

Design of 12 m boat for Ganges retaining the regional design elements



Submitted by

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Certificate



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TO WHOMSOEVER IT MAY CONCERN

This is to certify that Mr. **Anshuman Dixit** (176390004), student from Industrial Design centre (IIT Bombay) has completed his internship with us from 7th May 2018 to 12th June 2018 on design of **12M Boat for Ganges** .

For **Samudra Shipyard Pvt.Ltd.**

A handwritten signature in black ink, appearing to read "Dr. S. Jeevan", written over a horizontal line.

Dr.S.Jeevan
Chairman & Managing Director



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ISO 9001-2015 Company



Declaration

I declare that this written report represents my own idea in my own words, and where others, ideas or words have been included, I have mentioned the original source. I also declare that I have adhered to all principles of academic honesty and integrity and have not falsified, misinterpreted or fabricated any idea, data, facts or source in my submission. I understood that any violation of the above will be cause for disciplinary action by the institute and can also penal action from the source from which proper permission has not been taken, or improperly cited.

Name	Anshuman Dixit
Roll Number	176390005
Date	6/07/2017
Place	IDC School of Design, IIT Bombay, Mumbai
Signature

Acknowledgement

I would like to sincerely thank Mr. Unni Mohan, designer at Samudra Shipyard Ltd. for his valuable guidance and creative input throughout the project.

I would also like to thank Dr. S Jeevan, CEO of Samudra Shipyard Ltd for giving me this opportunity to work for his firm and gain a better understanding about water transportation.

Thanks to all the employees at Samudra for their endless support and hospitality during the month I spent there. Also to my friends who were there with me all along.

Brief

Designing of a 12m boat for ganges in varanasi retaining the regional design elements .



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About Samudra Shipyard

For the first time in India, fibre glass house boats are being introduced by Samudra Shipyard, India's No 1 fibre glass boat builders. Having been into boat building for more than 3 decades, Samudra has been introducing lasting technological advantages on an ongoing basis. At present it is the only ISO 9001:2008 certified company in its field of activity.

Samudra Shipyard (P) Ltd. designs, manufactures, supplies and services composite (FRP) Boats up to 34 m (111 feet) length for Travel, Tourism, Defence and Fishing. We also manufacture Water Sport Equipment's, Marker Buoys and other marine related products.

Samudra Products



PASSENGER BOAT



LUXURY HOUSE BOAT



HOP ON HOP OFF FOR MUZIRIS TOURISM



PARASAIL BOAT



FRP HOUSE BOAT BEING SHIPPED TO ABU DHABI



WATER TAXI



SPLENDOR



LUXURY HOUSE BOAT



FRP HOUSE BOAT



FREEDOM



ECSTASY



PARASAIL

Alleppey as host of Shikara

Tranquil backwaters of Alleppey host the rides of Shikara and it operates as pick up van. In modern days it has transformed its ways and now it is more as tourist attraction. The rejuvenating ride of Alleppey backwater is best enjoyed through Shikara ride and it is much more affordable than rides of houseboat.

It offers seating capacity to 4 to 20 men and it dances deep into ravines of backwaters where travellers would have an amazing opportunity to witness the growing intensity of nature. It passes through several villages and it is motor operated, though pollution could be a major concern but it is more ecological in its character.

