



PRODUCT DESIGN 02

WOODEN TOY DESIGN

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INTRODUCTION

- This project is done as part of PD2 module.
- The primary objective is to design a wooden toy for kids between age group of 9 to 24 months. And the primary material to be used is mdf.
- The design of toy is to be inspired from nature based animal biomimicry.

DESIGN INSIGHTS

Design Brief

To design and develop a wooden toy for children in the age group of 9- 24 months inspired from a selected animal and biomimicking its actions to make it more playful and learning experience for the children.

Objective

- The toy should communicate with children.
- It should be relatable and generate curiosity in them.
- It should be easy to operate by push/ pull mechanism.
- The mechanisms should be inside the body, to made it user friendly.

User environment

- Any indoor floor surface.
- Can be used by kids by running, walking or even crawling.

DESIGN INSIGHTS

Must haves

- Toy should be pull/ push mechanism.
- Toy material has to be mdf.
- Mechanism should be easy to use and safe for children.
- It should be robust.

May haves

- Toy can create a personal and emotional bonding with the child.
- Toy should contribute in the physical and mental growth of the child.
- Toy should have cartoonish features and is colorful.

User experience

- Toy should be self explanatory for children. Without needing help they should be able to play.
- It should instill curiosity and creativity in them.

DESIGN INSIGHTS

Specifications

- Primary material- Mdf
- Secondary materials- acrylic, aluminum rods, other joinery
- Colour palette- inspired by Ladakh research done during Form2 module.

Maintenance

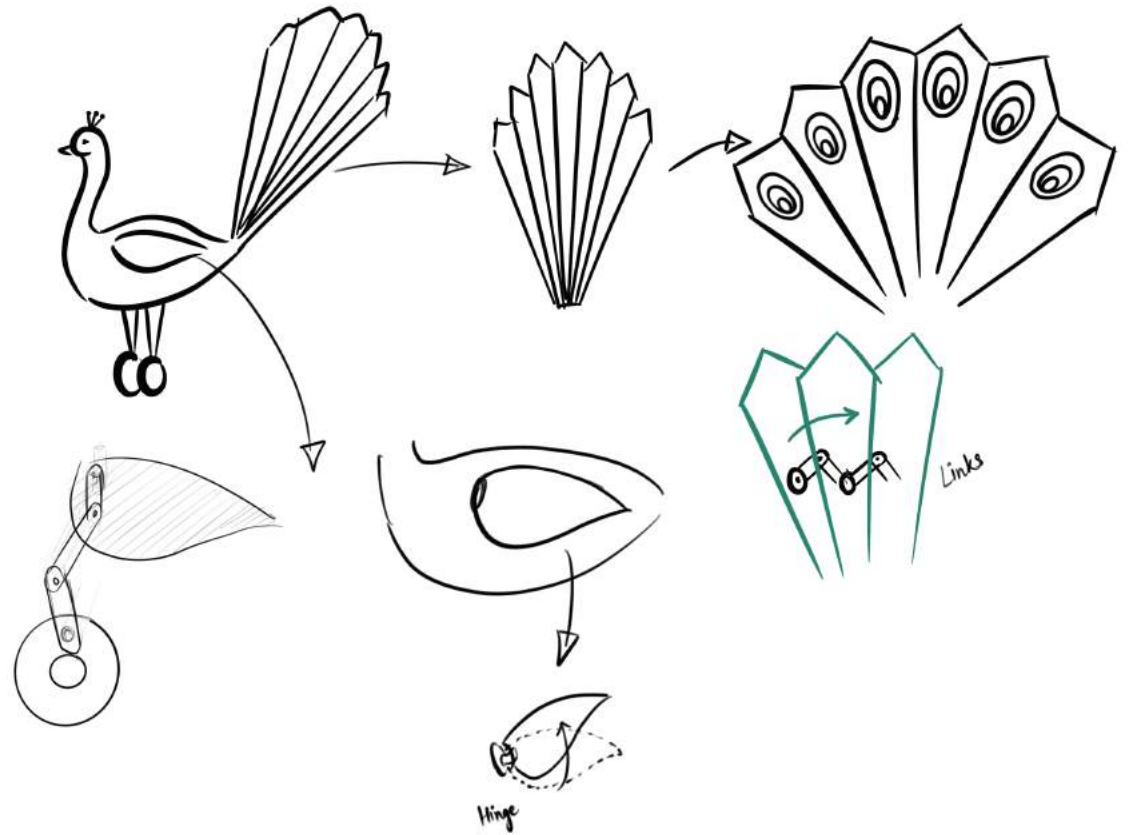
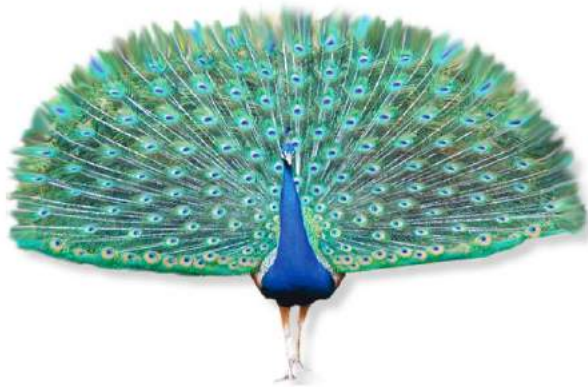
- Toy should be robust and easy to join.
- It should be easy to just wipe clean.

