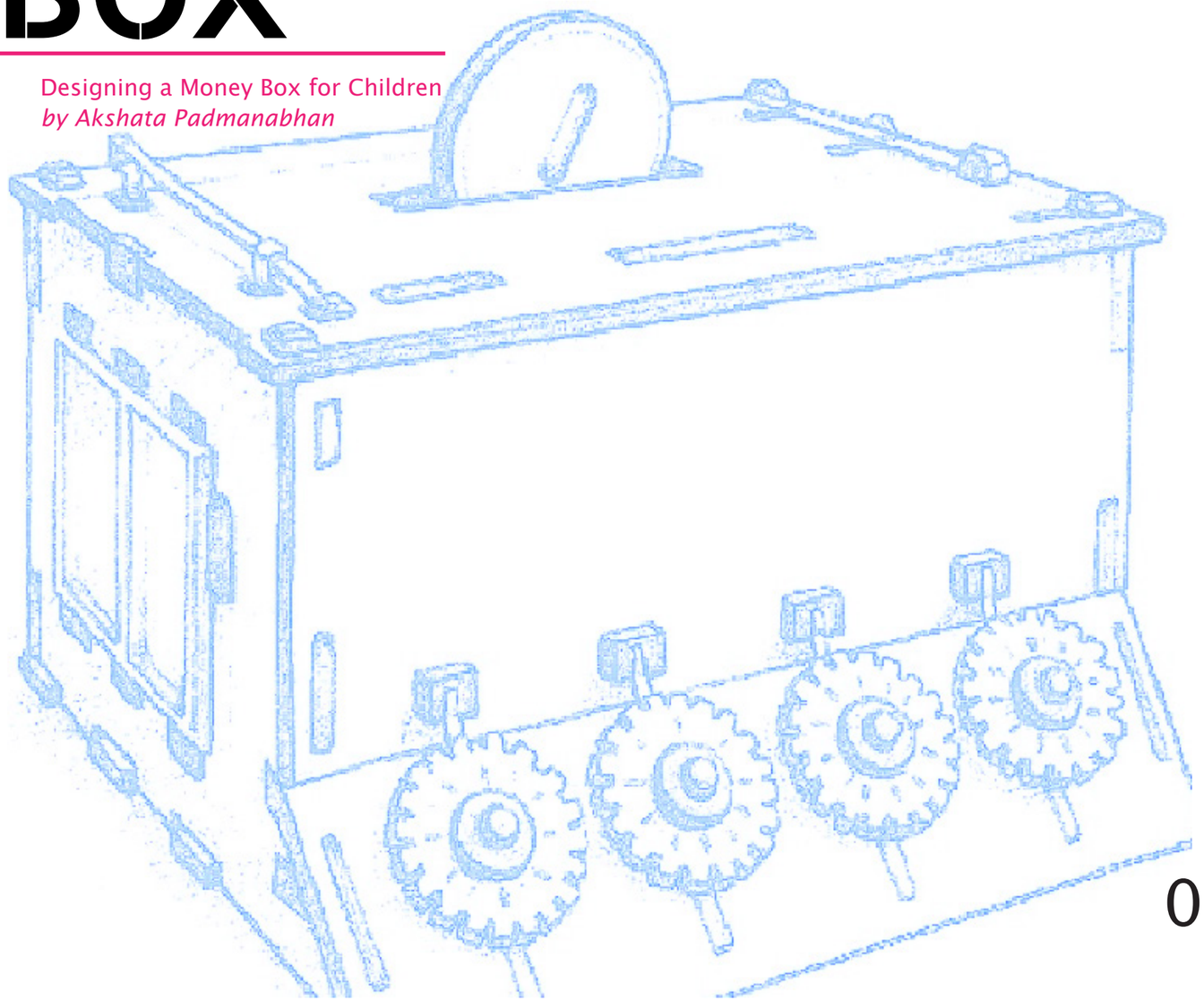
PROJECT: MONEY BOX

Designing a Money Box for Children
by Akshata Padmanabhan



THE
GRADUATION
PROJECT 2025

Project Money Box:
Designing money box using play as medium for children aged 6 - 8 year olds

VOL. 2 of 2

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Programme :
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The Evaluation Jury has recommended **Student Full Name**
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with specialization in **Specialisation name**

Herewith, for the project titled "**Full Title with Subtitle"**
on fulfillment of requirements by

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CHAPTER 2



PREVIOUSLY *in chapter* 1

(Market , user Research, Final brief)

The research began with a social science lens—seeing play as a way children absorb concepts like fairness, power, and responsibility. From this, money emerged not just as a currency, but as a carrier of emotion, control, and care. Market studies of existing toolkits revealed gaps in emotional and cultural depth. Through user interviews and behavioural observations, patterns like hoarding, gifting, and emotional saving surfaced. Toolkits and case studies were critiqued not as models but as reflections of ideology. This foundation shaped the design brief: to create a game where children don't just learn to use money, but reflect on its meaning.

By the end of the chapter, the reader is not only equipped with the market and user context but is invited to reflect on the larger cultural narratives children absorb about value, exchange, fairness, generosity, and ambition. This sets the stage for Chapter 2: the conceptualisation of a game/toy that embodies these philosophies through tangible play.

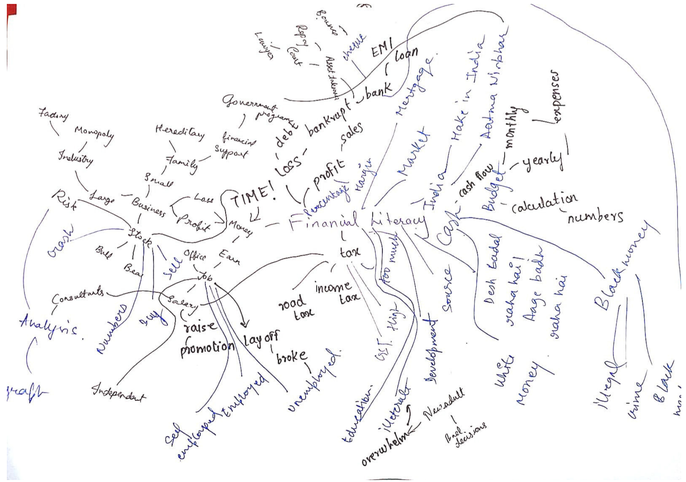


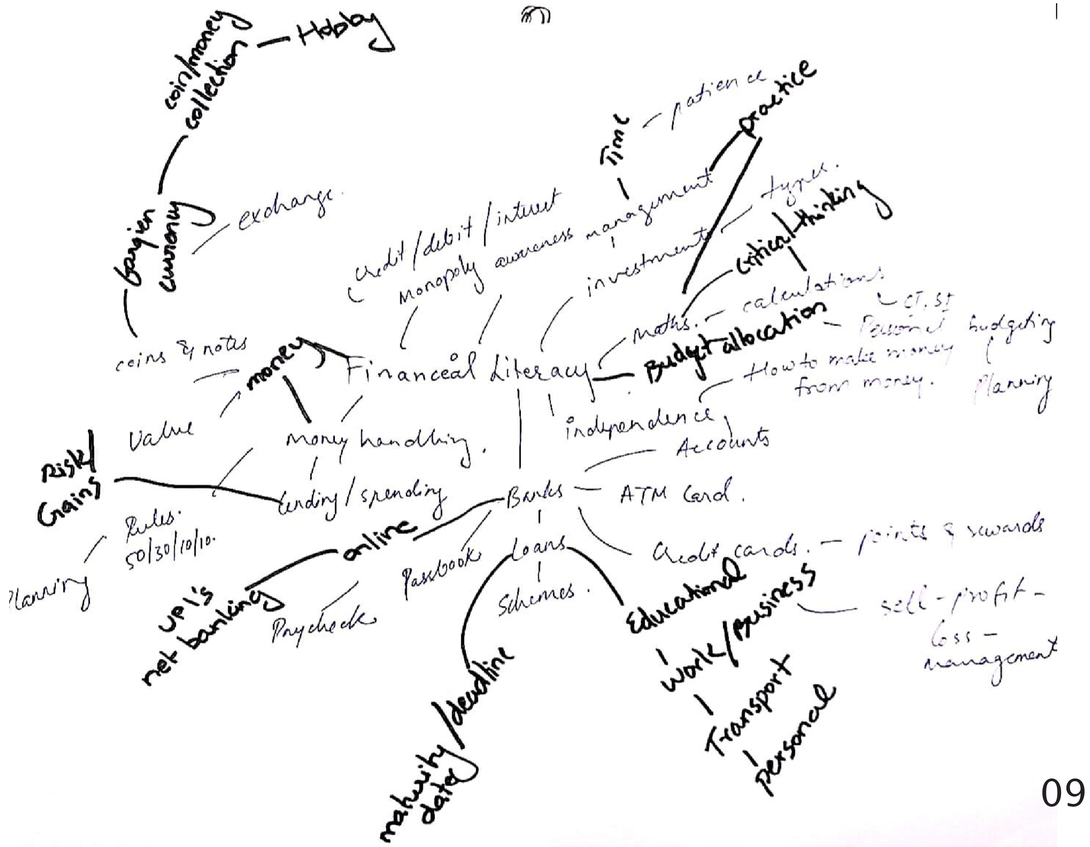
MONEY & COMMON TERMS

Key terms for kids

Saving
Spnding
Budgeting
Investment
Donation
Interest
Need
Want
Goal
Choice
Sjare
Trade

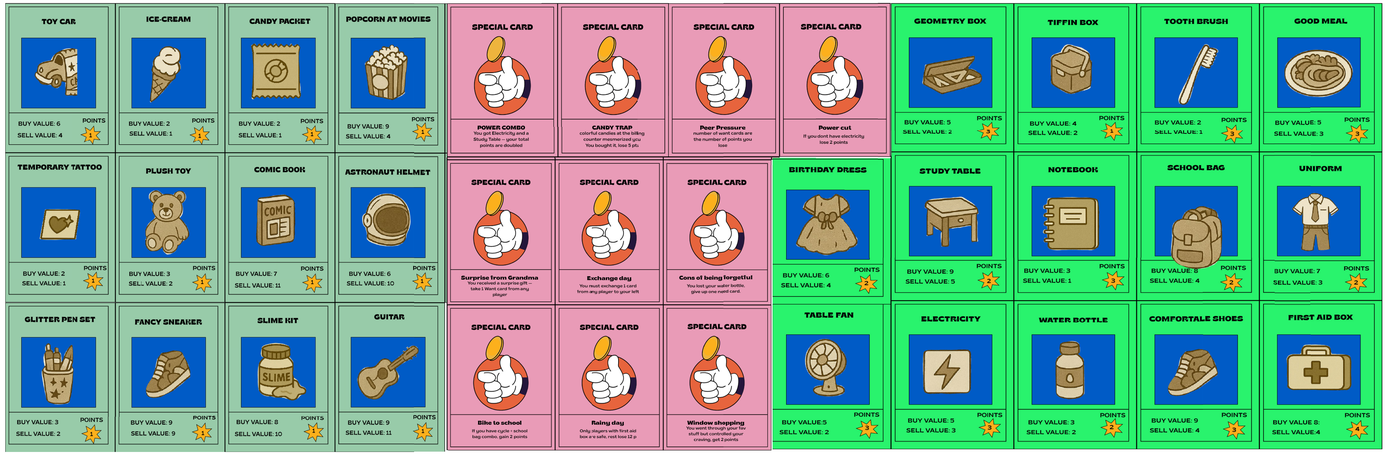
When asked people to collectively write down whatever comes in their head when thought of financial





CONCEPT 1

Can there be a way a child can make make mindful choice of saving?



Deck contains “Need” and “Want” cards, each printed with a Buy Value (what you pay) and a fluctuating Sell Value (what you can get back). Every child starts with a fixed purse of coins, draws five cards, and takes turns buying or passing; at round’s end they may sell any holdings to rebalance their coins. Victory goes to the first player whose final portfolio shows all Needs fulfilled, no more than three Wants, and a positive coin balance—forcing careful trade-offs between essential purchases, tempting luxuries, and timely resales.

Players take turns choosing whether to buy, sell, or pass, using the limited coins they have. Needs must be prioritized, but some Wants offer bonus coins when sold at the right time. Random event cards can change prices or force surprise expenses. The goal is to collect all Needs, stay under the limit of three Wants, and finish with coins left. The game builds decision-making and money sense, but the strategy is kept light and playful—designed so even a 6-year-old can enjoy without having too much to remember

CONCEPT 2

Players get bingo cards with different money decisions. Each time they pick a card, they decide to save, invest, or spend, and place it on the matching spot on the board. The goal is to be the first to complete five correct choices in a row and end up with the most saved money.

While a bingo-style game can be adapted to include cause-and-effect—such as rewarding the player who saves the most—it still struggles to meaningfully capture the interrelationships between saving, spending, and investing.





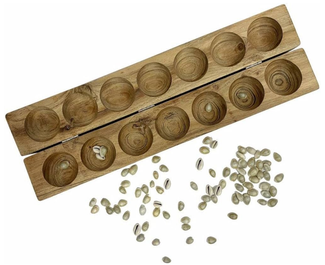


The structure of bingo remains largely driven by luck and surface-level choices, which limits children's ability to explore how these financial actions impact one another over time. For younger players, making nuanced personal decisions about money, such as delaying gratification or evaluating risks, can be cognitively demanding without the support of guided context. The competitive goal of "saving more to win" may motivate short-term behavior but doesn't necessarily deepen understanding of why saving matters or how it connects to other actions like investing or giving. In order to teach financial values effectively, children need a system that makes these trade-offs visible and encourages reflective, age-appropriate decision-making. Bingo, even with rule modifications, may introduce foundational ideas but lacks the structural depth to foster a lasting understanding of financial interdependence.

Tried playing the game with a friend, but it ended up feeling more stressful than fun. Constantly making money-related choices without enough clarity or context made it hard to enjoy or learn from.