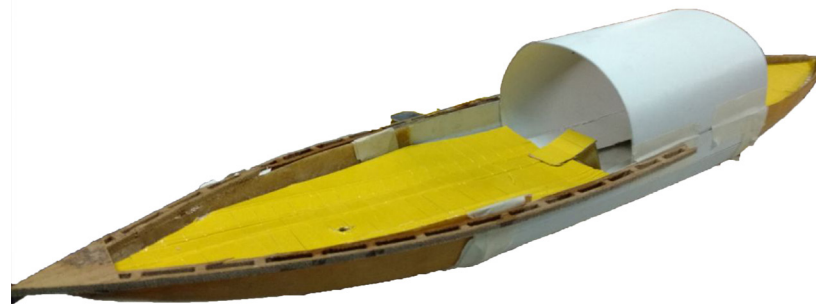


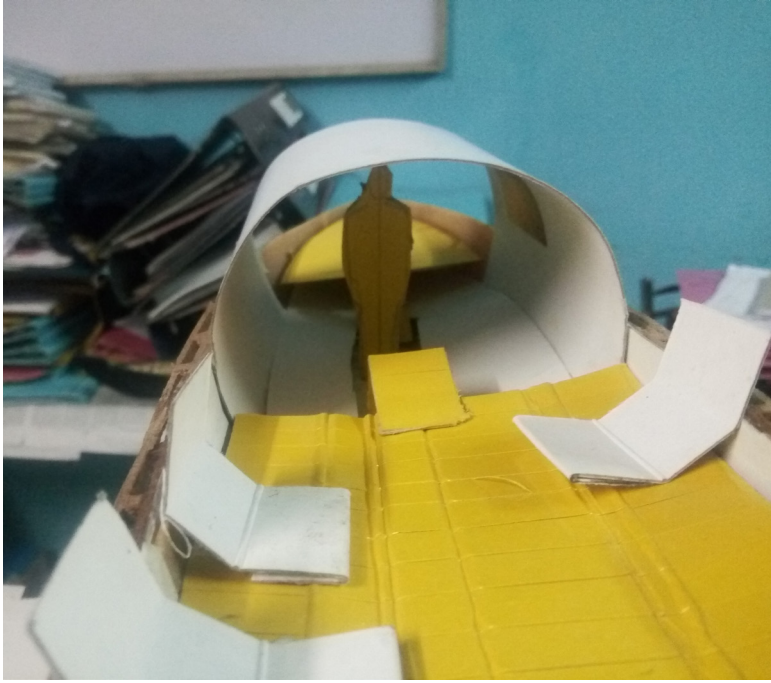
Explorations Exercise

An preliminary exercise was conducted in samudra shipyard to explore and sensitize with the boat manufacturing and design work flow.

Brainstorming was done with all the interns and important aspects were taken in consideration, based on which further exploration was done with solid boat shaped structures (fibreglass).

Different shapes and packaging styles were tried out along with scaled down human mannequin, Leading a substantial amount of ideas and pre requisites in the brain storming session which was done further .





Research Varanasi

India is evolving as the spiritual capital of the world with Varanasi being its heart. Varanasi has been upholding values & rituals for centuries, unaltered by technological interventions. The place is acclaimed to be the oldest continuously inhabited city of the world.

The Varanasi boat design fundamentals are strong. Despite the lifestyle changes in and around the holy city, the boats & their design remain unaltered. It is this authenticity which reminds you of the values in life which need to be protected.

Research was done for a week which include understanding of users expectations and mindset, interviews with a lot of local and international tourists were conducted along with the interviews of the boatmen and manufacturers.

Boating in Varanasi

India is evolving as the spiritual capital of the world with Varanasi being its heart. Varanasi has been upholding values & rituals for centuries, unaltered by technological interventions. The place is acclaimed to be the oldest continuously inhabited city of the world. The Varanasi boat design fundamentals are strong. Despite the life style changes in and around the holy city, the boats & their design remain unaltered. It is this authenticity which reminds you of the values in life which need to be protected.

Varanasi Naav

The Varanasi Boat exemplifies motion and life. The shape reminds us of Namaste. It is a physical identity to make one reminiscent of belongingness, values and ethics.



Major boating Attractions

The main reasons for the occurrence of boating and river tourism is due to few reasons like

Evening Aarti : one of the biggest attraction for the tourists to visit the city is the unique one hour of ganges aarti at evening ,all the ghats of the city illuminates with dias and chants, people in big amount board the boats to see different ghats this time.

Holy Bath : Ghats are full of pilgrims who flock to the place to take a dip in the holy Ganges, which is believed to absolve one from all sins. Hindus believe that one who is graced to die on the land of Varanasi would attain salvation and freedom from the cycle of birth and rebirth.

Sunrise : Boating early morning at the time of sunrise is one of the major attraction and is in “to-do” list of almost every tourist, the reason is the environment and the aura that is created at that time,boating this time is considered most peaceful ride.

Tourist : Any one visiting the city for the first time has to take a boat trip to get to see the city through ghats, as ghats and the river is the unique part of the city which is why this city is known worldwide

Ganga and Banares

Ganges in Varanasi is believed to have the power to wash away the sins of mortals. The land of Varanasi (Kashi) has been the ultimate pilgrimage spot for Hindus for ages. Often referred to as Benares, Varanasi is the oldest living city in the world. These few lines by Mark Twain say it all: "Benaras is older than history, older than tradition, older even than legend and looks twice as old as all of them put together". Hindus believe that one who is graced to die on the land of Varanasi would attain salvation and freedom from the cycle of birth and re-birth. Abode of Lord Shiva and Parvati, the origins of Varanasi are yet unknown.

