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P O R
T F O
L I O

USER EXPERIENCE DESIGN
YANYI MAI

EXPERIENCES

Cisco

UX Design Intern

Remote | May 2023 - Present

- Led the independent user research and experience design on Cisco's service mesh management product that aims to provide observability, scalability, and security and improve overall developer experience
- Conducted 9 comprehensive user interviews and synthesized interview data into key insights on CLI and GUI pain points, and workflows using Miro, Dovetail, and LogRocket
- Contributed to product vision and interaction flows for 3 primary features: dashboard, alert and troubleshooting, and team collaboration, and produced detailed wireframes, UI mockups and interactions
- Designed and tested feature prototype that resulted in reducing troubleshooting time by 23% and lowering tool learning curve by 14% for new DevOps and ITops

Beijing Tian Yan Cha Tech

Senior UI Designer

Beijing, China | Apr 2021 - May 2022

- Led the design and user experience of company's new CRM product "Tian Yan Business Lead CRM" and resulted in 230% user growth rate in 3 months
- Worked to build Tian Yan Business Lead CRM's product design efforts from the ground up by delivering thoughtful user flows, journeys, and design specifications
- Created a comprehensive design component library with over 30+ categories and 200+ symbols and unified UX and visual guidelines for teams across the product
- Collaborated closely with cross-disciplinary designers, developers, test engineers, and product managers on strategizing goals for each version

YonYou Cloud (Hong Kong)

UI Designer

Shenzhen, China | Jul 2019 - Apr 2021

- Independently designed and implemented ERP, CRM, and HRM softwares for company's core clients
- Executed user journey maps, wireframes, interactive prototypes iteratively for a seamless OA experience for clients' International teams
- Partnered with PMs and developers to drive the product's efficient and streamlined user experience
- Resulted in a 23% increase in logistics efficiency and a 12% decrease in OA errors

EDUCATION

University of California, Berkeley

Master of Design

Dec 2023

- Master of Design Student Association - Academic Officer
- MDes Distinguished Scholar Award: \$6000 scholarship from UC Berkeley

University of California, Berkeley

BA in Art Practice

May 2019

- The Berkeley Certificate in Design Innovation

SKILLS

Skills: User interface design, user experience design, interaction design, user research, user persona, user journey map, information architecture, user workflow interface prototyping, usability testing, design systems, design guidelines

Tools: Figma, Sketch, InVision, Axure RP, Atlassian Jira, Adobe Photoshop, Adobe Illustrator, Adobe XD, Adobe After Effects, Adobe Premiere Pro, Cinema 4D, Keynote

Language:
Chinese

OKTO

BIONIC CAMOUFLAGING ROBOT

Okto is an octopus-shaped, camouflagic bionic robot. As soft robotics, Okto can simulate the way octopus camouflages as a response to danger as part of its resilient and persistent nature.





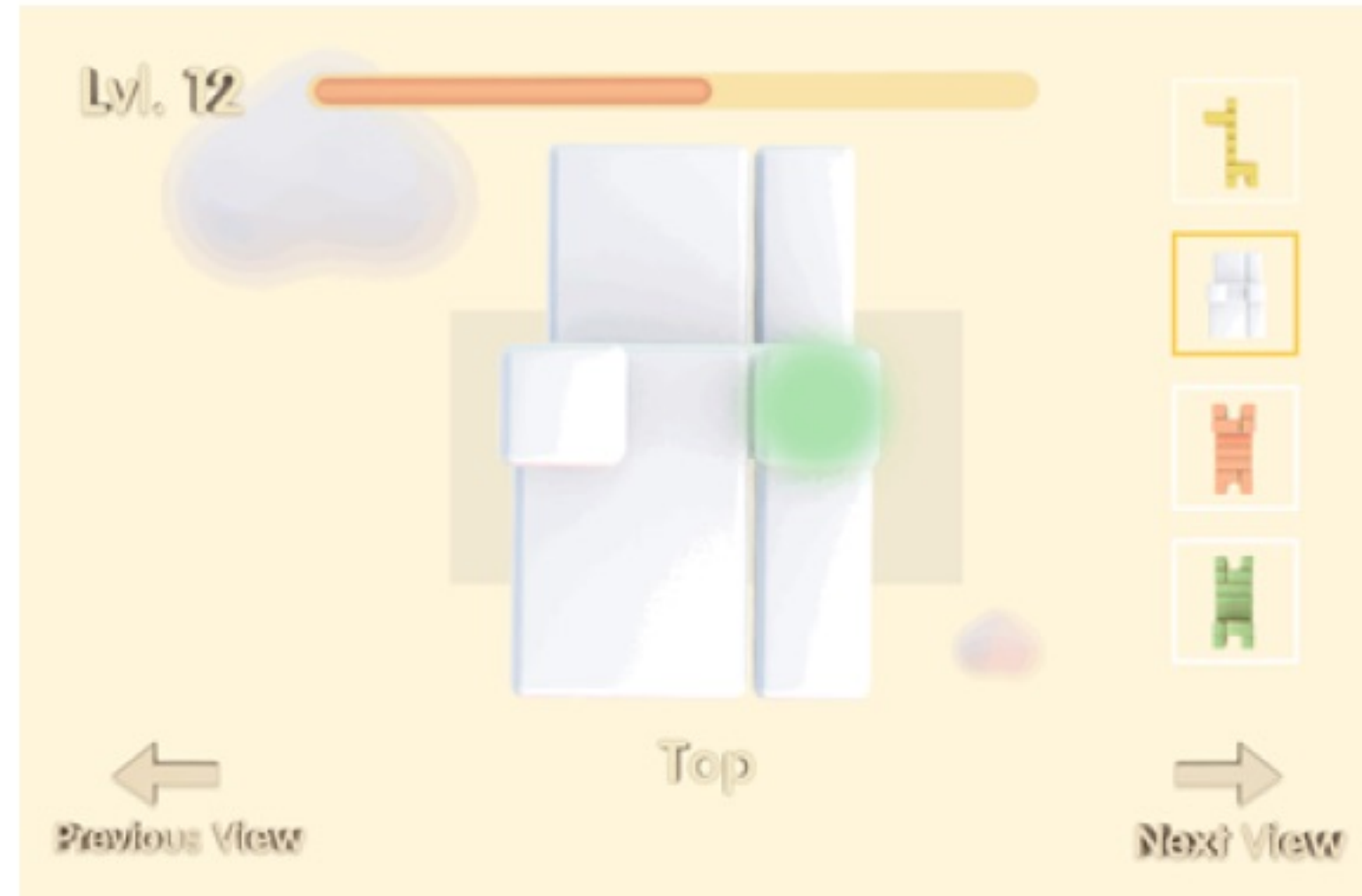
Table Safari is a phy-gital entertaining experience bridges 2D perspectives with 3D blocks designed for children. Through the lens of game based learning (GBL), Table Safari improves young users (age 5-7) spatial awareness skills through the visual-spatial correlation between the 3-dimensional building blocks and 2-dimensional views.