CONCEPT 3

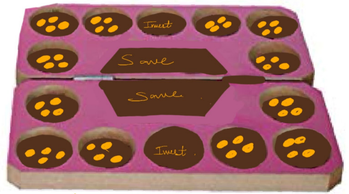
C



Since I was a kid, I spent countless hours playing Pallanguli with my grandparents, dropping those little seeds into the wooden pits without realizing just how much I was learning. Now, when I think back on it, I see how beautifully this traditional game reflects the flow of money. Each seed felt like a coin—"kaasu"—moving from one spot to another, and that central pit we always focused on now reminds me of a savings account or an emergency fund. It was the one place

The rest of the board, with its pits and movements, was like watching cash flow—how you earn, spend, save, or lose money. Sometimes you'd land in an empty pit and have nothing to play with next—just like running out of funds when you don't plan ahead. Looking back, I realize Pallanguli wasn't just a game; it was my first lesson in financial literacy, teaching me about strategy, patience, and the importance of saving—all wrapped up in a playful tradition I cherished..

Pallankuzhi (Tamil Nadu) or Ali Guli Mane (Karnataka) is a traditional mancala game played using a wooden board with two rows of 7 pits. Players use tamarind seeds, shells, or pebbles and take turns redistributing them using strategy and memory.



This game is a strong precursor to early numeracy. Children learn division, grouping, and pattern recognition through tactile engagement and repetition

That version of Carrom where every coin had a certain number of points wasn't just about pocketing coins, it was about maximizing our score. Looking back, it was so much more than just a game. It was our first playful lesson in how money works. Every move came with a calculation. Should I go for that 10-pointer or clear the 2-pointer that's blocking it? It was all strategy, risk-taking, and resource management without us even realizing it.



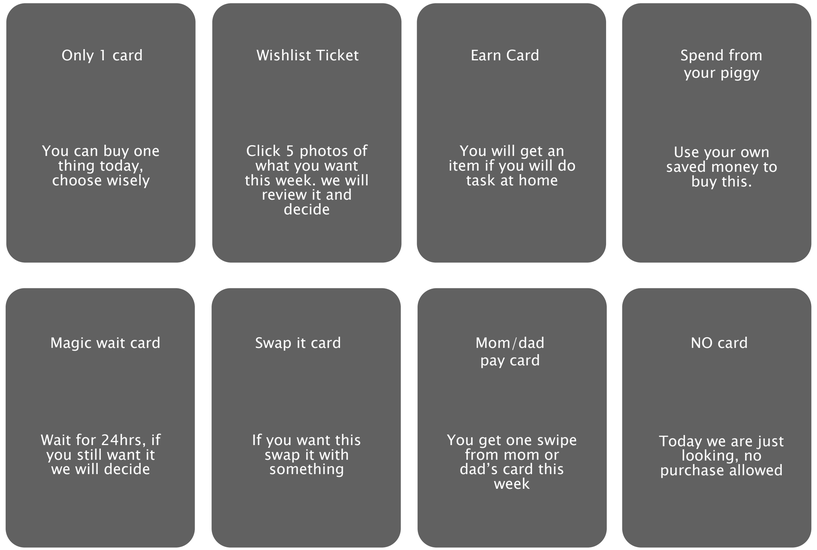
The queen wasn't just a special piece, it felt like a high-value investment, something you had to secure or cover smartly, just like protecting a big gain in real life. We would even team up, negotiate, or play mind games to get ahead, just like the hustle you see in real-world finance. It's funny now to think how we were learning to prioritize, plan, and chase returns through something as simple as Carrom coins with made-up points. That game probably taught us more about economics than any classroom ever did, before we even knew what economics was.



CONCEPT 4

Teaching children about money does not have to start with numbers or rules. It begins with simple, consistent choices woven into everyday life. In a world full of ads, peer pressure, and instant gratification, a parent's gentle intervention becomes essential. By guiding, not controlling, parents create space for children to pause, reflect, and ask what do I really need, can I wait, is there someone else who might benefit more. These small, intentional moments help children build a lasting relationship with money based on value, patience, and purpose, nurturing not just financial habits but emotional awareness in a fast moving world.

Kids don't just come out of the womb knowing how to handle money—they pick it up through real-life experiences, and that's where parents play a vital role. By offering guidance instead of control, parents can encourage their children to pause, think, and really consider their choices. It's not about putting limits on them; it's about creating an environment where decisions—like whether to buy, save, or donate—are made thoughtfully. This kind of early support not only helps kids develop good financial habits but also fosters emotional understanding about their wants, needs, and the true worth of things.

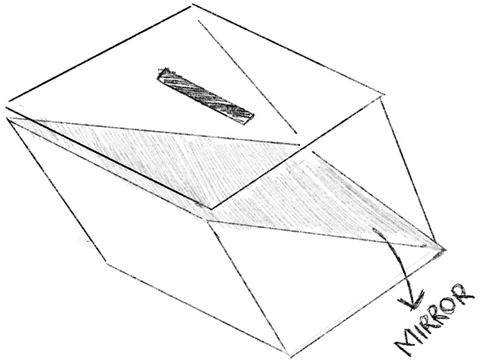


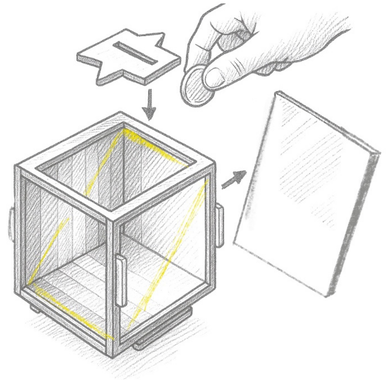
CONCEPT 5

Magic box – The Magic Money Box uses visual illusion—often with mirrors or hidden compartments—to make money appear or disappear, creating a sense of wonder. While it doesn't teach the actual value of money directly, it captures attention and encourages curiosity, making it a playful way to start conversations about saving and how money works. Its real strength lies in engaging children through surprise, which can lead to deeper interest in financial habits over time.









USER RESEARCH

Games Alone Might Miss the Point
While adding playful elements is important, making it just a game could take away from its actual purpose. Kids might enjoy it, but they may not fully grasp the value of money if it's all about winning or playing.

Too Much Math Can Push Users Away
If the tool involves a lot of calculation or number crunching, it might scare off or bore some users. Especially for children, the experience should feel natural and simple, not like doing homework.

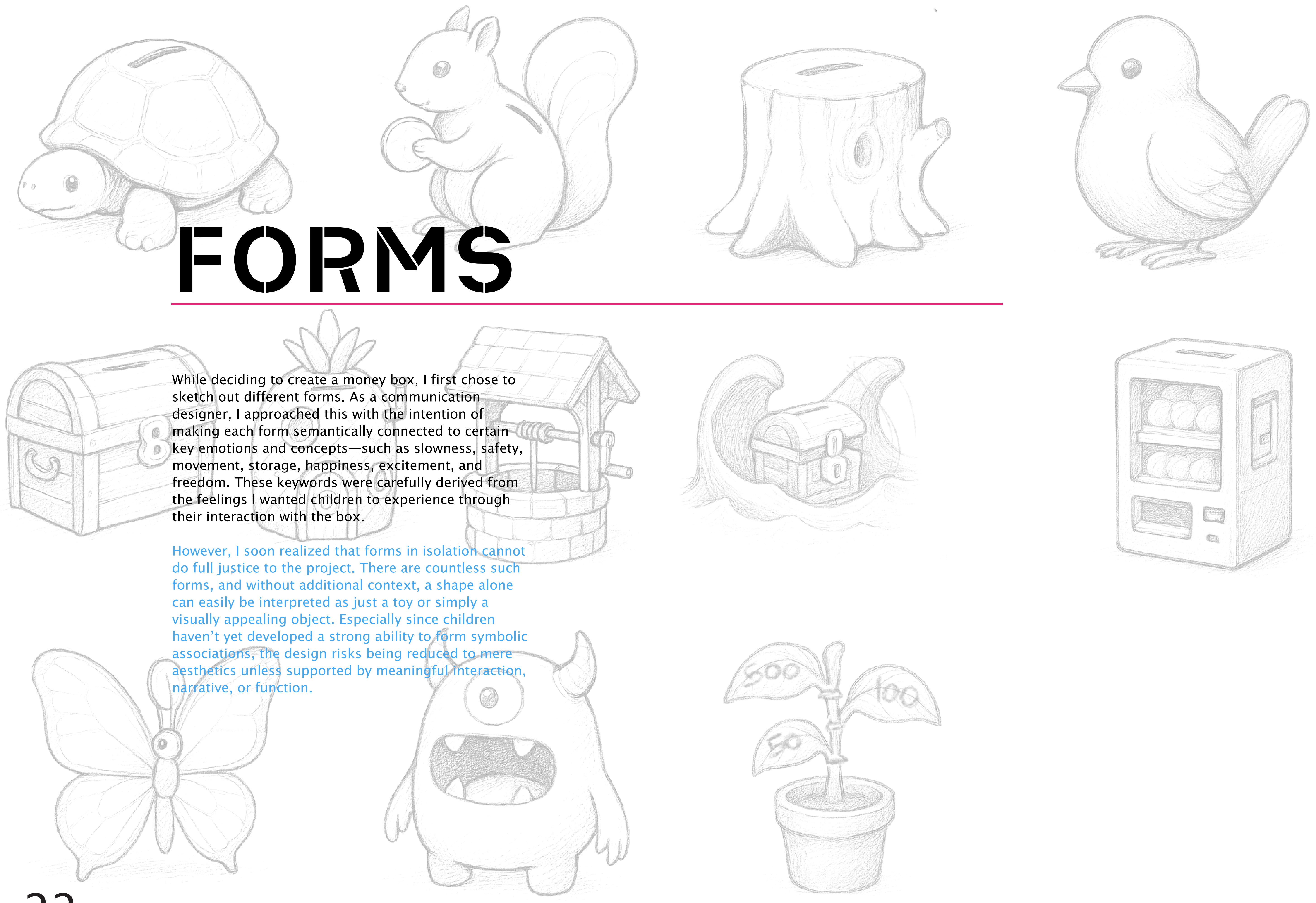
Toys Invite More Interaction
Designing it like a toy really helps. When something is fun to touch, move, and play with, kids tend to spend more time with it. A playful form makes learning feel less like a lesson and more like discovery.

Visual Clarity Matters
It's important that kids can see how much they've saved. But just as important is showing what happens when they spend too much. A visible system of feedback makes learning more real and engaging.

Connect It to Real Life
Kids learn better when the tool reflects real-world choices. Whether it's deciding to buy something or save up for later, bringing in everyday situations helps them understand the real value of money and how it works.







FORMS

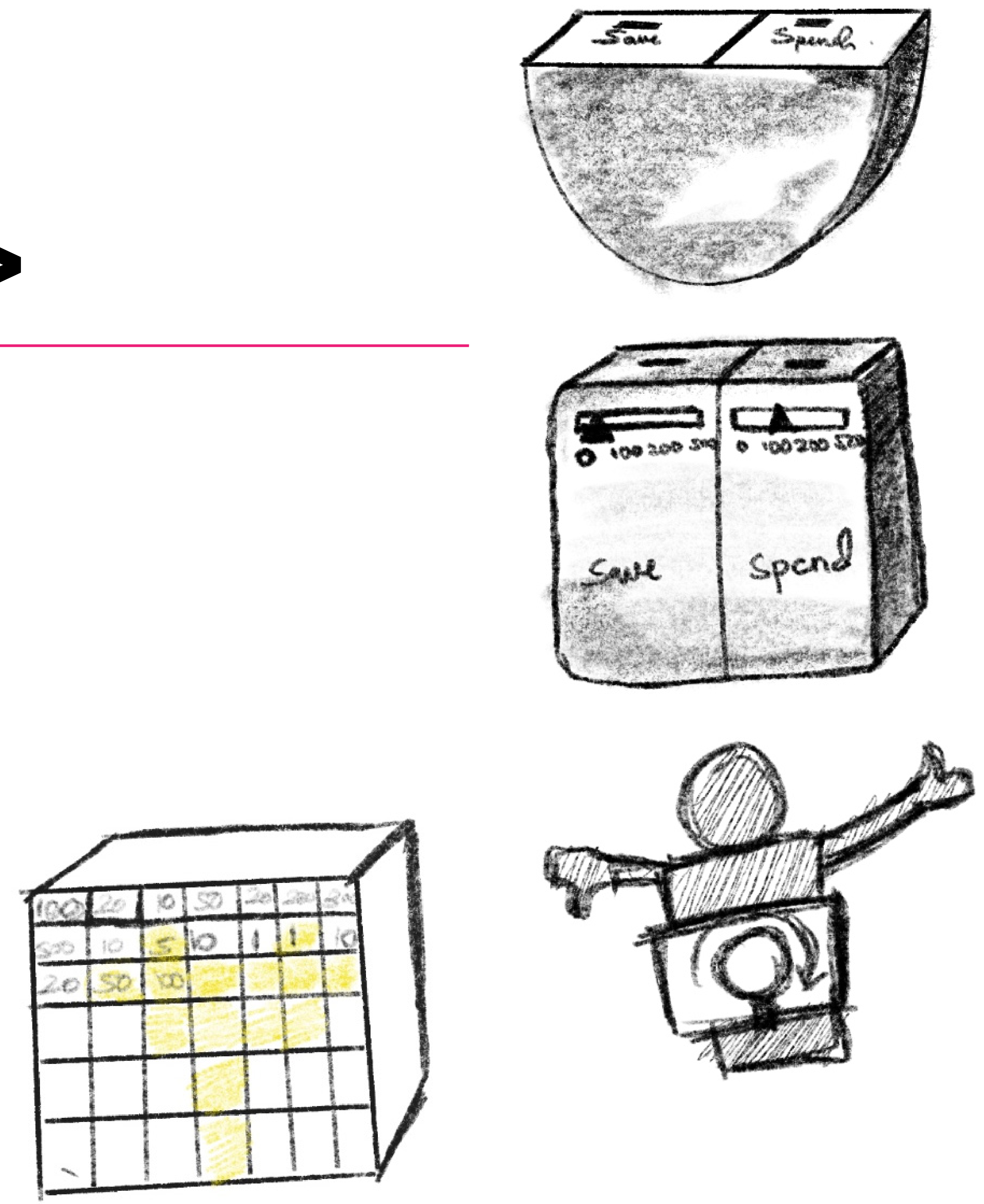
While deciding to create a money box, I first chose to sketch out different forms. As a communication designer, I approached this with the intention of making each form semantically connected to certain key emotions and concepts—such as slowness, safety, movement, storage, happiness, excitement, and freedom. These keywords were carefully derived from the feelings I wanted children to experience through their interaction with the box.

