

# Designing Indian Sitting Style Furniture For Contemporary Lifestyle

Submitted In Partial Fulfillment Of The  
Requirement For The Degree Of  
'Master Of Design' In **Industrial Design**

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The Industrial Design Project II entitled

**“Designing Indian Sitting Style  
Furniture for Contemporary Lifestyle”**

by Darshan Madhukar Nerkar;

is approved in partial fulfillment of the  
requirements for the Master’s degree in  
Industrial Design.

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**“GOOD EFFORTS ARE NO GOOD WITHOUT PROPER DIRECTION...”**

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Darshan M. Nerkar  
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## CONTENTS

1.0	Methodology - Graphic format	01
2.0	Need for the project	02
2.1	Design contribution	03
2.2	Learning objective	04
3.0	Attempt to characterize Indian Individual	05
3.1	What is Indian sitting?	08
3.2	What is Indian sitting style furniture?	11
3.3	Why Indian sitting style furniture?	12
4.0	Initial product brief	19
4.1	List of things to be done	20
5.0	Experimenting with mock-up rig	22
5.1	Product brief	25
5.1.1	Essential elements of the product	
5.1.2	Desirable elements of the product	
5.1.3	Optional elements of the product	

6.0	Ideation and concept generation	26
6.1	Cluster 1 - Side entry, Non folding	
6.1.1	Concept 1 - Side entry, Non folding	29
6.2	Cluster 2 - Front entry, Low height, Non folding	
6.2.1	Concept 2 - Front entry, Low height, Non folding	31
6.3	Cluster 3 - Front entry, Folding	
6.3.1	Concept 3 - Front entry, Folding	35
6.4	Concepts generated after ideation	36
6.5	Concept evaluation	37
7.0	Exploring the concept further	38
7.1	Explorations with same rig	40
7.2	Exploring to enhance Indian look	43
7.3	Exploring to suit sitting requirements	44
7.4	Exploring to suit sitting requirements and Indian identity	46
7.5	Comparing the two products	47
8.1	Towards the solution - Model 1	49
8.2	Towards the solution - Model 2	50
8.3	Towards the solution - Model 3	51
8.4	Refined concept	52
8.5	Final Concept	54
8.6	Testing Rig	57
9.0	Bibliography and references	59
9.1	Special thanks	60

## **ABSTRACT**

### **Designing Indian Sitting Style Furniture for Contemporary Lifestyle**

Today, urban living rooms form an important part of the modern houses which require special kind of furniture to satisfy the needs of informal/ leisure activities such as interacting with family members, watching TV and sometimes entertaining friends/ guests. Now with numerous speciality shops/ malls coming up, a wide range of furniture is available in the market, but the furniture readily available is mostly of Western/ European style and the Indian style furniture available is mostly made up of wood and give very traditional look which does not gel with the contemporary interiors. The overall situation lead to an idea of designing contemporary furniture with Indian sitting style.

An extensive study of the habits of people in Indian sitting style was carried out by testing a study rig. Anthropometric dimensions were also finalised during this phase of design along with creative idea generation.

The solution came in the form of a stand alone single seat chair made up of Stainless steel pipe structure with bent plywood for the base and woven jute for the backrest. A special support at arms level along with a specially contoured polyurethane foam seat is also provided to fulfill the requirements of the Indian sitting postures. A separate footrest to support the legs in stretched position is also provided which slides below the chair when not required.

The proposed design would help to reposition the Indian sitting style furniture as it is suitable for the day to day activities and fits in contemporary interiors, thus fulfilling the demand for the specific kind of furniture in the market.

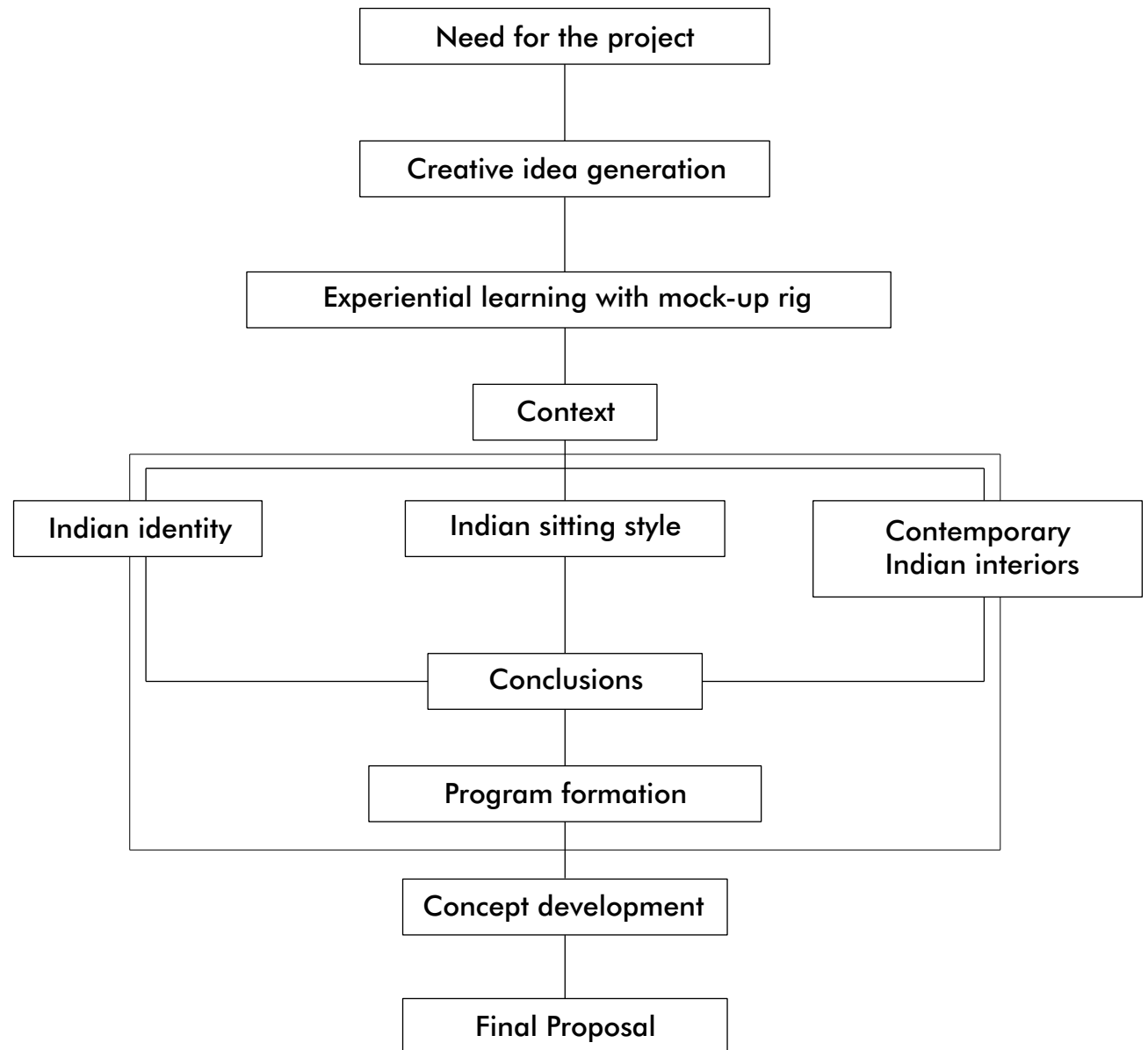
The project is looked upon as an opportunity to design and reposition the product with holistic approach from data collection to final design proposal stage.

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## 1.0 METHODOLOGY - GRAPHIC FORMAT



## 2.0 NEED FOR THE PROJECT

Today, living rooms form an important part of the modern houses where the family members come together to interact, to watch TV and sometimes to entertain friends/guests. As such, these rooms require special kind of furniture to satisfy the needs of informal/ leisure activities. At the same time, they are the reflection of the lifestyle of the family or of the head of the family.

Now with numerous speciality shops/ malls coming up, a wide range of furniture and lifestyle products is available in the market. And for the above said category, the furniture readily available is mostly of Western/ European style. On the other hand, there is huge demand for the Indian sitting style furniture due to the flexibility of use and the comfort level it offers to the user.

The existing products available in the Indian sitting style arrangement are mostly made up of wood and give very traditional look which creates an 'odd man out' situation in the contemporary interiors.

The overall situation leads to an idea of designing contemporary furniture with Indian sitting style.

## 2.1 DESIGN CONTRIBUTION

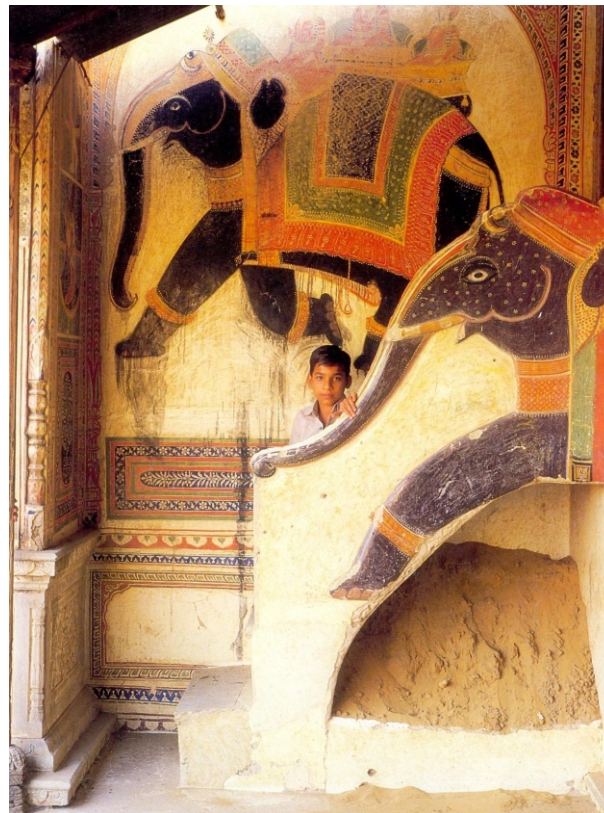
The design proposal would help to reposition the Indian sitting style furniture by making it suitable for the day to day activities and to fit in contemporary interiors, thus fulfilling the demand for the specific kind of furniture in the market.

## 2.2 LEARNING OBJECTIVE

I am looking at this project as an opportunity to design and reposition the product with holistic approach from data collection to final design proposal stage. It will also help me understand the user and the market existing for such products in a deeper sense. The project will give me the understanding of the industrial materials, processes and detailing involved in such products to great extent.

### 3.0 ATTEMPT TO CHARACTERIZE AN INDIAN INDIVIDUAL

Parapet wall of a stairway treated in typically Indian style



Now, let us start with understanding what is Indian and Indian-ness, as we are designing furniture with Indian context, for the Indian market.

We Indians are a typical and special kind of species. We have some unique characteristics which make and define the Indian in us, sum total of which can be called as Indian-ness. Majrooh defined these characteristics very well in the title song he wrote for the movie 'Phir Bhi Dil Hai Hindustani'.

"Indian-ness" is the cultural part of mind that informs the activities and concerns of daily life of us. How to behave toward superiors and subordinates in organizations, the kinds of food conducive to health and vitality, the web of duties and obligations in family life, are as much influenced by the cultural part of the mind as are ideas on the proper relationship between the sexes, or the one to the Divine.

A heavily loaded tractor trolley showing the 'chalta hai' attitude



We have fixed mentality, obsession with power, we love nostalgia, we love films and film songs, everyone is a shayar, we understand the unsaid better than what is said, subtleties fascinate us, body language is very important for us though we can not define it, we have plenty of pre-conceived notions, we jump to conclusions, we love eating, we are highly opinionated, we give lot of details and talk too much even if it is not welcome, we have standard set of expressions which define our opinion, reaction, conclusions, judgement and philosophy of life which include: Chalta hai, Theek hai, Phir kya hua!? sub ek jaise hain, eisa hi hota hai, no problem, OK, don't worry yaar! Similar standard phrases exist in other Indian languages too.



We love dipping glucose biscuits in tea, we love eating bhajia, pakoda, bhel puri and such miscellaneous snacks, we cant cook without green dhanian, we use rarest of the spices, our needs are simple, we feel happy in smallest of the things, we love crying in a movie, we enjoy melodrama as well as gross overacting, we love loud colors, we like spending time and effort on worship, pilgrimage, charity and ostentatious rituals as well as traditional functions/ ceremonies; from birth of a child to the death we have ceremonies, life is a journey full of ceremonies.

We have an opinion on everything. No matter where in the world we are, we cannot stop being Indians, as aptly described in an ad; 'You can take an Indian out of India, but you cannot take out India from an Indian.

Of course, in an individual Indian, the civilizational heritage may be modified and overlaid by the specific cultures of his family, caste, class or ethnic group. Yet an underlying sense of Indian identity continues to persist in all of us.

In short we have underlying unities in apparent diversity, a unity often ignored or unseen because our eyes are more attuned to espy divergence and variation than resemblance.

We have our own ways and means of doing different things which are quiet unique and hence we just love being Indians.

