Product Design 2

Toy Design

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1. Design Brief

To design an animal inspired push/pull toy for the age group of 15-24 months.

Constraints

1. The primary material of the toy should be wood
2. Other materials can be used in very minimal quantity for specific purpose
3. Toy should be inspired form nature
4. Toy should be safe for kids – form, material and size of parts, etc.
5. Toy should be easy to operate and visually approachable
6. Toy should be able to withstand wear and tear

Environment of use

1. Interior of the house – floor space or play area of the kid
2. It may be used by the kids when they are either standing, walking or sitting

2. Inspiration

The animals chosen as my inspiration were Panda, Snake and an Elephant.

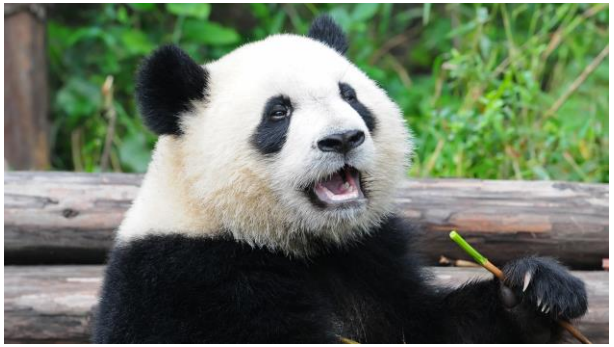
Fig. 1 Panda (Inspiration 1)

Fig.2 Snake (Inspiration 2)

Fig. 3 Elephant (Inspiration 3)

I chose animals based on their unique characteristics such as walking style of a panda, swift motion of a snake and ears, trunk and leg movement of an elephant.

2.1Panda



While looking for a panda I came across Kung-fu Panda. I realized children love the movie and the character of Po (the panda). I myself am a fan of the movie and still enjoy it.

So I considered the kung-fu panda as my inspiration and tried to capture a chasing scene from the movie in my toy.

Fig 4. Kung-fu panda 2 (cart chasing scene taken as reference for the toy)

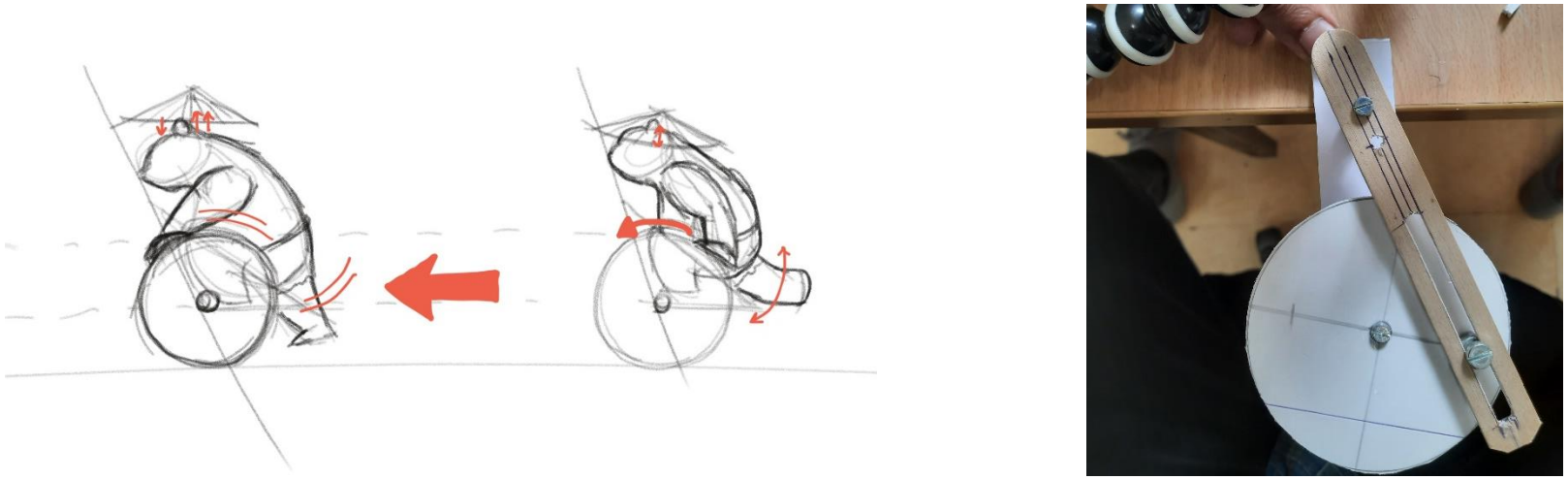
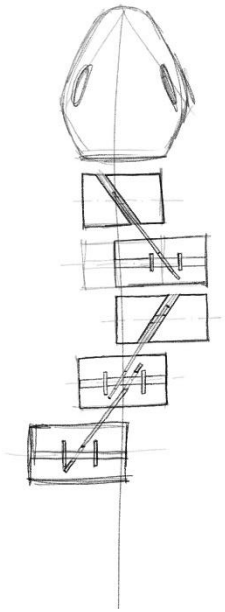


