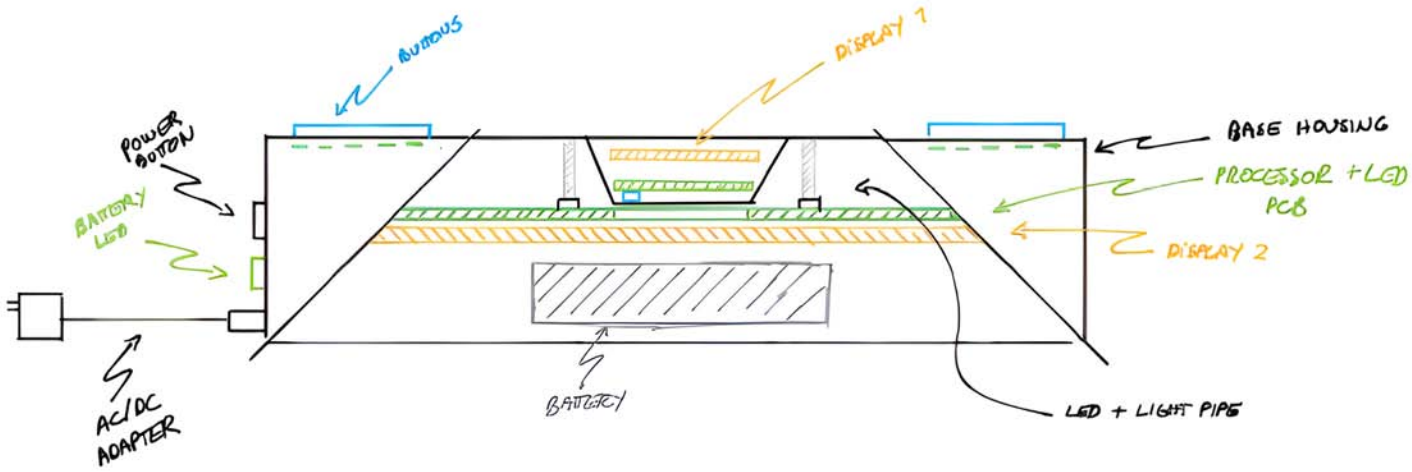

One of the initial idea sketches from client

CASE STUDY

Software Manager finds Creative Design team with an Unique “Idea Exploration” Methodology

A senior software product manager applies our fail-fast methodology to physical product development, leading to a smart strategic decision.

8	$200K+	3	12+
weeks to strategic go/no-go decision	in development costs avoided	product concept architectures evaluated	critical parts suppliers contacted for real pricing

Sometimes, even the best product ideas don’t work out. And that can be a good thing.

When senior software product manager Tasfia contacted 47 global product development firms about her retro-inspired educational children’s toy concept, she wasn't just shopping for a design partner.

The client was seeking an experienced team that could quickly and accurately assess the viability of her physical product idea.

By working with Design 1st, the high-level idea exploration and conclusion saved months of time and hundreds of thousands in development costs.

Tech Product Manager hires Creative Design team with “find gold or fail fast” Process

Tasfia is a tech product manager with 10+ years managing large-scale tech projects. She knows how to evaluate risk, build decision matrices, and apply systematic thinking to complex challenges. But a lingering dream of iconic children’s toys led her to the realm of physical products.

Her solution was an electronic game with multiple displays that would be endlessly playable. Kids would match patterns or solve math problems, different content appearing each time they played. Her goal was to create something that would last, growing with the child, not just another piece of disposable plastic.

“In the 90s, we all loved Hot Wheels, My Little Pony, and Tamagotchi. There were certain toys that made our childhood”

Tasfia

Looking at today’s toy market – now from the perspective of a parent – she felt something was missing. Instead of generational toys that could be enjoyed for years, she saw mostly forgettable junk that failed to create lasting memories.

Selecting Design 1st

Despite her extensive software background, the client knew she needed expert help for her first foray into physical products. With displays, wireless connectivity, mobile app integration, and complex manufacturing requirements, MatchMate was an ambitious first hardware project.

Tasfia researched 47 global product development companies, built a detailed ranking matrix, and conducted lengthy calls with 11 finalists — ultimately choosing Design 1st.

"Design 1st brings ideas to market, rather than simply improving something that's already in the market.I care a lot about the team that I'm going to be working with. Those early meetings were about interviewing the people more than their portfolio. I appreciated that Design 1st immediately connected me with product experts, not sales reps."

Tasfia

Tasfia knew that choosing the right partner was vital. So she approached that decision with the same systematic thinking that made her successful in software.