### 3.1 WHAT IS INDIAN SITTING?

When we say Indian sitting style, the most common posture that comes in front of us is the cross legged sitting posture. But there are many other postures which are typically Indian.

Some of them are task oriented which involve focus on a particular area for considerable time duration. E.g. Kitchen activities which require forward bending like cutting/ chopping vegetables (fig. 4), Chapatti making (fig. 2), Eating, etc. Such postures are commonly associated with Yoga and meditation also. (Fig. 1)



Fig. 1



Fig. 2



Fig. 3



Fig. 4

Some of them do not require back support and are meant for smaller duration of time.

These kind of postures are typically adopted while playing board games (fig. 7 & 8), eating (fig.6), TV watching (fig. 5 & 6), having snacks (fig.6), casual discussions or while listening carefully (fig.6).



Fig. 5



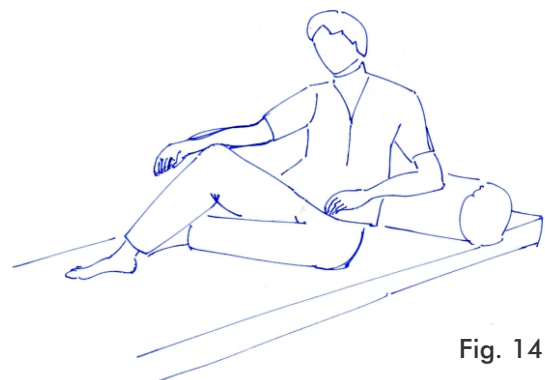
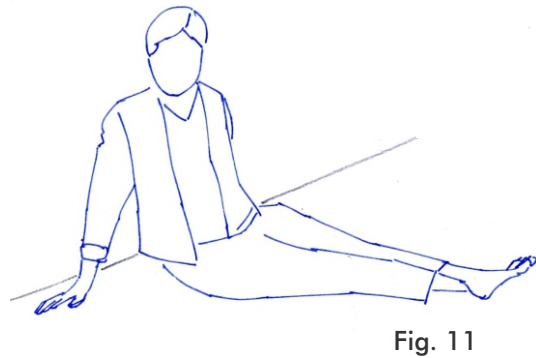
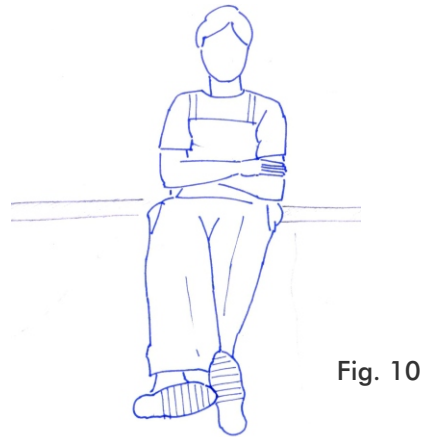
Fig. 6



Fig. 7



Fig. 8



Some of these require back support and are meant for longer duration of time. e.g. TV watching (fig. 10 & 11), sitting in a relaxed position (fig. 9), listening to music, casual chatting (fig. 12 & 13), sometimes formal meetings (fig. 14), etc.

This particular category of postures is under consideration for designing the above said furniture.

While studying these postures, ergonomics was not the main focus. It was an attempt to understand the habits of people while sitting. Through these observations and through the testing of mock-up rigs at later stage, the sizes were decided which were validated by using anthropometric data of Indian population.

### 3.2 WHAT IS INDIAN SITTING STYLE FURNITURE?



Fig. 15



Fig. 16

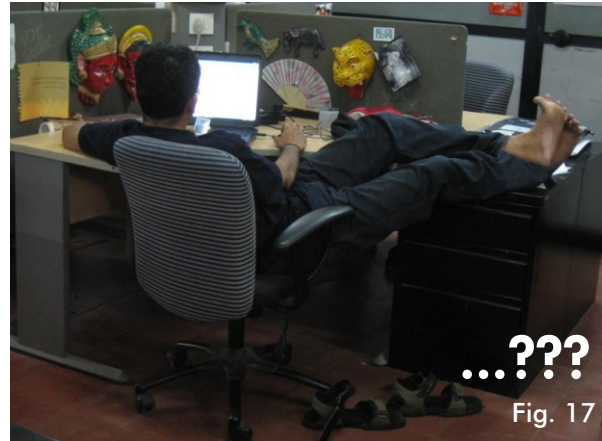
Similar to typical Indian sitting style, the most common piece of furniture that comes in front of us when we say Indian sitting style furniture is the low height diwan with bolsters at the back for lumber support. (fig. 15)

Also, the furniture suited for cross legged sitting posture is also known as Indian sitting style furniture.

Ideally it can be defined as the piece of furniture, big enough to allow the user to sit on it with the legs supported on the same seat, may be at different height, in cross legged or in stretched position. (fig. 16)

Here, the legs are not directly supported on the ground and hence the height of the seat from the ground level or from the supporting platform does not matter except for easy getting in and out of the seat without any knee problem or any other ergonomic problems like back pain.

### 3.3 WHY INDIAN SITTING STYLE FURNITURE?



Now the question comes as to why one should go for Indian sitting style furniture when there is plenty of variety available in the market for chairs and sofas.

Lets have a look at the activities that we perform in the living room in our routine life:

- i. Interaction with family members
- ii. TV watching
- iii. Listening music
- iv. Entertaining friends/ guests
- v. Book/ newspaper reading
- vi. Occasionally a small nap

These kind of activities demand a special type of furniture to satisfy the needs of different activities which can not be satisfied by the existing chairs and sofas to the extent required. (fig. 17 & 18)



The advantage of using Indian sitting style furniture lies in its flexibility of use and the comfort level it offers for leisure activities viz. TV watching, listening to music, reading, chatting, etc.

The furniture is the reflection of the lifestyle of the family or that of the head of the family. And this kind of furniture makes a bold and clear statement about the lifestyle of the family.

It also gives a different look and feel to the space where it is used properly, as shown in the picture.



Fig. 20



Fig. 21

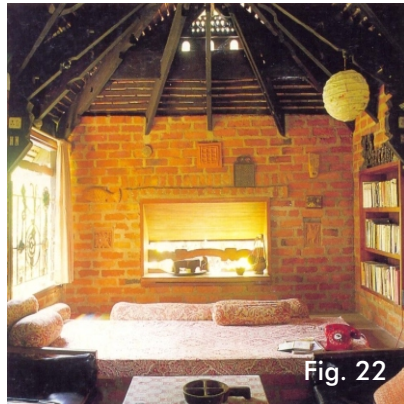


Fig. 22



Fig. 23

Now the question comes that if this kind of furniture is having so many advantages over the traditional chairs/ sofas; aren't there enough options available in the market to cater for this particular segment?

Let us have a look at the spaces where Indian sitting style furniture is used (fig 20, 21, 22 & 23) and also at some of the contemporary Indian interiors so as to understand the overall situation with a better perspective.

The visual language followed here is very much vernacular.

Polished wood is typically used as the basic material with carvings and elaborate details, without any surface treatment like coloring.

Earth colors like shades of brown along with vibrant colors like shades of red, yellow are used to get the desired ambiance.

Bolsters (cylindrical cushions), typically white, is a common visual element in all these spaces.



In case of contemporary Indian interiors (fig 24, 25 & 26), the influence of Western style is very dominant in terms of color, texture, finish and the forms used.

More geometrical forms with clean and clear shapes with simple - straight lines are typically seen. A typical minimalist approach can be seen in the overall visual language followed here.



The overall color palette used now a days is still more towards earth colors and pastel shades to make it appear more humble. But at the same time, vibrant colors with glossy surfaces and industrial materials like stainless steel, artificial leather, etc. form an inseparable part of the interiors.



Lighting also plays an important role in creating the desired mood for that particular space and activity.

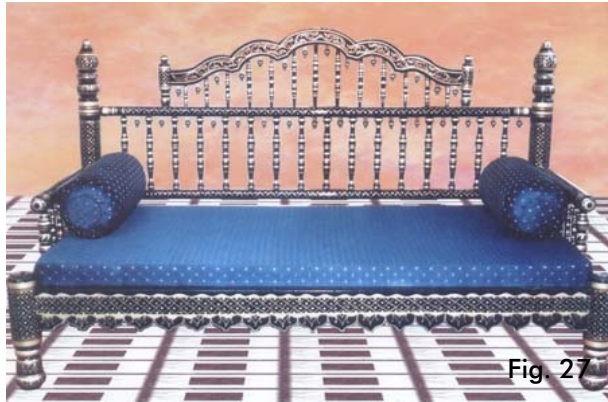


Fig. 27



Fig. 28



Fig. 29

Let us now look at the options available in the market.

The products which are readily available in the market are typically made up of wood with lot of carvings and decorations on it like the Sankheda furniture. (fig 27 & 28)

The other option readily available in the market is the European/ Western products which offer somewhat similar postures like the Indian sitting style furniture. But then these products lack the Indian identity in them. (fig 29)

In short, we can say that the products readily available for this particular segment in the market either does not gel with the contemporary interiors or lack the Indian identity in them in terms of visual language followed. And here lies the opportunity to design the Indian sitting style furniture suitable for contemporary Indian context in terms of needs, interior designs and the visual



Now before proceeding further, we must define the context where the furniture is intended to be used.

This kind of furniture is typically seen in the saree/ cloth stores in the semi-urban or rural areas where a large surface area is required for the display and comparison of products. Also, this can be seen in the traditional offices called pedhi. But the requirements are totally different in this condition which in itself is a separate category of furniture and hence it is not considered here while designing.

The typical Indian sitting postures which are under consideration are suitable mostly for the relaxation and leisure activities in domestic context where the user is supposed to put his legs on the same seat. This is not practical in commercial uses like in offices or in restaurants. But similar kind of ambiance is created at such places by using typical visual elements of Indian sitting style furniture like bolsters and deep and wide seats. (Fig 30 & 31)

Also these postures are not suitable for activities which require attention on a particular work area for longer duration of time. e.g. working with a table, working with laptop, etc.



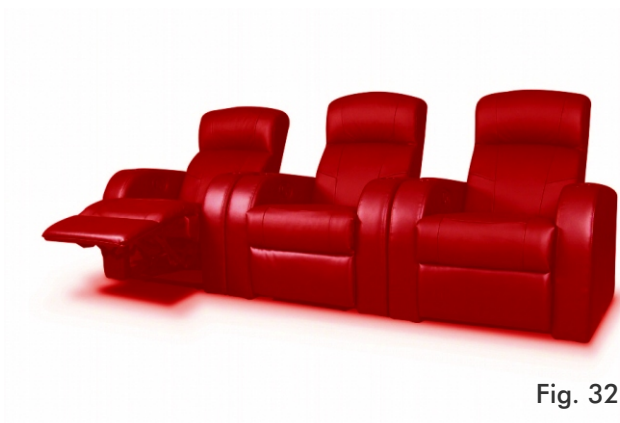


Fig. 32

This kind of furniture occupies more floor space per person than the conventional chair and/ or sofa which is not suitable for commercial spaces in today's scenario where the prices of commercial spaces are sky high. Also, it creates very informal, casual ambiance which again is not suitable for office spaces.

But, at the same time, similar kind of furniture can be seen in the top class multiplexes like 'Red Lounge' where space and maintenance is not a criteria for use. (Fig 32)

Considering the above factors, we will limit the end use of the proposed product for residential use only.

Having defined the context for use of the product, let us now define initial product brief so that we can directly start with creative idea generation process.

## 4.0 INITIAL PRODUCT BRIEF

To start of with the ideation process, an initial product brief was defined to act as the guideline for idea generation.

To design

A seating system (what)

For typical Indian sitting postures

(which)

For leisure activities like TV watching, family interactions, reading, occasionally a small nap, etc. (when)

To be used in contemporary urban residential spaces (where)

For the middle income and upper middle income class of the society

(whom)

The product brief clearly defines the context and the end conditions where it is going to be used and by whom which in itself implies some space constraints and gives some clues about the visual language to be followed and the materials to be used.

## 4.1 LIST OF THINGS TO BE DONE

- i. Defining the need for the project
- ii. Defining the problem statement
- iii. Defining the design contribution and learning objective of the project
- iv. A brief overview of what is Indian-ness
- v. Understanding the typical Indian sitting postures and their context
- vi. Designing uncomfortable chairs to understand what is comfort
- vii. Creative idea generation
- viii. Experiential learning from a mock-up rig and exploring the possibilities and limitations in the given context
- ix. Alterations and testing of the mock up rig by different users
- x. Defining the essential, desirable and optional elements of the product
- xi. Exploring the ideas from the feed back received in the earlier stage
- xii. Grouping of ideas in three different clusters made according to the features of the product and the way it will be used
- xiii. Concept development from each cluster after choosing one representative and adding the essences of other ideas to it from the same cluster
- xiv. Concept evaluation and choosing one for further exploration
- xv. Finalising the anthropometric dimensions and exploring the concept further keeping the same features

- Xvi. Selection of two concepts and exploring them further in two different dimensions:
  - a. Explore only Indian-ness in terms of the metaphors, visual clues, motifs and decorative elements
  - b. Explore the form in terms of the special requirements and conditions with respect to the typical Indian sitting style
- xvii. Making exploratory models and concept finalization
- xviii. Concept detailing
- xix. Final concept
- xx. Making final model
- xxi. Documentation of the entire process

## 5.0 EXPERIMENTING WITH A MOCK-UP RIG

After the initial phase of understanding the Indian sitting style, the furniture required for it and the context where it is been used, we started of with the creative idea generation. A number of ideas were explored at this stage.