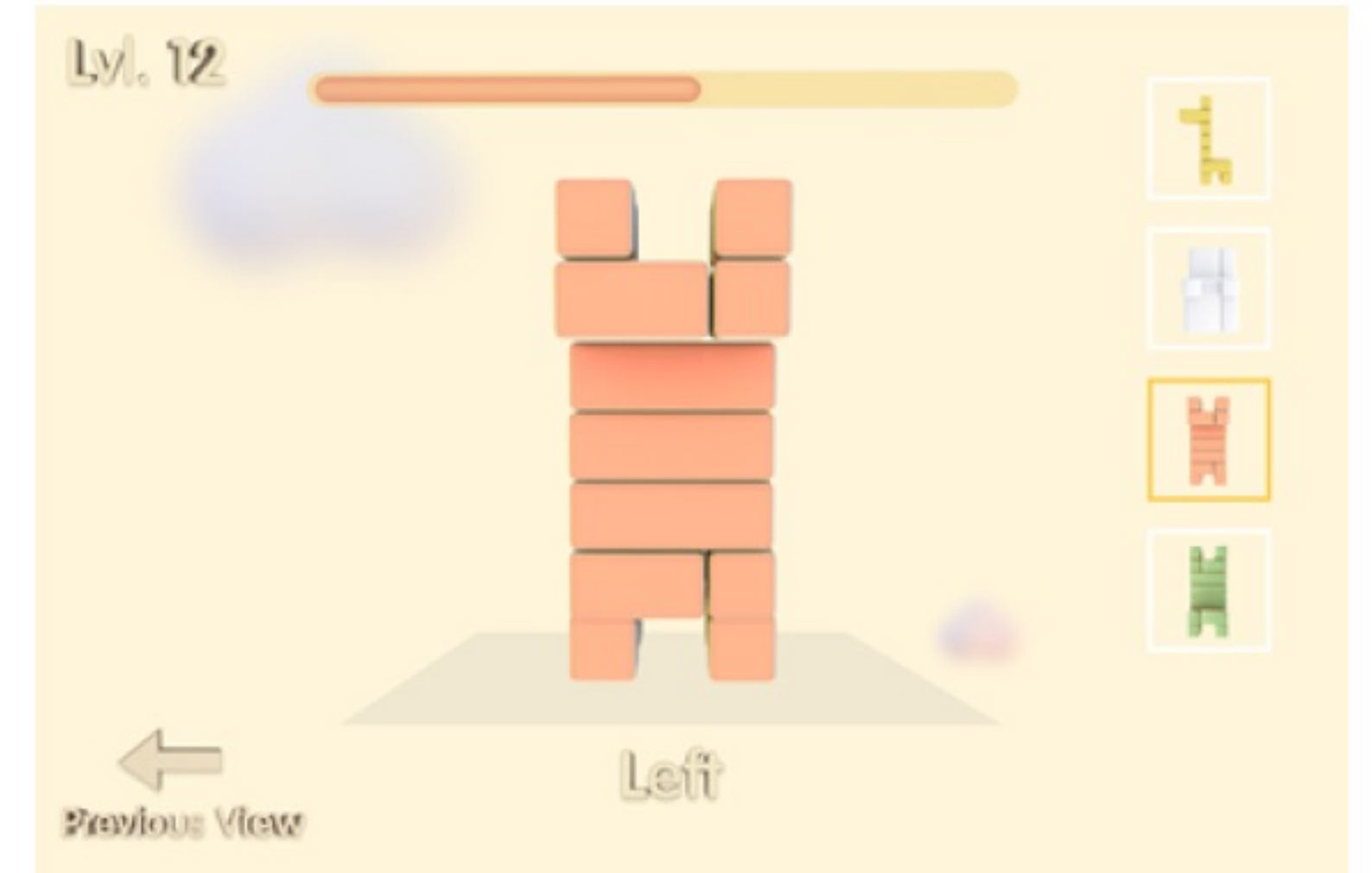
Digital Gameplay



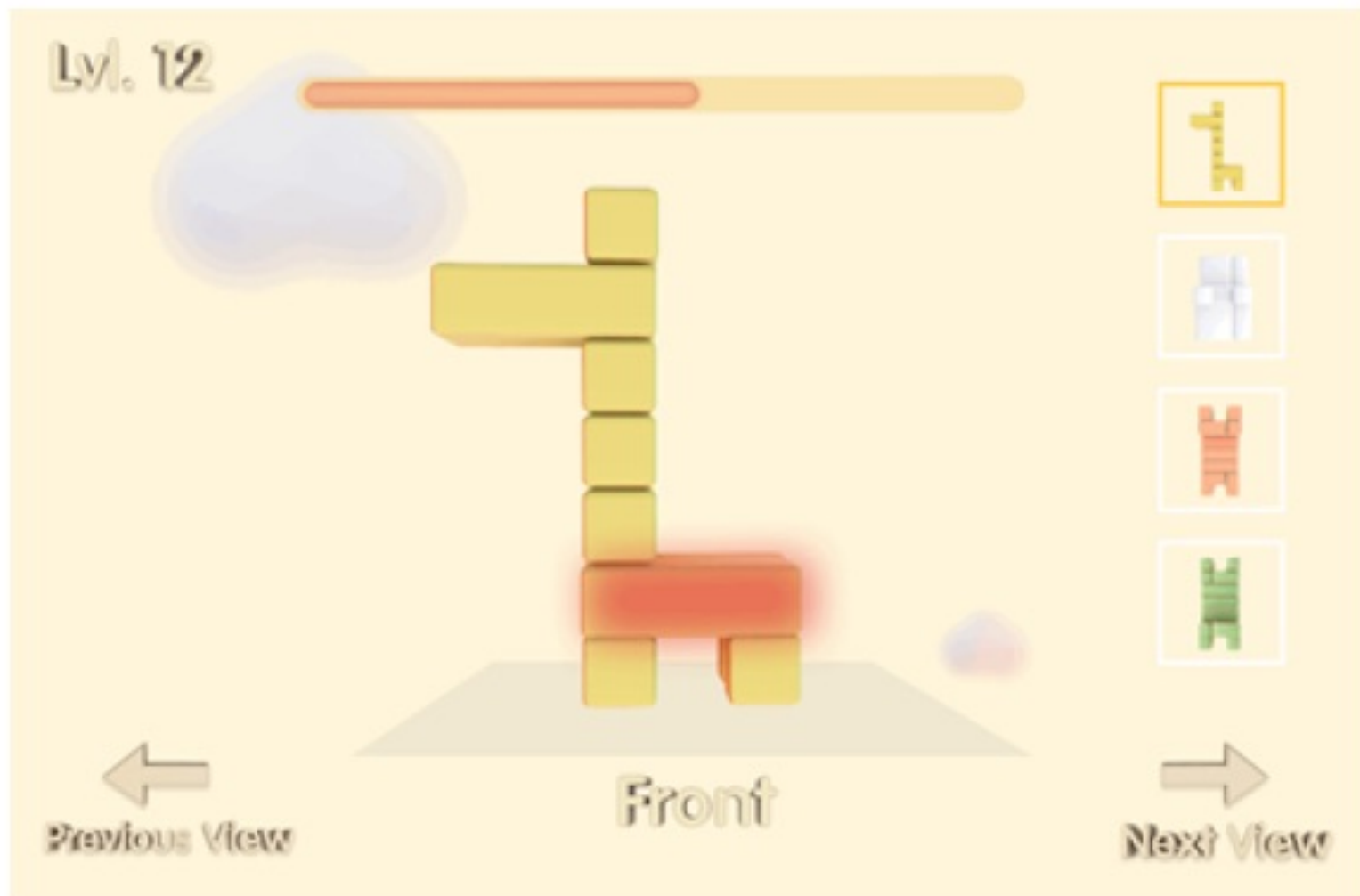
Start



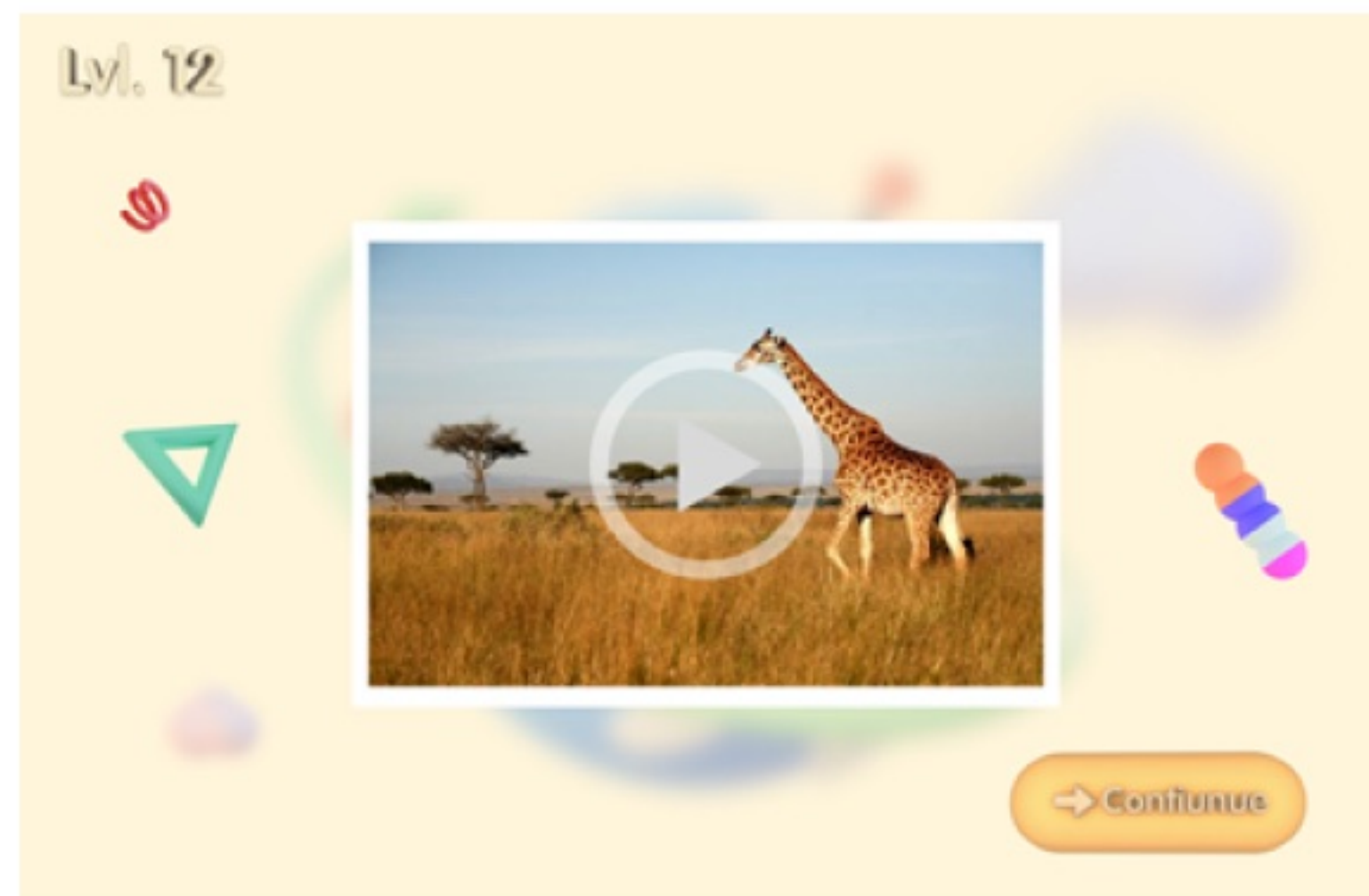
Correct block being placed



Switch views: Top, Left, and Front



Incorrect block being placed



Facts about this animal reveal as correct blocks being placed

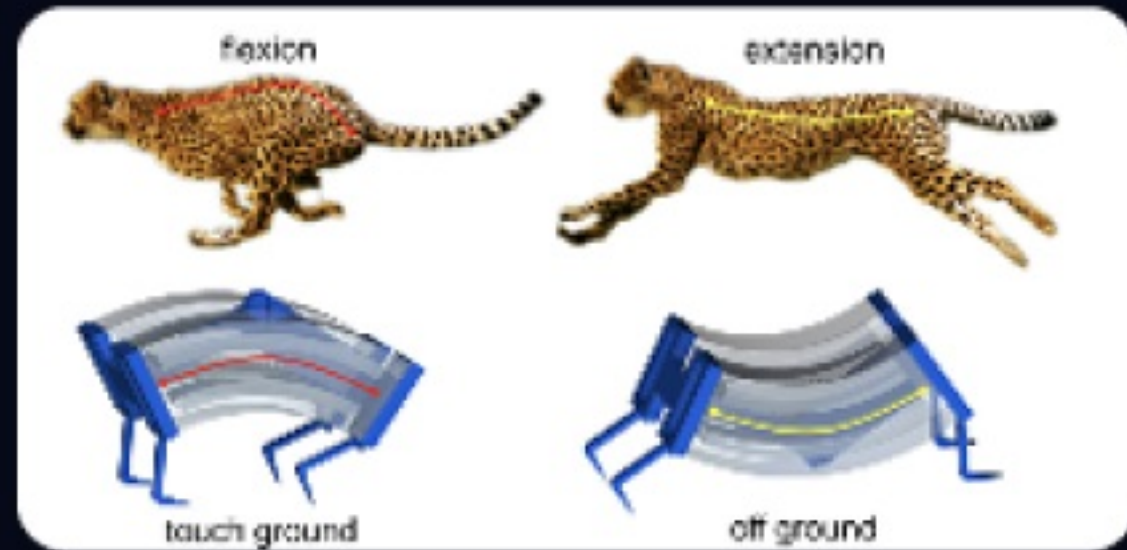


Completion

BACKGROUND RESEARCH

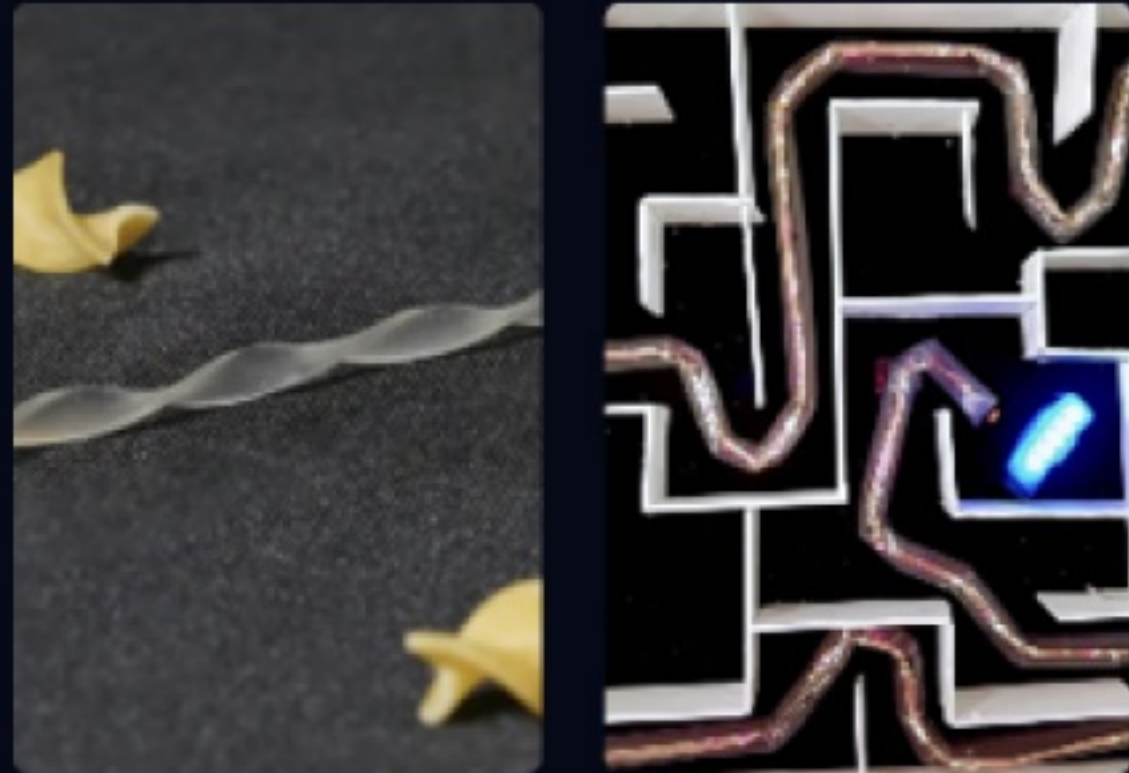
1. Bionics (animal & plants)

Show the persistence and resilience of animals



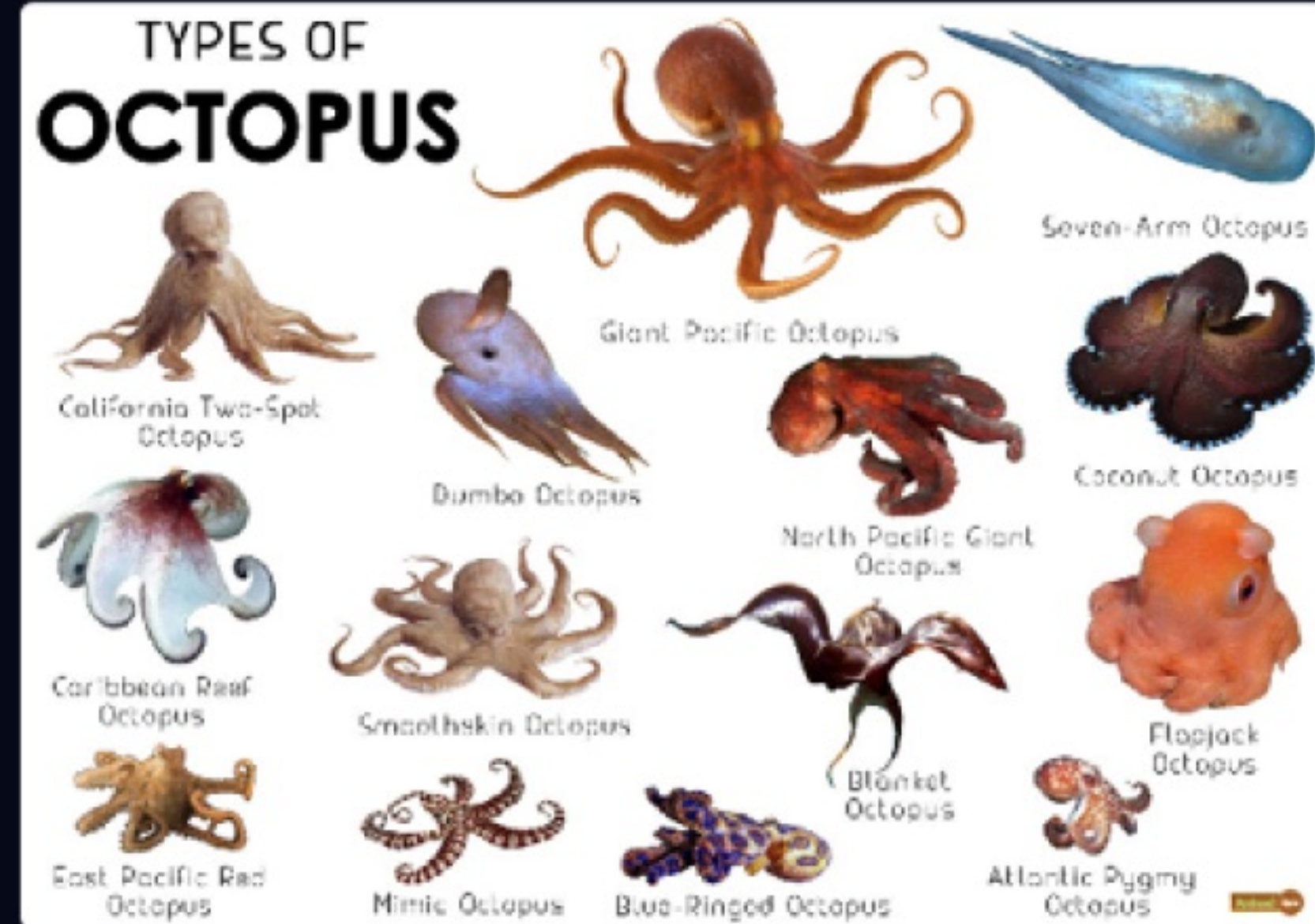
2. Material focus

Show the persistence and resilience of material itself