Fig 5. Desirable motion for the toy (left), quick mockup for the mechanism to mimic the desired motion (right)

2.2Snake

Snakes are the most fascinating creatures to me. The body movement of the snake is very unique in itself.



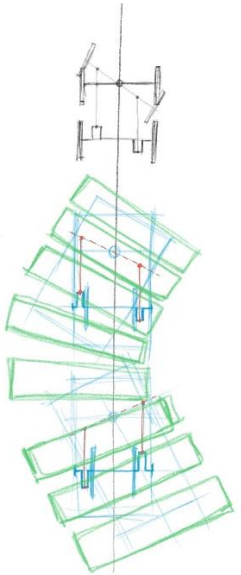


Fig. 6 Snake body movement mechanism ideation and mockup

2.3Elephant

Fig. 7 Elephant leg movement taken as inspiration

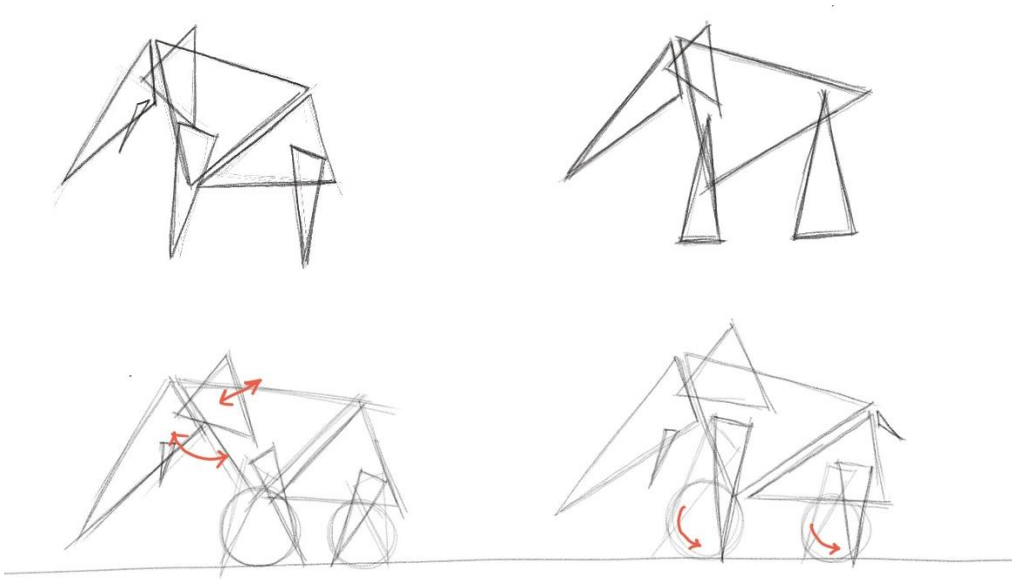


Fig. 8 Form abstraction and movement of leg, trunk and ears ideation

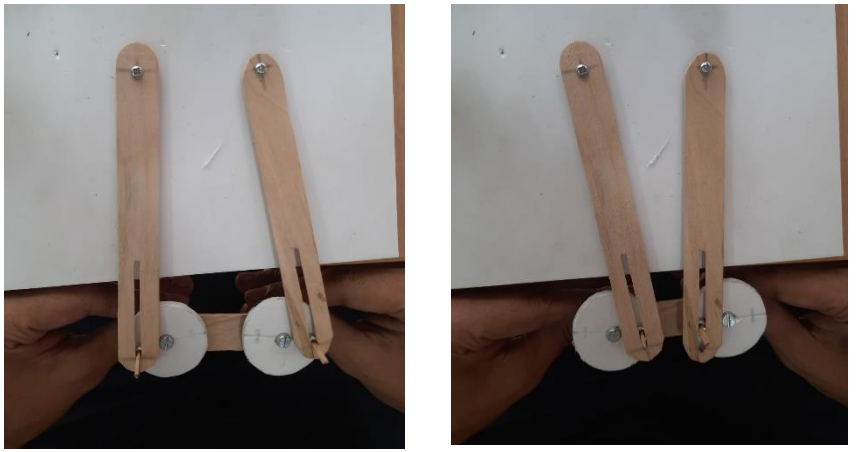


Fig. 9 Mechanism for the leg movement

3. Final concept

I chose kung-fu panda as my final concept to be taken forward.