Ganges & Its Ghats Varanasi or Kashi is older than traditions. Varanasi presents a unique combination of physical, metaphysical and supernatural elements. According to the Hindu mythology, Varanasi liberates soul from human body to the ultimate. It is the Ganga Ghats of Varanasi that complement the concept of divinity. Ghats of Ganga are perhaps the holiest spots of Varanasi. The Ganga Ghats at Varanasi are full of pilgrims who flock to the place to take a dip in the holy Ganges, which is believed to absolve one from all sins.



Art & Culture of Varanasi

The art and culture of Varanasi is unique. It is the rich cultural tradition of Varanasi that makes it the cultural capital of India. A combination of archaeology, mythology, geography, art and history makes Varanasi a great centre of Indian culture. Though Varanasi is associated mainly with Hinduism and Buddhism but one can find glimpse of many religious beliefs, types of worship and religious institutions at Varanasi. It is amazing to see the primitive worship cults being practiced at Varanasi. Varanasi presents a complete museum of Indian

Varanasi is the place where we find master craftsmen of traditional Banaras saree hand-loom weavers, brass utensil makers, goldsmiths, silversmiths, terracotta, metal work, Carpet and Durries weavers, Musical Instrument makers and wooden toy makers who have been recognized and appreciated by our honourable Prime Minister Mr. Narendra Modi. Youngsters of Varanasi are so enthusiastic, energetic and quite liberal.

The old culture and traditions were being destroyed by the Muslims rulers but those were again refurbished by the great king, Akbar. He had played the huge role in maintaining the Varanasi culture and heritage. Varanasi is the source of natural heritages as well because of the presence of sacred River Ganges. People in Varanasi have strong belief towards the bathing in the Holy water of the Ganges at the great festivals.

Recent changes in varanasi boating systems

Launching of the solar powered E boats by prime minister Narendra Singh Modi in his parliamentary constituency varanasi Mr. Modi wants to eliminate noise and air pollution from diesel-engine boats by upgrading them into electric vessels that run on solar-powered batteries. He has said that he hopes the e-boats will attract more tourists as they find them more pleasant and peaceful, and augment the incomes of the boatmen who won't have to spend money on diesel.

- November, 2014



Source : The Wall Street Journal

E boat failure

“Problems in recharging the batteries as there is no power point at the ghat,” said Sandeep, whose father Moorat Sahni owns two e-boats at Assi ghat. A boatman has to spend Rs 120 for carrying the batteries up the ghat steps to replace them with the charged ones. The batteries are recharged at a private service station in Assi at a charge of Rs 180.

The batteries get discharged in just two rounds of the river front or sometimes midway, another boatman Babu said. In such a situation, they have no option but to sail the boat manually. It is also not feasible as well as convenient for them to repeat the tough exercise after every two rounds, they said, adding that the e-boats are not suitable for boating in strong current during the monsoon. Sandeep has fitted diesel motor in his e-boat to avoid the problem of battery recharging.

Self Observation

Safety

Comfort

System (ticketing ride planning)

Power unit (solar or petrol)

Ingress egress

Exhaust systems(water and smoke)

Material(wood)

Packaging

Shed overhead

Parking issues

Interviews

Interviews were conducted with the tourists and the boatmen within the city to understand the real time needs and scope of improvements that could be done with the current scenario.

Questionnaire for tourists

- Previous boating experiences? Where if yes?
- What difference in varanasi boating if yes
- How long was ride, from where to where ?
- Motor or manual?
- Difference in motor and manual ?which one to prefer
- Was it comfortable ,hygienic ?
- Did you feel safe in the journey?
- Aesthetic wise was the boat beautiful ?
- Any problem in booking ?
- Any problems in payments ?