USP

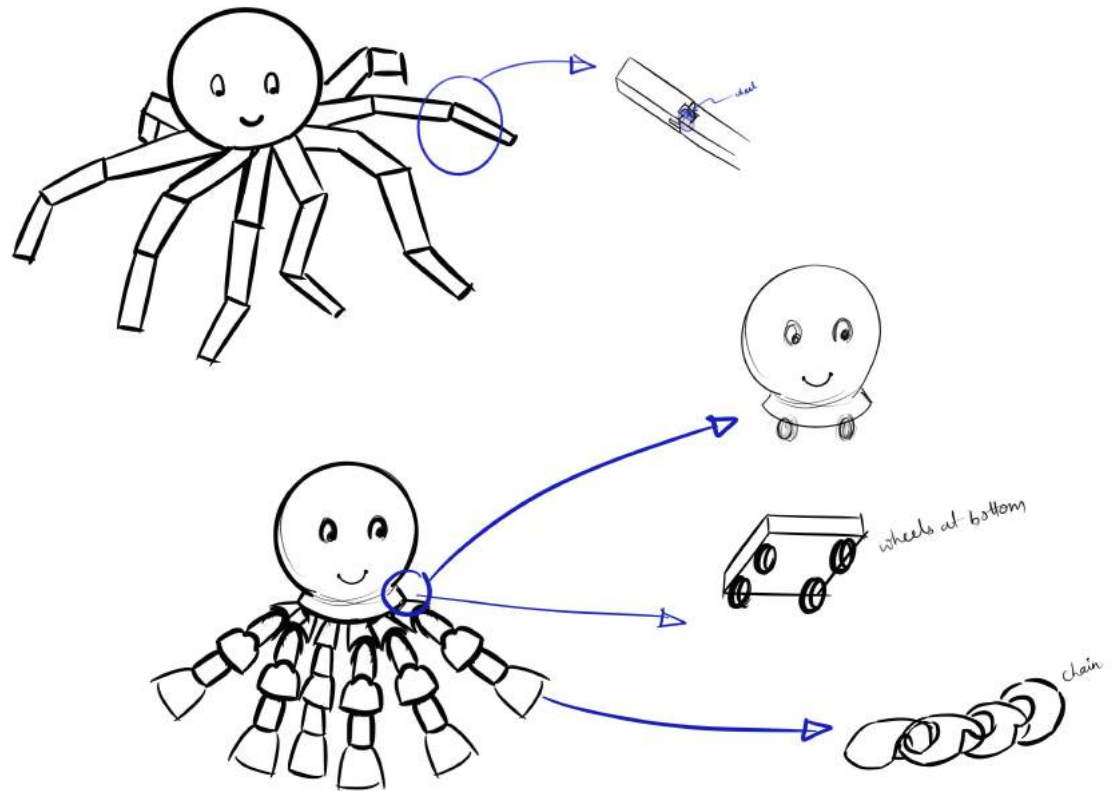
- Wooden toy handcrafted.
- Ingenious in nature and innovative in approach.

THREE INSPIRATIONS

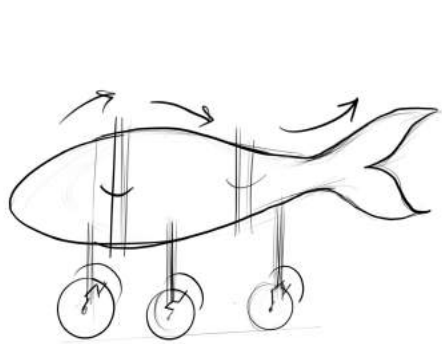
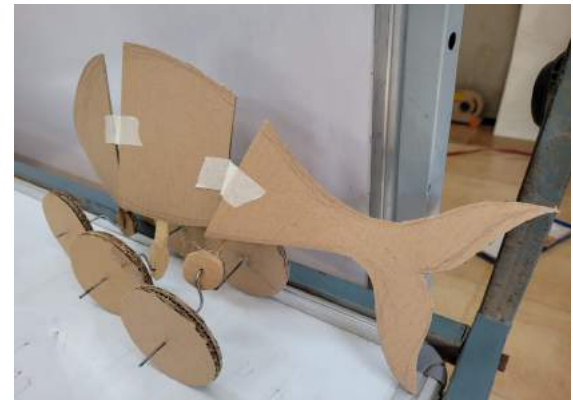
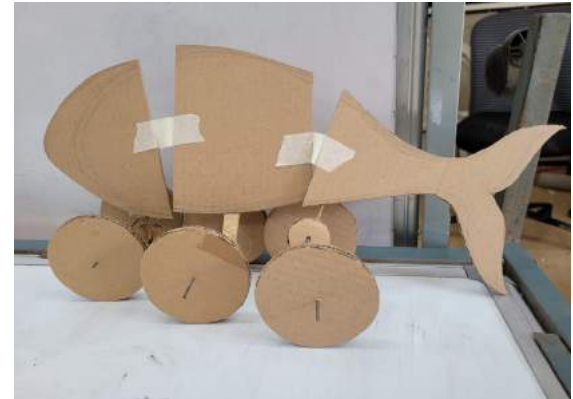
Peacock