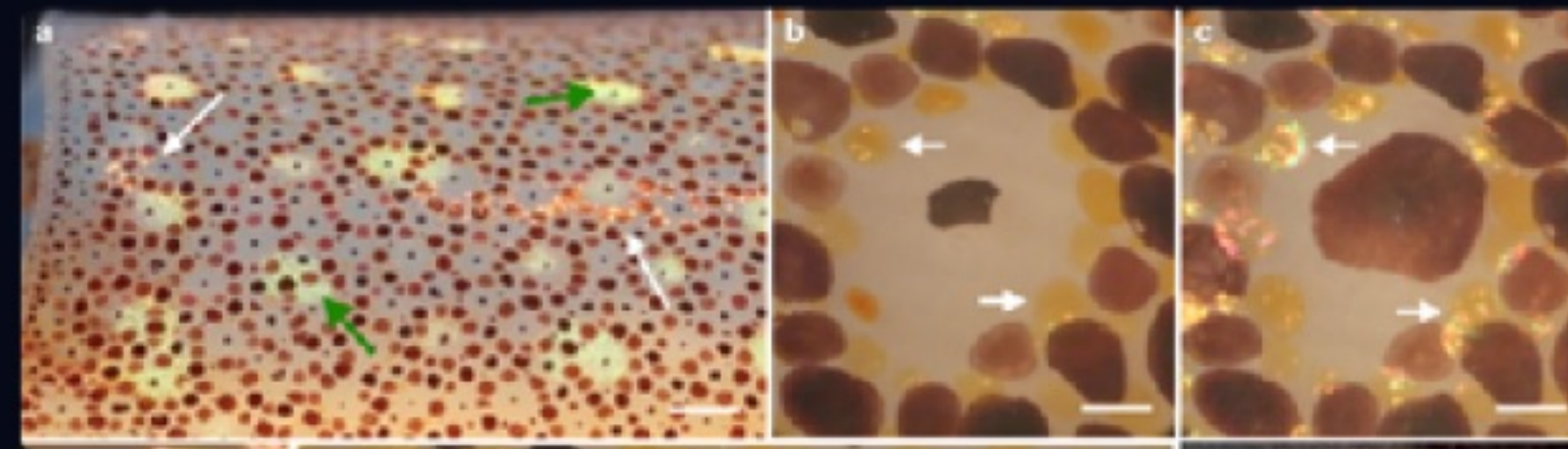


ABOUT OCTOPUS

An octopus is a soft-bodied, eight-limbed mollusc of the order *Octopoda*. They have squishy bodies that can squeeze through tiny cracks and eight sucker-covered arms that can be regrown.

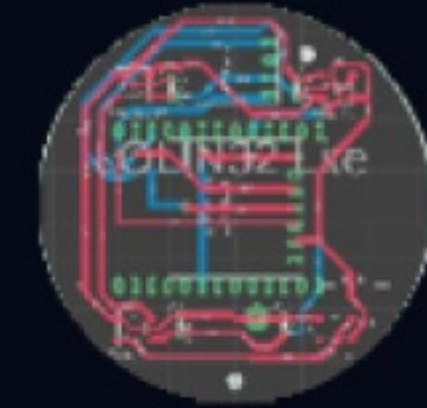
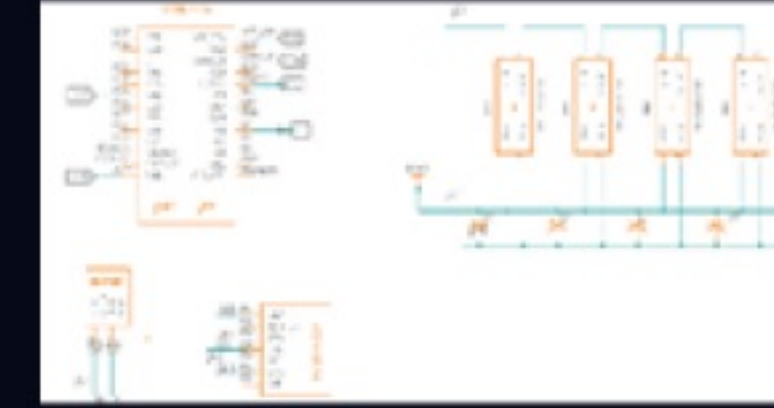


Octopuses can shift hues because they have chromatophores – tiny, color-changing organs that are dotted throughout an octopus's skin. At the heart of each chromatophore are tiny sacs filled with nanoparticles of a pigment called xanthommatin.