Questionnaire for Boatmen

Boat type manual or powered

Diesel, petrol or e boat

- How they attract people?
- General proportions
- More widely used (motor or manual)
- Which ones provide more profit
- What type of tourists generally show up ?
- What r tourists expectations ?
- What route they take ?
- How much time does one ride take?
- What is there for safety?
- Temperament of the river?
- Parking issues ?if any
- How they decide no. of crew?
- Precautions and taxi checklist before any ride?
- When is major tourist time/season?
- Any traffic rules of river ?
- If thy r thinking of improving ?
- Any website or online booking portal ?

Insights

Less comfort

Need to change the material

Monotonous aesthetics

Lack of safety

Lack of open spaces

Ride is not smooth in diesel boats

Noisy ride

Freezing Specifications

Capacity : Accommodates 7-10 persons

Route : General route covers only 50-55 ghats , with petrol engine it can cover almost all ghats

Basic other needs : water, snacks, table, relaxing chairs, life-jackets etc.

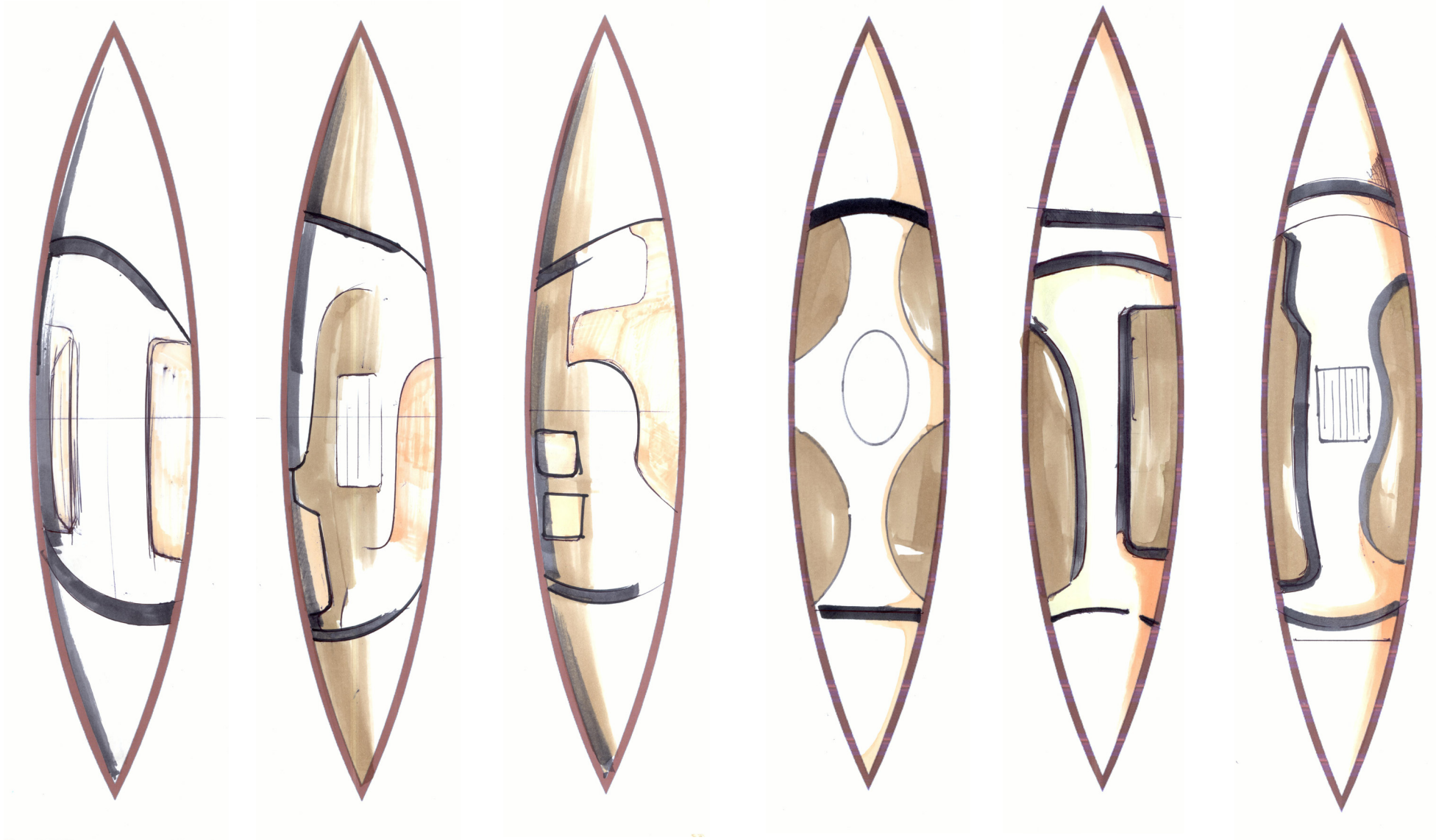
Overhead structure : shed is required because varanasi experience scorching heat in summers