Fig. 33

Simultaneously, a mock-up rig was made to explore the possibilities and limitations with furniture for these kind of sitting postures.



Fig. 34

Initially a rig **without back support** and sitting plane at a height of 230 mm with sitting plane measuring 600x600 mm was tested. It also had an extendable leg rest 75 mm below the sitting plane. Getting in and out of the seat was not a problem here. It also provided good lumbar support and one was able to sit comfortably in the same posture for about 7 minutes.

Here, the body is leaning on one hand and almost 70% of the upper body weight is supported by that hand. This causes muscle contraction at elbow and shoulders. (Fig 33)

Also, there is no head rest which subsequently results in head leaning towards one side. (Fig 34)

An attempt was made to sit forcefully in the same posture for as much time as possible. But after 30 minutes, it was a disaster to get out of the seat as there was severe elbow and shoulder pain. (Fig 35)



Fig. 35

A rig **with back support, without any cushion** and sitting plane at a height of 230 mm was tested. It also had an extendable leg rest 75 mm below the sitting plane.

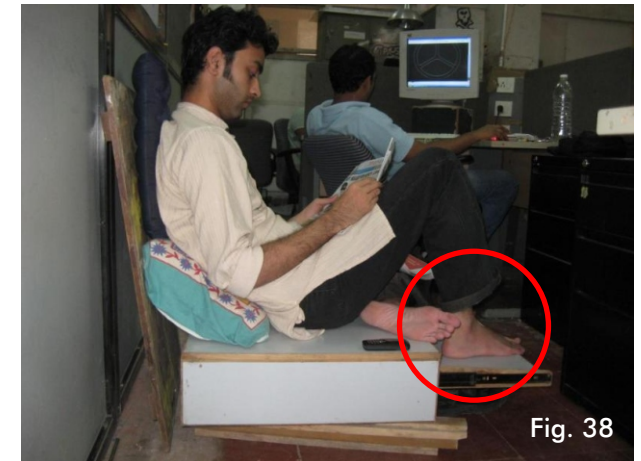
Getting in and out of the seat was not a problem here. But, as there were no soft surfaces for support, one was able to sit comfortably for around 15 minutes in the shown posture. The same problem of elbow and shoulder pain after some time was observed here also. (Fig 36)



Then the same rig **with cushion** was tested.

This was very comfortable compared to the earlier ones and one was able to sit comfortably for more than an hour, performing different activities like chatting, newspaper reading and listening music.

It provided proper lumbar and back support. It was observed that head rest is not needed in case of reading. (Fig 37)



But there were some problems also. There was pain at ankle level as the leg rest was totally horizontal creating an acute angle at the ankle level. (Fig 34) So it was decided to have the leg rest at an angle to the seat so that it does not create any pain at ankle level. It was also observed that the sitting height of 230 mm is a little shorter to get out of the chair after sitting on it for longer duration



The next rig made was slightly bigger than earlier (with sitting plane measuring 700x700 mm at a height of 325 mm) with the leg rest inclined at an angle of 5° with horizontal.

This was more comfortable than any of the earlier ones in all respects. It also provided space for keeping accessories like newspaper, TV remote, etc. (Fig 40) which was not the case in earlier rigs. (Fig 39)



As the initial model broke off due to change of CG because of the cantilever, it was decided not to use cantilever for the extending leg rest.



It was observed that it will be good if we can provide the leg rest at height more than that of the sitting plane. (Fig 40) Also, it will be more comfortable if we can provide some soft elevated surface to support the knees in the cross legged sitting posture. (Fig 41)

Having defined the initial product brief and making a mock-up rig, let us now conclude the study of the mock-up rig to define the product brief by defining essential, desirable and optional elements of the product so that it will be helpful in the actual design process.

### 5.1.1 Essential elements of the product

In any given condition, the following elements have to be there in the product in order to make it suitable and desirable for the intended use.

- Full back support
- Leg rest (in stretched position)
- It should not cause knee problems or other ergonomic problems like back pain or strain while getting in and out of the chair.

### 5.1.2 Desirable elements of the product

The following elements can also be used in addition to the essential elements defined earlier to make the product more comfortable.

- Inclination adjustable backrest
- Neck support
- Lumber support (apart from back rest)
- Height adjustable or multilevel leg rest
- For individual seating

### 5.1.3 Optional elements of the product

Though not required, the following elements can also be added to the product to make it more user friendly and acceptable to the end user.

- Height adjustable seat
- Folding for smaller footprint (for middle class)
- Adjustable headrest
- Modular (can be converted into multiple seating)
- Caster wheels

## 6.0 IDEATION AND CONCEPT GENERATION

Three different processes viz. Creative idea generation, Mock-up rig testing and Defining the elements of the product were going on simultaneously. The outcome of one process was used as the input for the other and vice-a-versa and different ideas were generated for the concerned type of sitting.

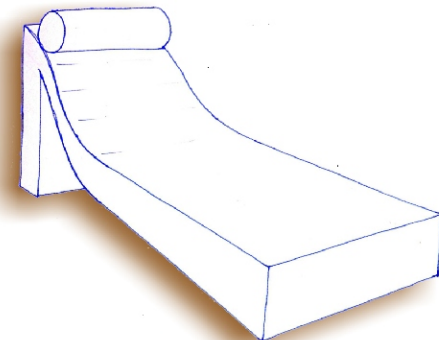
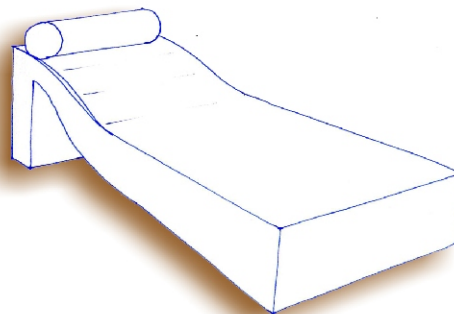
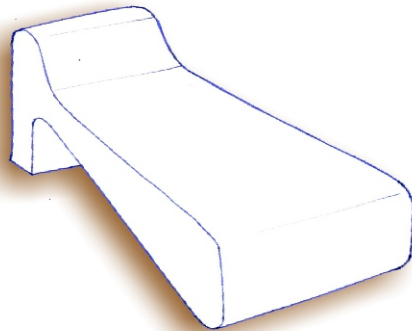
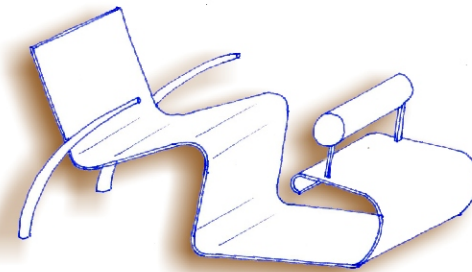
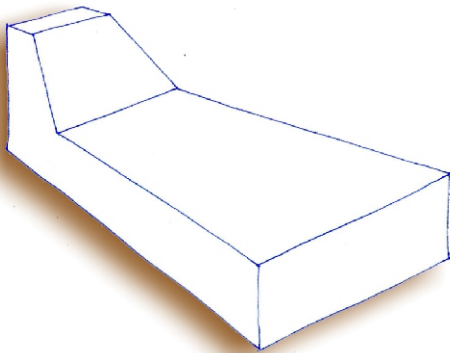
These ideas were then grouped in three different clusters taking into consideration their common features like foldability, the way in which they are intended to use, etc.

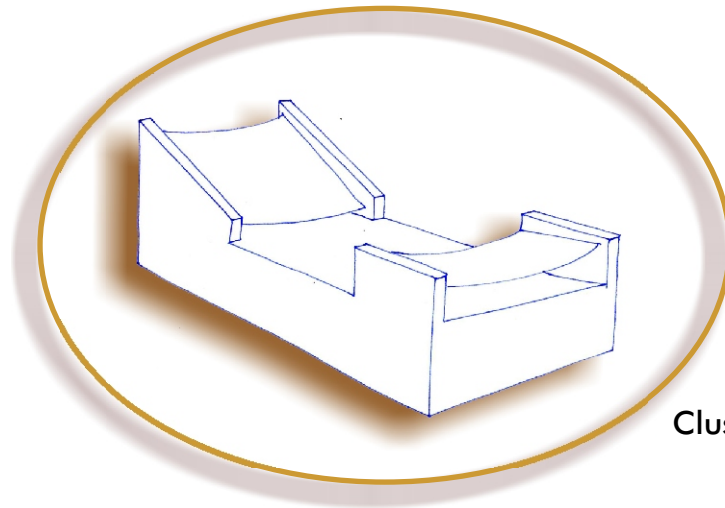
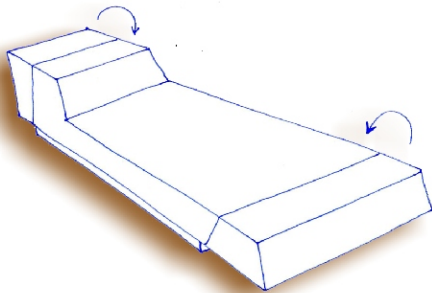
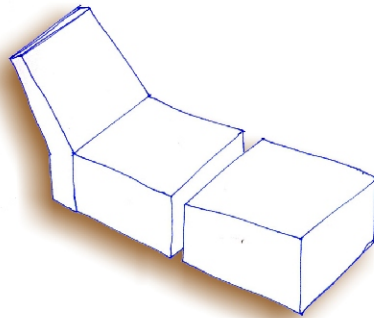
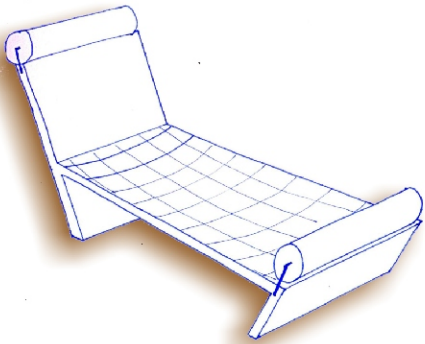
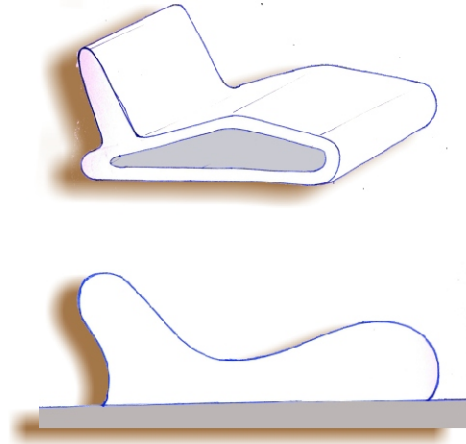
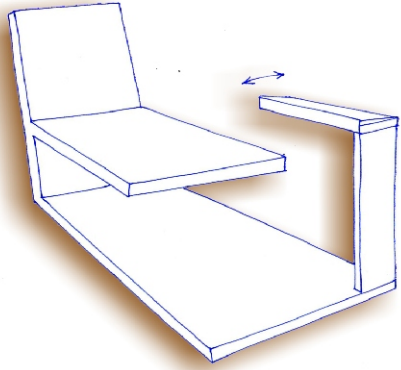
One idea from each cluster was then selected as the representative and was further developed into a concept by adding the essence of the other ideas from the same cluster to it.

## 6.1 CLUSTER 1 - SIDE ENTRY, NON-FOLDING

In the first cluster, options with side entry and which were not folding were selected.

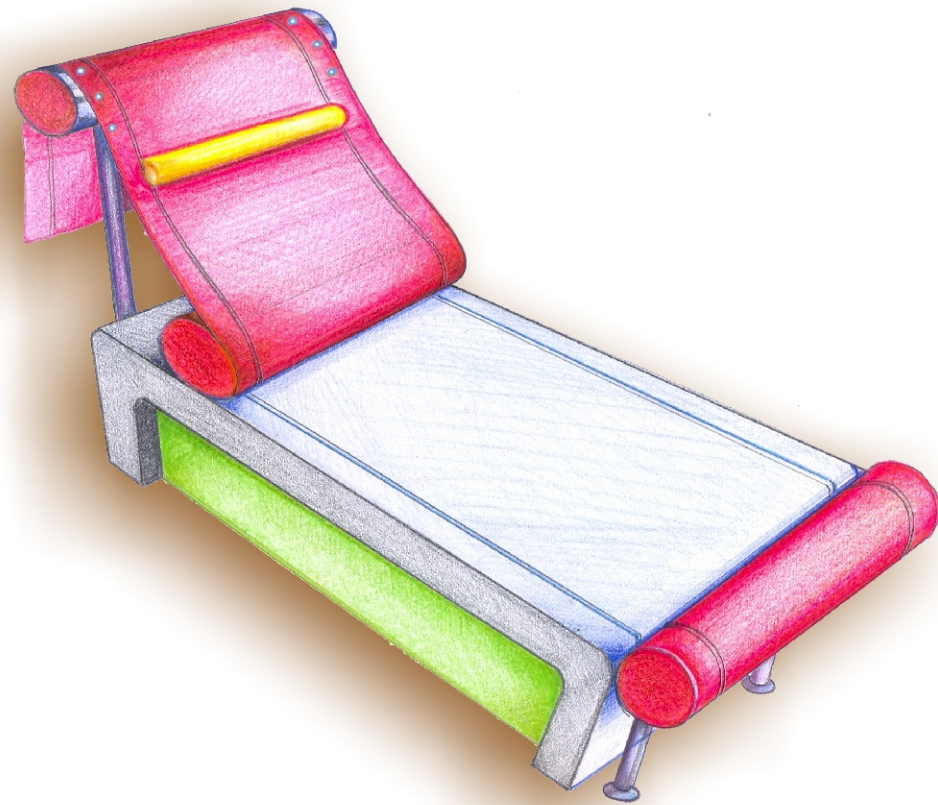
Different ideas like adjustability, visual features and elements, materials used, etc. Were added up to arrive at the concept after selecting the cluster representative.



