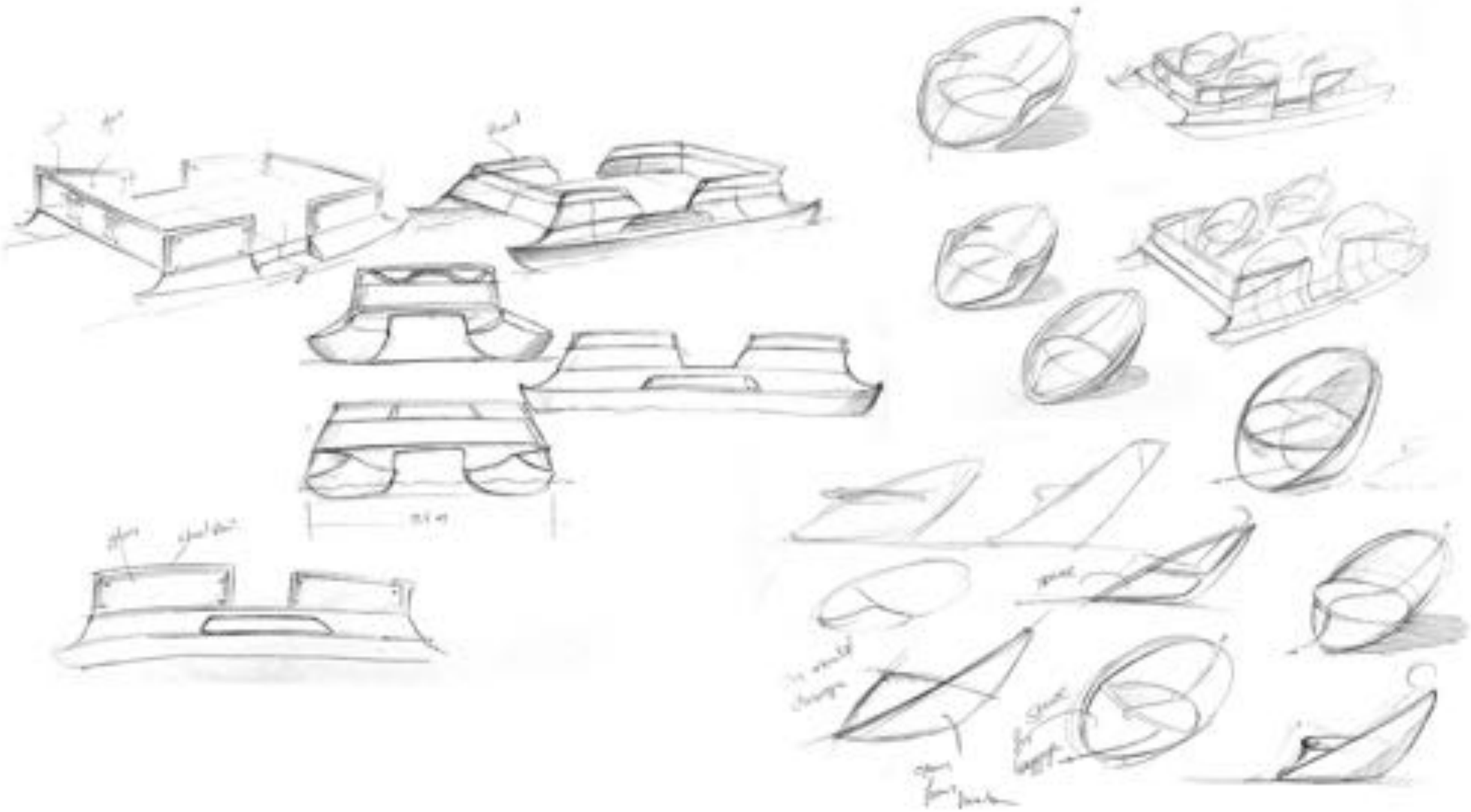
FINAL DESIGN DIRECTION

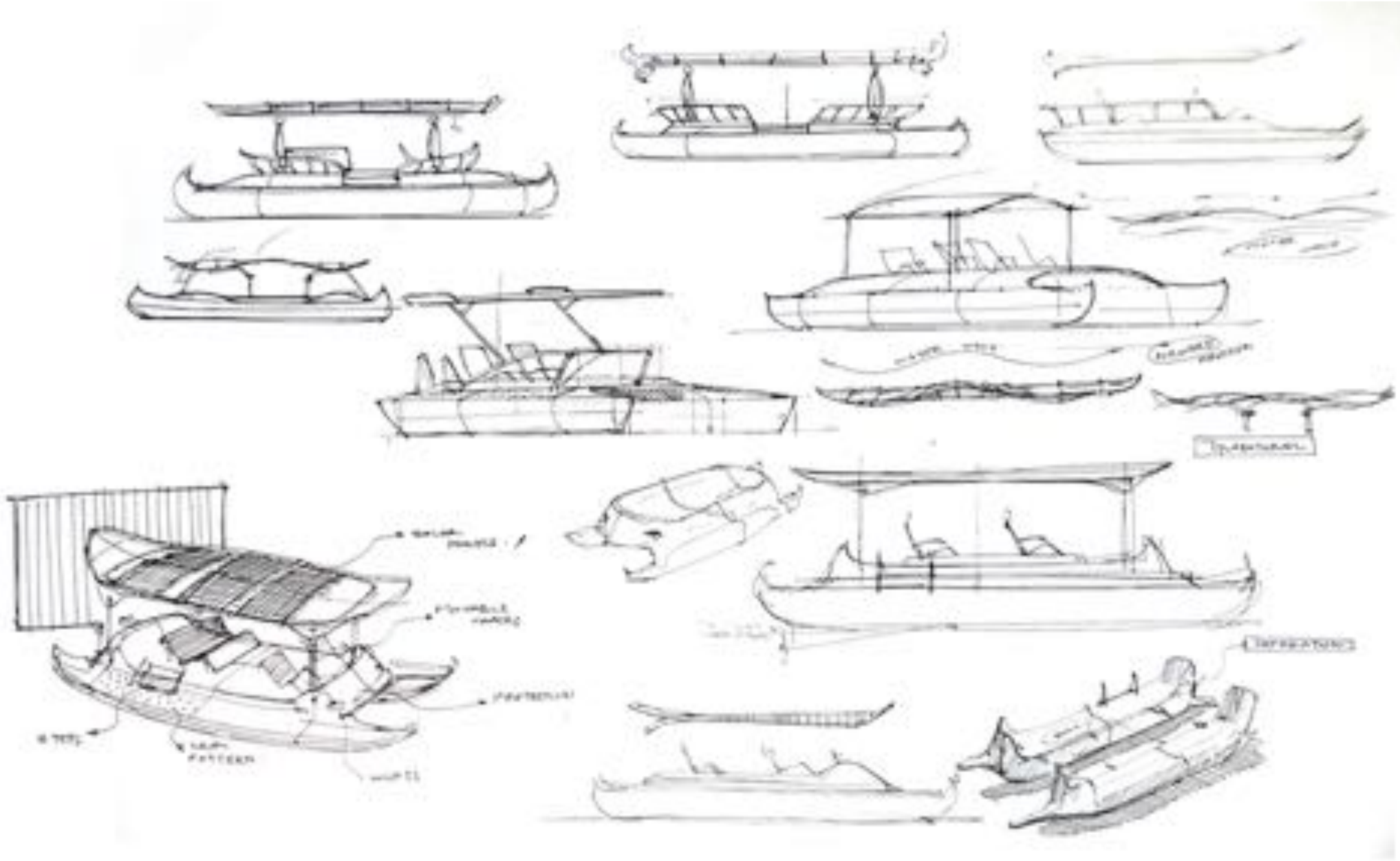
To take forward the canoe based design by making it more safe and comfortable as possible keeping experience of the user in mind.