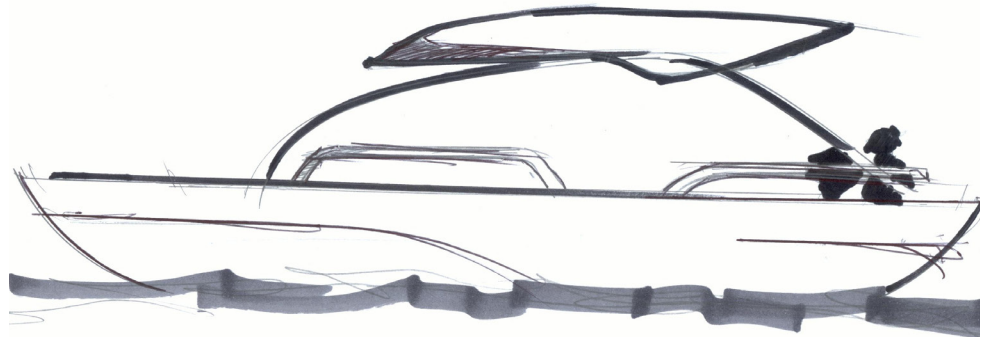
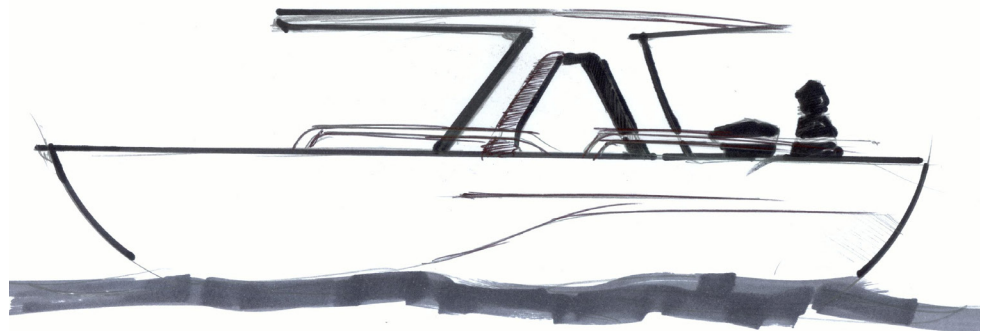
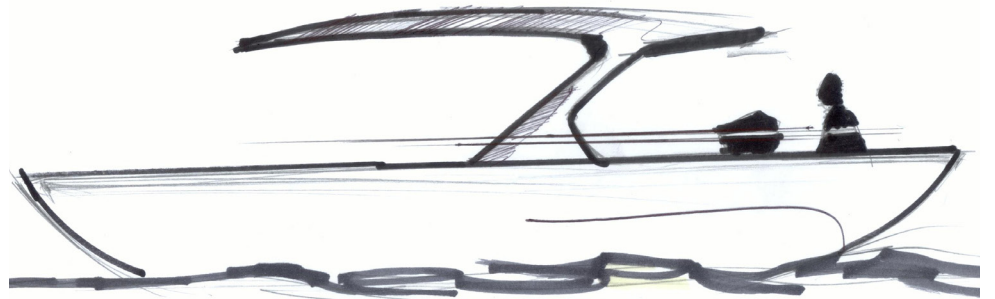
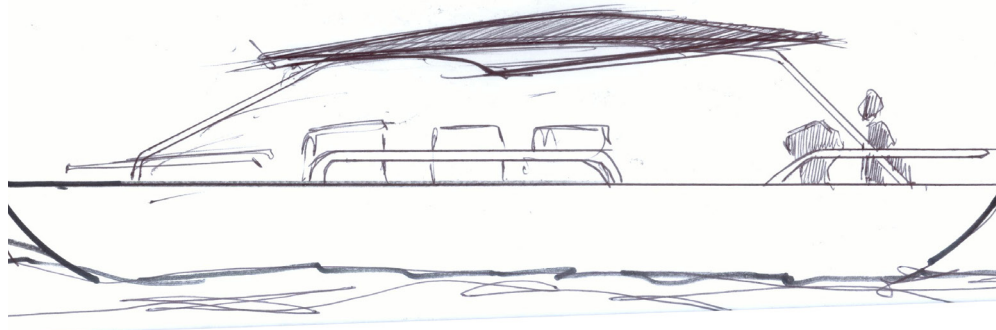
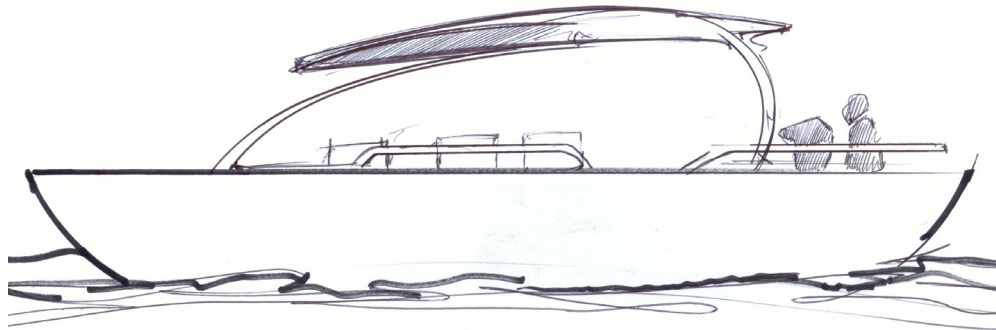
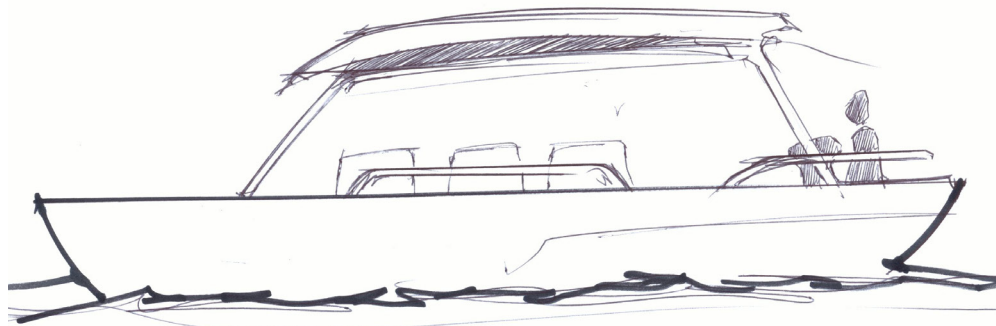
Proportion (12-13m) : L*B (12.6*2.48)