Octopus



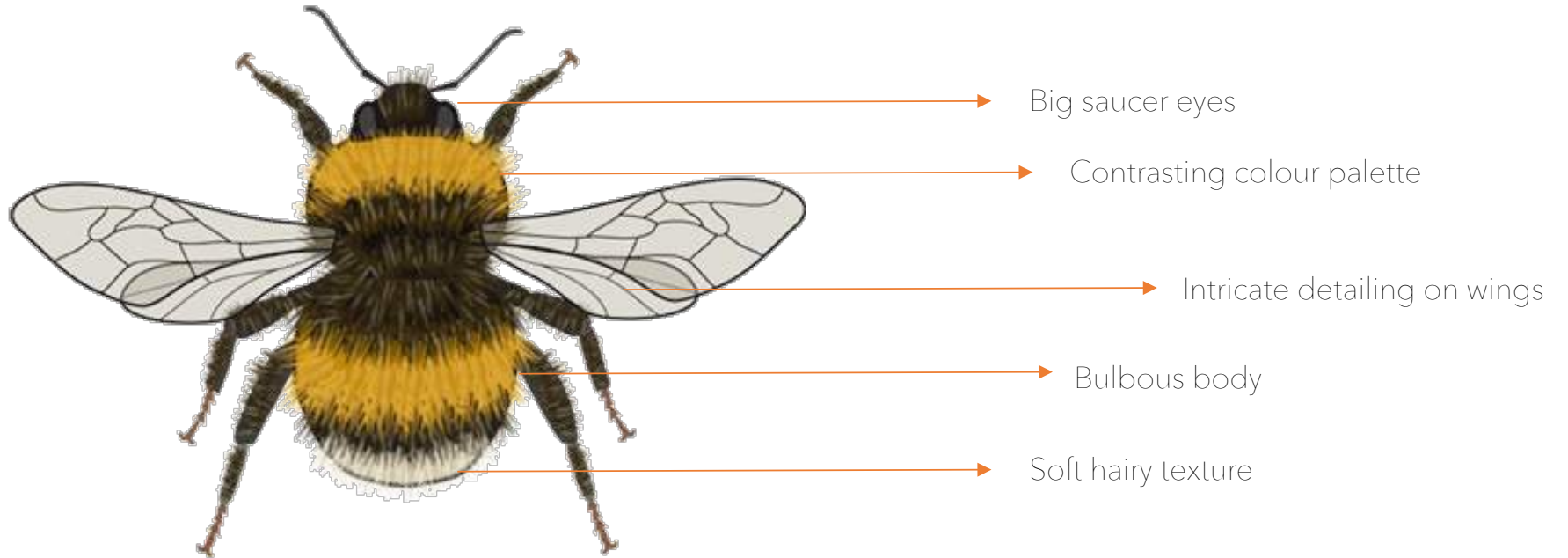
Whale



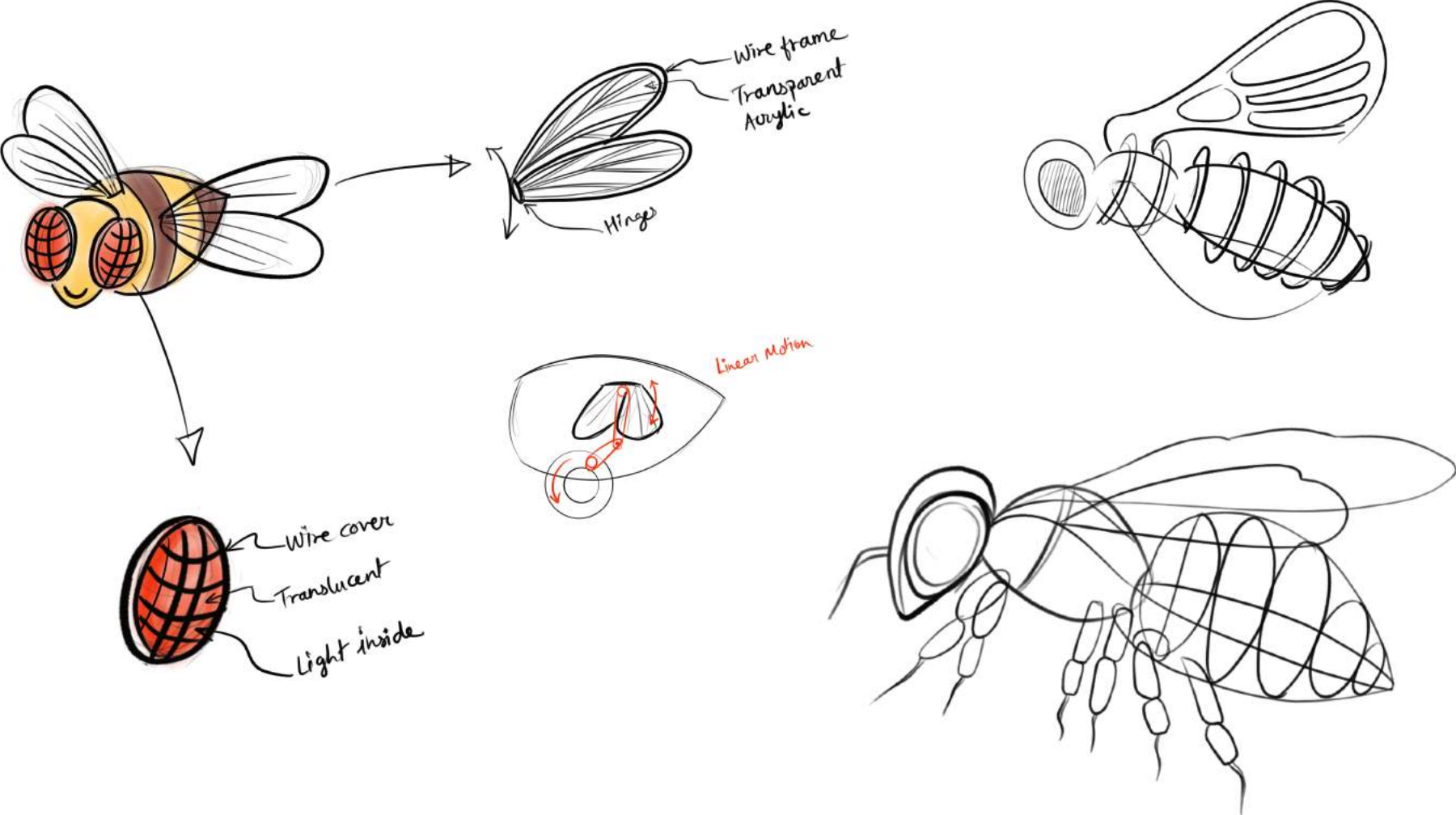
FINAL SELECTION - BUMBLE BEE



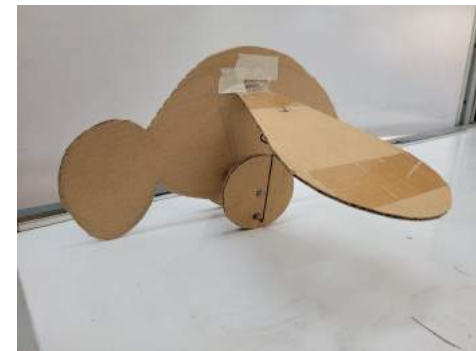
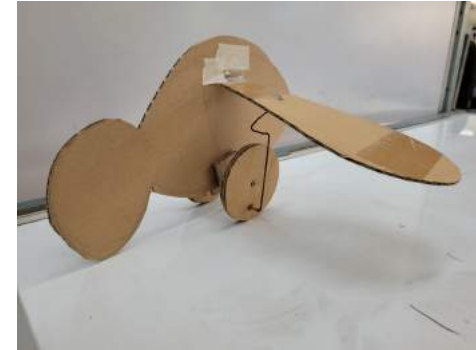
ATTRIBUTES OF BUMBLE BEE



IDEATION AND MOCKUPS

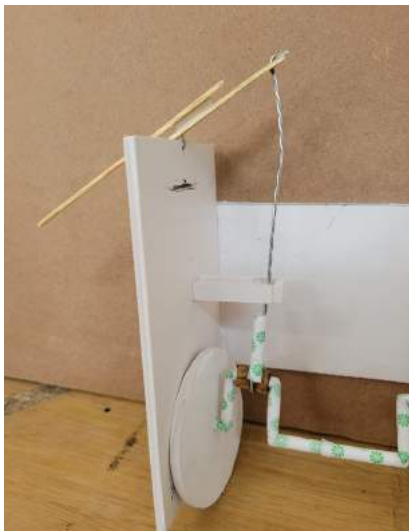
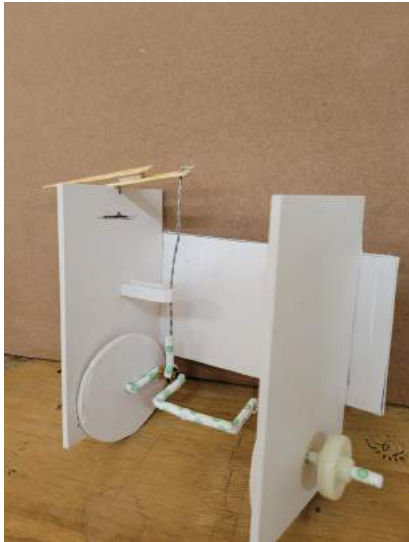