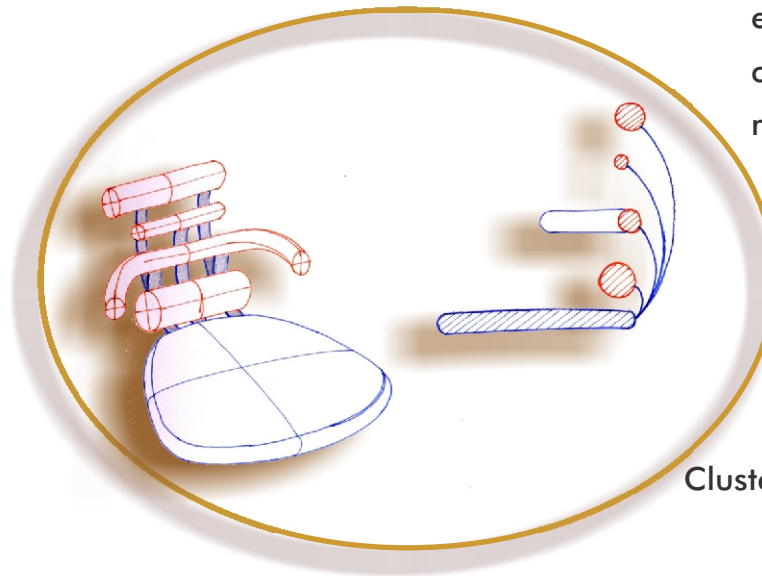
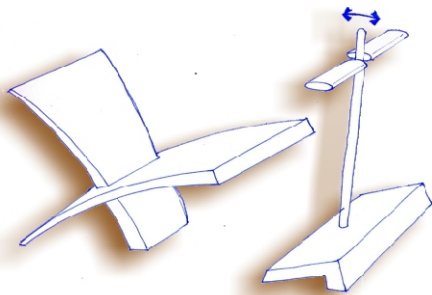
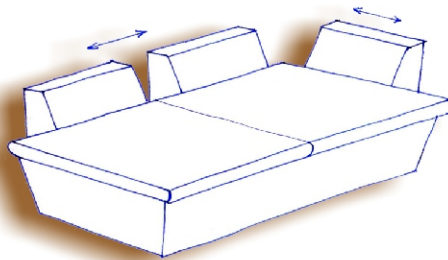
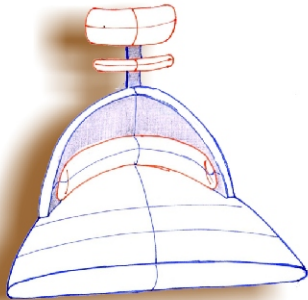
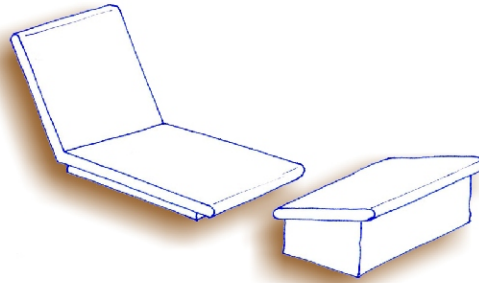
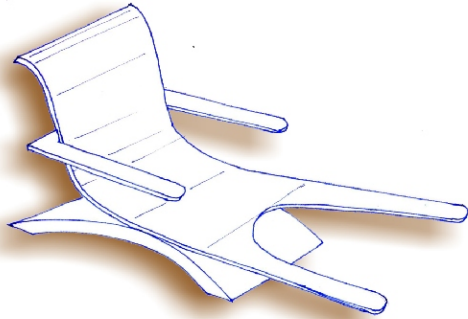


Cluster representative

6.1.1 CONCEPT 1 - SIDE ENTRY, NON-FOLDING



## 6.2 CLUSTER 2 - FRONT ENTRY - LOW HEIGHT, NON-FOLDING



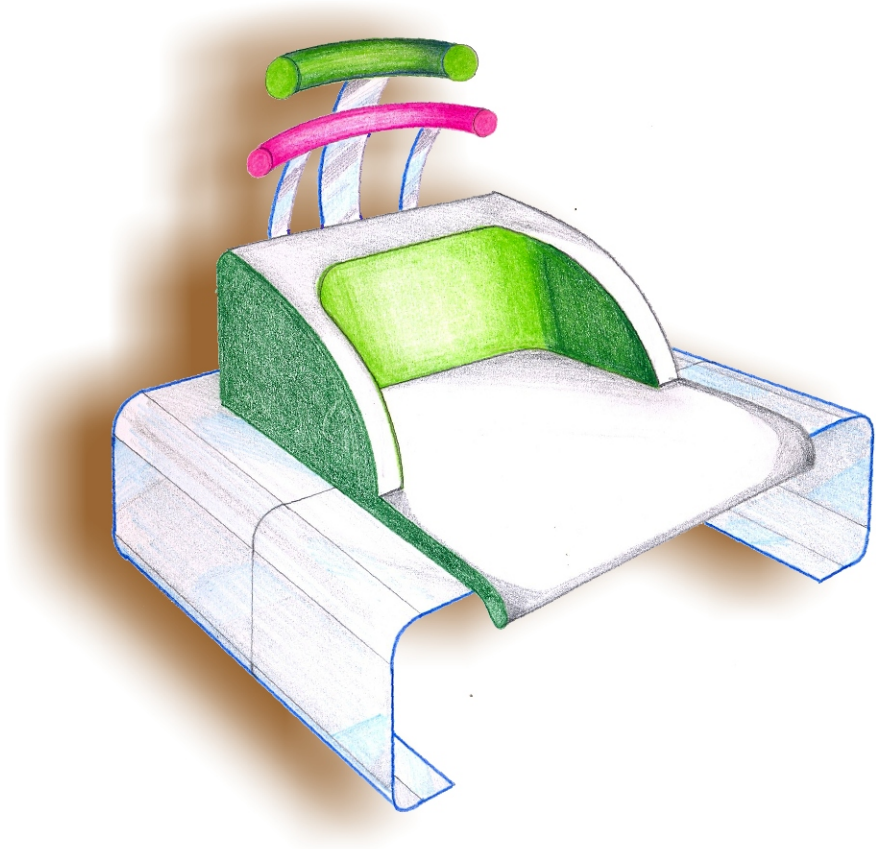
Cluster representative

In the second cluster, options with front entry and which are not folding were selected. Many of the initial ideas from this group were eliminated as they were not confirming with the essential elements defined in the earlier stage as both the processes were happening simultaneously.

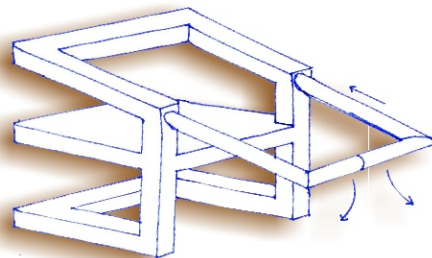
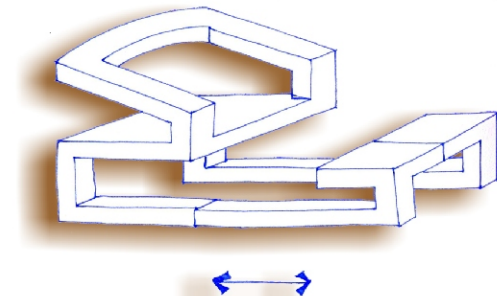
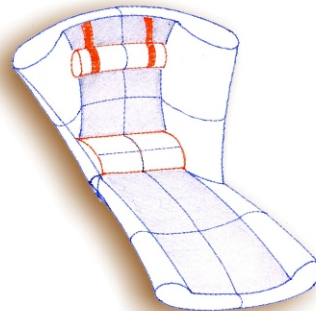
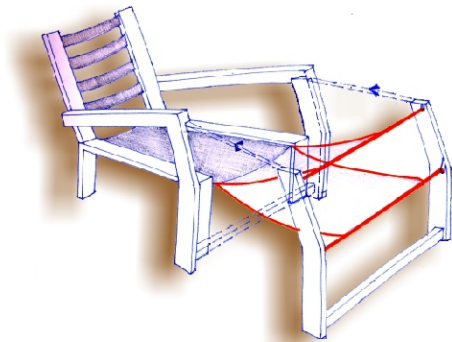
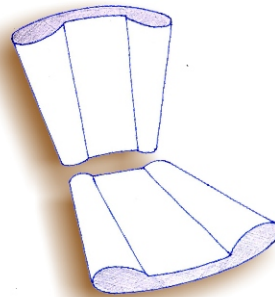
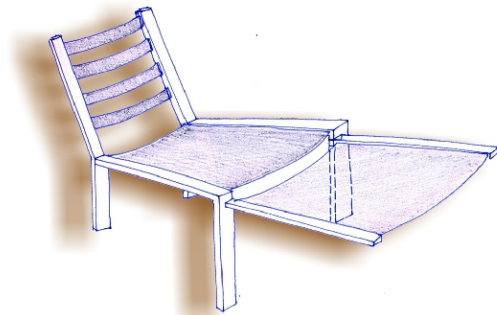
Most of the ideas in this clusters were for low height seating where the floor itself will act as the leg rest in extended position.

Different ideas of visual features and elements were added up to arrive at the concept after selecting the cluster representative.

6.2.1 CONCEPT 2 - FRONT ENTRY - LOW HEIGHT, NON-FOLDING



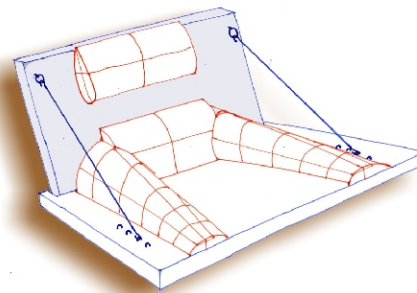
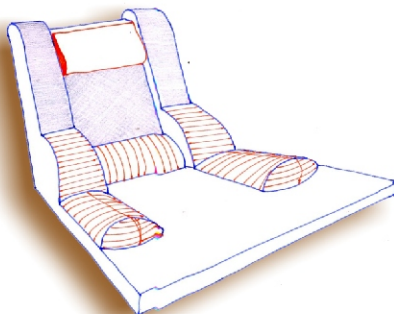
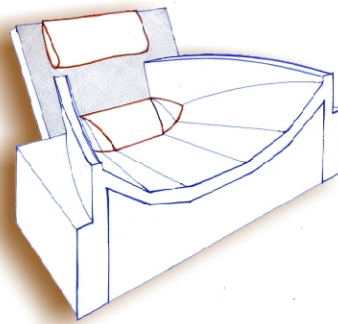
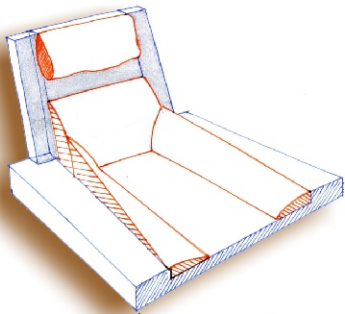
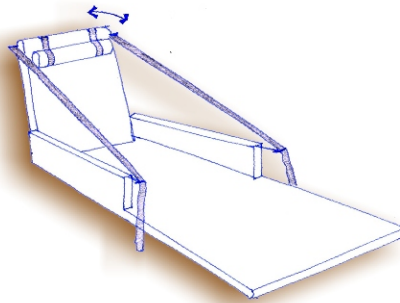
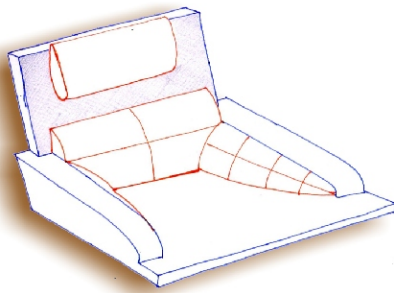
### 6.3 CLUSTER 3 - FRONT ENTRY - FOLDING



In the third cluster, options with front entry and which are folding were selected.