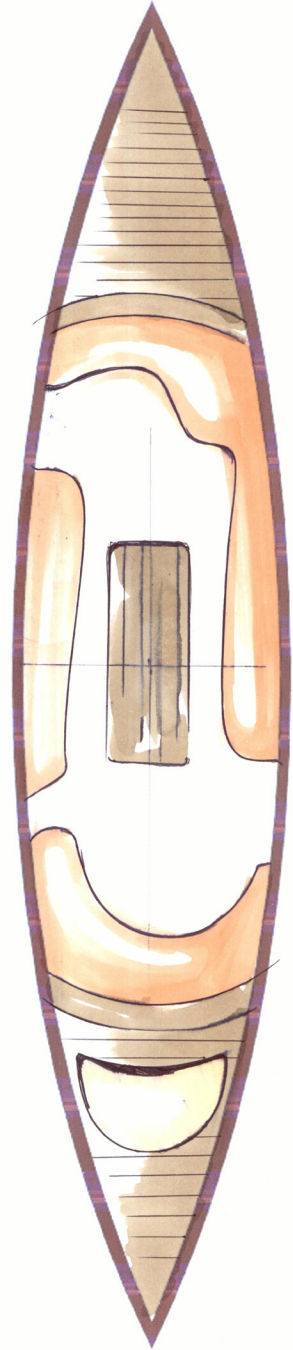
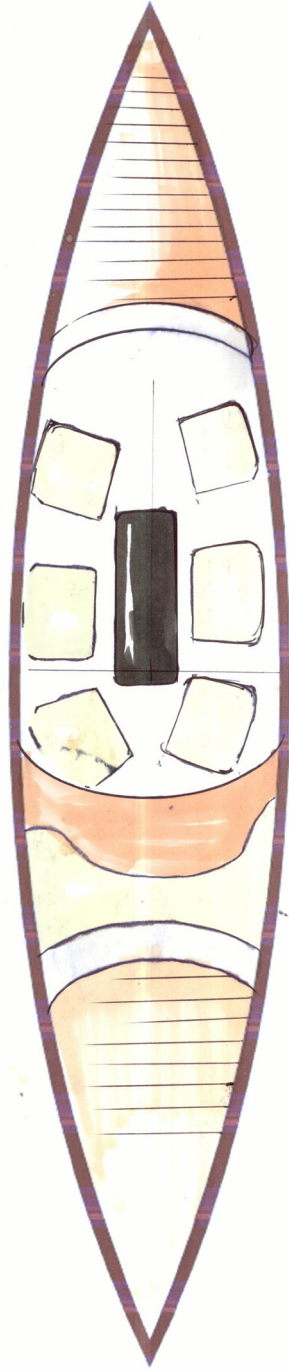
Draught : 0.27 M