MOCKUPS OF MECHANISM

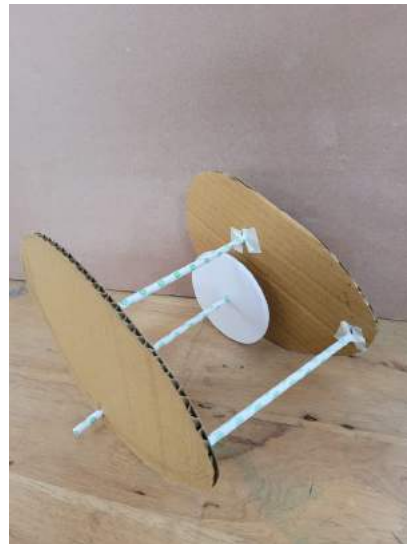
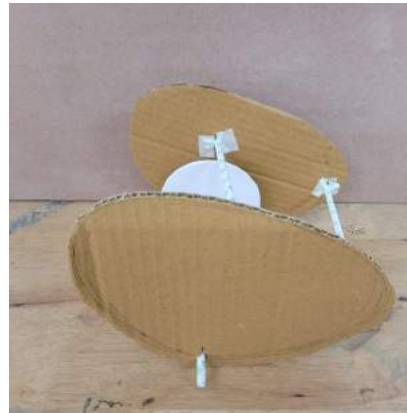


MOCKUPS OF MECHANISM

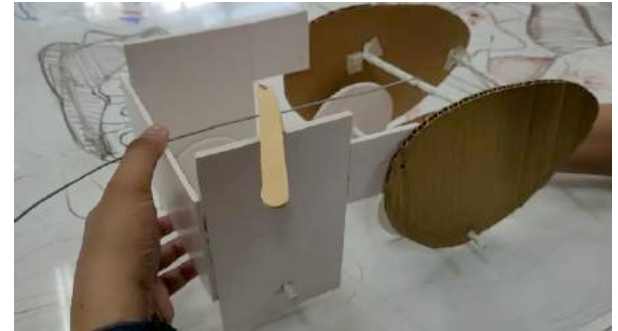
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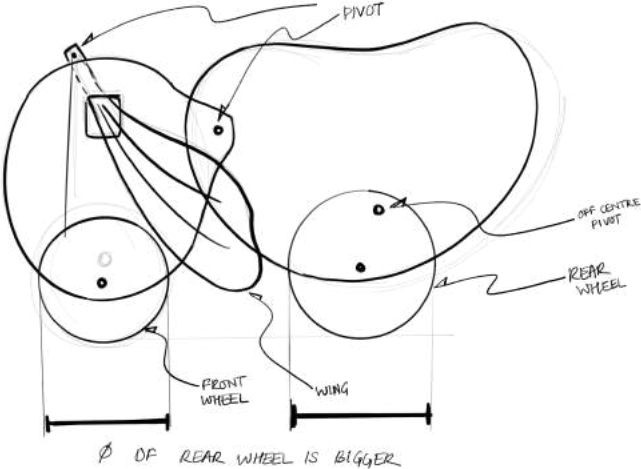
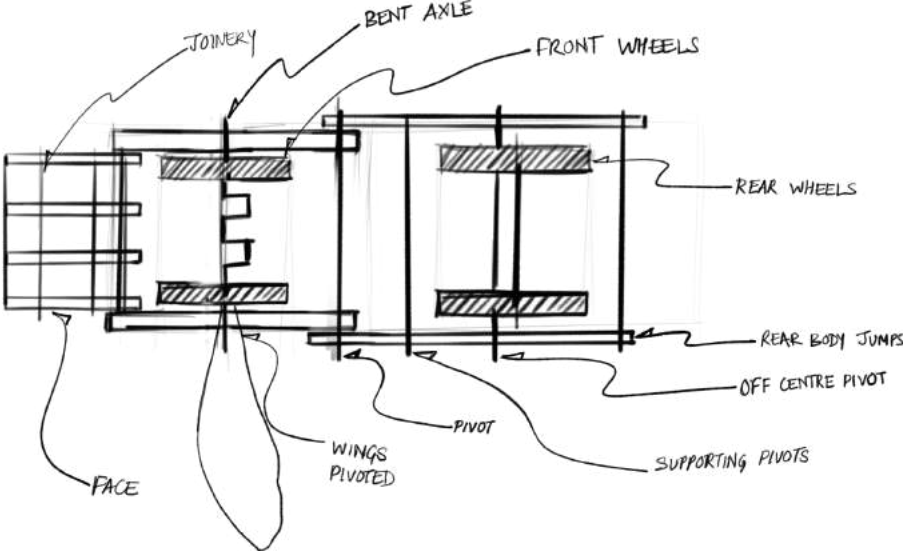
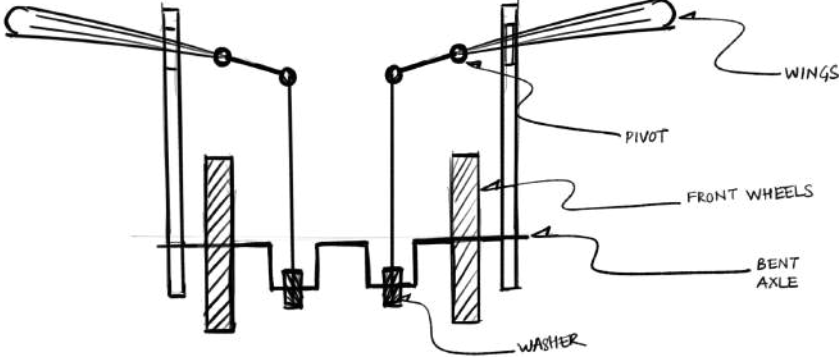
(2)



(3)