3.1 Exploration of mechanism

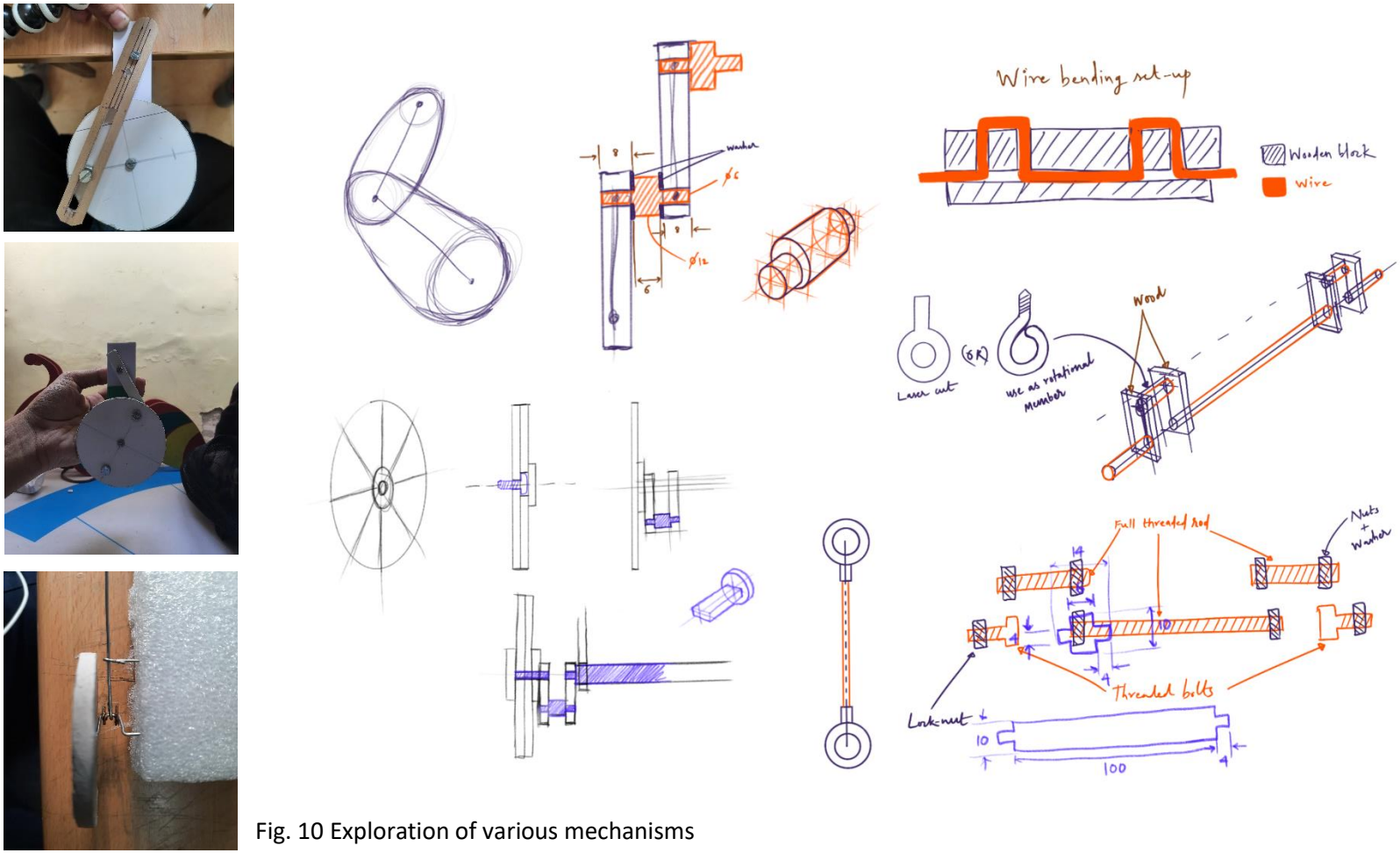


Fig. 10 Exploration of various mechanisms

3.2 & 3.3 Formal exploration & Dimensional analysis

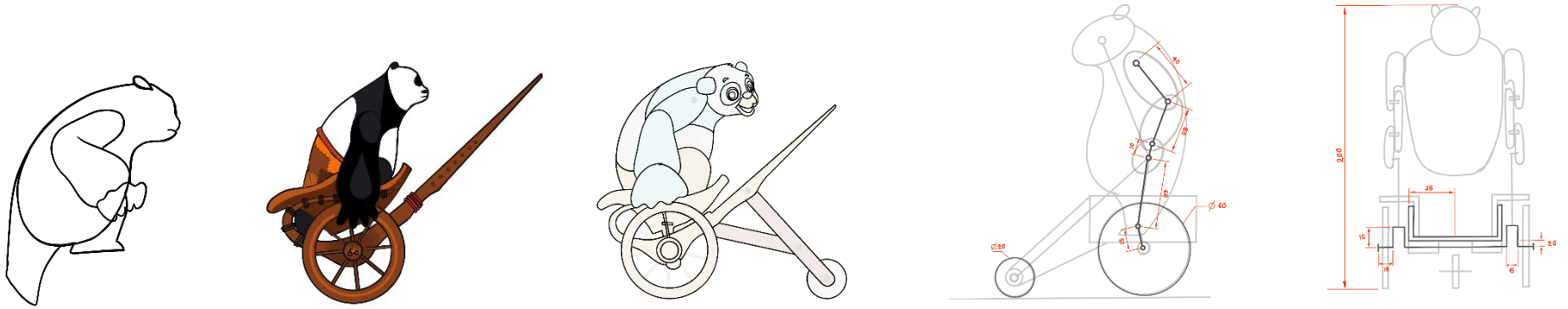