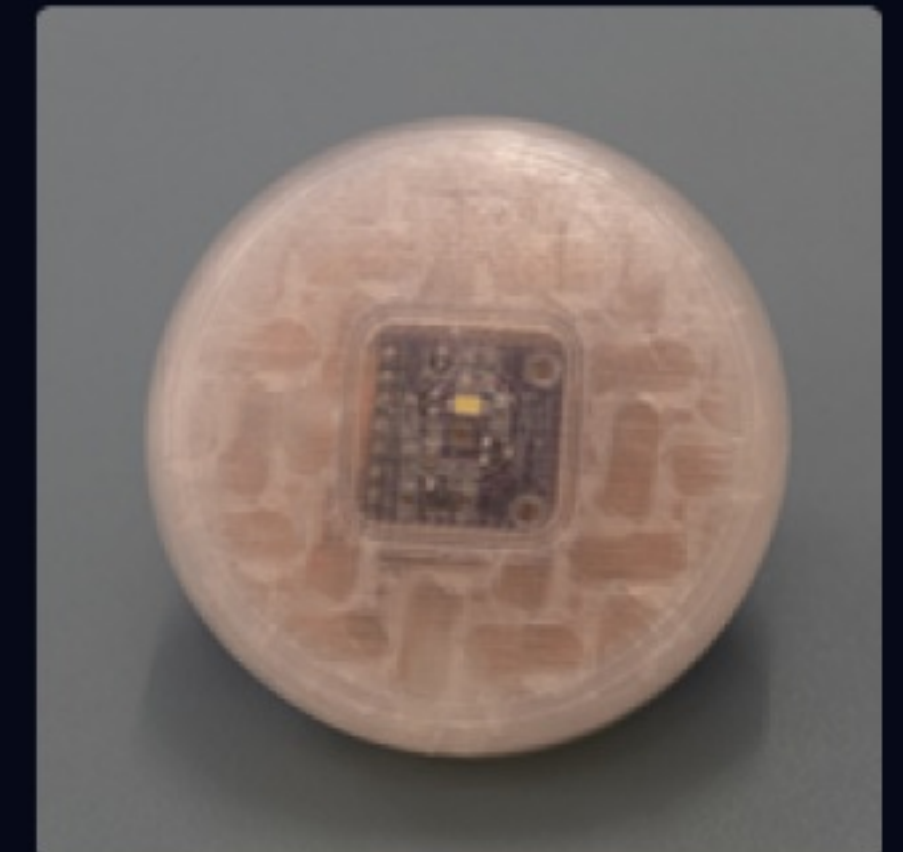
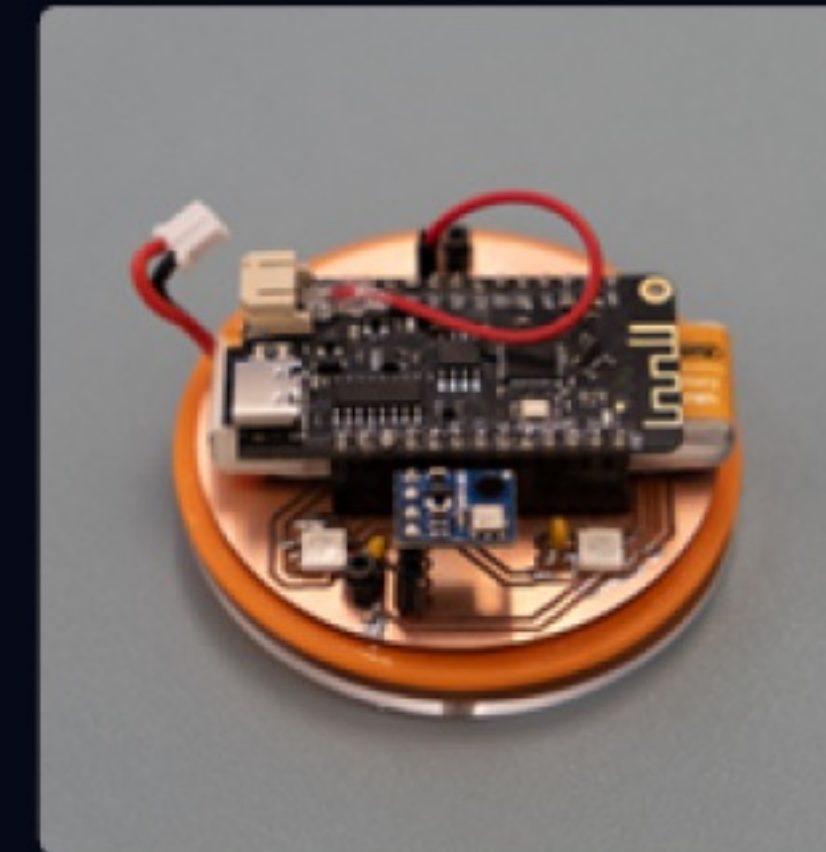
PROTOTYPING PROCESS - CIRCUIT BOARD DESIGN

We choose to make a PCB because it helps us to better scale the project and make it less prone to human error. Utilizing the existing sensor break-out boards, we did not have to start from scratch. Quick validation of the function of each component on the breadboard, we use Fusion 360's electronics workspace to create a custom components library, schematics, layout, and 3D model accordingly.



PROTOTYPING PROCESS - MILLING & INSTALL PROCESS

Due to our time budget, we choose to manufacture the PCB by ourselves using Othemill down in the maker space. The PCB comes out nicely. Soldering SMD components is not as hard as we thought. Everything comes along nicely in the end.



Concept Definition

Define

Spatial awareness & Block-E

While doing the secondary research to solidify our concept, we found out that spatial awareness is an significant part of the cognition skills we are focusing on. It develops from toddlerhood until early school age. As an important skill that allows children to understand the relative location of objects in space and the impact of their interactions, it bolsters the foundation of 3-dimensional perception and thinking.

We came up with two divisions of "Block-E", and one of them is based on research about spatial awareness. As traditional approaches to developing spatial awareness typically lack proper guidance and constraints, we saw an innovation opportunity in this field. We decided to shape our project into game-based learning (GBL) for spatial awareness.

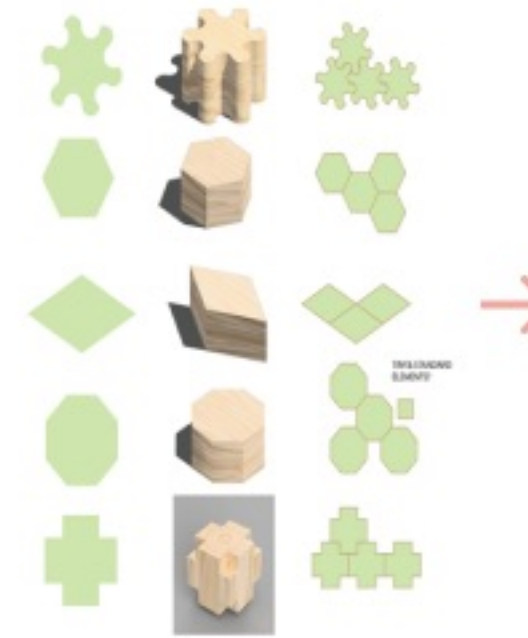
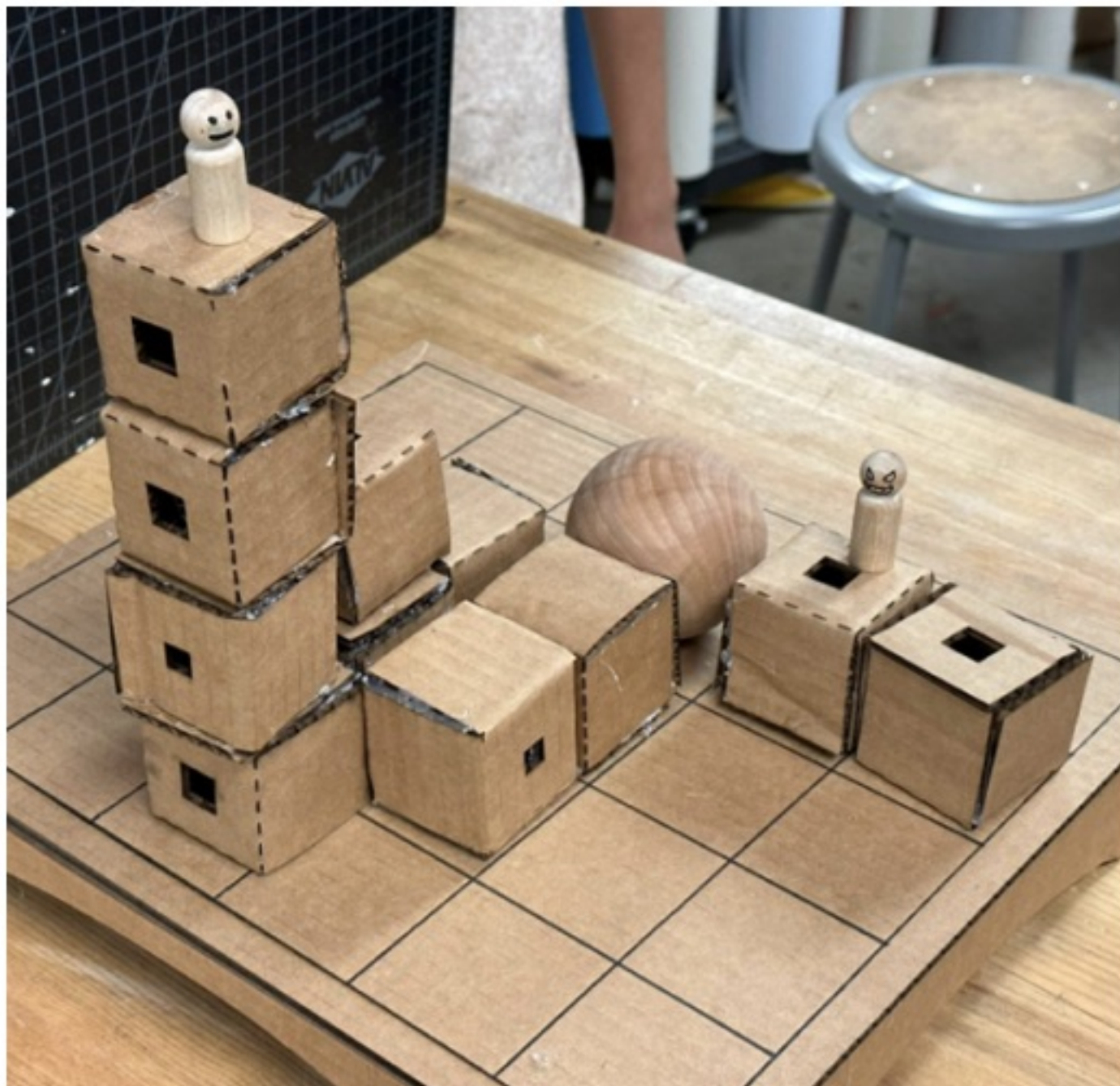
How might we improve children (age 5 - 7) spatial awareness skills through game based learning?