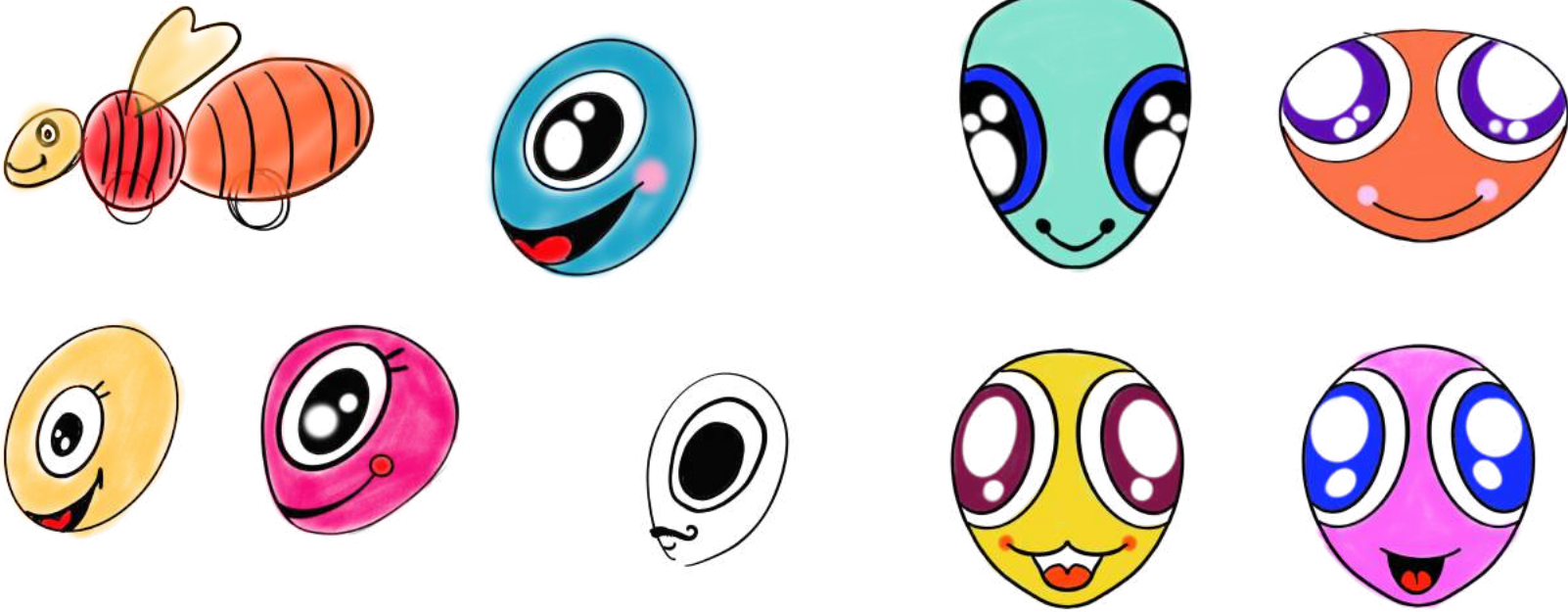
MECHANISM DETAILING



FORM VARIATIONS

Facial expressions

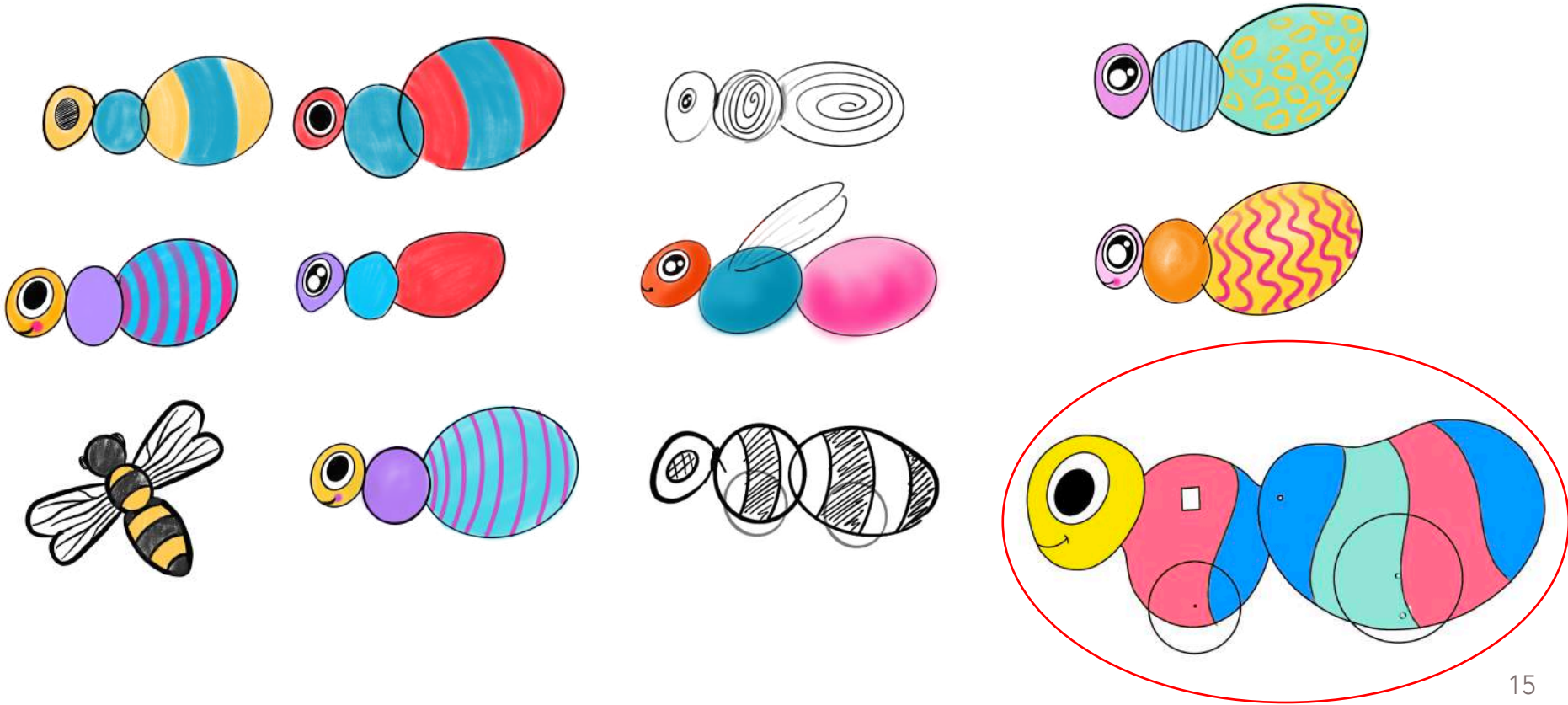
In order to make the toy cuter and more playful, many distinctive forms and expressions were explored. Some details such as eyes, face shape, mouth were exaggerated to make it more charming.