Fig. 11 Formal exploration and dimensional analysis

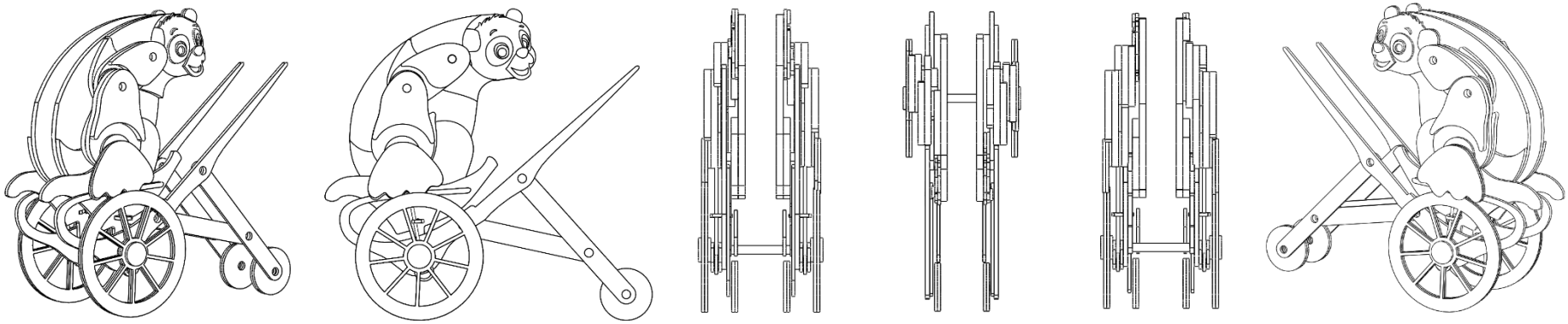


Fig.12 Isometric view (from right side), side-view, front-view, top-view, rear-view, isometric view (from left side)