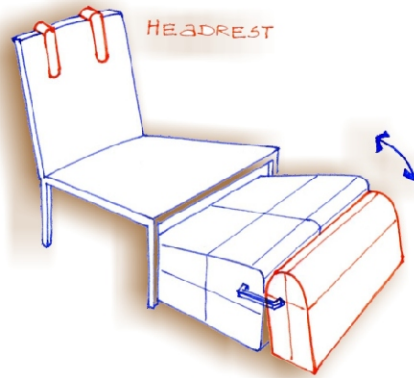
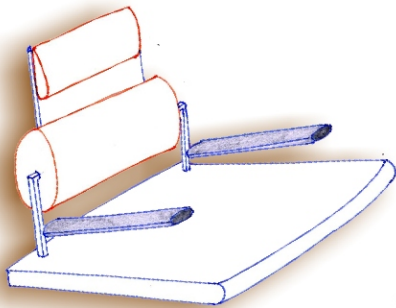
As most of the ideas in this cluster have a leg rest coming out from the bottom of the seat, it is not shown in some of the ideas just to keep them simple for evaluation.

Different ideas of form, visual features and elements were added up to arrive at the concept after selecting the cluster representative.

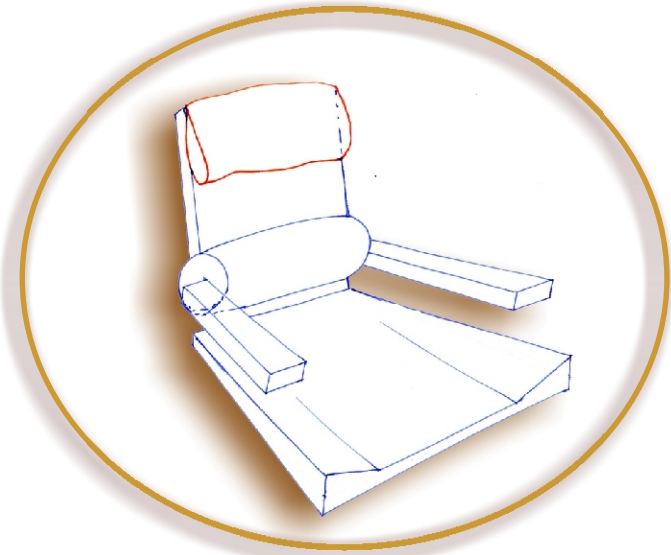


As most of the ideas in this cluster have a leg rest coming out from the bottom of the seat, it is not shown in some of the ideas just to keep them simple for evaluation.

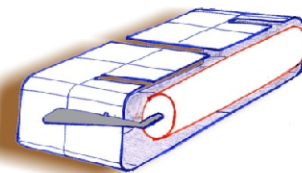
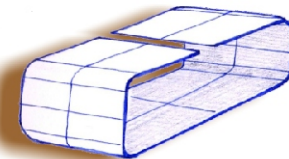
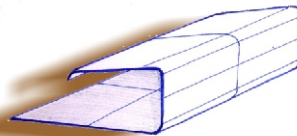
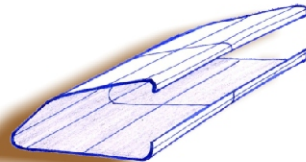
The elevated side members are resultant of the idea of providing knee support when sitting in cross legged position. Also, in some of the ideas, inclination adjustable backrest is provided.



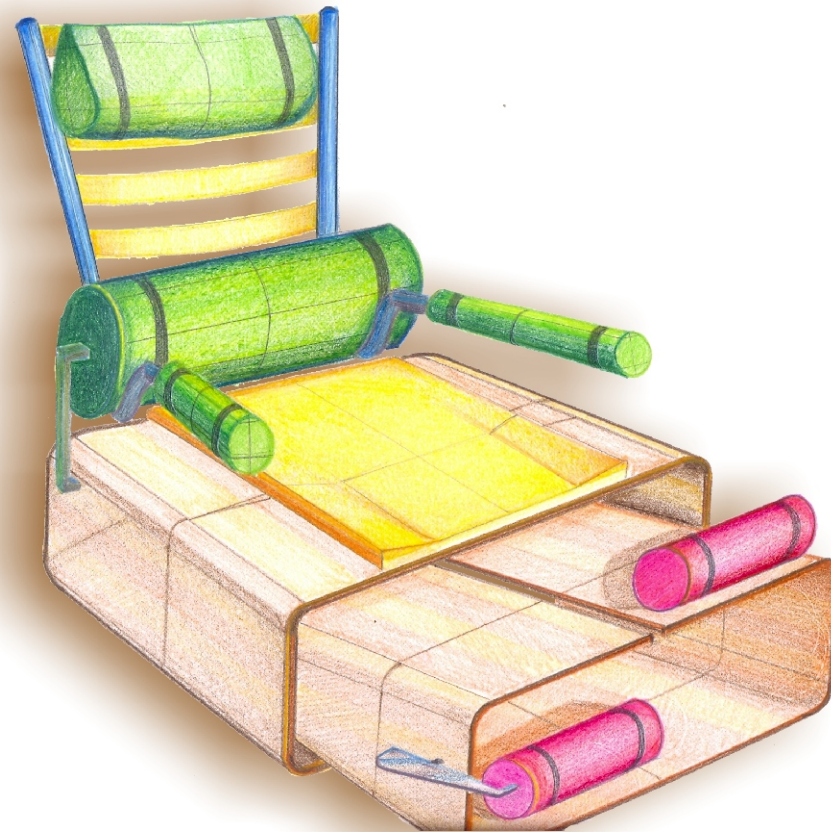
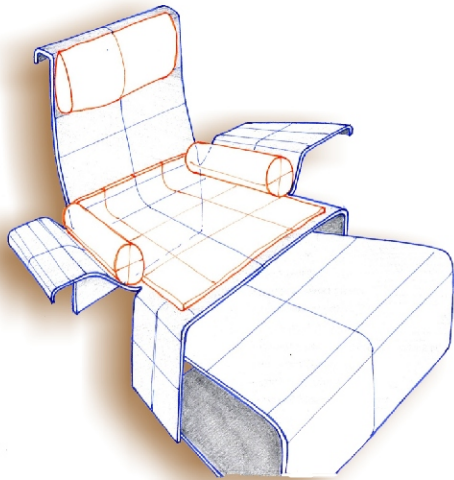
In the last stage, different ideas were generated for the leg rest. Initially the idea was to have a leg rest with a movable part in the front which can be adjusted to increase the height of the leg rest. Different options were tried using bent ply/ sheet metal as the material for manufacturing.



Cluster representative

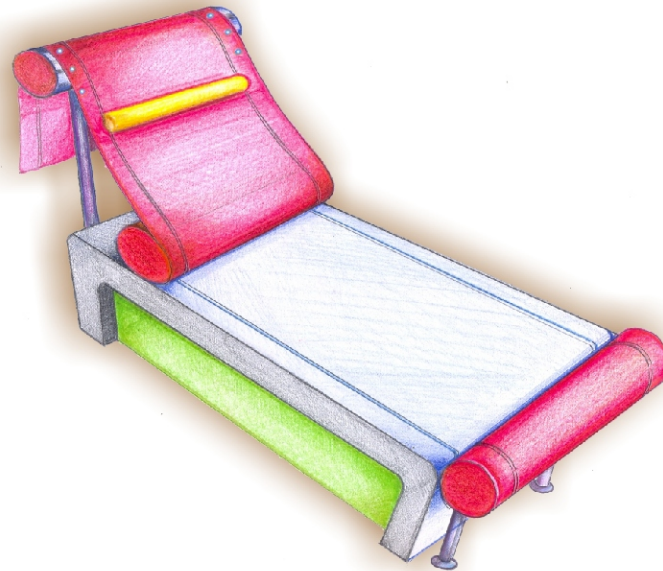


### 6.3.1 CONCEPT 3 - FRONT ENTRY - FOLDING

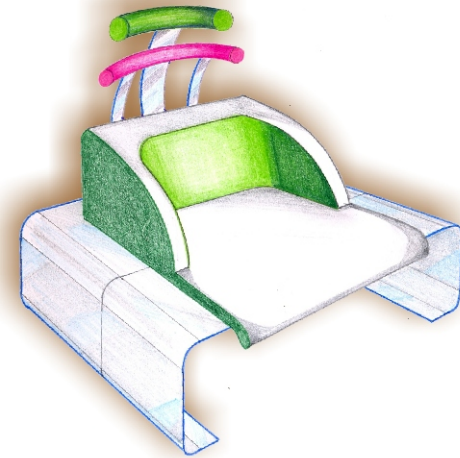


## 6.4 CONCEPTS GENERATED AFTER IDEATION

Concept 1



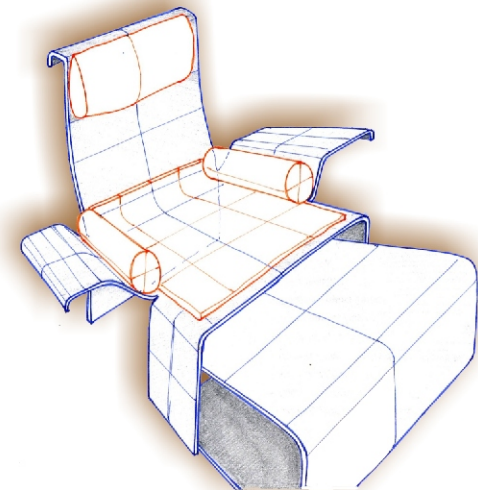
Concept 2



Concept 3

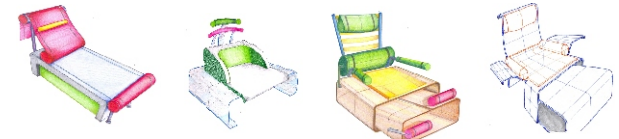


Concept 4



## 6.5 CONCEPT EVALUATION

The concepts generated in the earlier stage were then evaluated on different criteria to narrow down on one concept for further explorations.



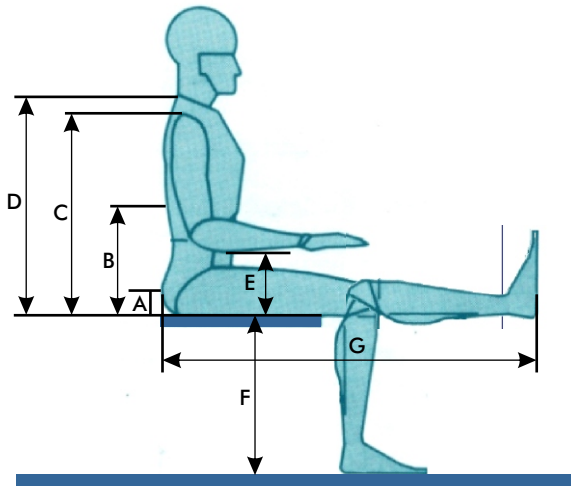
(Rated on the scale of 10)	Concept 1	Concept 2	Concept 3	Concept 4
Adjustability	5	2	9	6
Indian Identity	10	2	7	5
Contemporary visual language	2	8	7	6
Visual appeal	7	5	9	7
Space utilization	1	10	7	7
<b>Total</b>	<b>25</b>	<b>27</b>	<b>39</b>	<b>31</b>

Concept 3 was then selected for further refinements and explorations.

## 7.0 EXPLORING THE CONCEPT FURTHER

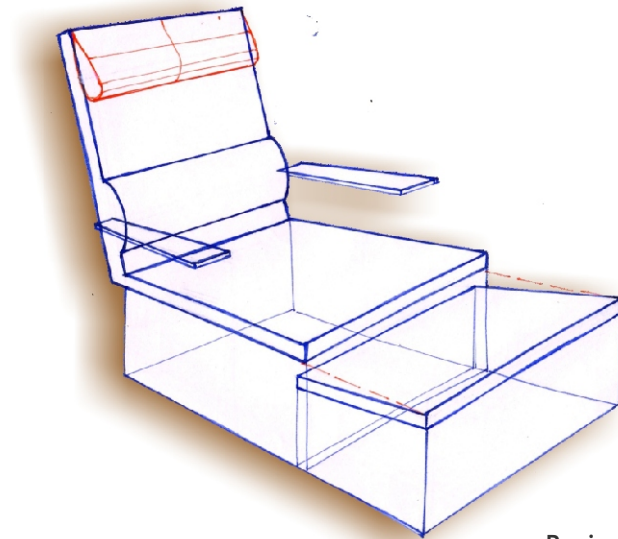
The concept selected after evaluation was then explored further.

All the anthropometric dimensions were cross checked taking into consideration the 5th, 75th and 95th percentile dimensions of the Indian population.