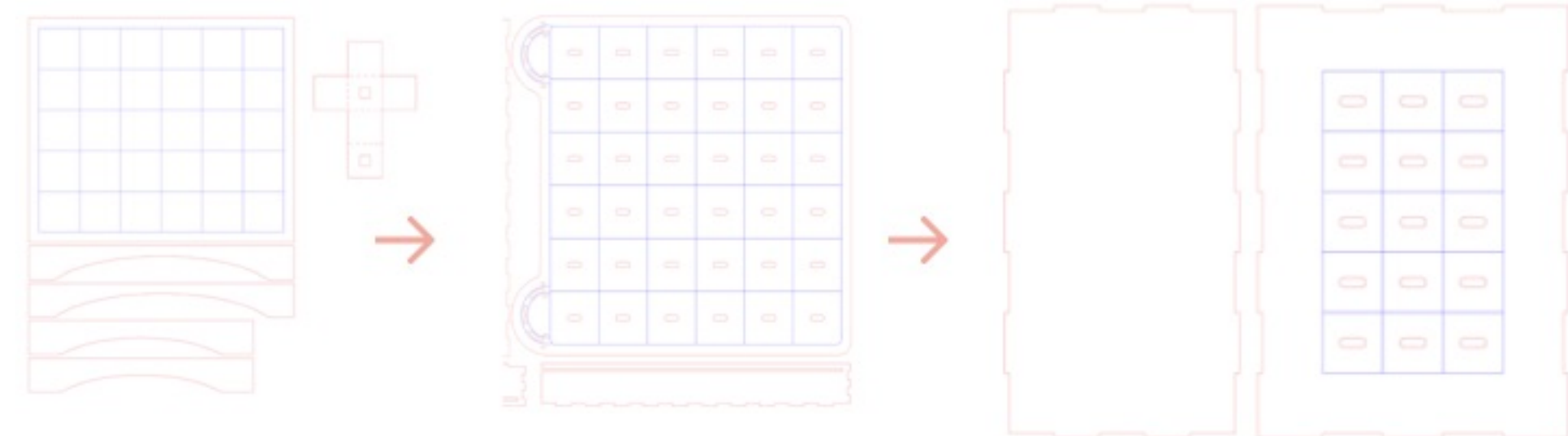
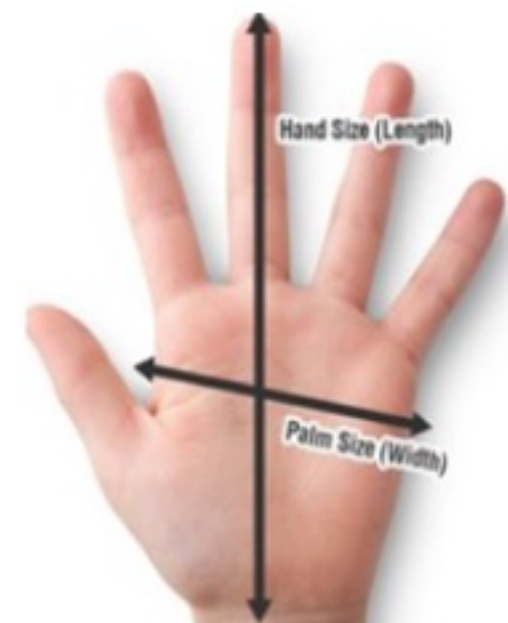
A gamified experience that encourages children reconstruct 3D animal models with a set of building blocks, following 2D instructional views.

Usability Testing

Develop



Form ideation



Cisco Outshift

Calisti: Reimagine the Future of Service Mesh Management Tools As Hybrid Interface

Led the independent user research and experience design on Cisco's service mesh management product that aims to provide observability, scalability, and security and improve overall developer experience

The screenshot displays the Calisti interface with a sidebar on the left containing navigation options: Dashboard, Service 24, Alert (5 new), and Team. The main area is titled 'Filter by' and includes several filter sections: 'Health Status' (Warning, Critical, Resolved), 'Alert Criticality' (Low, Medium, High), 'Alert Status' (Active, Pending, Inactive, Assigned, Resolved), 'Assigned to' (Me, Unassigned), 'Assigned by' (Me), and 'Filter by date range'. Below the filters, there are tabs for 'Overview' and 'History'. The 'Overview' tab shows 'Total 54 Alerts' and a list of four alert cards. Each card displays a severity level (Warning, Medium, Unassigned), an 'Issue Name', a description, a timestamp, and a status (Active, Pending, Resolved). A right-hand panel shows a detailed view of an alert with a 'Warning' status, including its issue name, description, and message.

The chat interface shows a user asking, 'How can I help you today, Sara?'. The system responds with a command: 'cmd> generate report -- by filter'. The user then asks, 'I see you have filtered the alert search results by the following:'. The system lists the current filters: 'Health Status: Warning', 'Alert Criticality: Low', 'Alert Status: Pending', and 'Assigned to: Unassigned'. It asks, 'Would you like to make any changes to these filters?' and provides 'Confirm filters' and 'Edit filters' buttons. The user clicks 'Edit filters'. The system then provides instructions: 'You can edit your filters by sending messages or go back to the filter bar'. The user asks, 'Replace low criticality with medium and high criticality. Add "assigned to Jason, Leah, and me". Add alert statuses as active and pending. Filter alerts from July 23, 2023 to August 2, 2023.'. The system responds, 'I have found 92 alerts that match these conditions.' and provides a placeholder text: 'Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur. Excepteur sint'. A 'Send a message' button is at the bottom.

Calisti/SMM User Research

Kai's JBTD: Minimize the time it takes to track, observe and log the health of the service mesh and apps running on it



Problems:

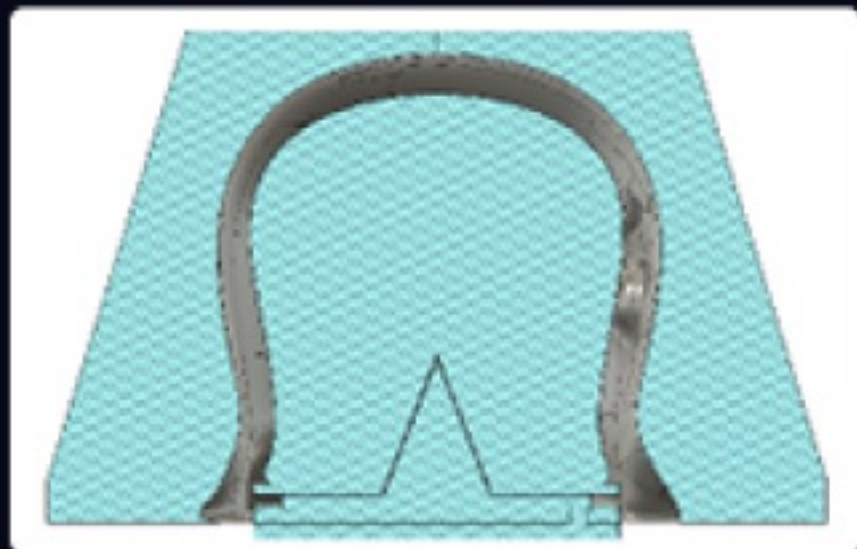
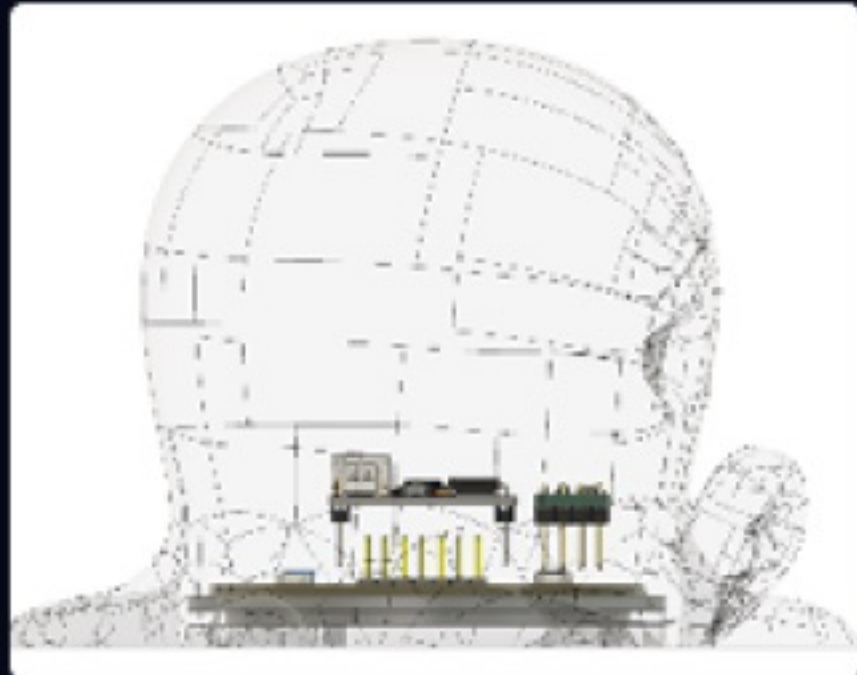
- Too many clicks to get to the actual critical microservices and their following reports
- Link to Prometheus is too inconspicuous
- Timeline under 'Services' is too small and difficult to navigate
- Filtering bar doesn't filter out the timeline

PROTOTYPING PROCESS - 3D MODELING & 3D PRINTING

Making them mold has two main challenges: First, We want to cast Okto with very thin skin to form an empty space inside and save material. Second, the product has to become air-tight after assembly. These requirements made our mold design extremely hard.

The final mold is designed in 3 parts due to the negative shape of the Okto. Two parts on top form the outer mold, and one part in the middle form the inner mold. We tried multiple casting directions and three different skin thicknesses just to find out casting from the open bottom was the best option, and 5mm skin thickness provided the balance between the structural rigidity and squishiness.

3D printed mount and laser cut disk were also implemented in stead of the 3d printed one from the V1 design to form air-tight enclosure as the design needed it to function, but we still could not figure out to make it work perfectly.