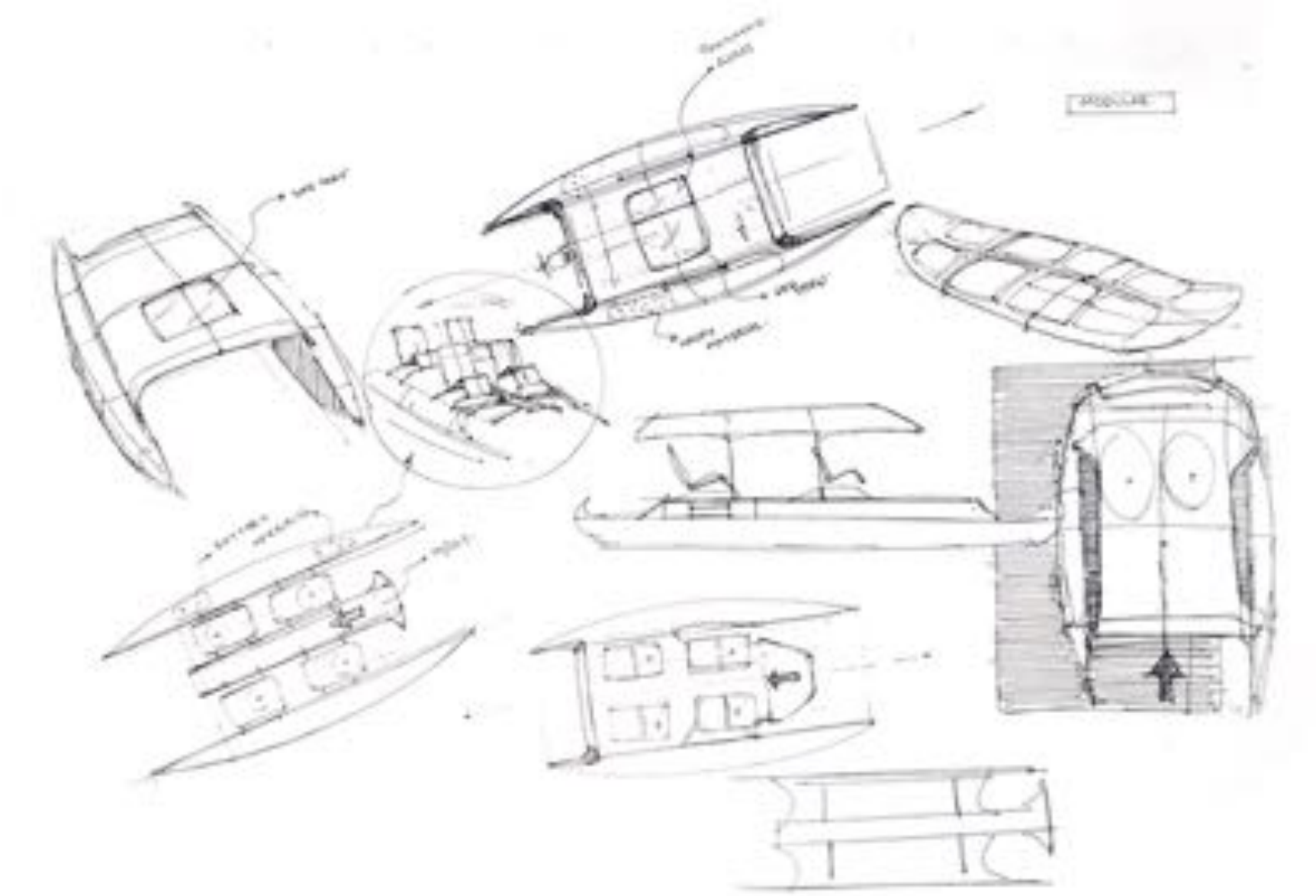
CONCEPTS





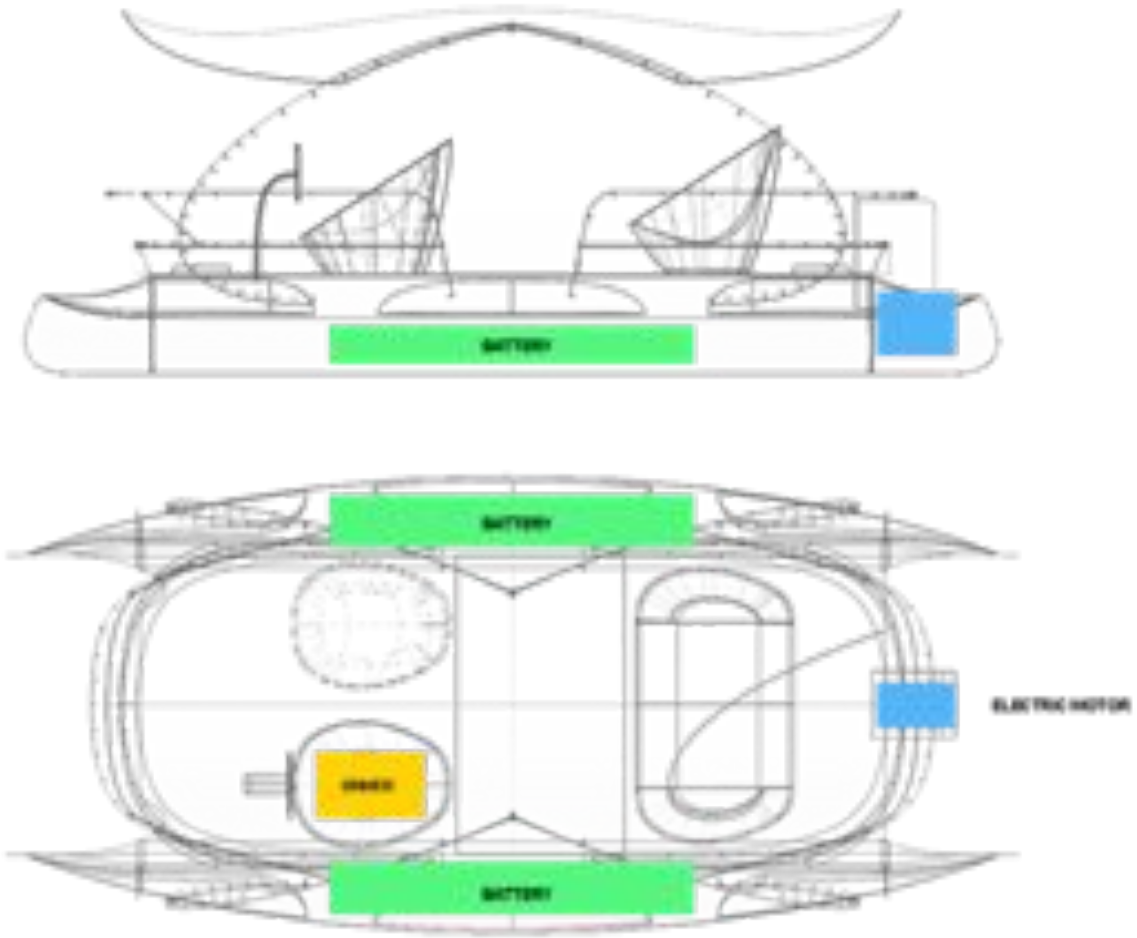