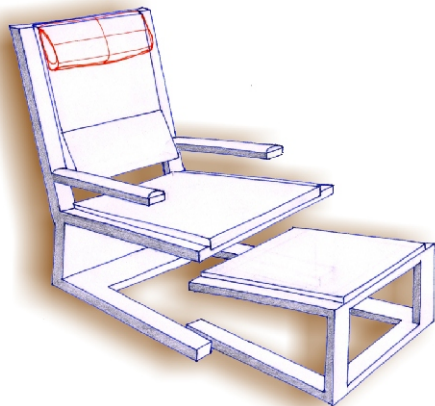
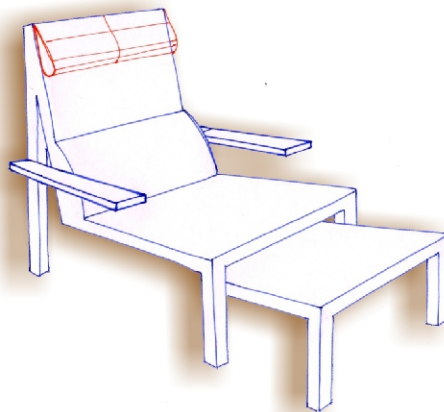
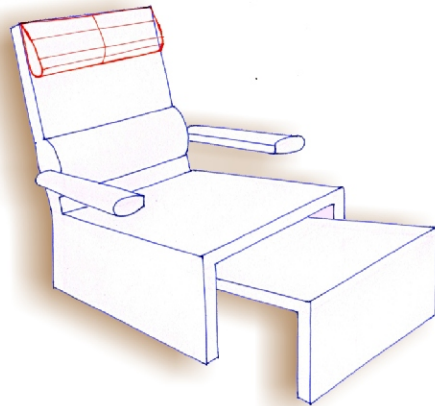
All dimensions are in mm	Male		Female		Minimum required
	5 percentile	95 percentile	5 percentile	95 percentile	
Lower lumbar (A)	72	156	66	189	<b>66</b>
Upper lumbar (B)	254	354	226	346	<b>354</b>
Mid Shoulder (C)	510	634	466	586	<b>634</b>
Cervical (Trunk) (D)	566	670	512	601	<b>670</b>
Elbow rest (E)	158	270	124	265	<b>211</b>
Popliteal (F)	380	470	365	441	<b>430</b>
Buttock leg extended (G)	971	1209	910	1106	<b>1130</b>
Cross legged knee to knee	539	719	499	649	<b>700</b>

A sketch of the basic rig with all the dimensions was made. All the essential elements and features of the selected concept were retained during this process.



Basic rig

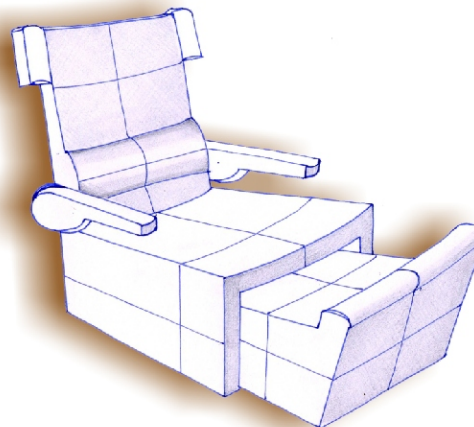
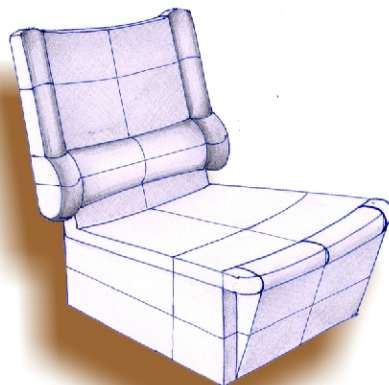
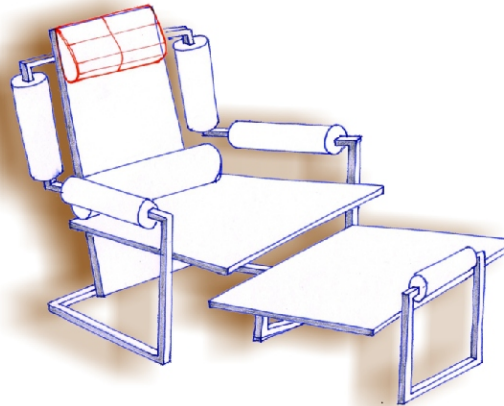
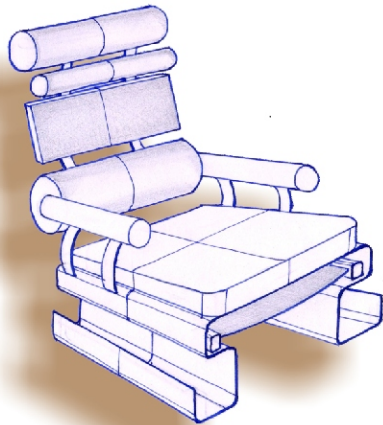
## 7.1 EXPLORATIONS WITH THE SAME RIG



Retaining the essential elements of the selected concept as shown in the basic rig, a number of ideas were generated to explore the possibilities in terms of form and the visual vocabulary.

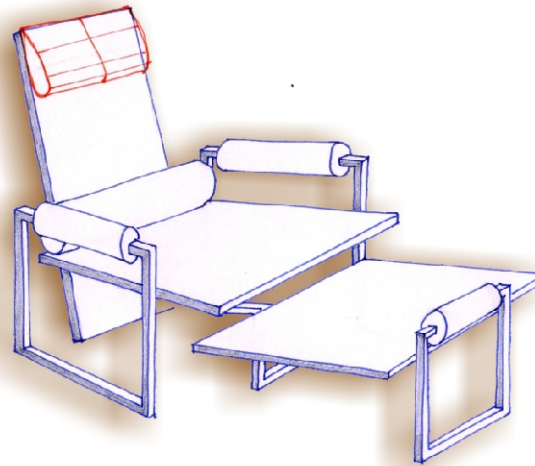
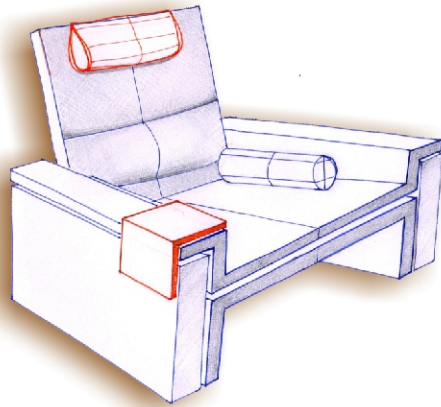
A deliberate attempt was made to create a visual language of its own considering the Indian-ness of the vernacular furniture items and the contemporary trends in the Indian interiors.

At the same time, radically different ideas were also tried out which are seen not very typically in furniture items. Thus, a complete range of concerned furniture item for the given context ranging from having typical features to atypical features is created and evaluated.



Closed position

Open position



The two options shown here are then selected for further explorations.

But such process of exploration, evaluation and refinement may go on endlessly if not given proper direction. Hence, it was decided that we will now explore these options further with two different approaches.

#### **Option 1**

Explore only Indian-ness in terms of the metaphors, visual clues, motifs and decorative elements.

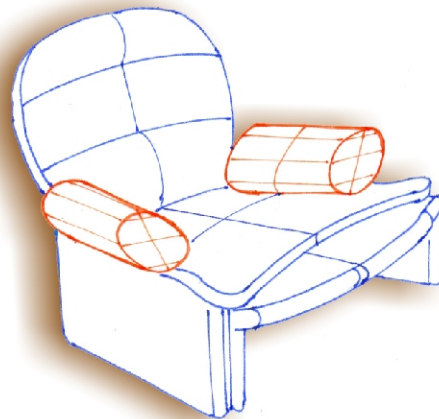
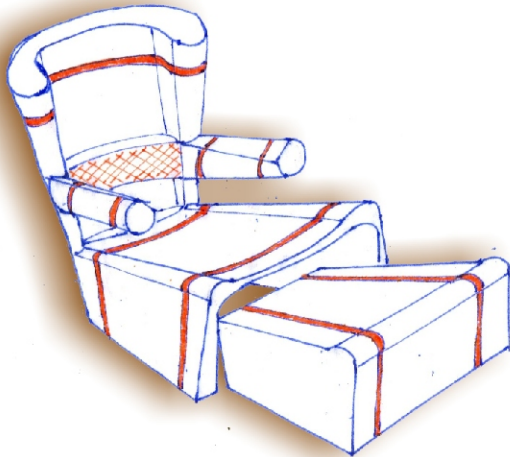
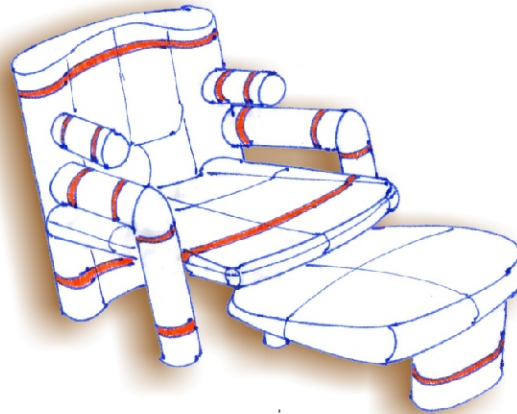
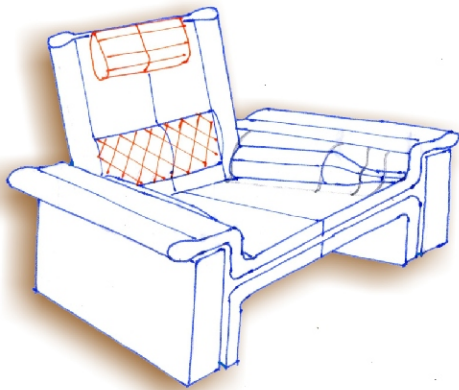
#### **Option 2**

Explore the form in terms of the special requirements and conditions with respect to the typical Indian sitting style.

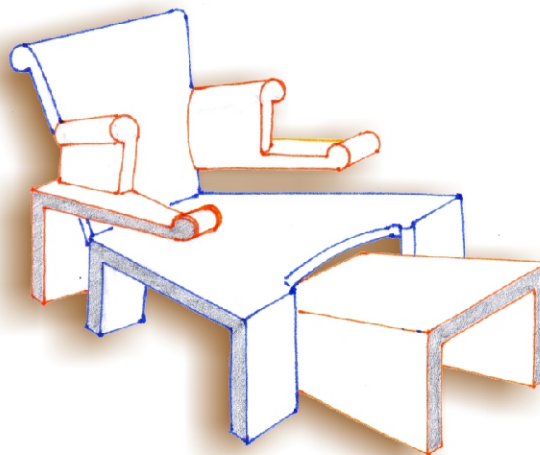
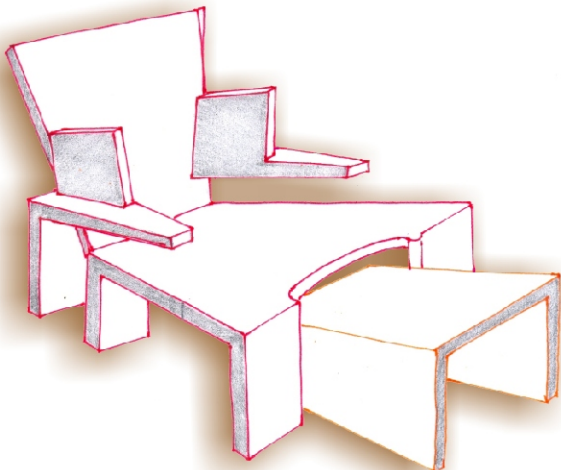
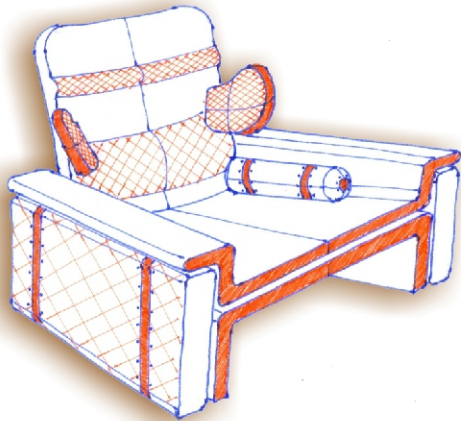
## 7.2 EXPLORING TO ENHANCE THE INDIAN LOOK

Here, different ideas were generated to enhance the Indian look of the furniture by using metaphors, visual clues, motifs and decorative elements.

Both the options shown earlier were explored at this stage.