However, I soon realized that forms in isolation cannot do full justice to the project. There are countless such forms, and without additional context, a shape alone can easily be interpreted as just a toy or simply a visually appealing object. Especially since children haven't yet developed a strong ability to form symbolic associations, the design risks being reduced to mere aesthetics unless supported by meaningful interaction, narrative, or function.

FUNCTION>

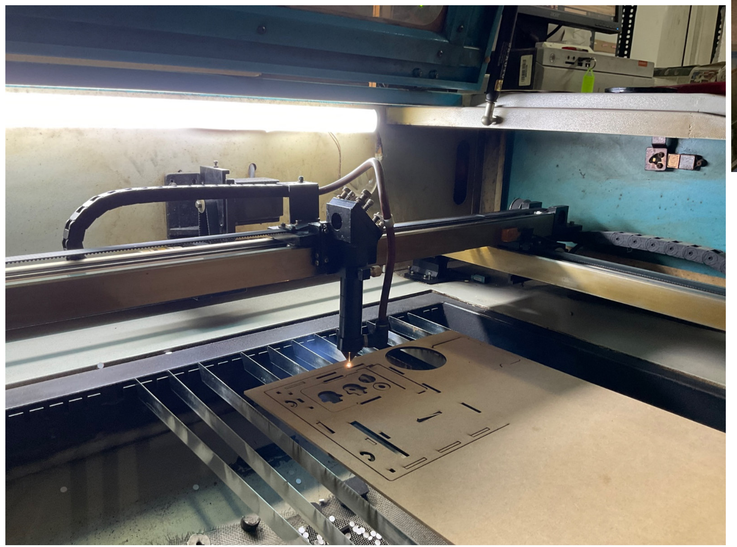
In this case, it became really important to prioritise function over just how the money box looks. While the outer form helps attract a child's attention, what truly makes the experience meaningful is how the box works. I realised that the interaction needs to be simple, fun, and something that a child can come back to again and again. These aren't just money boxes—they're tools to help children understand saving, decision making, and building small habits. Some of the functional ideas

I explored include visual cues like a thumbs-up that appears once the child saves, a save-spend tracker to help them see where their money is going, and even a colouring book that doubles up as a money tracker. These small but thoughtful additions are meant to create a sense of progress, ownership, and excitement around the idea of saving.



UNDERSTANDING MATERIAL

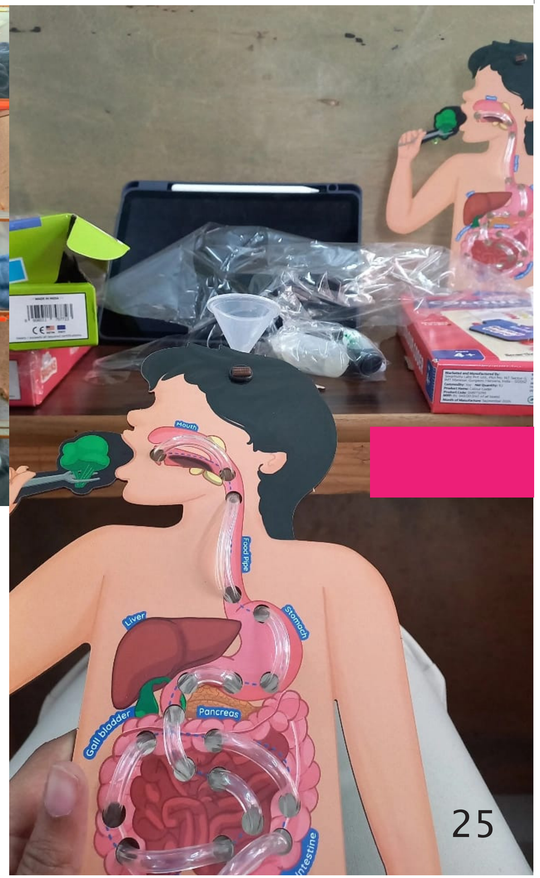
While exploring the possibilities for my money box, I took time to understand the materials commonly used in Smartivity kits. These include different thicknesses of MDF, which offer both sturdiness and flexibility depending on the design need. I looked at how O-rings and rubber bands of various sizes can be used to create movement or resistance, adding a playful mechanical aspect to the box. Materials like foam and acrylic sheets offer contrasting textures and can be used for layering or visibility. PVC and polypropylene (including green PP) stood out for their durability and lightweight properties, especially when designing components that might face frequent handling. The inclusion of write-and-wipe pens, along with simple mechanisms like insplugs and outplugs, opened up interactive possibilities—encouraging customisation and repeat usage. Understanding how all these materials come together in Smartivity kits gave me a deeper insight into how to design something that is not just visually appealing, but also physically engaging and durable for kids.





Coming from a communication design background, stepping into the world of materials and mechanisms felt like learning a whole new language. I was used to thinking in stories, visuals, and emotional cues—not in millimetres, torque, or structural integrity. The first time I held different thicknesses of MDF, I realised how little I actually knew about how things come together physically. Suddenly, I had to start thinking like a product designer—how parts move, how they fit, and whether they can survive a child using them every day.

t was frustrating at times. I had to constantly switch my mindset—from thinking about feelings and form to thinking about friction and force. But that shift taught me so much. It made me appreciate the engineering behind even the simplest toy, and it helped me build a different kind of intuition—one that balances storytelling with how something actually works in your hands.



MONEY BOX STUDY

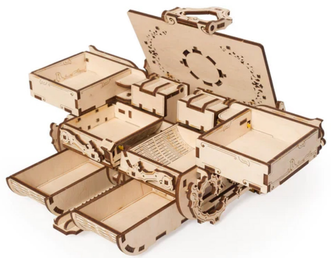




To better understand how children interact with money and storage, I spent time looking at existing money boxes and saving tools available in the market. Most of them fall into two broad categories—classic saving boxes and fun, character-based kid boxes. The classic ones are usually shaped like piggy banks or simple containers with a coin slot, designed more for function than engagement. On the other hand, the newer, kid-focused versions are much more playful and visually appealing. They come in the form of cartoon characters, animals, or even electronic boxes with sound effects, flashing lights, or small mechanisms that "eat" coins. While these do capture attention quickly, I noticed they often lean heavily on aesthetics and novelty, with very little focus on building meaningful habits or offering a sense of progression. Most kids enjoy using them once or twice, but lose interest soon after. This helped me realise that while appearance is important, it's the interaction and purpose behind the box that makes it truly memorable and useful for a child.



"Appealing but not educational or habit-forming"



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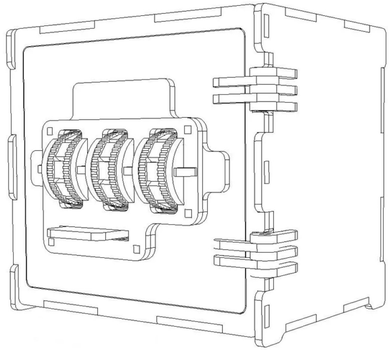


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"Appealing but not educational or habit-forming"

ITERATION 1

The first idea for the money box came from a simple thought — how can a child keep track of what they're saving? I realised that without a sense of progress, it's hard to form a habit. This insight came during a user testing session with a basic box I had collected, where I noticed that the child had nowhere to visually track their savings. It felt like just dropping coins into a container with no end in sight — there was no sense of growth or reward. That moment really shaped my





Designing the first iteration of the box was honestly quite difficult. I had never worked with physical materials at this level before. Suddenly, I was dealing with things like material behaviour, tolerance, measurements, and how all the parts come together as a whole. It wasn't just about getting one element right — it was about seeing how everything functions together, in sync. Every little gap, bend, or cut made a difference. I had to go beyond just designing for communication and really start thinking like a product designer, learning how to prototype, test, and adjust based on physical realities, not just ideas on paper.

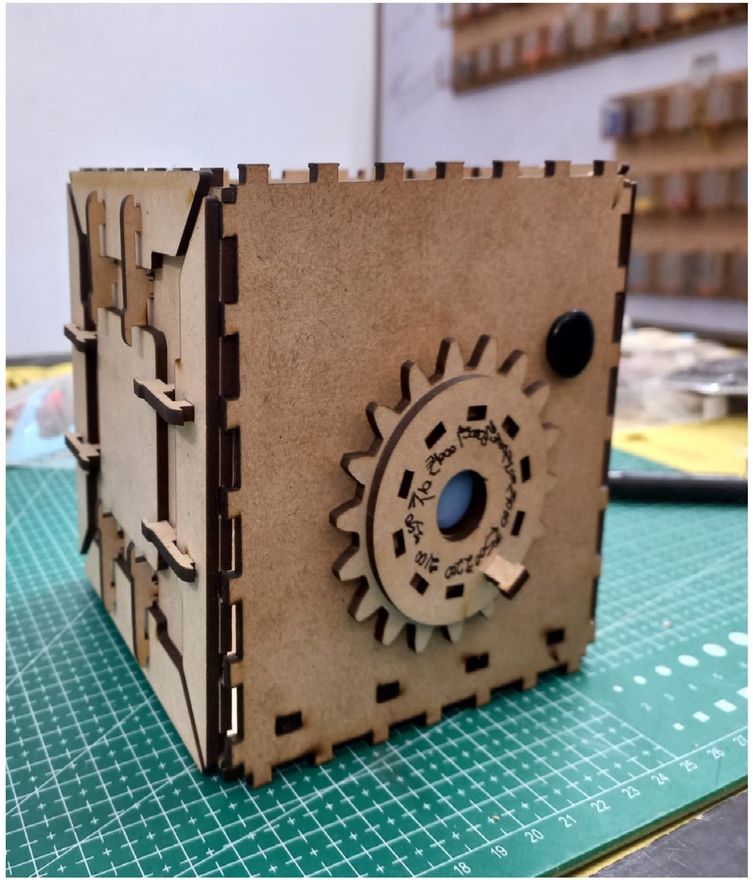
ITERATION 2

The second idea came from researching simple mechanisms and introducing the concept of goal setting. I explored how rotatory to linear motion could be used to let a child set a saving target — once the target was reached, the box would open. It added a layer of excitement and reward to saving.

But there were clear limitations. The mechanism wasn't very smooth, and the goal range was limited. Also, the box opened based on movement, not the actual amount saved, which made it inaccurate in tracking real savings. It looked engaging, but functionally, it couldn't really count money — which weakened its purpose.

A rack and pinion mechanism was used here to convert the child's turning action into a linear movement, allowing the saving goal to visually progress until the box unlocked.





The next step for me was to carefully revisit all the limitations I had encountered in the previous iterations. I knew that for the money box to truly work — both functionally and meaningfully — I had to address issues like the lack of accurate tracking, the limited goal-setting range, and the disconnect between savings and unlocking the box. It wasn't enough for the mechanism to just look interesting or playful; it needed to actually support the habit-building intention behind the design. This phase became less about creating something new and more about refining what wasn't working, making the experience smoother, more intuitive, and better aligned with how children understand and engage with saving.

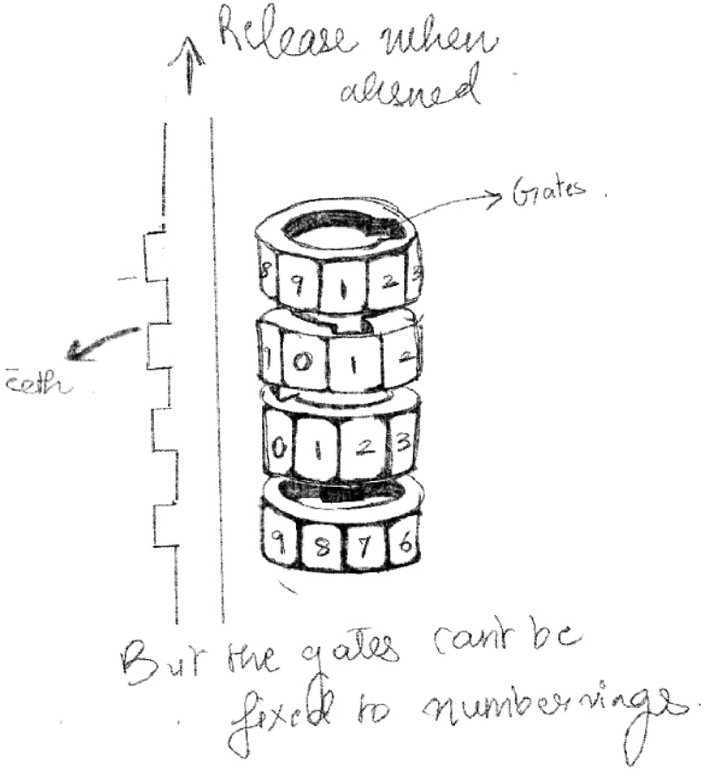
COMBINATION LOCK

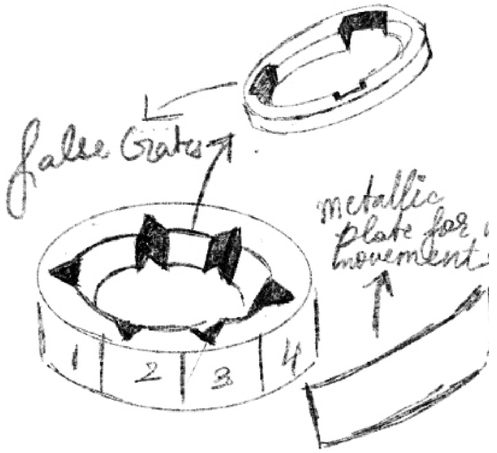
Can there be a way a child can make make mindful choice of saving?