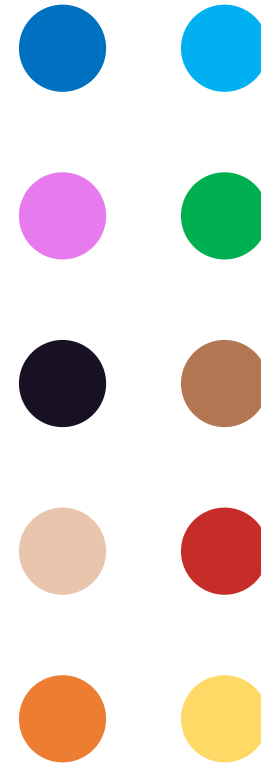
FORM VARIATIONS

Body Postures/Forms

Numerous alternatives for the body and wings were explored to achieve the best culmination of form. The highlighted form is finalized due to its soft curvatures and beguiling look.

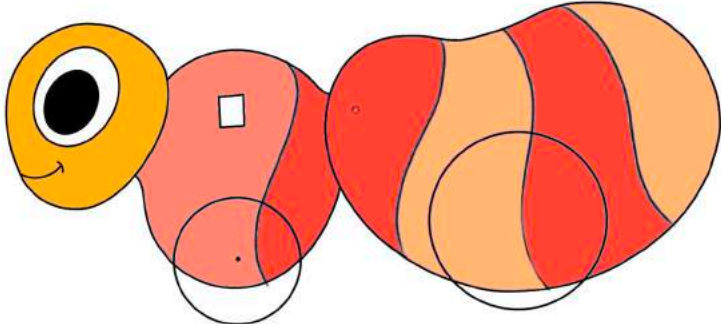
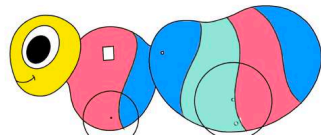
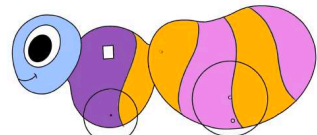
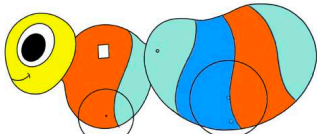
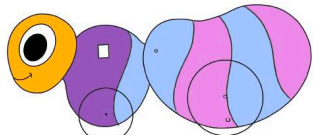
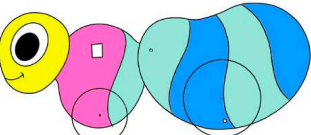
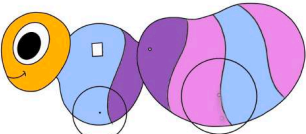
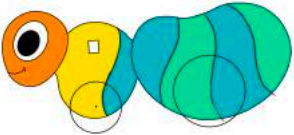
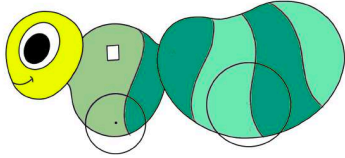
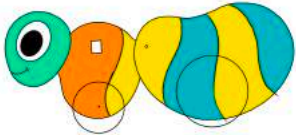
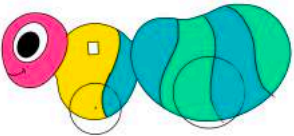
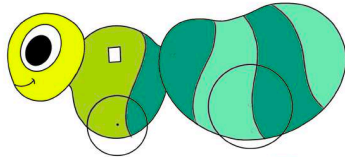
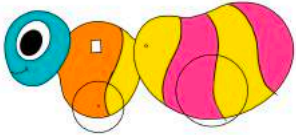
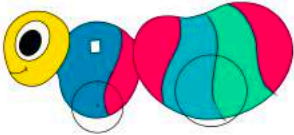