### 7.3 EXPLORING TO SUIT SITTING REQUIRMENTS

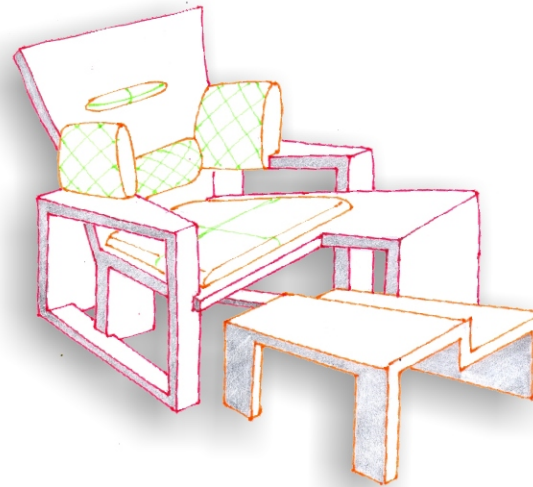
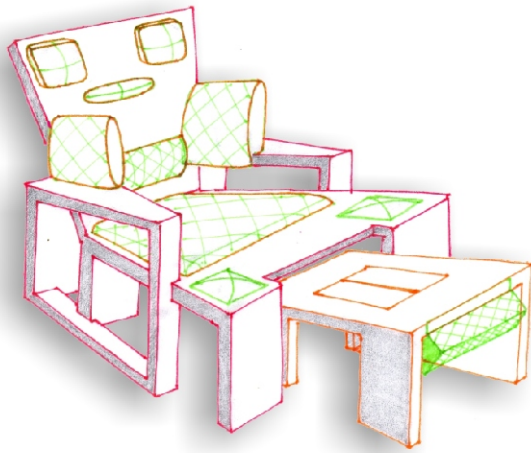


Here, different ideas were generated to explore the formal elements in terms of the special requirements and conditions of the typical Indian sitting style.

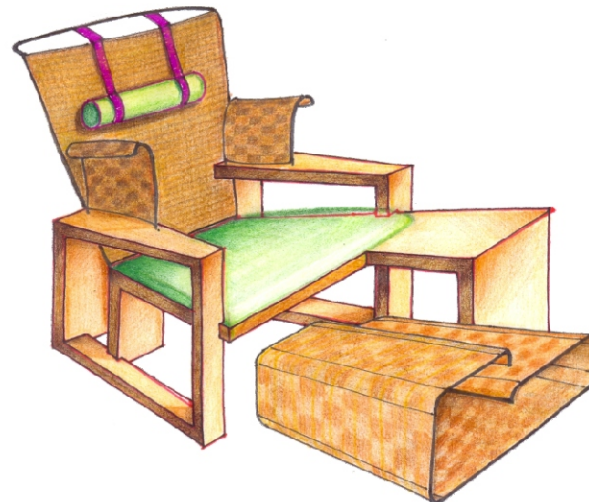
A special support is provided at the wings level on either sides of the seat so that one can sit in leaning position without supporting the body on elbow and shoulders, which is the main cause of the muscle strain in that particular posture as discussed earlier.

The extendable leg rest is provided in form of a trolley which slides below the sitting plane thus occupying lesser floor space when not in use.

The hand rests are so provided that the same can be used as knee supports when sitting in cross legged position.



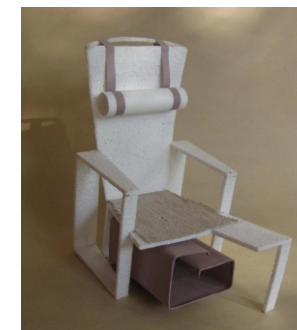
Leg rest section



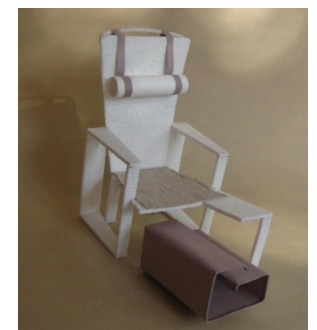
After refining the formal elements required for the typical Indian sitting postures, visual clues in form of color, texture and material to be used were added to enhance the Indian-ness of the furniture.

At the same time, the overall form was developed taking into consideration the contemporary trends followed in the Indian interiors.

A rough exploratory model was also made where different scales and proportions were tried out to finalize on the final form.

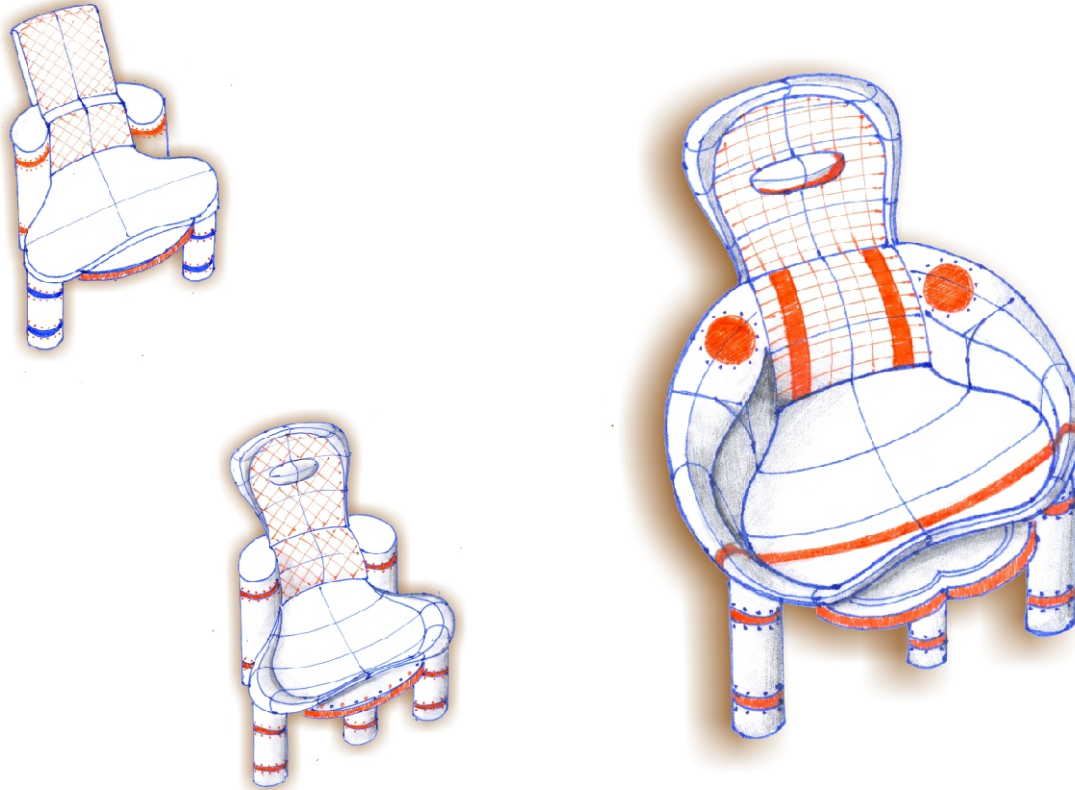


Closed position



Open position

## 7.4 EXPLORING TO SUIT SITTING REQUIREMENTS AND INDIAN IDENTITY



An attempt was made here through a series of explorations to combine both the ideas viz. Indian-ness through visual elements and form derived from the requirements of the typical Indian sitting style.

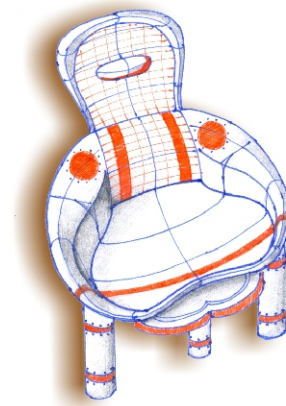
The shape of the sitting plane is derived from the body posture in cross legged sitting position. The two supports on either sides (in the first sketch) are provided to act as elbow supports.

Subsequently in the later explorations, elevated knee supports are provided for the cross legged sitting position.

Elephant is taken as a metaphor while designing the last concept as elephant is considered as a symbol of royalness and luxury. Different visual elements like patterns and symbols were then added to the design to highlight its Indian identity. A rough exploratory model was also made where different scales and proportions were tried out to finalize on the final form.

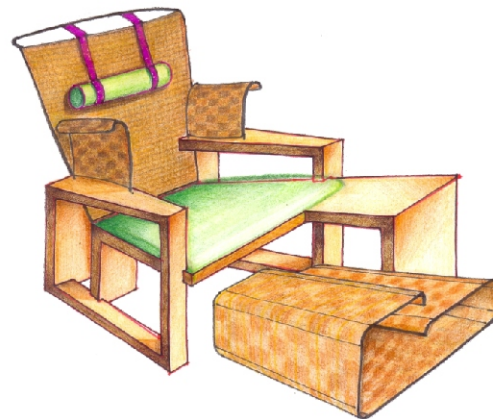


## 7.5 COMPARING THE TWO PRODUCTS



Supports the Indian sitting postures, looks very much Indian but **does not gel with contemporary interiors.**

T H E   S O L U T I O N   L I E S   H E R E . . .



Supports the Indian sitting postures, gel very well with contemporary interiors but **does not have visual elements defining its Indian-ness.**

As seen earlier, the solutions arrived at were either did not have the Indian identity or did not follow the visual language of contemporary Indian interiors. Again, different possibilities were explored to reach at the solution which was in between these two concepts.

This time, three dimensional exploratory models were made to study the form with its visual and spatial attributes. Different materials like wood, bent ply, stainless steel or mild steel tubes, woven jute, industrial foam, fabric upholstery, etc. were considered while designing.

## 8.1 TOWARDS THE SOLUTION - MODEL 1

The rectangular sitting plane and front legs were proposed in wood while the back was proposed in woven jute on SS tabular frame. A separate headrest with woven jute was also proposed.

The extendable leg rest was in the form of sliding platform coming out from the bottom part of the seat (not shown in the model)

Though this concept followed the visual language used in contemporary interiors, it lacked the typical Indian identity in terms of visuals.

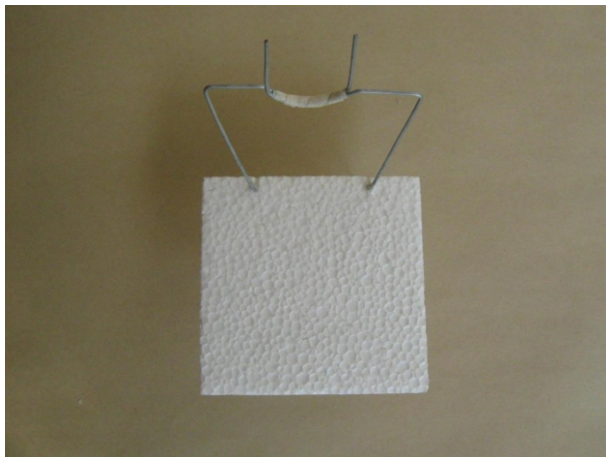


## 8.2 TOWARDS THE SOLUTION - MODEL 2

The rectangular sitting plane was proposed in wood while the backrest and supporting frame were proposed in woven jute on SS tabular frame. A separate headrest with woven jute was also proposed.

The extendable leg rest was in the form of sliding platform coming out from the bottom part of the seat (not shown in the model)

Here also; the concept followed the visual language used in contemporary interiors but it lacked the typical Indian identity in terms of visuals.

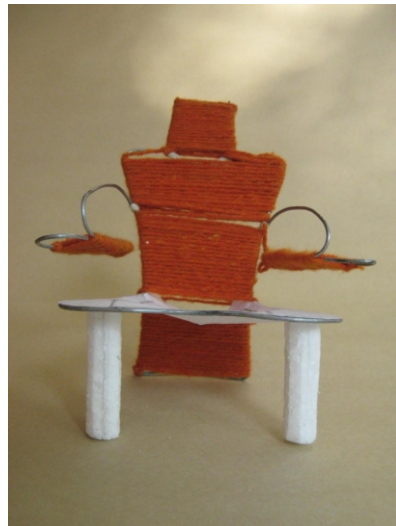


### 8.3 TOWARDS THE SOLUTION - MODEL 3

Here the entire chair was proposed in SS tubular frame with woven jute except the front supports which were proposed in wood. The shape of the sitting plane is derived from the body posture in typical Indian sitting style. An extra element in form of supports at wings level on either sides of the chair; to support the body in leaning position is provided. A separate headrest with woven jute was also proposed.

The extendable leg rest was in the form of sliding platform coming out from the bottom part of the seat (not shown in the model)

Here, the concept followed the visual language used in contemporary interiors as well as had the typical Indian identity in terms of visuals. It also had strong reference to the body posture in the concerned sitting style. So this concept was explored and refined further to arrive at the final concept.

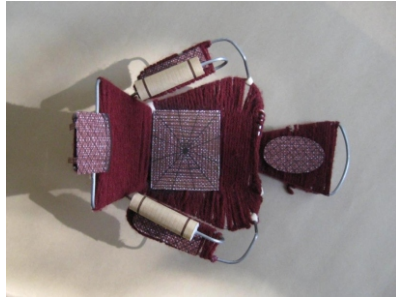
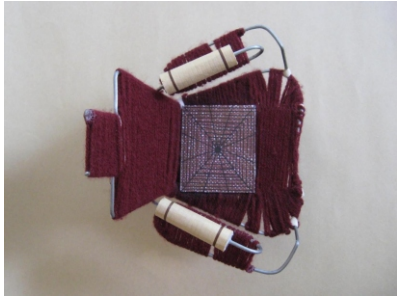


## 8.4 REFINED CONCEPT



Closed position

Open position



Closed position



Open position

## 8.5 FINAL CONCEPT

The final solution came in the form of a stainless steel pipe structure with bent plywood as the sitting plane and woven jute for the backrest, headrest and handrest. The footrest is also in the form of stainless steel pipe structure with woven jute and caster wheels for easy movement which goes under the chair.