At this stage, it became necessary to understand how a combination lock works because I wanted the unlocking of the box to feel more intentional and meaningful. Unlike earlier mechanisms that opened based on movement or rough estimates, a combination lock ensures that the box only opens when a specific goal or condition is met. This adds both a sense of security and achievement to the experience. Learning how the internal system of rotating discs and notches aligns to release the lock helped me think about how to connect it to savings tracking — making sure that the box isn't just opened for fun, but as a reward for reaching a target. It also opens up the possibility of making the goal resettable, giving the child a sense of control and progression with every new saving cycle.

A combination lock works by turning a dial to a specific sequence of numbers that align internal discs with small notches. Each number in the combination moves a disc to the correct position so that all the notches line up in a row. When this happens, a metal piece called a fence fits into these aligned notches, releasing the lock mechanism and allowing it to open. If the numbers are entered incorrectly, the notches don't line up, and the lock remains secure. This system ensures that only the correct combination can open the lock without needing a key.

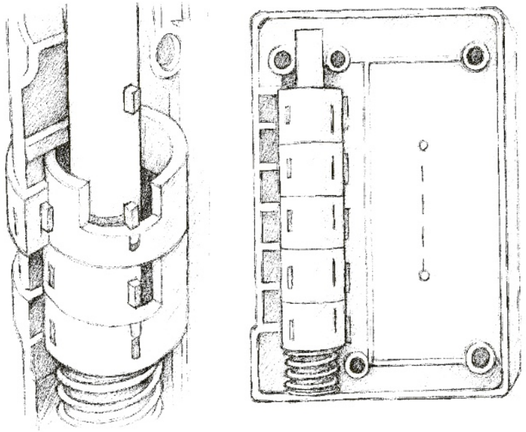


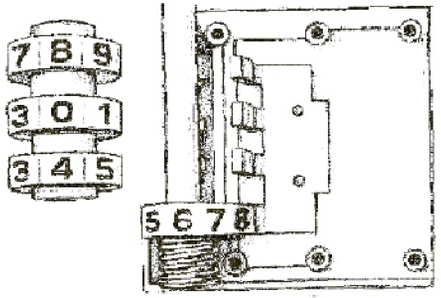


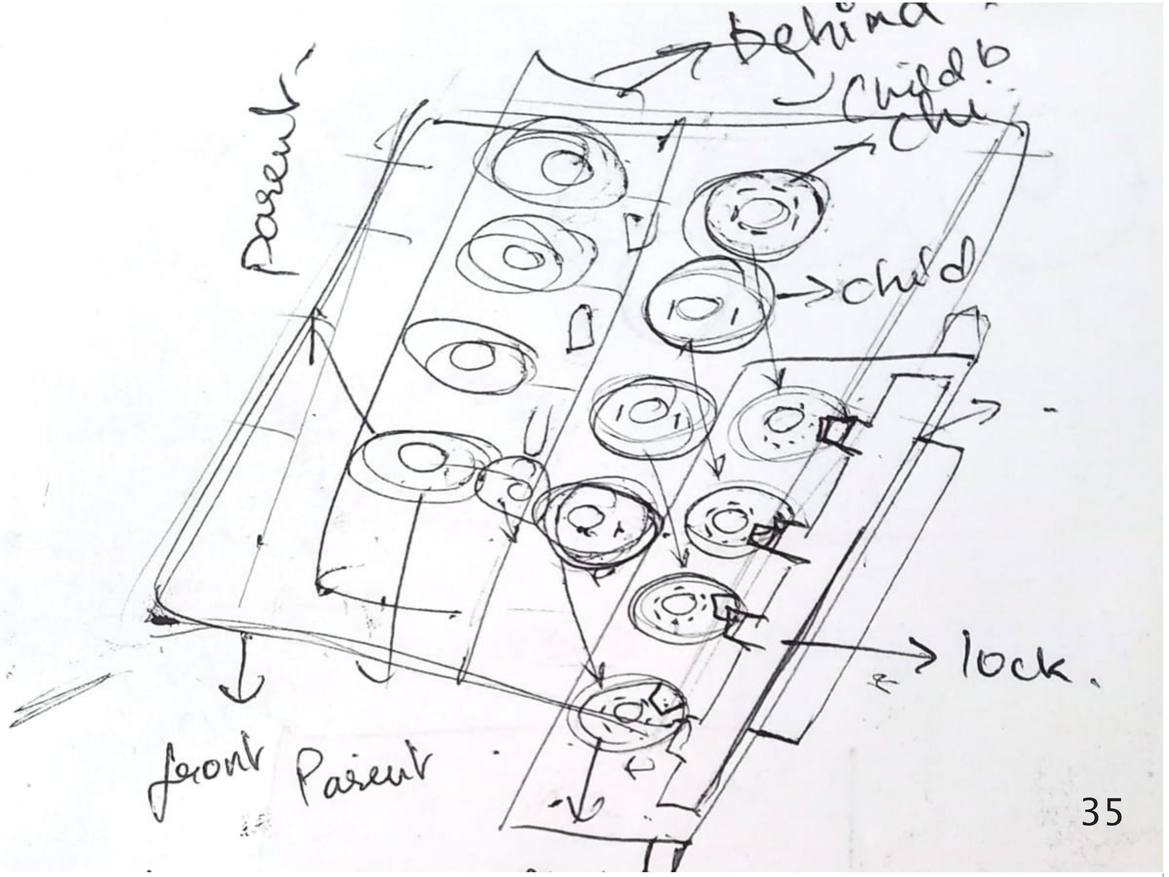


First, I start by opening the lock with the current combination—this is like knowing the secret code to get inside. Then, I find the little reset button or lever, or sometimes twist the shackle into a special position that tells the lock, "Hey, I want to change the code now." While holding that reset mode, I carefully turn the dial to my new favorite numbers—numbers that I'll remember but no one else will guess easily. Once done, I let go of the reset switch, and the lock happily saves the new secret for me. Before closing it up, I always test the new code a few times to make sure it's working perfectly—no surprises later!

If I want to build a combination lock myself from MDF, I imagine carving out several round discs, each with tiny notches that act like secret doors. These discs sit stacked inside a wooden box, connected to a spindle I can turn from outside. The trick is to line up those notches just right by turning the discs to the correct numbers, so a small metal bar can slip into place and unlock the mechanism. It's a bit like putting together a puzzle where everything has to move smoothly and fit perfectly. It takes patience and precise cutting, but it's really satisfying to see it work—like creating your own secret code keeper from scratch.





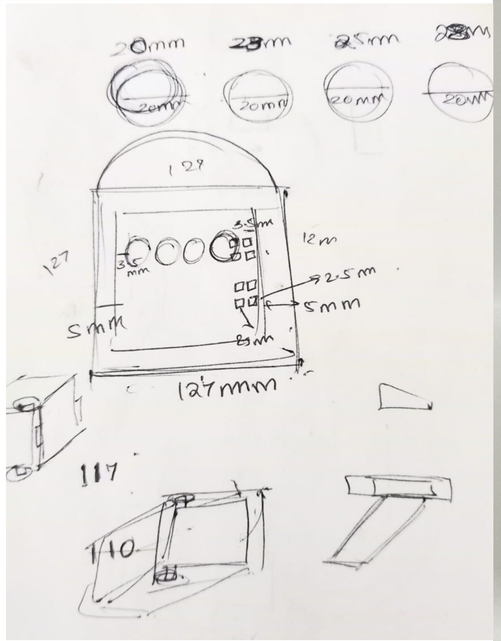


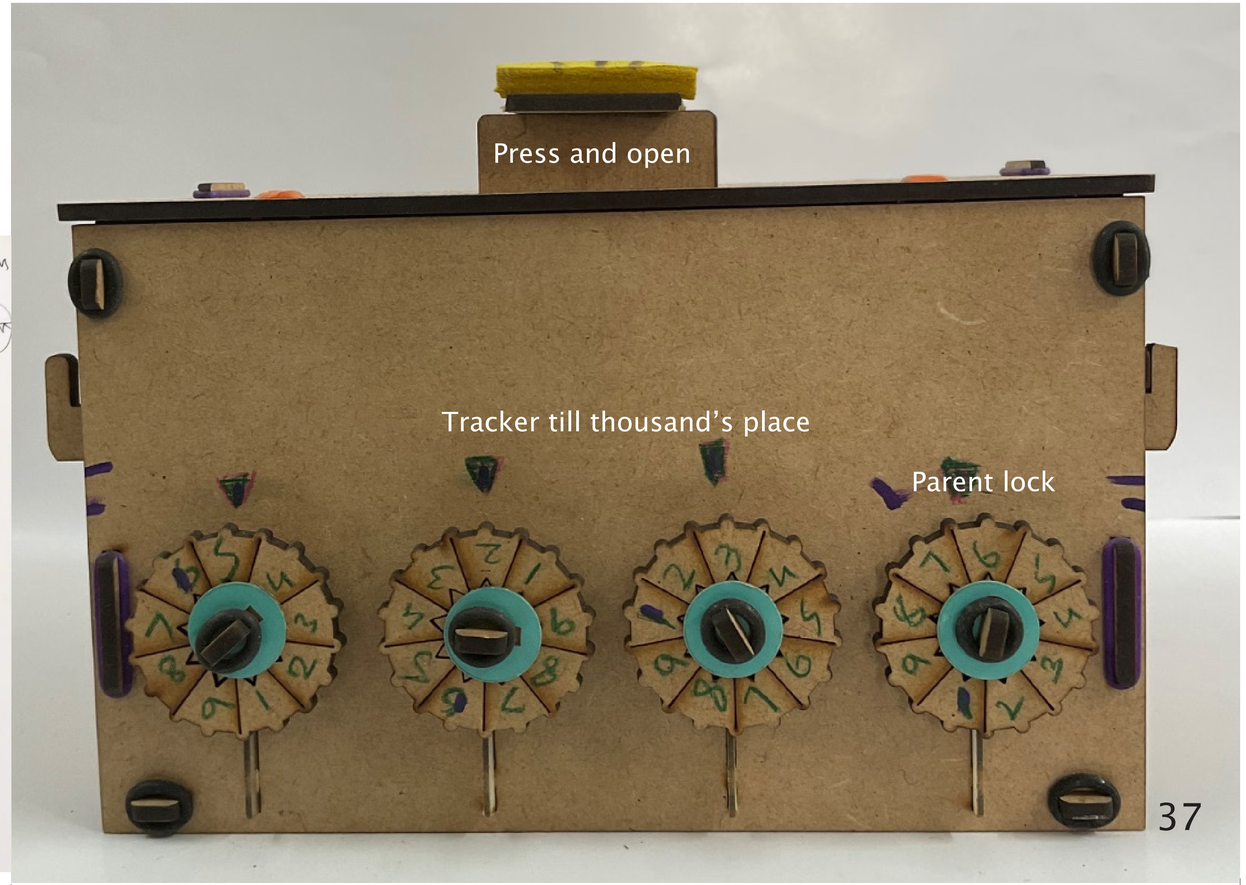
ITERATION 1

Mechanism

In iteration 1, I worked with a concept very similar to a traditional combination lock. The idea was to use rotating gears, each with a specific gate or notch, and a locking piece that would only release when all the gears aligned perfectly. Just like a real lock, the mechanism had to be precise—only when the correct combination was set, the lock could insert into the gates and open. To bring flexibility and tension into the system, I used rubber bands to create elasticity, allowing the mechanism to spring back into position and maintain resistance. .

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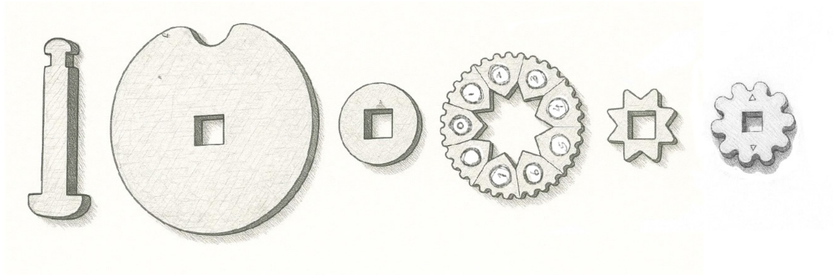






While trying to recreate a combination lock using MDF, I started exploring how its inner mechanism could be simplified without losing the core idea. Initially, I thought of building it with multiple rotating discs, but eventually, I shifted to a more minimal design. I ended up using one main disc with digits marked on the front and a center piece that controls the locking mechanism. The idea was that the disc had to rotate to a specific number so that a notch at the back aligned perfectly with a gate or opening behind it. Only then could unlock the mechanism.

I liked this version because it kept the essence of a combination lock—precision and alignment—while reducing mechanical complexity. To change the lock's code, you'd simply need to remount the disc so its gate aligns with a different digit. It made the system more adaptable and easy to reset, almost like designing a low-tech mechanical puzzle.And further ahead i went with the same principle.

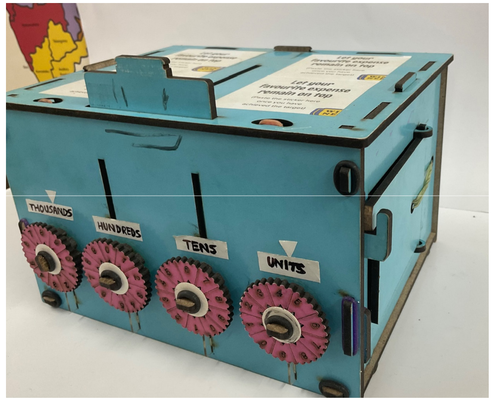


It wasn't just about making things simpler—it was about learning when to stop forcing something that wasn't clicking. I never really set out to replicate a real combination lock exactly, but even while sketching, the mechanism just didn't make sense. I kept trying to figure out how things would move, where the lock would sit, how the parts would interact—but it all felt a bit off. I'd redraw, rethink, and still hit the same wall. That's when I realized the problem wasn't my effort, but the approach. Each confusing sketch and failed attempt helped me understand more—not just about how the mechanism could work, but about the material, my own process, and how I tend to get stuck in my head trying to solve something in one big leap. The final version may look clean and simple, but it carries all that stuck-ness, the trial and error, and the quiet shift that came when I stopped trying to crack the whole thing at once and started trusting small steps instead.