COLOUR PALETTE

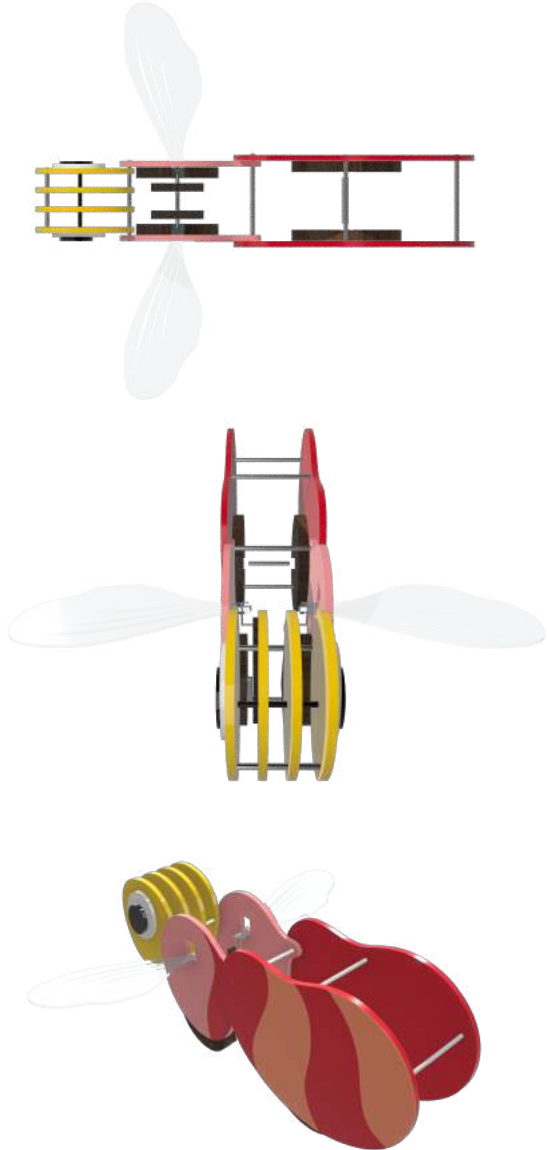
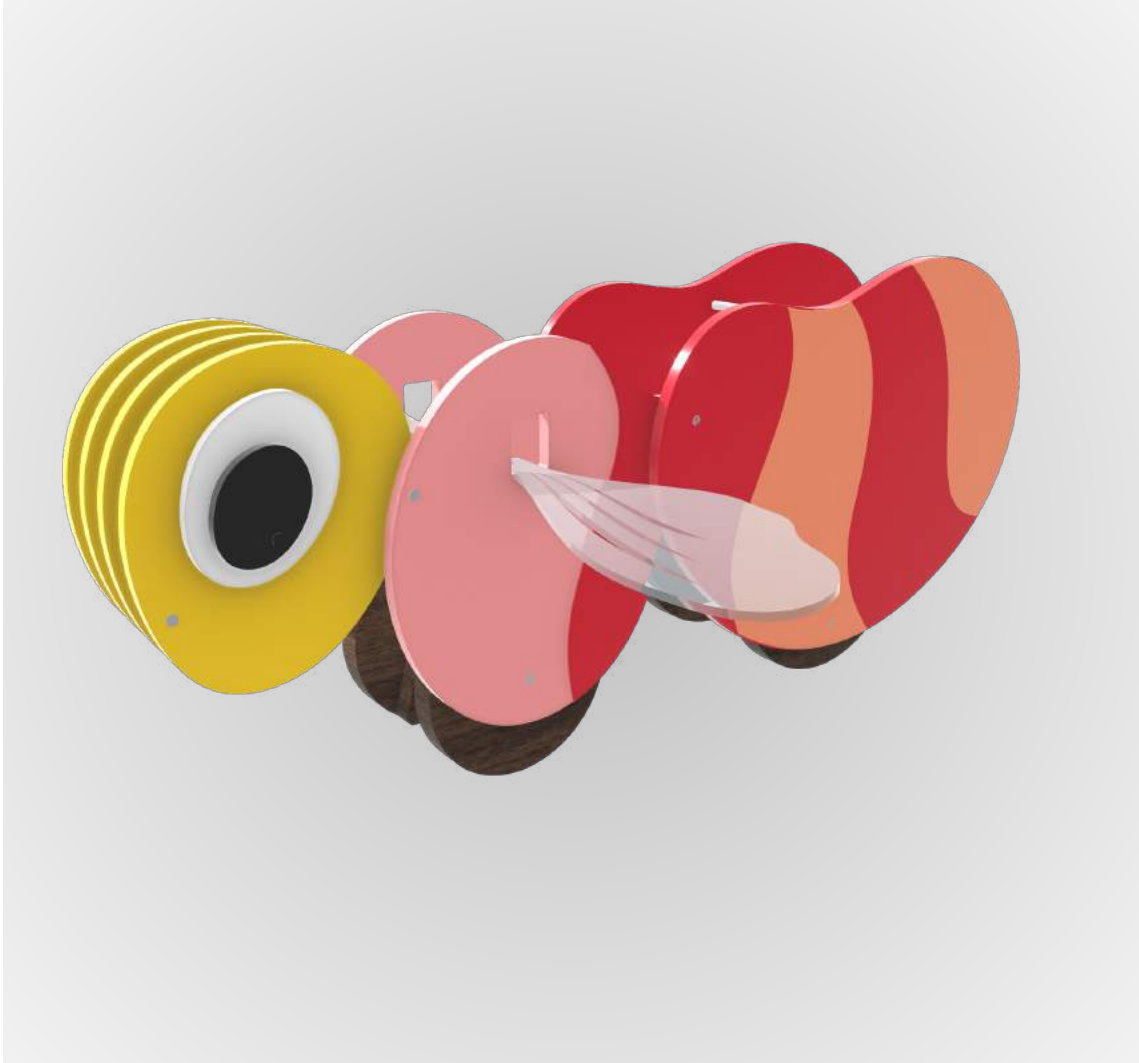


Colour palette is inspired by the alluring beauty of Ladakh.