The stainless steel pipe structure with bent plywood gets very well with the contemporary interior language where as the woven jute adds to its Indian appeal.



Closed position



Open position



The plywood is given an uplift on either sides to support the knees in cross legged sitting position. A specially contoured polyurethane foam base with an inward curve is provided on the bent plywood to accommodate different sitting postures in a comfortable manner. The inward curve of the base gives visually inviting signal and also gives space to accommodate the feet while sitting in cross legged position. Similarly a soft backrest and neck support is also provided.

A special support in the form of elliptical bolster at the arms level on either sides is also provided to support the body in typical Indian sitting style postures.



The sitting plane is hung from the handrest on either sides with help of springs to give it the required spring action necessary for comfortable seating.



The backrest is pivoted with the sitting plane at the back and is supported by an adjustable rod so that its inclination angle can be changed as per the requirements. Stoppers for the same are provided at three different positions on the handrest.

## 8.6 TESTING RIG

A testing rig of plywood is then made to check out the feasibility of the design and to find out the lacunas if any. It must be noted that the rig was made only to check the feasibility and it had nothing to do with the visual statement and/ or appearance of the design.

Different users were tested in different sitting postures and their feed back was noted. The most common feedback was that it is very comfortable and it allows for different sitting postures without any hassle.





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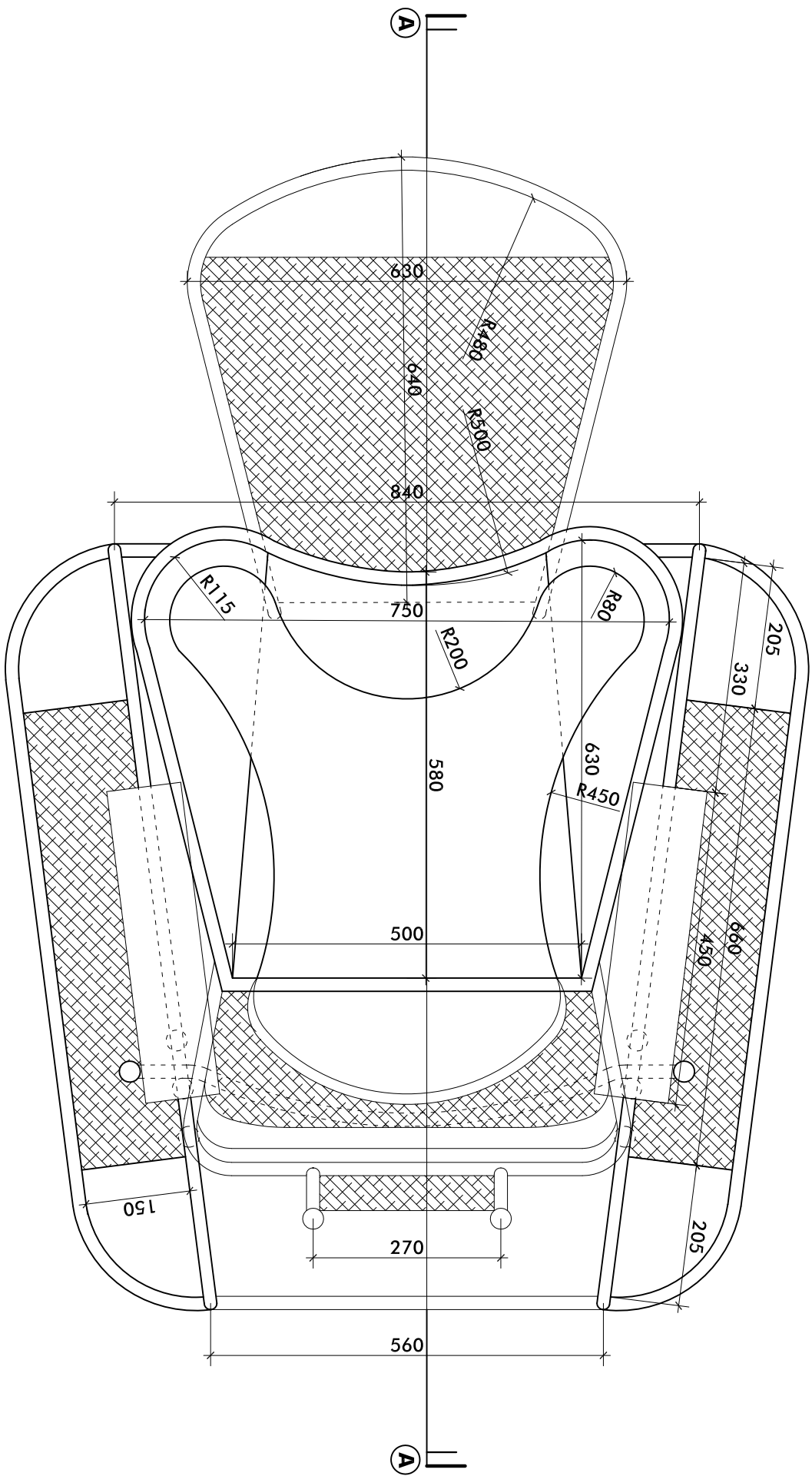
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## 9.1 SPECIAL THANKS

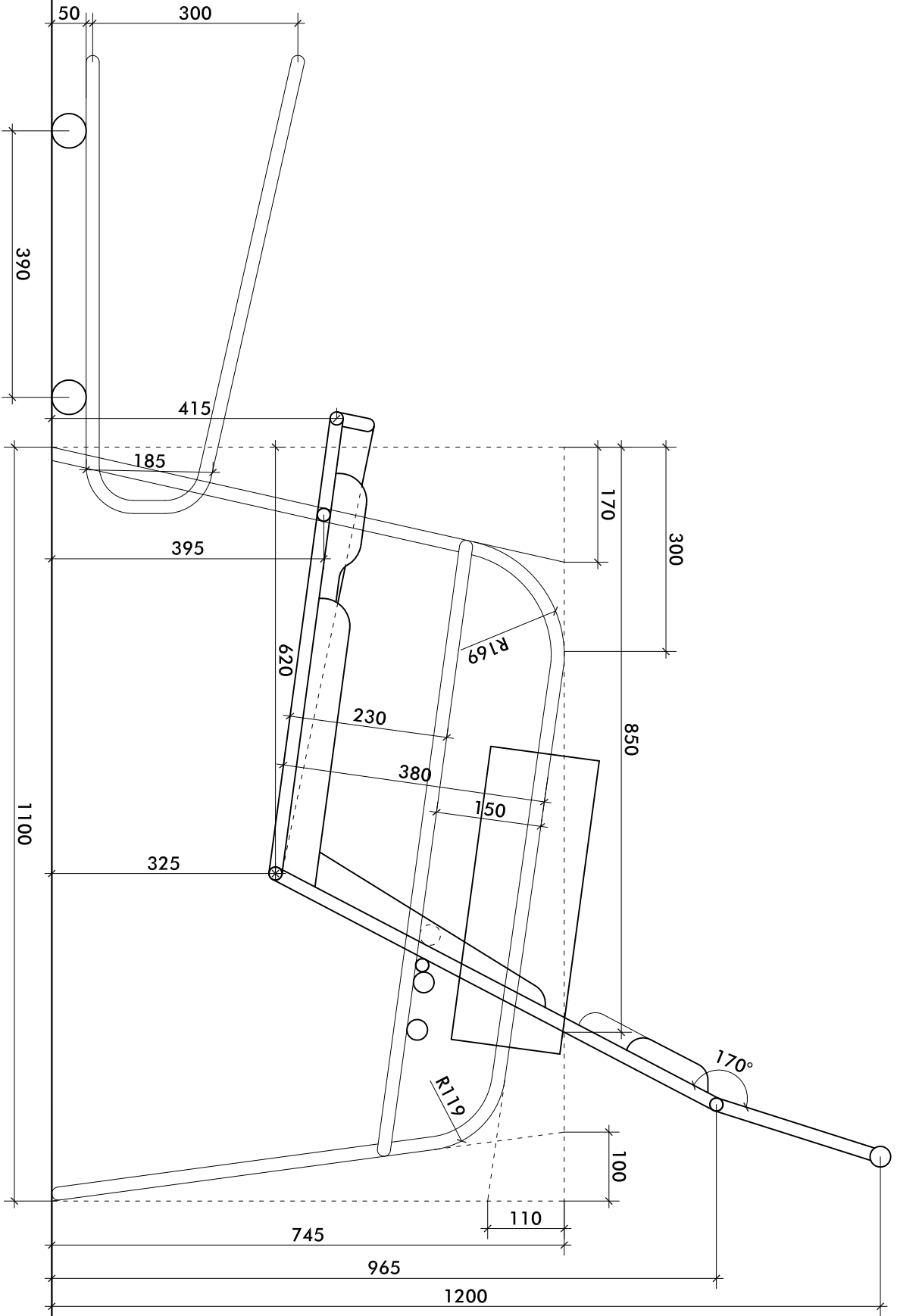
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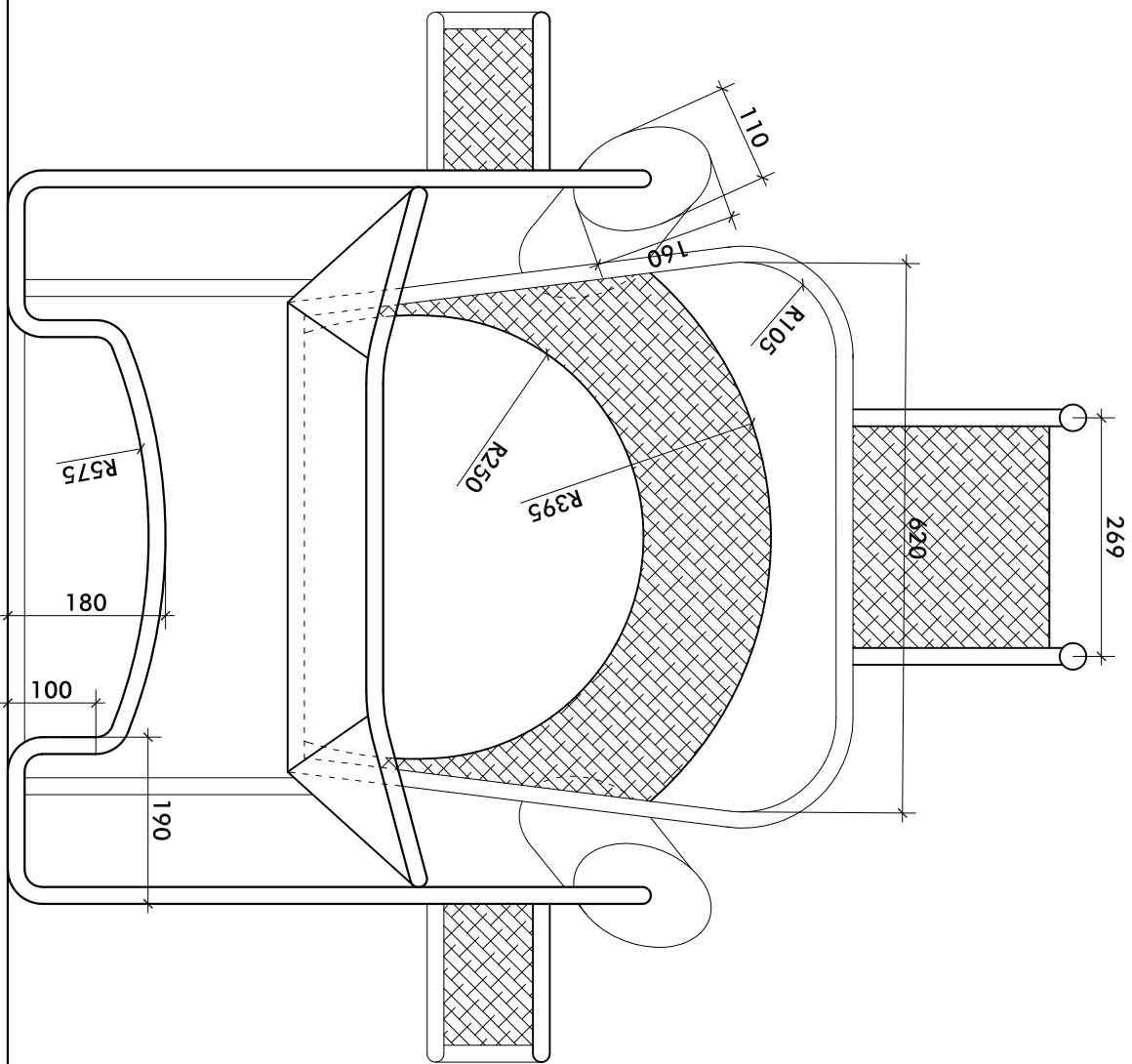
Thanks to all my batch mates and all those known and unknown people without whom this project would not have been possible.



**PLAN**  
 INDIAN SITTING STYLE CHAIR  
 (NOT TO SCALE)



**SECTION AT A-A**  
 INDIAN SITTING STYLE CHAIR  
 (NOT TO SCALE)



**FRONT ELEVATION**  
**INDIAN SITTING STYLE CHAIR**  
(NOT TO SCALE)