FURTHER MORE

I then moved on to giving the document some structure—adding block colours, refined dials, and visual elements to make the concept clearer. This version felt like the real starting point of the document. The process not only helped in visual clarity, but also gave me better direction for user testing. Since I had to present it for feedback, this version helped users understand the mechanism more intuitively. I also added a few stickers—each with a specific purpose—which I'll explain in detail ahead. These additions weren't just for decoration; they were part of how I tested usability and interaction within the design.

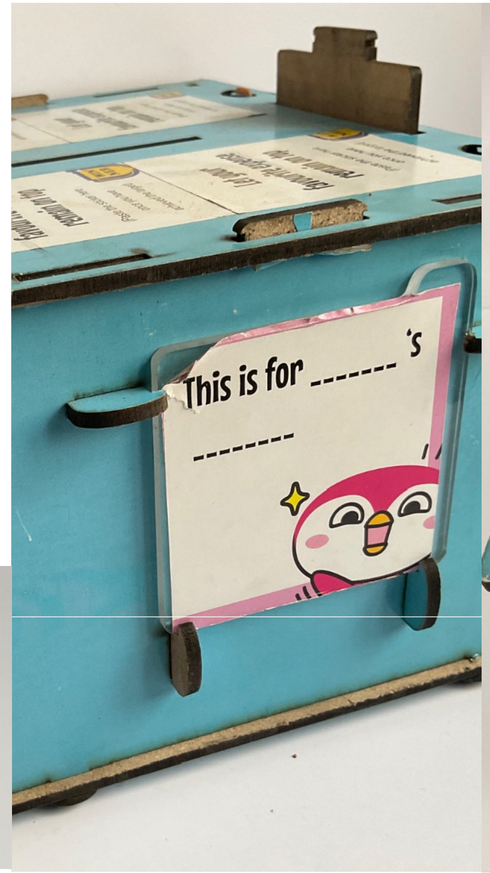




While working on this, a thought struck me—what if a single goal could be the most effective starting point? Instead of overwhelming the user with multiple targets, I imagined dedicating one box at a time to just one goal. It felt like a cleaner, more focused way to design the experience. Having one clear goal per space gives clarity—not just visually, but mentally. It creates room for attention, without noise or distraction. I found that this approach helped anchor the user's intention better. When there's only one lock to open, one dial to align, it becomes easier to commit. That simplicity, I realized, makes the interaction feel more personal and

At one point, I thought—what if there was a space where users could stick their sticker after completing a goal? So I added a dedicated spot on top of each goal box, like a small trophy shelf. Over time, this area becomes a visual record of everything they've achieved. It's not just about ticking off tasks—it's about honoring the effort. The idea is that the best or most fulfilling goal could stay at the top, acting as a kind of personal reminder of what really felt worth it. This small act of reflection could help users notice what they genuinely enjoyed or felt proud of after the purchase, making the product feel more meaningful and emotionally resonant.

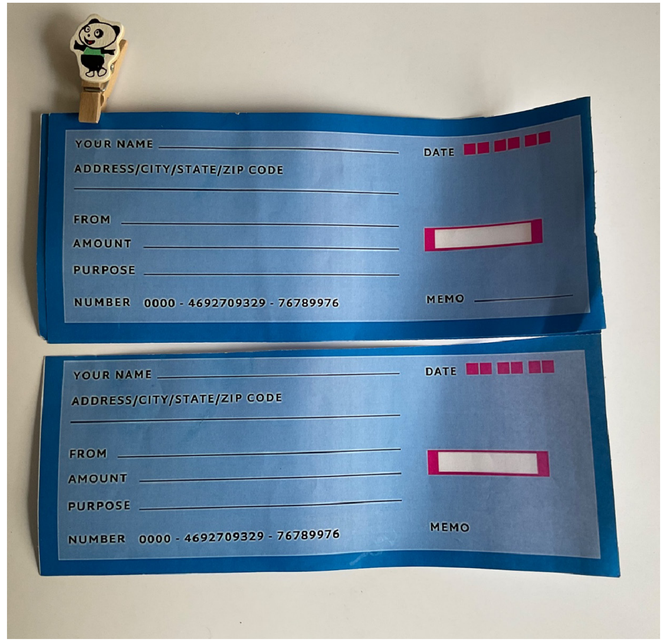




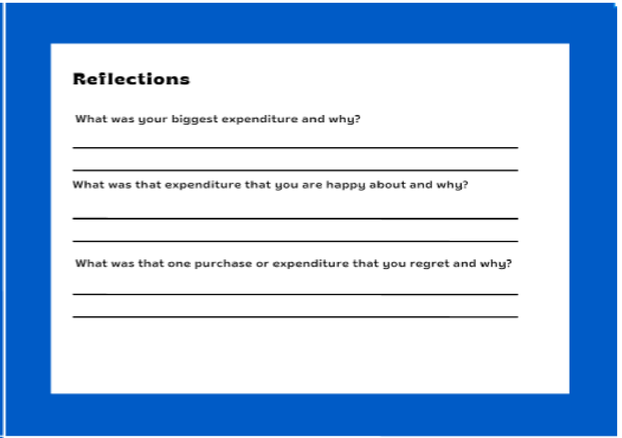


Then I thought—what if kids had their own passbooks or checkbooks? Not just to track habits, but to feel a sense of pride and ownership. I've noticed how excited kids get when they see parents writing checks—they try to replicate it, mimicking every detail. Giving them their own version turns habit-building into something playful and personal. It becomes a small ritual they enjoy, helping them take responsibility in a way that feels important and fun.

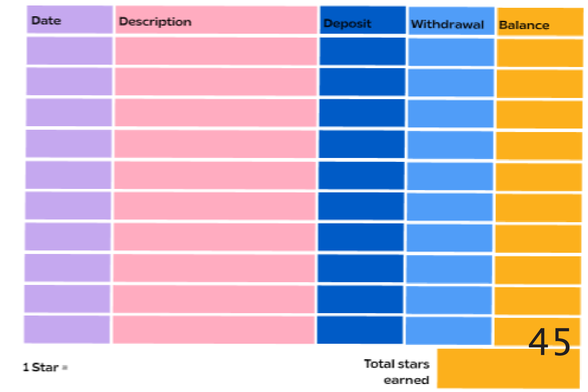
While the idea of passbooks and checkbooks for kids is charming, it might not work as well as imagined. Kids today aren't always familiar with physical checkbooks, so the emotional connection we're banking on might not be as strong. It also risks becoming too task-like—if it starts feeling like homework, the joy could disappear. Plus, not all kids are equally drawn to imitation; for some, the system might feel forced or boring. The key is to balance structure with play—without that, the habit might not stick











USER RESEARCH



Saachi's dad

- Found parent lock feature to be cool.
- Goal setting will be taken seriously
- Compared it to other product and found this better in terms of use of it and long term engagement
- Suggested a coumn for interest, early interest learning
- Wanted a share market slot - the day you purchase checking whether its gain/loss.



Nishchay's mom

- Found it innovative and nice, learn how to save.
- Borrowed the passbook and check found it really nice.
- Guided use of money is good at this age



Naisha's mom

- Loved the parent lock features
- Said his elder son will also like it
- Parent lock is good as compared to childlock
- Reward systems, gives them points and in month end they can add the total to the box.
- Passbook helps them organize, tho it needs to be explained to kids
- Drawing for her sister and at that time a check can be given.

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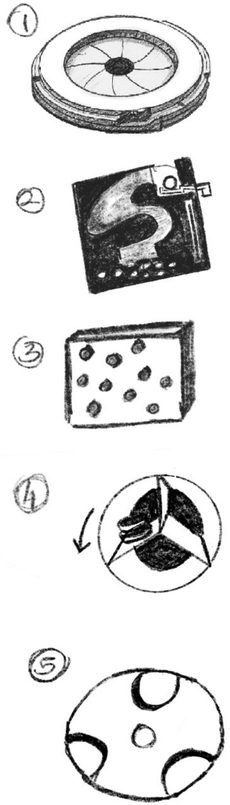




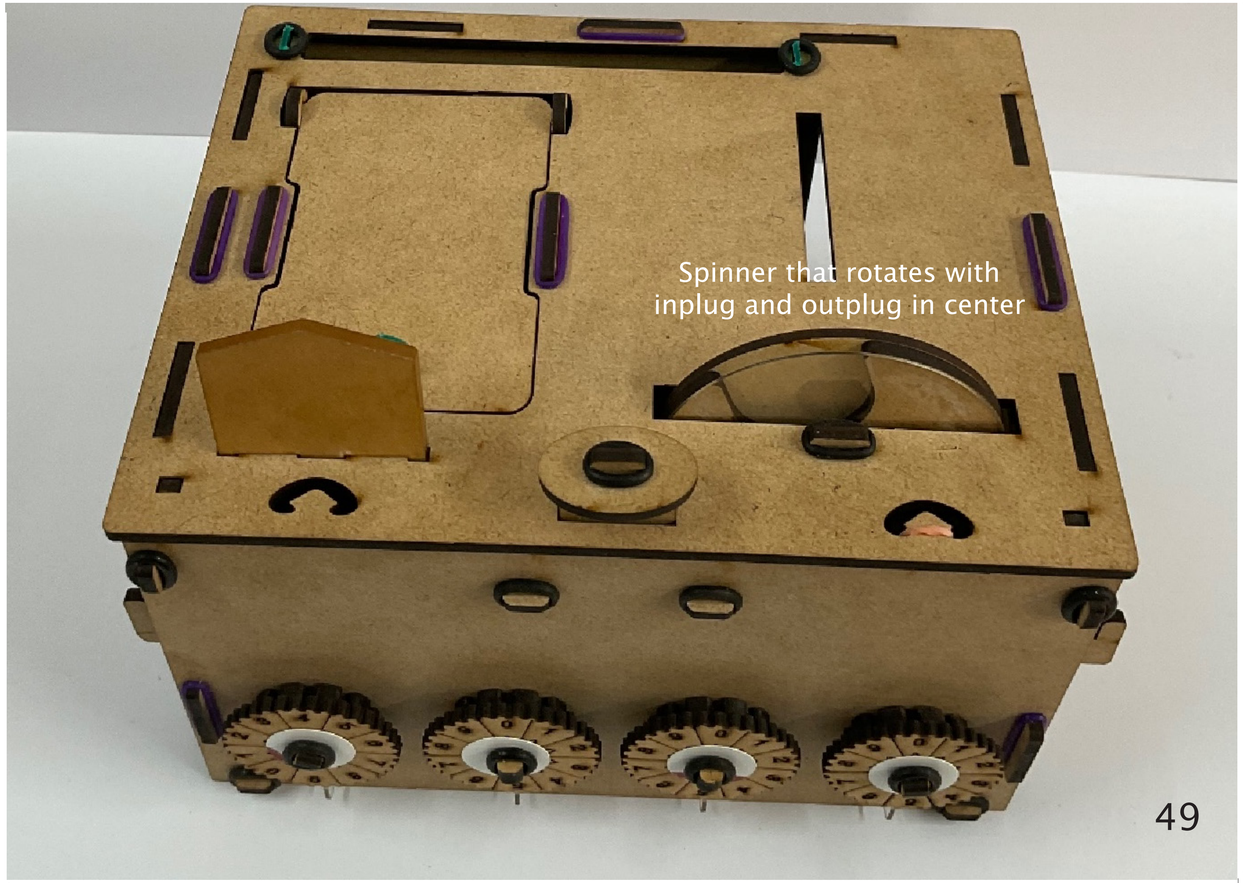
COINS & PLAY

Coins have always been a playful and tactile tool for kids—they're small, shiny, and carry a sense of reward and value. Adding something playful like coins to the system instantly makes the experience more engaging. It turns the abstract idea of achieving a goal into something they can see, hold, and collect. This physical interaction adds joy and excitement, making the process feel more like a game than a routine. For kids, that tangible reward—even if symbolic—can be a powerful motivator, encouraging them to come back, stay involved, and feel proud of what they've done.

My next thought was, can the act of dropping coins itself become fun? And surprisingly, yes. There is something incredibly satisfying about the sound and feel of a coin dropping into a slot. It is immediate, physical, and rewarding. For kids, that tiny action turns into a moment of celebration. It feels like feeding a piggy bank or unlocking a little secret. The clink of the coin becomes a sound of success, a small ritual they actually look forward to. By designing the system to highlight this action with slots, trays, or even moving parts, I realized the whole experience could be just as joyful as reaching the goal itself.