PROTOTYPING PROCESS - SILICA GEL CASTING

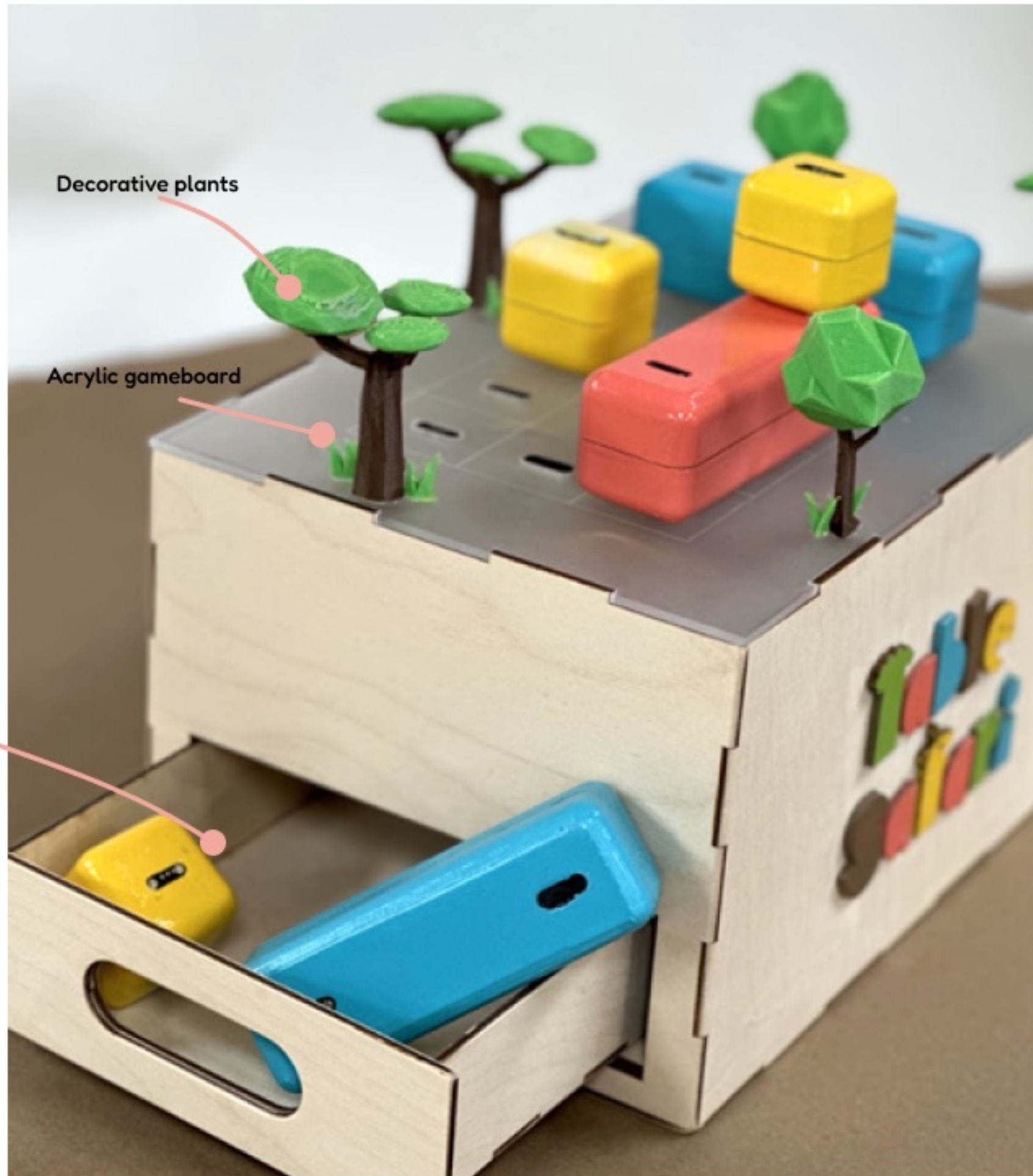
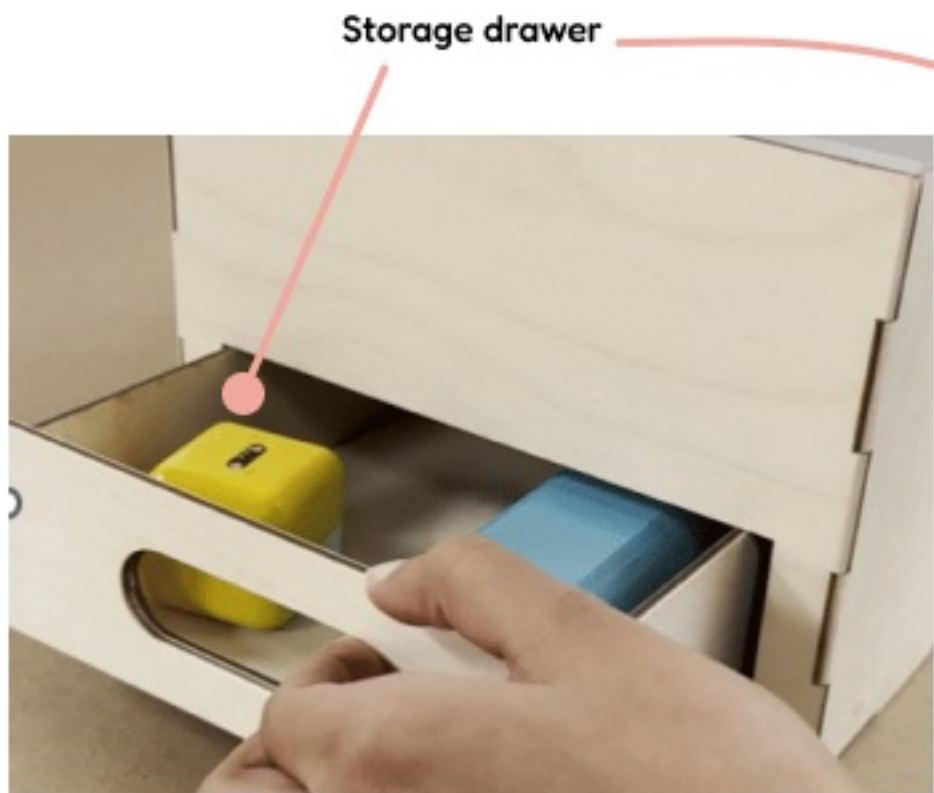
After two failed castings, our third casting finally succeeded. And here is the process: we first seal the edges of the mold with a glue gun to avoid leaks. We fixed the 3D-printed mold with pliers. Then we fuse the A/B gel 1:1 at a ratio of 400g each. And a funnel was made on the top of the 3d mold to facilitate the pouring of silicone.



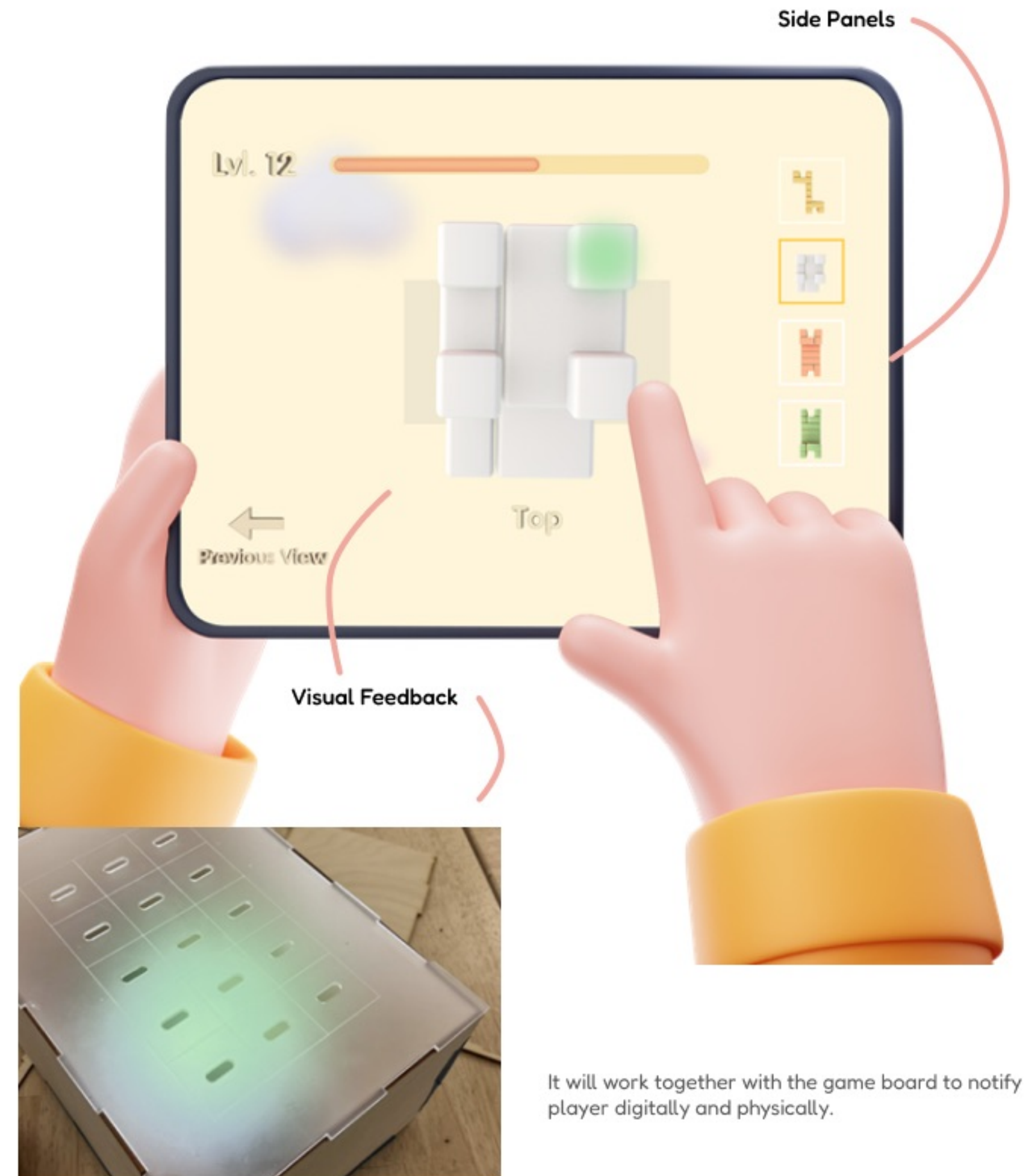
After slowly pouring silica gel through the hole, we put the mold filled with silica gel into the vacuum machine to extract the excess air bubbles in the silica gel. After resting for another 1.5 hours, we took the model out and carefully cut off the edges with scissors. Finally, we put the circuit board into the bottom of the octopus, and adjust the position for usable testing.