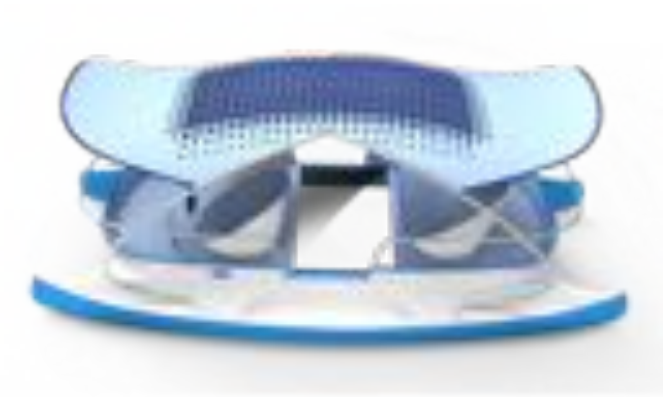


FINAL CONCEPTS

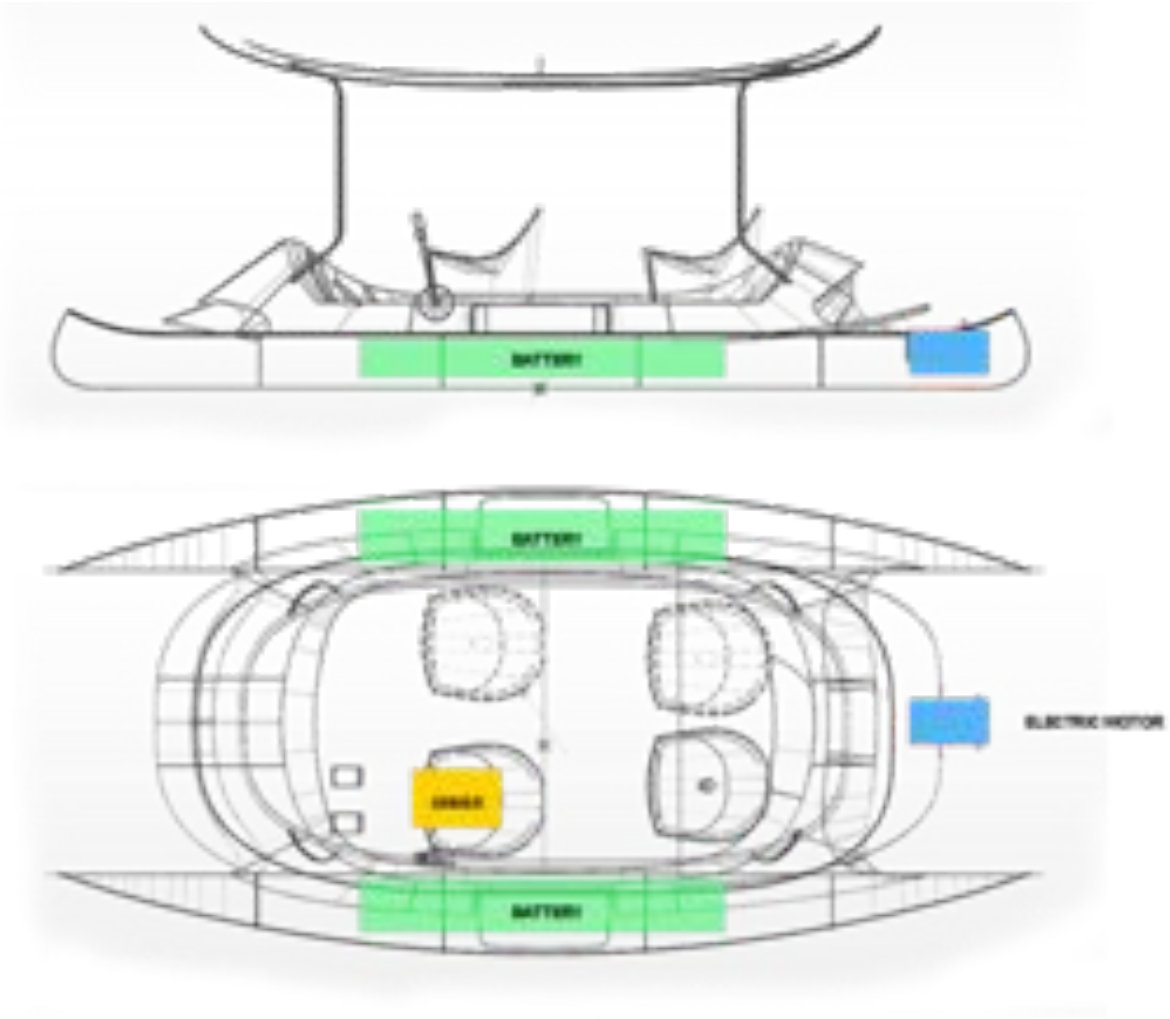

CONCEPT I



Packaging




CONCEPT II



Packaging