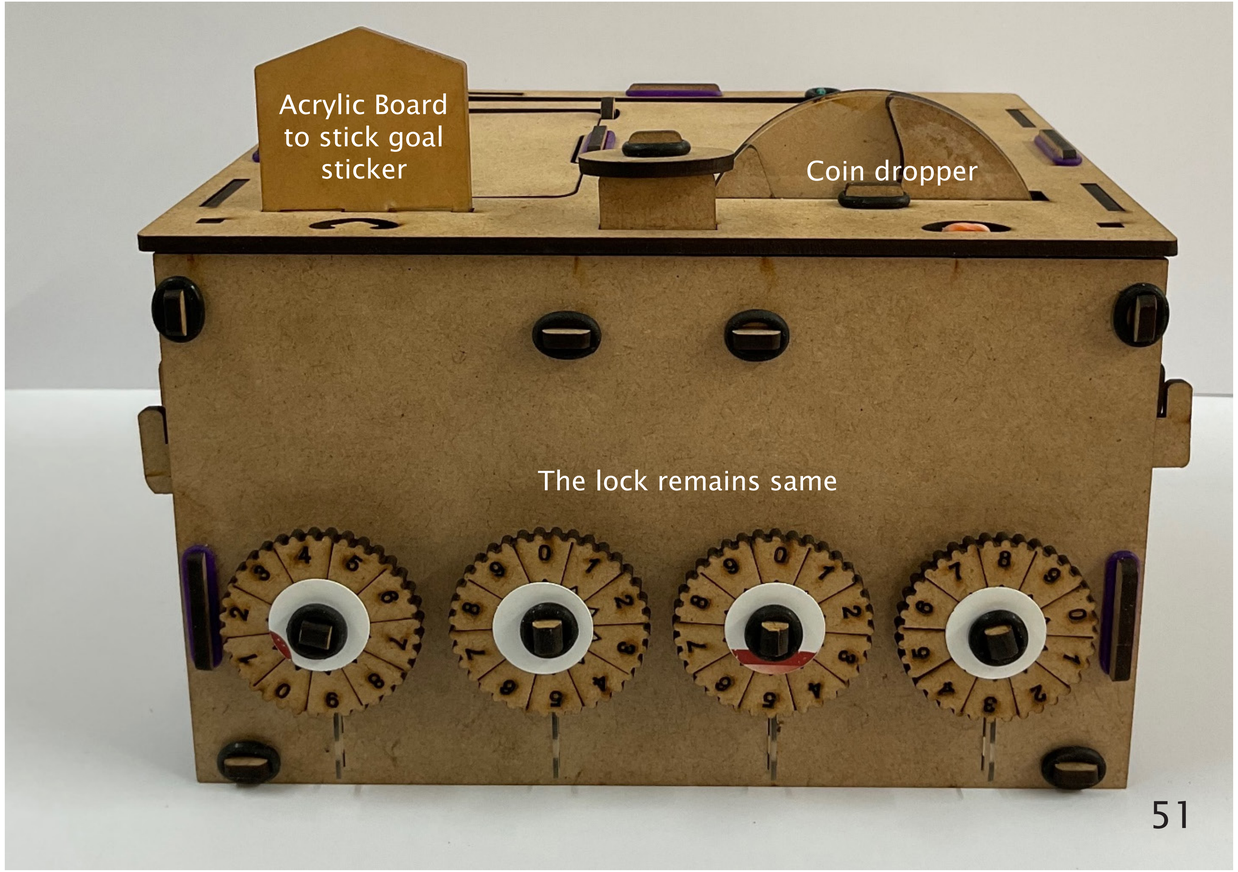
Going ahead with a circular spinner for the coins, one coin at a time, not only makes it more fun but also adds a nice, deliberate rhythm to the experience. Since it is weight based, it still works well without needing any complex parts. And because it uses less material, it keeps the overall cost down. Simple, playful, and



VERSION 2

This version was less about fixing problems and more about reimagining the entire experience. I began by stepping back and asking myself: how can this object feel more alive, more interactive, and more personal for the child using it? Rearranging the layout was the first step. I wanted everything to be visible, accessible, and inviting. That's where the idea of a see-through section came in. Letting kids watch their coins build up turned saving from an abstract idea into something tangible. It made progress visible, which is especially important when trying to create a sense of achievement and anticipation.

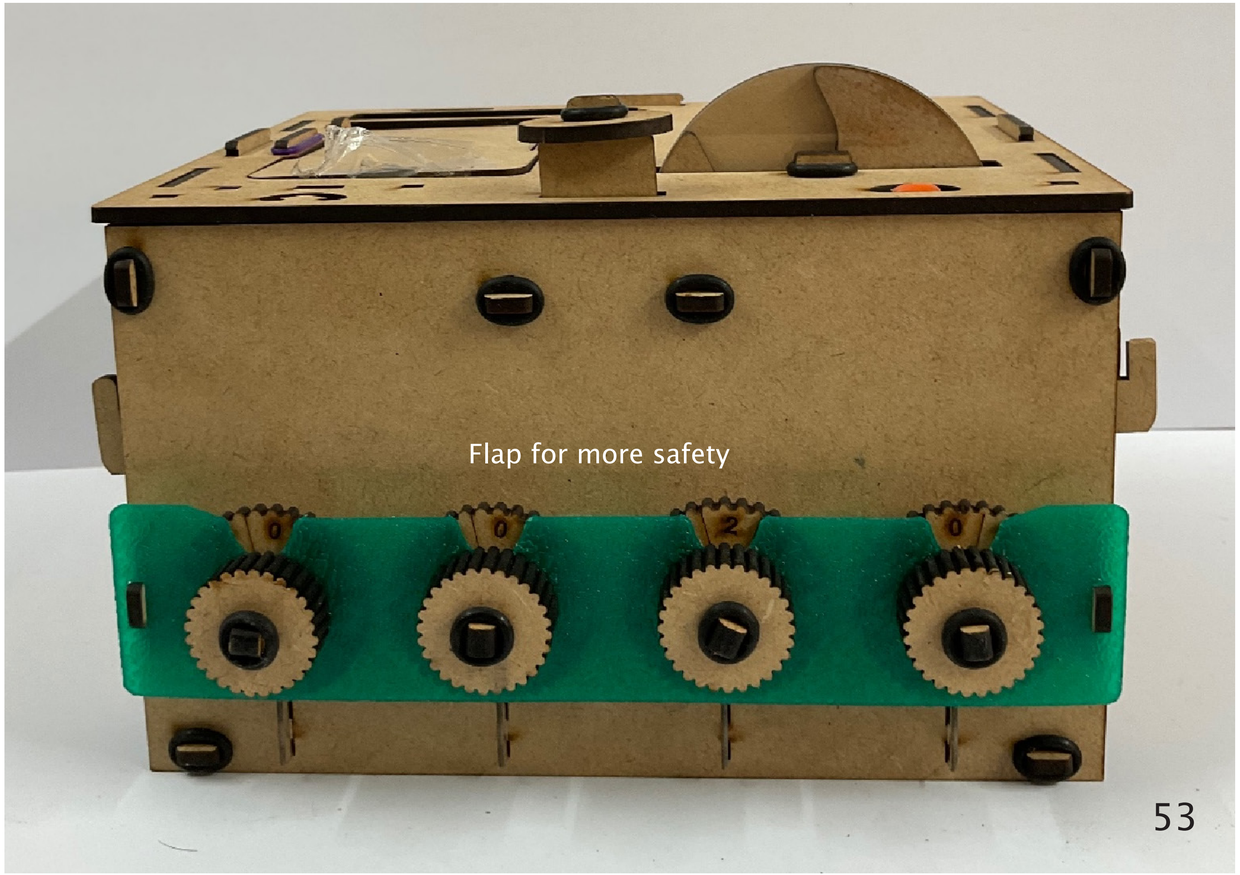
Making my second version was also about adding multiple features that could enhance the experience. These included a coin dropper, a reward interest system, a token holder, a passbook holder, and a wipe-and-write pen holder. Each element was designed to make the product more interactive and organized, while keeping it fun and functional for kids.



VERSION 3

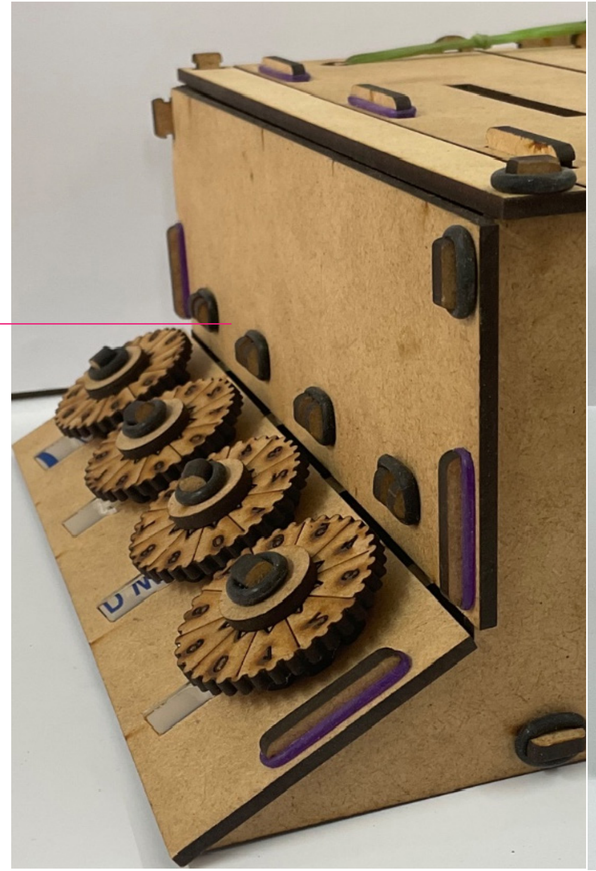
The next version included a flap, which was added to hold the lock in place and also to hide the password more effectively. While this made the design feel more secure and private, I quickly realized a key issue—the flap itself could still be lifted and accessed by the child. This meant the system wasn't as secure as intended. To truly protect the password and maintain that sense of privacy, the flap would need its own separate locking mechanism. This highlighted the balance between keeping the design simple and making it genuinely secure.

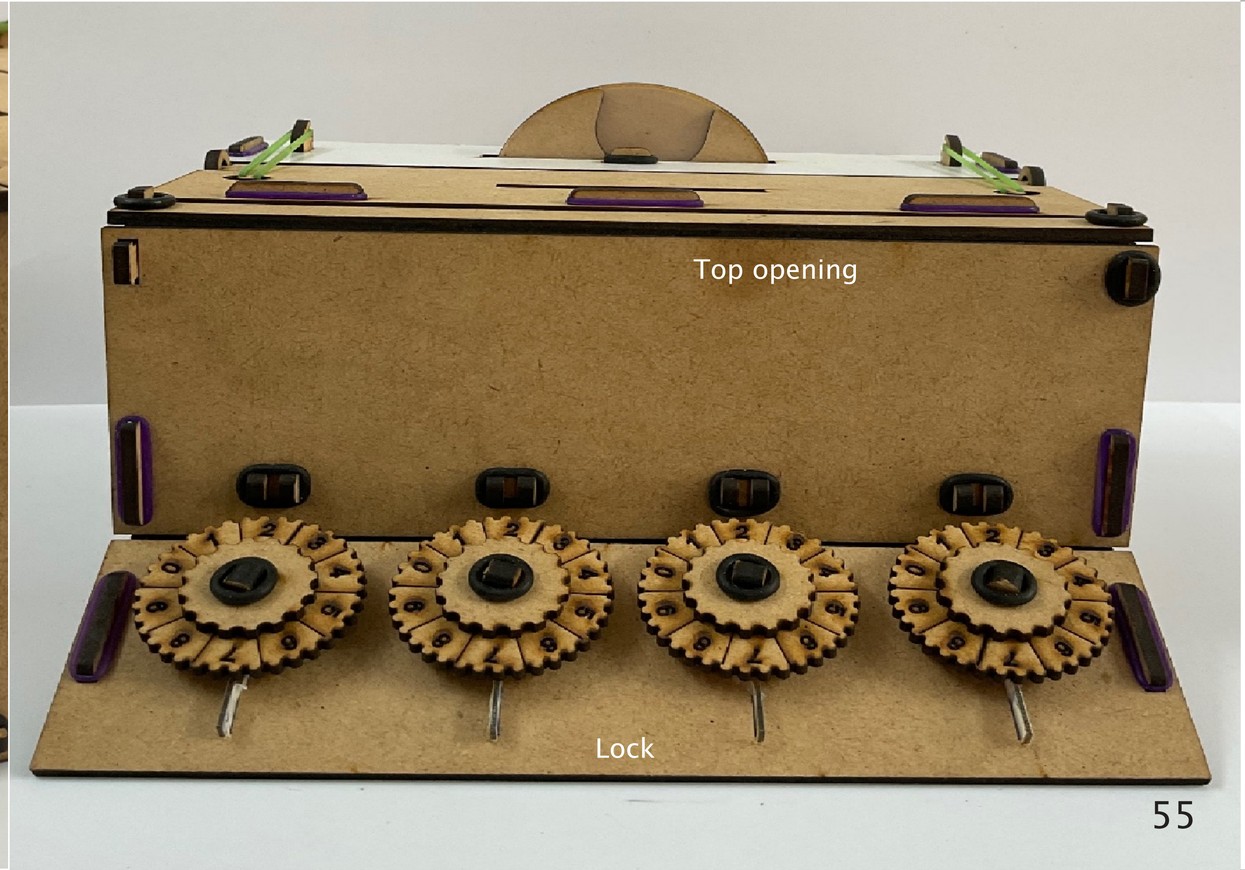
This setback, however, helped clarify what really mattered in the design—creating a system that feels secure to a child without making it complicated or rigid. Instead of relying on physical locks alone, I began thinking about how trust, engagement, and a sense of ownership could be built through design cues. Maybe it's not just about hiding the password, but about making the child feel responsible for it. This shift in perspective opened up new possibilities for designing features that encourage careful use without needing heavy mechanisms.