Final Product Deliverable

We kept iterating and refining our prototype based on feedback from rapid prototyping. The final game-board is a chamfering wood box featuring decorative plants on top and a storage drawer on the bottom. The game board has magnetic pogo pin grids.



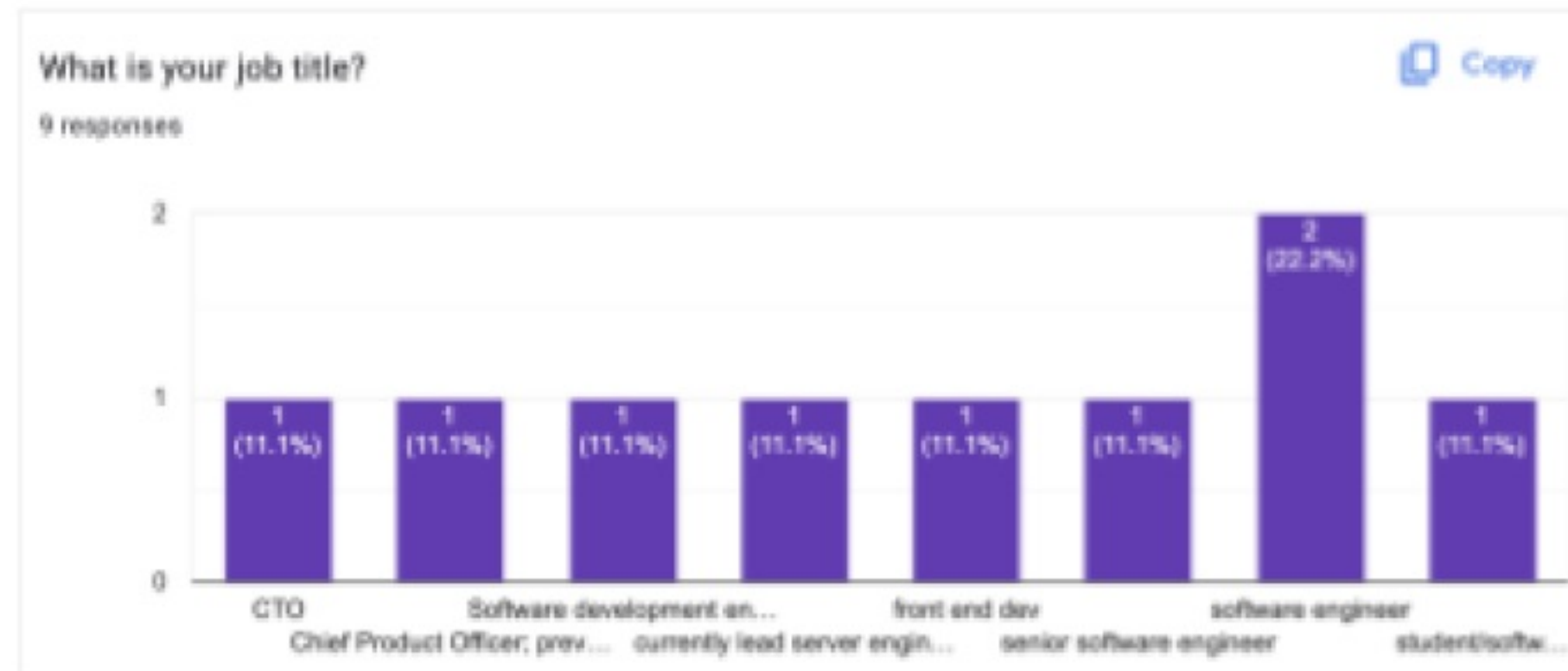
We used Processing to build a prototype for functionality test. Later, we extended this prototype to a more elaborate user interface that consists of all 2D instructional views and real-time feedback for building actions.



It will work together with the game board to notify player digitally and physically.

Hybrid Interface User Research

- ~70 questions
- 3 sections
 1. User background, device info, and JBTD
 2. Preference for CLI vs GUI, learning process, library/script management
 3. Leisure, personal, creative usage of CLI tools
- Intended to understand typical workflow and pain points in order to identify opportunity area for hybrid interface



Step 2 - User background, knowledge, and daily tasks

1. What is your job title?
2. How many years of experience do you have related to this job?
3. Do you use any command-line tools that you typically have for your job?
4. How many years of experience do you have related to software development/software engineering?
5. Do you describe a typical day from how you start with the current day to how you end?
 - ↳ If you use multiple tools, can you describe the task flow you use to reach your goal?
 - ↳ How many years of experience do you have with this tool?
 - ↳ How much average time do you spend on the tool for this specific task? (hours)
6. Do you usually complete the task from above in a team or collaboration context?
 - ↳ If you use the tool in collaboration with other developers, how does your team collaboration work? (what tools you use of these tools?)
7. What is your typical task flow that you completed?
 - ↳ How many years of experience do you have in this task? (years)
 - ↳ How many hours of average time do you spend on this task?
8. What kind of tasks do you use for work and personal use? (what kind of task?)
9. What kind of tasks do you use for work and personal use? (what kind of task?)

Step 3 - CLI vs GUI, help quality, library import

1. Do you use only GUI or CLI-based tools, and not the other one most of the time?
2. In the flow, you described earlier, which tasks/functions are completed through GUI or CLI?
3. Do you have specific tasks you prefer using CLI over GUI or vice versa? Can you give examples?
 - ↳ What features do you believe are missing or could be improved in the GUI-based version of this application?
4. How do you manage complex commands or scripts if CLI? Do you find this a bit intimidating or stressful?
5. How do you manage dependencies or updates when you have a script from CLI? Do you have used any script management tools? Can you describe that experience?
6. After understanding, do you find the CLI or GUI-based or other in your project to be more appropriate, or do you rely on both for a more robust representation of the problem?

Calisti/SMM User Research

- Used JTBD research as baseline
- My JTBD: how to minimize the time it takes to set up ingress gateway
- Spoke to 4 users to:
 - Verify the significance and pain points around the JBTD
 - Build narrative around their typical workflows around this JBTD
 - Understand how error cases and team collaboration happen during the workflow

Conclusion: ingress gateway setup isn't an actual problem that bothers users!

The screenshot displays a user research session with a transcript on the left and a flowchart on the right. The transcript shows a conversation with a user named Michael, discussing the importance of repeatability in DevOps workflows and the preference for command-line interfaces over GUIs. The flowchart illustrates a patient's journey through a hospital check-in desk to various clinical departments: Eye clinic, Gynecology, Cardiology, Oncology, Dental clinic, Pediatrics, and Hospitalization. The transcript also includes a list of key qualities and suggestions for the system.

Michael 2:25
Yeah, so, so for a couple things here. One is that DevOps will never go to the GUI for not for this kind of stuff. They may go to validate stuff, but DevOps will always, you know, it's about repeatability. So if we don't have repeatability built into the gui, meaning like *Gl ops* type approach to things where, where you would like the best approach for DevOps here it, if you want, if you were intending for them to use it, is to have this here, but also show like, hey, this is what the YAML is gonna look like. This is what the output is. And by the way, if you connect to GitHub or GitLab or whatever, we will automatically do the pull request and when accepted, you know, then, then you can do that. So, so if you want DevOps to interact, they would, they would need that repeatability day one. That's, that's how, how it would have to be. It doesn't really matter if it's the GUI or the command line, although a lot of, a lot of true DevOps folks will prefer the command line and, you know, true get ups.

Michael 3:21
But if, if you wanted to start to introduce them here, that's, that's what you would need to do. Also, if you wanted it ops people that were interested in moving to DevOps, you would wanna do the same thing because half of what you do is about allowing them to learn how it's done the other way. So, so when you're showing the gui, it's nice to show that, but you a gonna submit. Do you, is this okay? know, I think that although this page traditionally within Calisti, I don't thi know?

Key Qualities 3
Frequency 1 D1
Roles 17
GUI 5
Rules 17

Key Qualities 3
Roles 17
User Preference 7
GUI 5 **Rules** 17
CLI 1

Suggestions 9 D1

Flowchart: Patient → Hospital Check in desk → Eye clinic, Gynecology, Cardiology, Oncology, Dental clinic, Pediatrics, Hospitalization.

Calisti Redesign

The screenshot shows the Calisti dashboard with a list of alerts. A chat window is open on the right, displaying a conversation with a generative AI assistant. The chat messages are:

- AI: How can I help you today, Sara?
- User: Run diagnosis on server capacity
- AI: Sure, I found that high response time is triggered for Server NA-US at 10:07 PM.
 - Server stopped responding at August 7, 2023 12:08:15 PM
 - System tried to reconnect at August 7, 2023 12:08:18 PM
 - Reconnection timed out at August 7, 2023 12:08:18 PM
 - Reconnect once again
 - Conduct cause analysis
 - Show the available backup servers
- User: Conduct cause analysis
- AI: Sure, Here are a few possible causes for some of your response.
 - Features such as token and ipam were launched 1 minutes and 75 seconds before Server NA-US stopped responding.
 - On August 7, 2023 12:01:03 PM, Server NA-US experienced an unusual peak of traffic that exceeded historical average by 232% and capacity by 602%.

The screenshot shows the Calisti dashboard with a list of alerts. A chat window is open on the right, displaying a conversation with a generative AI assistant. The chat messages are:

- AI: How can I help you today, Sara?
- User: can generate report -- by Elixir
- AI: I see you have filtered the alert search results by the following:
 - Health Status: Warning
 - Alert Criticality: Low
 - Alert Status: Pending
 - Assigned to: Unassigned

Would you like to make any changes to these filters?

Confirm filters Edit filters
- User: Edit filters
- AI: You can edit your filters by sending messages or go back to the filter bar
- User: Replace low criticality with medium and high criticality. Add "assigned to Jacob, Leah, and me". Add alert statuses as active and pending. Filter alerts from July 20, 2023 to August 2, 2023.
- AI: I have found 82 alerts that match these conditions.

Lowest ipam dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur. Excepteur sint

Generative AI Interaction



ChowBot

ChowBot is an innovative diet companion robot that aims to promote healthier eating habits in children by combining educational and entertaining elements. It uses interactive features and a story-driven approach to make mealtime engaging, assessing nutritional values and transforming eating into a game that encourages better food choices.