Engine : petrol engine for less noise and better performance

Ideation

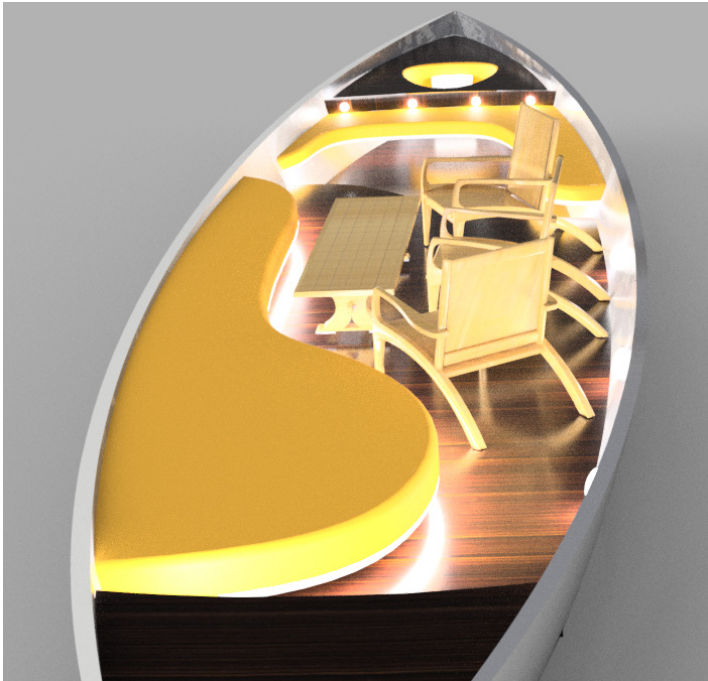
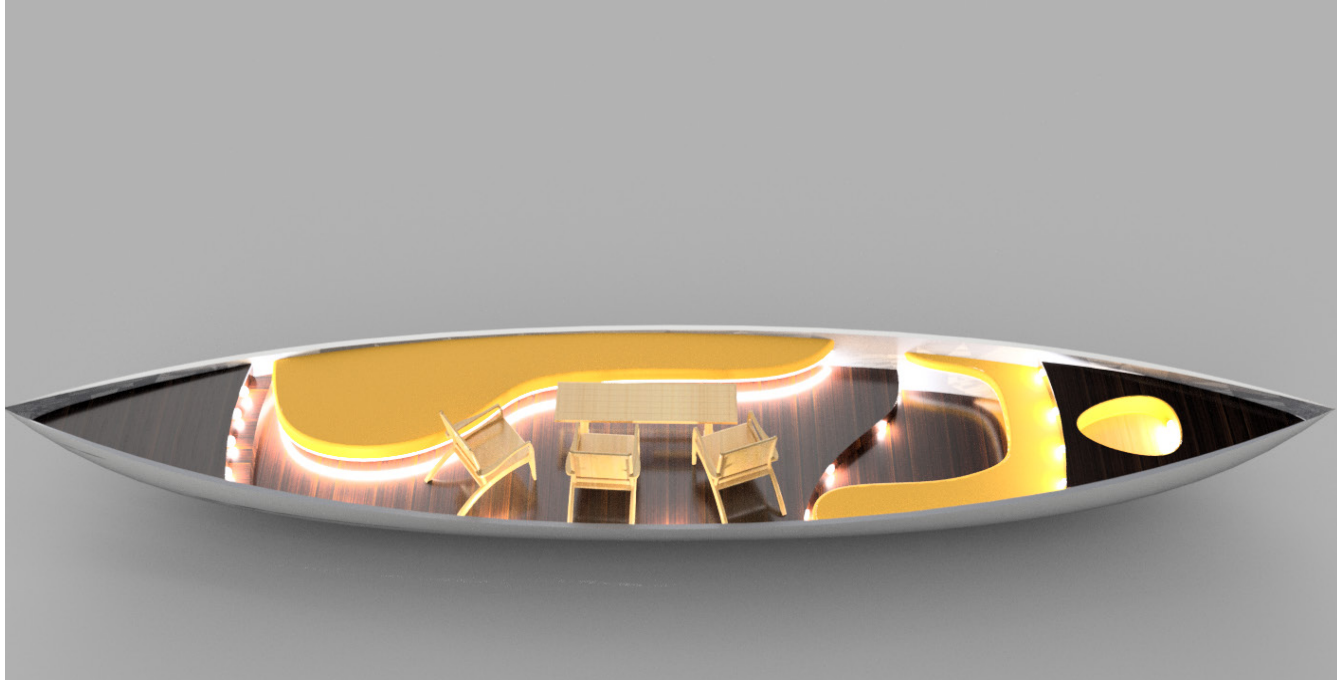