VERSION 4

This version mainly features a top opening, designed with the convenience of kids in mind—especially when it comes to picking out coins and notes easily. Making it ergonomically better required a lot of iteration and fine-tuning. It wasn't just about adding a lid; it was about ensuring smooth interaction between two surfaces that open and close repeatedly. Achieving the right alignment, grip, and ease of use turned out to be more challenging than expected, but it was essential to make the experience feel effortless and intuitive for children

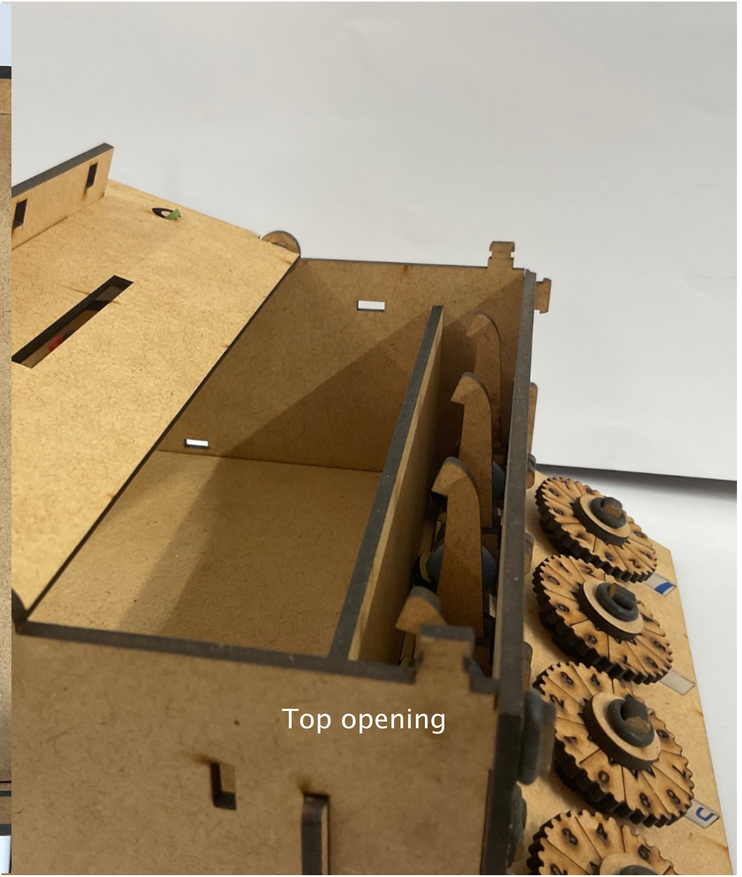




This version primarily relied on a lever mechanism to enable interaction between the two surfaces, since the locking and unlocking system needed to function as one continuous motion. Designing this was especially tricky because it demanded precise alignment—any slight variation in measurements could cause the entire system to fail. Finalizing the box took a lot of time and thought, especially when it came to deciding the interaction and joinery. The process was highly iterative, with constant adjustments and testing to ensure everything fit and moved smoothly. It was a challenge, but getting it right was crucial for the overall experience to feel seamless and satisfying

My next thought was, can the act of dropping coins itself become fun? And surprisingly, yes. There is something incredibly satisfying about the sound and feel of a coin dropping into a slot. It is immediate, physical, and rewarding. For kids, that tiny action turns into a moment of celebration. It feels like feeding a piggy bank or unlocking a little secret. The clink of the coin becomes a sound of success, a small ritual they actually look forward to. By designing the system to highlight this action with slots, trays, or even moving parts, I realized the whole experience could be just as joyful as reaching the goal itself.



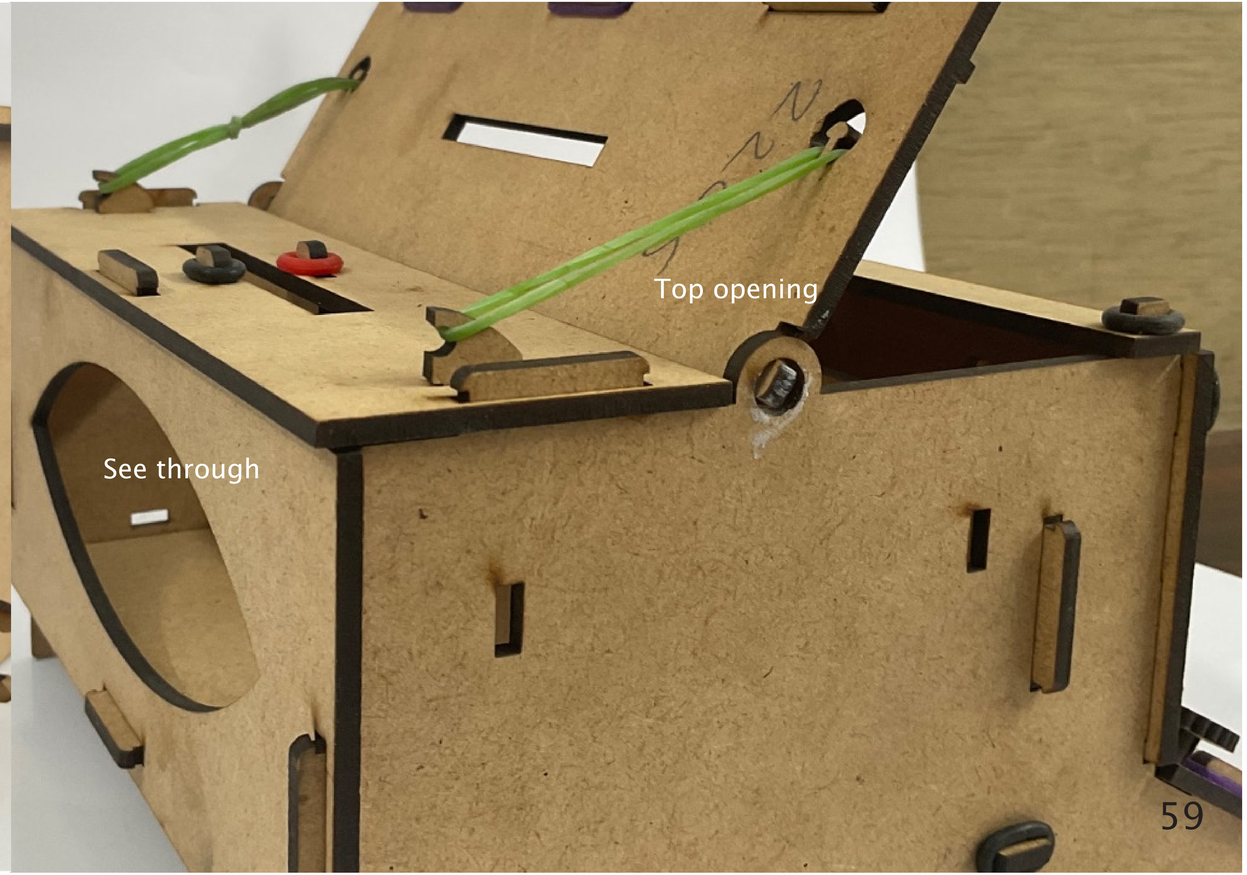


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I decided to add a see-through element shaped like an eye—not just for aesthetic appeal, but to serve multiple purposes. For kids, it became a fun and engaging feature that allowed them to peek inside and keep track of their savings without opening the box. This visual access made the process of saving more exciting and motivating, as they could actually see their progress.

For me, it also solved a practical issue. The eye-shaped window allowed light to enter the box, which made it much easier to see what's inside—especially useful when dealing with small coins or trying to locate specific notes or tokens. It added a sense of openness without compromising security. Designing the shape and deciding where to place it was also about balance—making sure it was playful and inviting for children, while also serving a functional role in improving visibility and interaction.





GRAPHICS

The main graphics were directly inspired by kids themselves. When I asked them what themes they'd enjoy, many mentioned things like pilots, underwater adventures, and imaginative explorations. Interestingly, the form of the box naturally gave off a submarine-like vibe to the kids, which immediately clicked. So, I decided to lean into that and developed the design around a playful submarine theme, making it both visually engaging and child-friendly.

From there, it was all about building a cohesive world around that idea—every feature, color, and element was chosen to fit within the theme while still being functional. I worked on including small details that felt intentional, like porthole-style see-through windows, control panel graphics, and even little knobs and labels that made the whole system feel like part of a kid's imaginative journey. It wasn't just about decoration, but about making the entire experience feel immersive, fun, and familiar, while ensuring that everything still worked smoothly and intuitively











COSTING

The overall costing initially came out to ₹899, even after removing higher-cost materials like acrylic. This was a concern, especially since I had set a clear goal to bring the cost down to ₹799. It became necessary to address this challenge head-on, and that meant going back into the design with a critical eye.

The first major step was reducing the overall thickness of the box from 3mm to 2.5mm. While this might seem like a small adjustment, it had a noticeable impact on both cost and material usage. I also had to revisit certain features—some were simplified, others were redesigned to use less material or be more efficient to produce. Every corner, joint, and surface was reconsidered for its necessity and function. This phase demanded a lot of balancing between maintaining the product's integrity and cutting costs, but it also pushed me to think smarter and design more efficiently without compromising the user experience.

Large Band		4	5		PET-Poly1	
Purple O ring		25	5		PET-Poly1	
O-Ring		20	6		PET-Poly1	
PET Poly	PET-Poly1	1	0		Box	
	Available Material Cost			87.32	TARGET--->	75.88

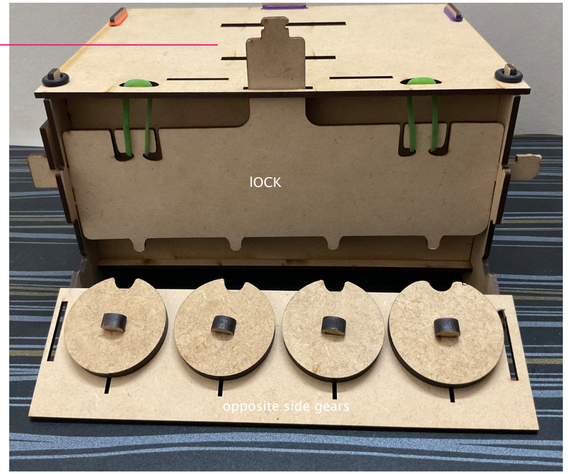
Qty - 2000

Description	Name	Specifications	Qty	Extras		Packing (Shrink Wrap / BOPP / PET Poly)	Sheet Length (inches)	Sheet Breadth (inches)	Sheet Area (Sq.Ft.)	Repetition	Raw Material Cost	Process Name	Timing (in minutes)	Process Cost
2.5 MDF (Pine)	sheet 1	Laser Cutting	1	0		Shrink Wrap1	18.00	12.00	1.50	1	17.25	Laser Cutting w Router	14	10.84
130GSM-A4 Paper 1P HQ	Paper Sheet 1	130GSM, CMYK, 210mm x 297mm	1	0		Shrink Wrap1		Unit Price	3.40	1	3.40		NA	NA
Glue - Single Side Pasting	Sheet 1 - Glue	Single Side Pasting	1	0		Shrink Wrap1	18.00	12.00	1.50	1	1.13	Single Side Pasting	NA	0.77
2.5 MDF (Pine)	sheet 1	Laser Cutting	1	0		Shrink Wrap1	9.00	12.00	0.75	1	8.63	Laser Cutting w Router	9	7.19
130GSM-A4 Paper 1P HQ	Paper Sheet 1	130GSM, CMYK, 210mm x 297mm	1	0		Shrink Wrap1		Unit Price	3.40	1	3.40		NA	NA
Glue - Single Side Pasting	Sheet 1 - Glue	Single Side Pasting	1	0		Shrink Wrap1	12.00	12.00	1.00	1	0.75	Single Side Pasting	NA	0.77
1.7 MDF (Pine)	sheet 1	Laser Cutting	1	0		Shrink Wrap1	18.00	12.00	1.50	5	2.03	Laser Cutting w Router	6.46	1.07
130GSM-A4 Paper 1P HQ	Paper Sheet 1	130GSM, CMYK, 210mm x 297mm	1	0		Shrink Wrap1		Unit Price	3.40	5	0.68		NA	NA
Glue - Single Side Pasting	Sheet 1 - Glue	Single Side Pasting	1	0		Shrink Wrap1	12.00	12.00	1.00	5	0.15	Single Side Pasting	NA	0.15
4 MDF (Pine)	sheet 1	Laser Cutting	1	0		Shrink Wrap1	18.00	12.00	1.50	9	3.25	Laser Cutting w Router	35	2.91
												Laser		

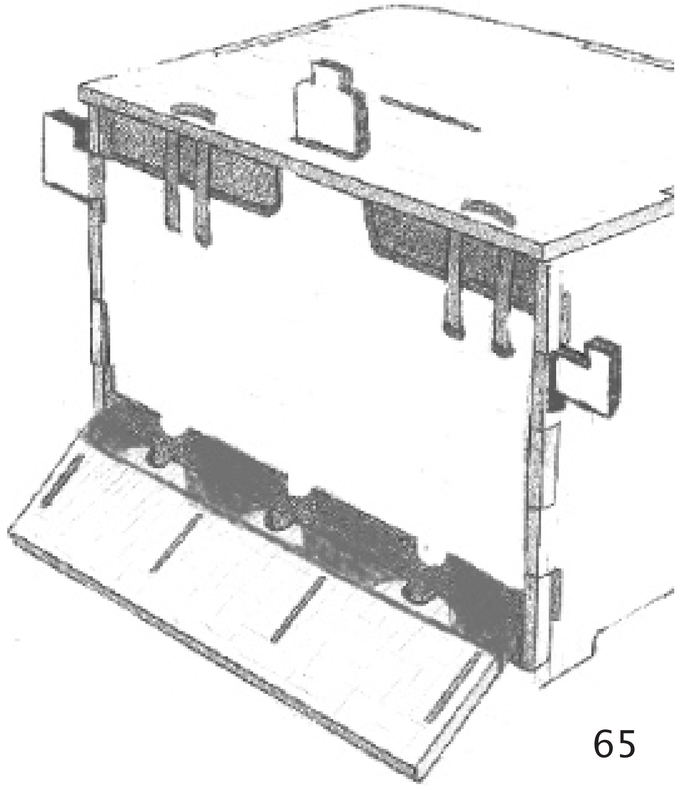
IM-80A5	Tray		1	0		Box					30.40	NA	NA	NA
Medium Box 40mm with tray	Large Box		1	0		Shrink Wrap2					20.00	Box Assembly/SKU 20	NA	2.55
M Box Shrink Wrap	Shrink Wrap2		1	0		Master Carton					3.40	Box Shrink Wrap	NA	0.78
Medium Master Carton 40mm	Master Carton		1	0		Tape					3.00	NA	NA	0.00
Tape	Tape		1	0							0.11	Cartons Tape Packing/SKU	NA	0.55
	Maintenance + Dispatch Cost													8.00
	Total Material Cost				156.11		144.67				117.79			38.32
	Rejection	2.00%			3.12		2.89							
	Overheads	19.50%			30.44		28.21						213.29	
	Margin percent	--->			59.38%	TARGET --->	60.00%					-11.44		
	Transfer Price	NON-ELECTRONICS			466.95		439.45							
	MRP				849.00		799.00							

VERSION 5

The next version focused on combining a press and release mechanism for the side opening, which felt more convenient and intuitive during use. At the same time, I began integrating dials into the base of the box instead of the front face. This change was based on visibility—digits on the front weren't clearly seen due to the viewing angle and height, but placing them on the base offered a clearer line of sight and made the interaction feel more grounded.