Motivation

The motivation behind ChowBot stemmed from personal observations of children's struggles with meal engagement and the changing dynamics of family meals. The project seeks to transform mealtime into a positive, educational experience, alleviating the stress on adults to encourage healthy eating habits. ChowBot, as an MDes thesis, intersects design, technology, and human behavior, venturing beyond conventional approaches to children's nutrition.



Methods

The development of ChowBot involved user research, design conceptualization, and prototype testing. Initial user interviews focused on understanding children's eating habits and preferences. The design process included brainstorming the robot's physical aspects, creating a smart dining mat with integrated weight sensors, and conducting observational studies to refine the prototype. User feedback played a crucial role in the iterative design process.



User Research

Objective: To understand children's eating habits and explore the potential impact of ChowBot, an interactive eating companion robot.

Participant Profile: A 33-year-old mother from China with a 5-year-old son.



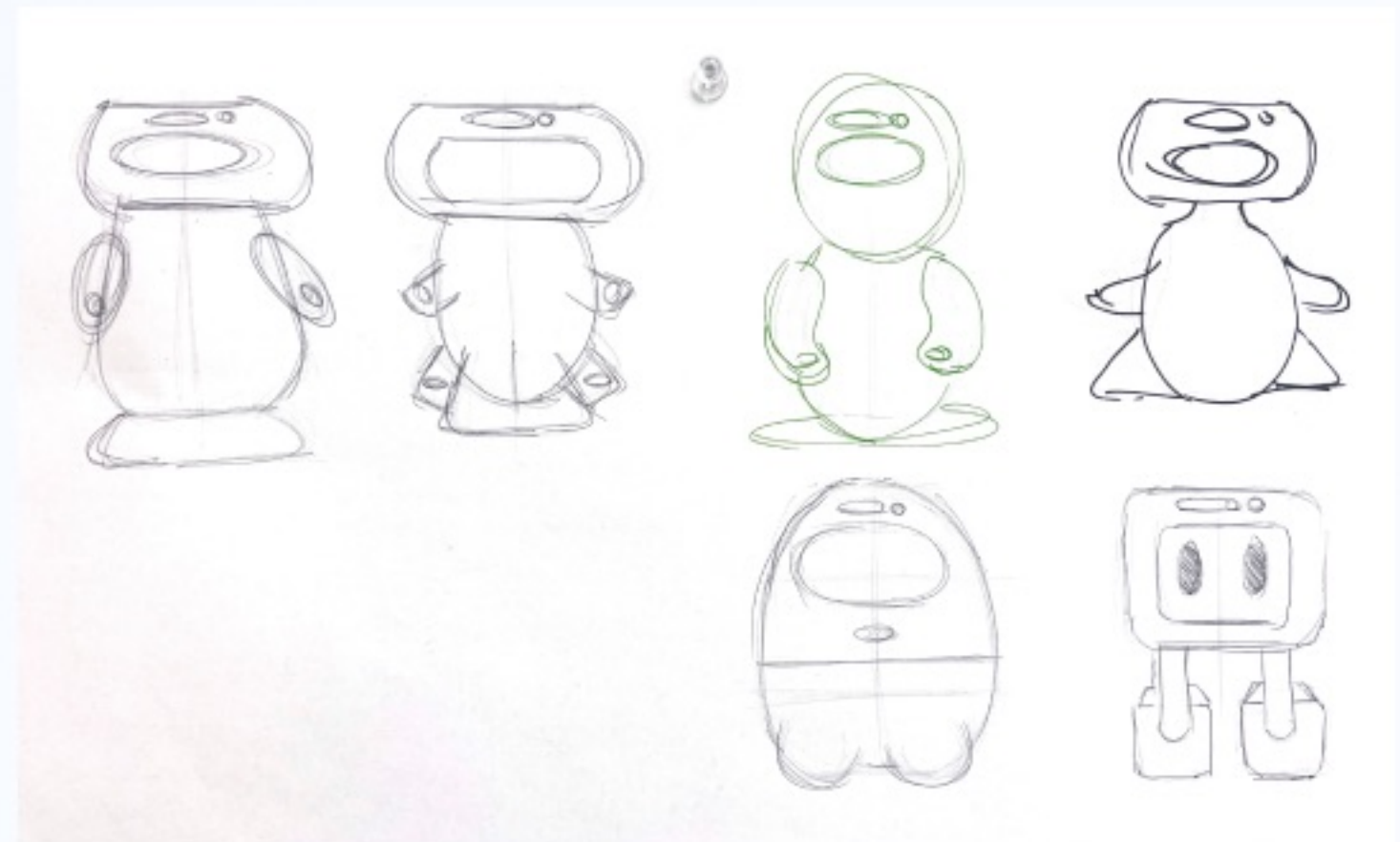
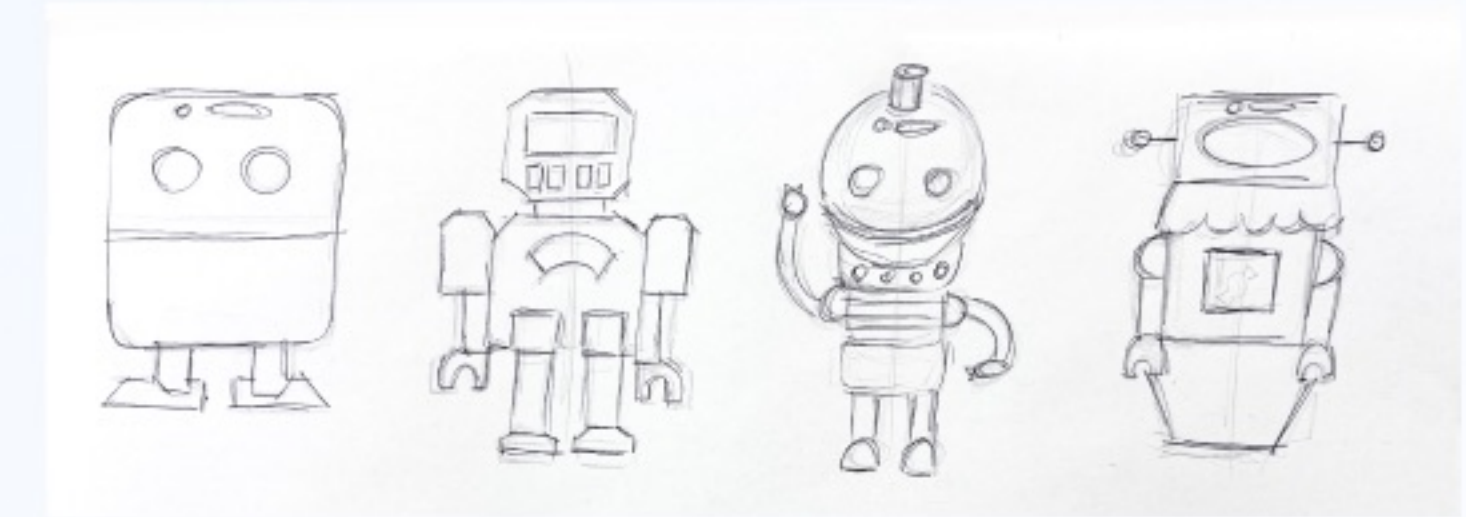
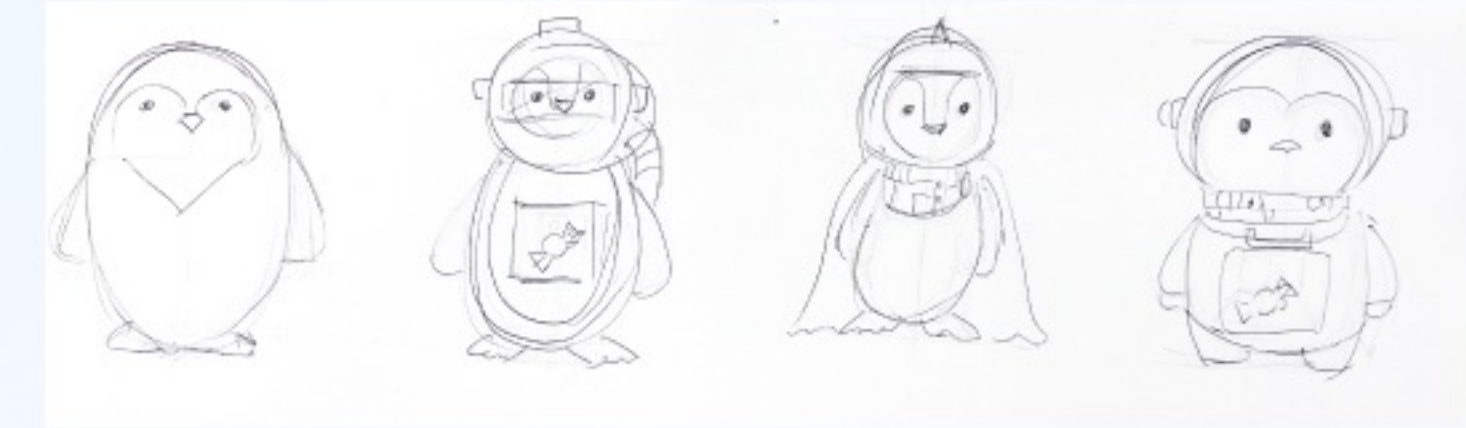
Interview Insights

1. Child's Dietary Habits: Three main meals plus a fruit snack daily, with a focus on balanced nutrition involving adult food items.
2. Meal Preparation Evolution: Transition from varied food preparation in early childhood to more adult-like meals, emphasizing self-feeding and variety.
3. Eating Behavior: Positive habits include proper hand washing and utensil use, but occasional resistance to certain foods is noted.
4. Parental Strategies: Introduction of self-feeding with finger foods, consistent eating routines, and storytelling to encourage diverse food intake.
5. ChowBot Feedback:
 - Positive response to integrating entertainment with mealtime.
 - Desire for features that encourage independent and healthy eating habits.
 - Interest in ChowBot providing interactive storytelling and companionship.
6. Suggested ChowBot Features:
 - Interaction and conversation about mealtime habits.
 - Meal duration reminders and disciplinary prompts.
 - Parental notification system for meal progress.



Technical Innovation and Development

Key innovations in ChowBot include its advanced food recognition system and the integration of weight sensors in a smart dining mat. The robot's design process involved 3D printing and meticulous finishing to ensure safety and durability. Technical challenges, such as optimizing food identification and refining the projection system for different lighting conditions, were addressed through iterative design improvements.



User Interface and Interaction

ChowBot's user interface was designed to be intuitive for children and easy for parents to manage. The robot uses voice commands for interaction, and its body serves as both an interactive display and a reward compartment, unlocking incentives for children as they progress in their meal-related game.



Final Prototype