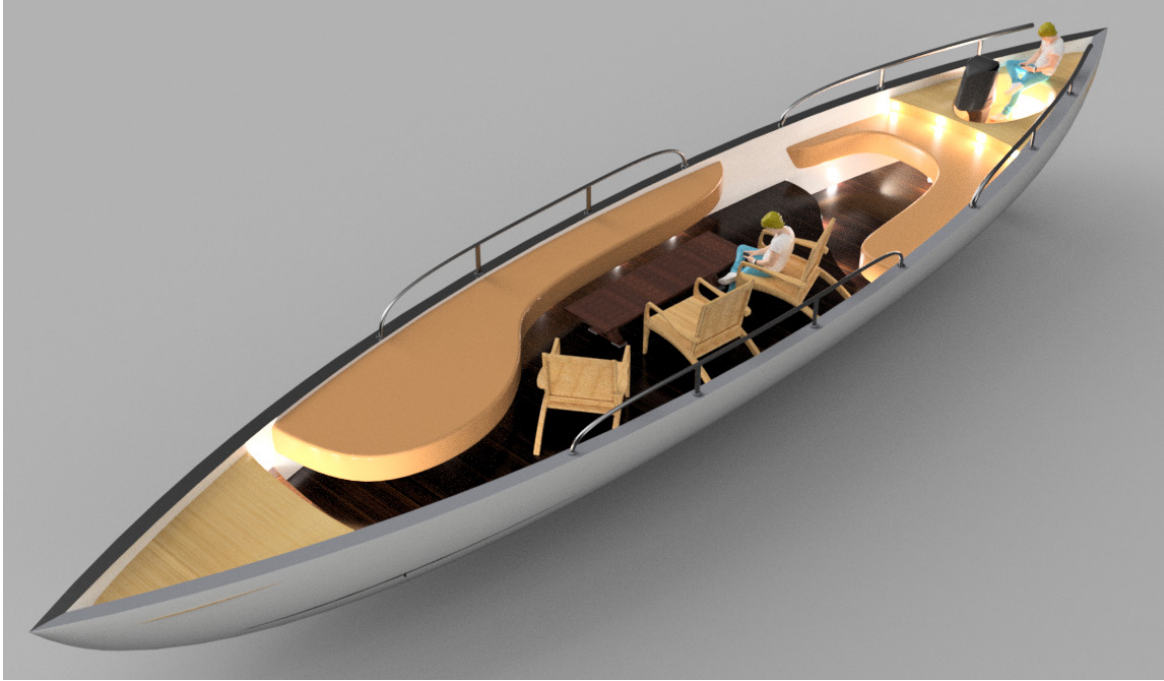




Explorations







Final concepts