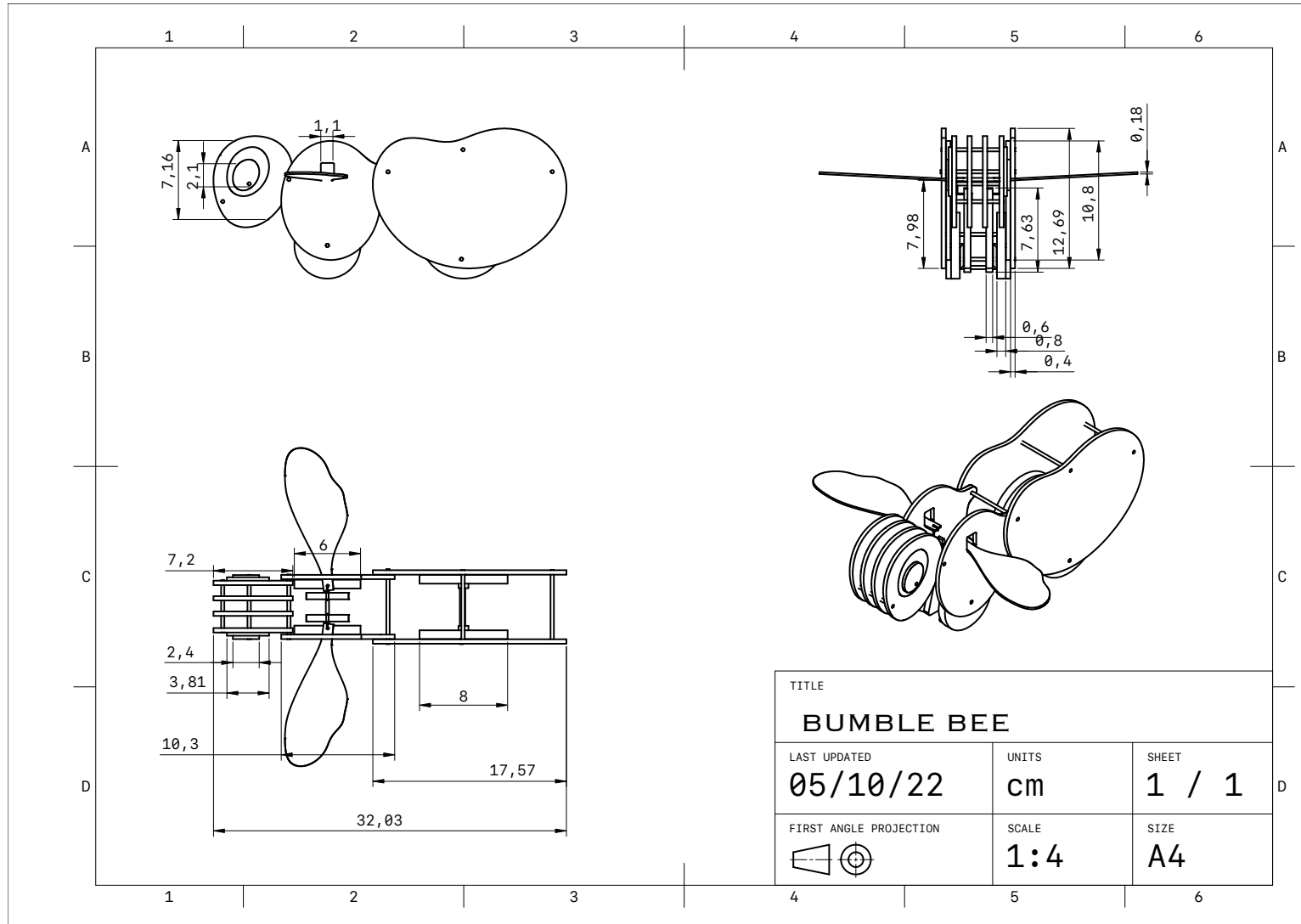
COLOUR VARIATIONS



FINAL TOY DESIGN



TECHNICAL DRAWING



FINAL TOY DESIGN



MODEL FEATURES



Soft facial features, very cute and inviting to look at.



Robust body. Pivoted parts for ease of movement.



Intricate and beautiful design detailing etched on the wings.

BRANDING

Buzz



Buzz : meaning in slang is to buzz around.

noun : whirring sound

Sentence application : He is always buzzing around like a busy bee.

Inspiration : Buzz Lightyear cartoon

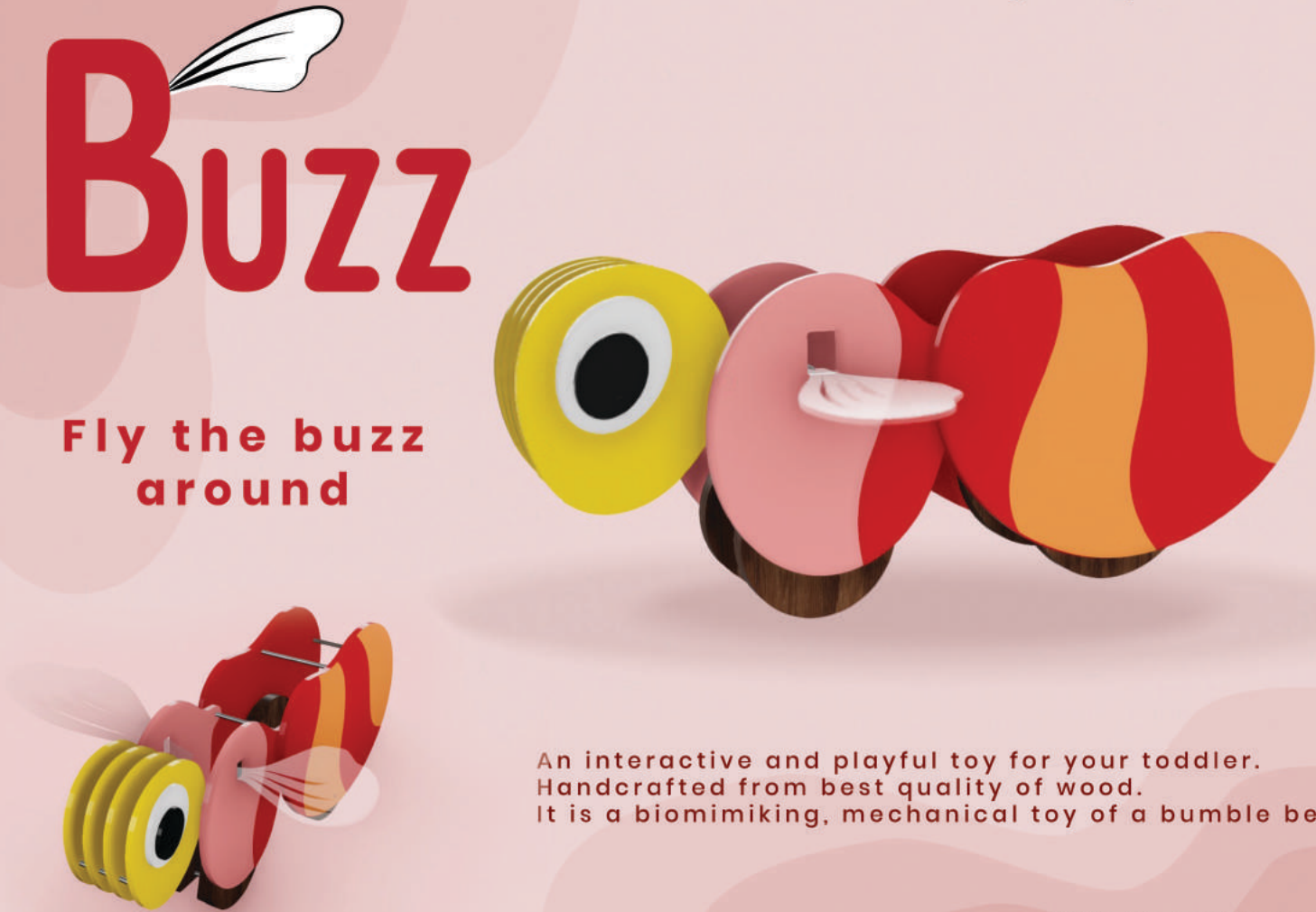
Other meaning : any flying toy which can go very fast.

POSTER

Age Group - 9 to 24 months.


Buzz

Fly the buzz around



An interactive and playful toy for your toddler.
Handcrafted from best quality of wood.
It is a biomimicking, mechanical toy of a bumble bee.

Made by- Mugdha Dengle
IDC, IIT Bombay



CONCLUSION

To sum up this module, it was a roller coaster ride filled with numerous challenges and fun-filled experiences. right from learning about various mechanisms to learning about biomimicry from nature. It increased my sense of nature, forms, aesthetics which staying inside the constraints of design brief. A lot of learnings was involved in refining each and every mechanism and component of the toy body. I also learned about about market research, marketing, branding of toys, by doing logos and posters.

Thank you.