However, this brought in a new set of challenges. I realized I needed a spacer to properly hold the locking mechanism in place, as the back portion was starting to bend during repeated use. To fix this, I added a grip that gave more structural stability. Another issue was the size of the back gears—they had to be larger for the mechanism to work smoothly, but that also meant reducing the size of the dials to fit everything within the fixed dimensions of the box. I couldn't increase the overall size, so working within that limitation required several small but critical design adjustments to make sure everything fit and functioned correctly.

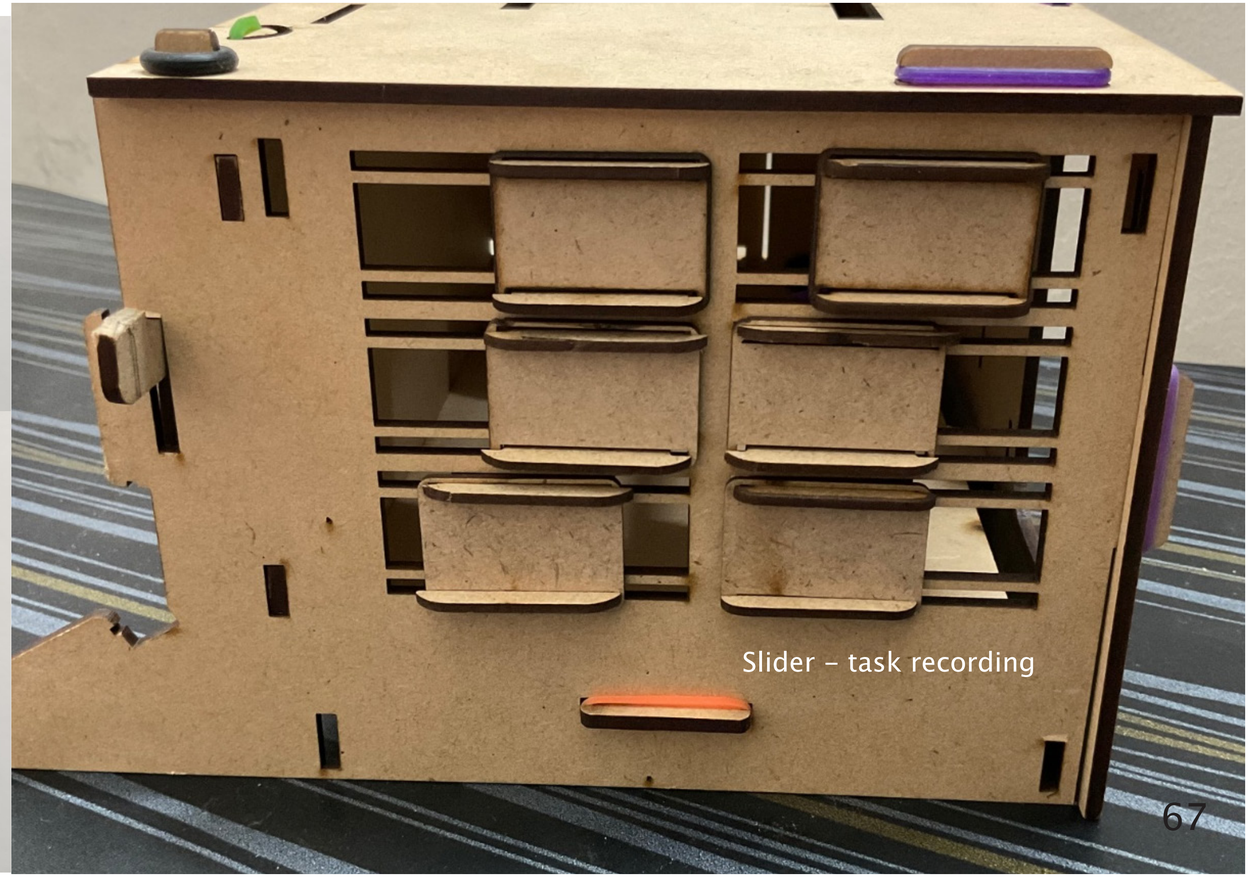


I decided to completely change the reward system from a storage-based model to one that uses simple sliders with "Yes" and "No" options. This shift brought several benefits. First, it removed the need to provide physical storage for tokens or rewards, which significantly reduced the amount of material required. It also made the system more efficient and interactive—kids can now mark a task as done just by sliding to "Yes," making it feel like a clear action and achievement.

This change also helped solve another major issue: loose parts. By eliminating detachable reward tokens, the design became neater and more self-contained. Everything stays in place, which makes it easier to use and maintain, especially for younger users. It simplified both the production and the user experience, without losing the sense of progress and motivation that the reward system was meant to create.







Slider – task recording

LIMITATIONS

Despite the product's functionality and thoughtful design, there are a few limitations that naturally come with the chosen materials and mechanisms. One of the primary concerns is durability—since the box relies on MDF or similar board materials to stay cost-effective, it is prone to wear and erosion over time, especially around the joints and interactive parts. The design also involves a few moving pieces like levers, dials, and a rubber band-based mechanism for the automatic opening. If even one of these components goes missing or gets damaged—particularly the rubber bands—the entire function of the box could be compromised. These are general constraints when working with prototyping materials and lightweight joineries, and while they help in achieving affordability and simplicity, they do have their trade-offs in terms of long-term durability.

On a conceptual level, another limitation that came up during discussions was around the inclusion of a locking system. While many parents appreciated the feature as a way to teach boundaries and security, some designers expressed a contrasting viewpoint. They argued that locking the box could symbolically take away a child's ownership over their savings, suggesting that giving kids full access and rights is a more empowering approach. Though this criticism didn't arise from parents themselves, it reflects a different school of thought in educational design. In response to this, I tried to restore a sense of agency in other ways—by making the reward system interactive, by allowing kids to track their progress visibly, and by ensuring that the overall interaction feels playful rather than restricted. These decisions aimed to strike a balance between structure and independence, keeping the tool child-focused while also functionally sound.

USER TESTING

When I presented the product to parents, their reactions were genuinely encouraging. They found the entire concept fresh and engaging—something that stood out from the usual learning toys or digital apps. What appealed to them most was how the product turned financial literacy into a hands-on, playful experience for kids. Features like the coin dropper, see-through section, and reward sliders made it feel like more than just a tool; it became an activity their children could look forward to. Parents also loved how interactive it felt without relying on screens or batteries. They described it as "a smart mix of fun and learning," appreciating the balance between entertainment and real-world relevance.

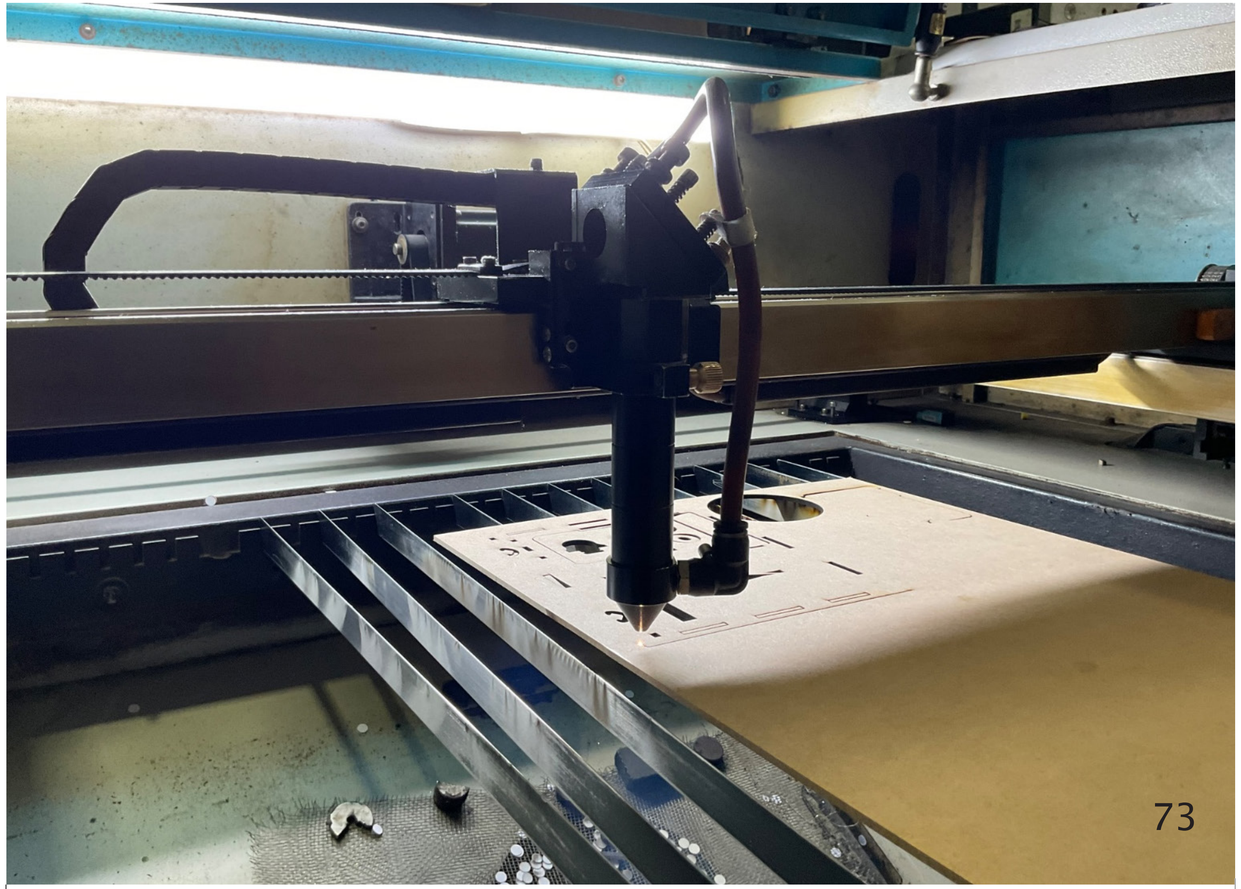
Many parents highlighted how compact and thoughtfully organized the design was. Despite having multiple features—such as the token holder, passbook slot, wipe-and-write pen holder, and the reward system—it still looked neat and easy to store. They found the form factor convenient for home use, without adding to the mess. Some suggestions were shared around improving the ease of opening the box; while most found the top opening practical, a few preferred side access and smoother press-release mechanisms. Overall, parents appreciated the level of detail and effort that had gone into making the product practical, educational, and user-friendly—not just for kids, but for families as a whole.



REFLECTION

Designing this money box has been a deeply iterative, challenging, and ultimately fulfilling journey. What started as a simple idea—to create a savings tool for children—evolved into a full-fledged, multi-functional product that speaks to both emotional and educational needs. Every small decision, from choosing the coin dropper shape to testing lever mechanisms and optimizing for compactness, was driven by an effort to make saving feel playful, intuitive, and meaningful. I learned that designing for children isn't just about fun visuals—it's about layering in clarity, independence, and hands-on interaction while keeping everything safe, durable, and engaging.

Working in the context of Smartivity helped sharpen this process further. Their philosophy of learning through play aligned naturally with the goals of this project, but it also raised important questions about material choices, cost efficiency, safety, and real-world functionality. I was constantly navigating between creative expression and tangible constraints like costing, durability, and manufacturing feasibility. Collaborating with mentors and receiving feedback from both parents and designers gave me a fuller understanding of how design decisions impact actual use. Most importantly, this experience has taught me that good design lies in empathy and iteration—not just in solving problems, but in creating possibilities that are joyful, responsible, and thoughtful



JOURNEY

Transitioning from communication design to product design through this project marked a significant philosophical shift in my understanding of design itself. As a communication designer, I was trained to create meaning through visuals, narratives, and perception—often from the outside-in. But product design demanded something fundamentally different: to think from the inside-out. It pushed me to not just convey ideas, but to build systems that hold them; to not just tell a story, but to engineer behavior and emotion into tangible form.

This wasn't just a change in tools—it was a change in how I think.



I had to confront real-world constraints like materials, joinery, mechanical reliability, costing, and user safety. For the first time, the smallest decimal in measurement or thickness could make or break the experience. Unlike communication design, where iteration could happen on-screen, here every new test meant physically building, failing, and reworking. That failure was not abstract—it was hands-on, time-consuming, and deeply revealing. It taught me patience, precision, and a new kind of empathy—not just for the user, but for the process itself.

More importantly, I found myself reflecting on design ethics. Working at Smartivity and interacting with parents, designers, and children introduced me to varying schools of thought—especially around control, freedom, and ownership in children's products. Some questioned whether adding locks or restrictions undermines a child's autonomy. Earlier, I might've designed for what looks "fun" or "engaging." But now, I was negotiating between behavioral impact, psychological agency, and functional design. This pushed me into deeper territory: how much control does a child need to learn responsibility? Where do design and parenting intersect? My decisions became more intentional, and my design process more philosophical.

In many ways, this project bridged two worlds for me—communication and physical product—by grounding both in purpose. It made me realize that design isn't about choosing a discipline. It's about using the right tools, systems, and language to create experiences that matter. And in this shift, I didn't just learn how to build a money box. I learned how to think like a systems designer—someone who cares not just about what a product looks like, but about what it does, who it affects, and why it deserves to exist



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A final year document completed by Akshata Padmanabhan, 4th year Integrated communication design student at JK Lakshmipat university, Jaipur. This book binds and records the course of work and learning done over a period of 5 months with Smartivity toys, a toy design company based in Delhi.

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