	Founders and engineers	Ex sourcing - 50 year family business, boutique
	Pros	
	Cons	
	Company provides the following services:	
3	Concept review, technical risk mitigation, compliance requirements, early BOM to verify product viability within desired retail price	1
3	Product design and iterative prototyping	1
3	Initial software interface	1
3	Tooling and manufacturing preparation	1
3	Test labs and guidance on certifications	1
2	Manufacturing and materials sourcing	1
1	Optional: manufacturing management and quality assurance	1
	Company adheres to desired timeline	
2	User feedback/investor prototype by July 1	1
2	Production prototype by Jan 2026	1
1	Optional: company works on fixed timelines	1
	Company is experienced	
3	Company has experience in IoT devices and consumer electronics	1
2	Company has experience in children's products	1
3	In general, company has brought many high quality products to market. They can be trusted to make MatchMate into a strong product. Has experience in particularly the product design phases.	1
1	Company lists their engineers on website	1

Matrix

Design 1st connected Tasfia directly with engineers and designers, not sales. As always, we were committed to delivering honest assessments backed by real data — even if that meant. recommending she stop the project.

The client researched **47 companies** → Built a detailed **Ranking matrix** → Conducted lengthy calls with **11 finalists** → Ultimately choosing **DESIGN 1ST**

Design 1st's Product Strategy Planning Tools Focus on Critical Risks Early

Utilizing a cross-disciplinary design team in the early concept ideation and definition brings all expertise's into one room to trade-off opportunity and risk. For cost sensitive high reliability products, you need artists, human factor and useability experts alongside engineers, manufacturing knowhow and supply specialists to quickly get to where high risks will be.

"The folks that I had an opportunity to talk to were not siloed. They understood all the other domains."

This meant every decision considered real-world constraints and potential risks across all disciplines. Recognizing Tasfia's strategic approach, our team structured the project around her risk tolerance methodology. Because of the number of low cost electronics and mechanical parts required, the first checkpoint was designed to rapidly identify potential cost or viability risks before any major investment in detailed engineering. Rather than providing ballpark estimates, Design 1st contacted component suppliers. Our supply team reached out to determine exact specifications of the various high risk parts to the design. One of the critical parts of the design was a low cost reliable display with specific functionality.

With deep experience and a network of display manufacturers, we were able to find the very lowest cost display solution possible, by discussing directly with the manufacturers.

Displays are one component that is complex to select and match to the electronics design and to user expectations. They can range from 50 cents to 200 dollars depending on the size and functionality. A team with deep expertise cuts to the details that matter and arrives quickly at options that will fit the situation.

We obtained design specifications, accurate volume pricing and availability data. This ensured the client's "go/no-go decision would be based on actual values not distribution network pricing and more limited choices.

"I'm glad we got through the first checkpoint quickly. I would hate to go through the entire production process only to realize, after hundreds of thousands of dollars invested, 'Oh, well, I can't sell this!'"

Real Data Reveals Critical Cost Issues

With focus on the identified highest risks to the design success, the high level electronics design architecture was completed first and the electronics part costs were laid out accurately. A high level Industrial design and mechanical architecture was defined so all major parts of the design could be accurately costed. The roll up of electronics and physical parts costs allowed the client to estimate total cost from manufacturing to market pricing.

"Technically, the final all-in price was within my target range, but just barely. It left no leeway for unexpected costs down the road."

Tasfia

	Estimated Cost (USD) -5k Volume	Total Cost per Assembly	Notes
Processor + Bluetooth	$2.16	$2.16	ESP32
Expander	$0.28	$0.28	IC
Display	$1.42	$7.11	Colour
Display to Main PCBA	$0.04	$0.36	Connector
Peg to Receptacle	$0.11	$2.97	Connector
USB Type C	$0.02	$0.02	Connector
Battety Charger	$0.08	$0.09	IC
Capacitors	$0.002	$0.02	IC
Resistors	$0.001	$0.02	IC
Diodes	$0.004	$0.04	IC
LED	$0.070	$0.07	IC
DC-DC converter	$0.14	$0.28	IC
Battery to Main PCBA	$0.068	$0.07	Connector
Battery	$2.50	$2.50	TBD
PCB FR4 2-layers	$3.00	$3.00	PCB
Mechanical	-	$5.00	5 Parts
	Total:	**$23.99**	

Smart Strategic Exit

Rather than hoping costs would magically decrease in later stages, Tasfia made the smart call to stop at the first checkpoint.

"At this stage, I just knew that more things were going to come, that it would end up higher than the current range. That possibility wasn't aligned with my risk appetite."

DESIGN 1ST

The decision saved her an estimated $200K+ in development costs and 18+ months of time.

Design 1st process

Perfect Execution of Fail-Fast Strategy

In the end, Design 1st's checkpoint system worked exactly as designed, providing real data for an informed business decision. Instead of learning about product cost risk after a major investment, we helped our client preserve her time and capital for the next opportunity.

"I'd rather invest a little, fail fast, and then move on to the next great idea with better clarity and resources intact."

Tasfia