3.4 Prototype

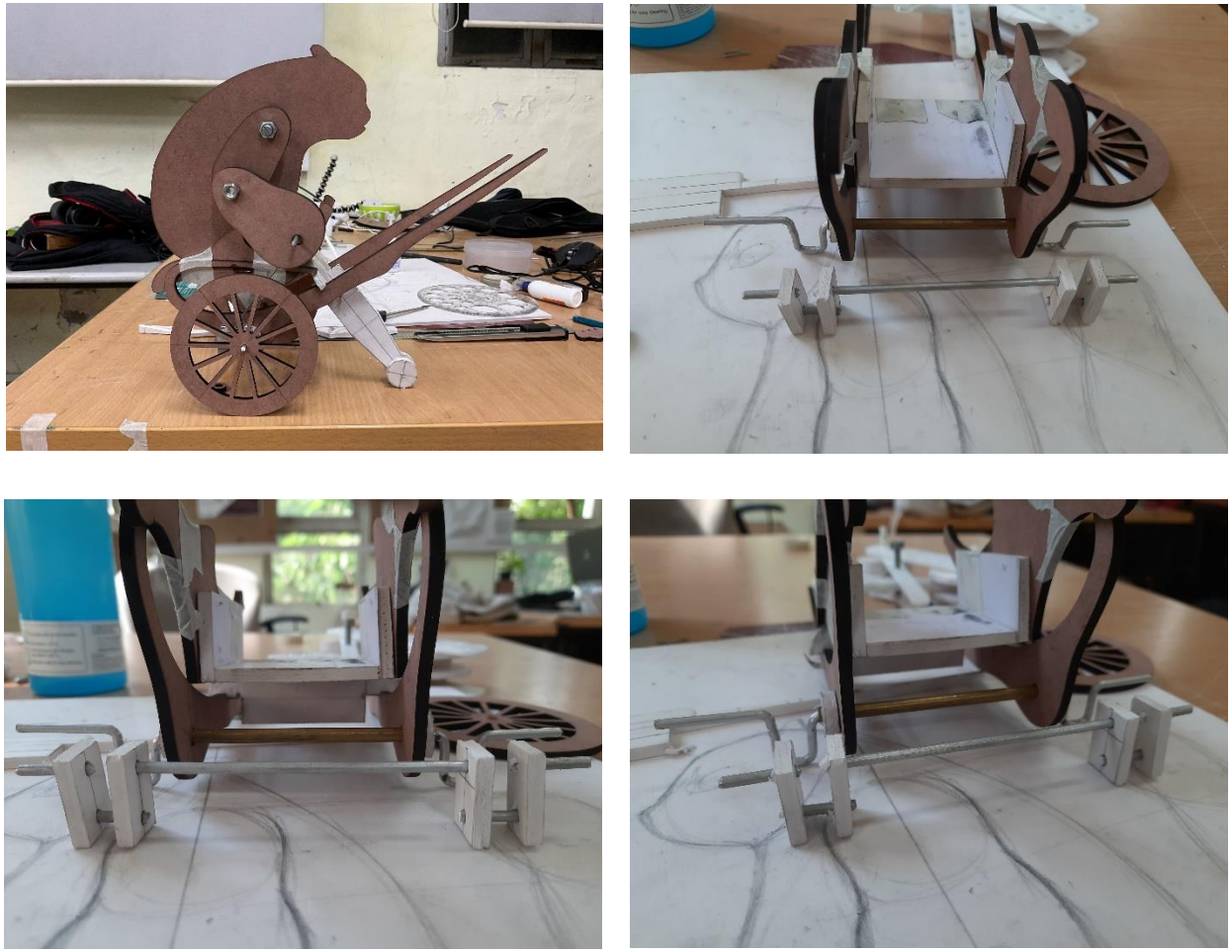


Fig. 13 Prototype made with MDF 4mm

3.5 Final model

Fig. 14 Final model: parts and painting, assembly and mechanism details

The design underwent multiple iterations to reach till the final model. A colour scheme based on Ladakh culture was chosen to enhance the beauty of the toy.

4. Conclusion

The course focused on building a product from scratch in the span of 4 weeks. It included market research, study about the materials, manufacturing processes for toys, wooden toys, building mock-ups, prototypes and finally to design a product.
Working on this project gave us a great insight on how a product goes through series of filtrations based on the user, materials, manufacturing and other constraints. The project helped us get sensitive to the details. Converting a complex mechanism to its simplest form to just do what it is supposed to. Breaking down each component one by one and refining it at every stage. A lot more learnings were involved throughout the development of this project.

5. Logo

Toy is named “Pambo”, which is a combination of Panda & Bamboo. Panda + Bamboo = Pambo

6. Poster


pambo
Every child's companion
Pambo is a dynamic push toy that is safe and very interactive
Age 15 - 24 months | More info at www.pambo.com
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EXCLUSIVE
PREMIUM