

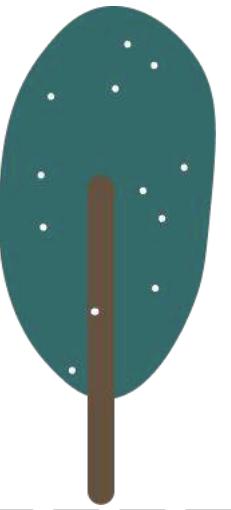
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ChinYing Chu

# PORTFOLIO

Industrial design

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# Hi, I'm Chu!



I'm an industrial designer from Taiwan and a soon-to-be graduate of Aalto University's International Design Business Management program. I transform abstract ideas into tangible, patentable solutions by marrying form with function. I distill complex concepts into intuitive designs that meet user needs and market demands while telling a compelling story through sketches, CAD renderings, physical models, or working prototypes.

For me, design is about more than problem solving—it's about deeply understanding what people truly want, even before they know it themselves. I observe, question, and empathize to uncover hidden needs and then shape how people physically and emotionally interact with products, so they are ergonomic, accessible, and engaging.

I thrive on seeing my designs come to life in the real world. Watching users interact, gathering feedback, and rapidly iterating to refine and improve is what drives my passion. That continuous cycle of ideation, creation, and evolution is why I love what I do.

# Resume

## Experience

## Education

## Awards

### 2021-2023 Compal Electronic, RD industrial designer

Taipei, Taiwan

- ▶ Drove innovation direction in early-stage product exploration by synthesizing user needs, market trends, and emerging technologies into actionable product concepts that balanced value, feasibility, and business goals.
  - ▶ Acted as a connector between design, engineering, and marketing teams to support product direction and maintain alignment throughout the development process.
  - ▶ Co-inventor on 7 patents (4 utility, 3 design); actively contributed to IP strategy by integrating patent considerations into concept development.
  - ▶ Conducted customer insight research using Netnography and big data analytics; compiled findings into actionable reports that influenced product features and positioning.
  - ▶ Strengths: concept development, visualization, user research, cross-functional collaboration, patent awareness, and product storytelling.
- 

### 2023-2025 Aalto University

MA, International Design Business Management

- ▶ Developed physical and digital products in interdisciplinary teams, taking responsibility for research, concept development, prototyping, and stakeholder alignment.
- ▶ Participated in cross-sector industry projects, applying business thinking and design methods to guide innovation from idea to implementation.
- ▶ Gained hands-on experience in product storytelling, road map planning, user journey mapping, and MVP definition.
- ▶ Thesis: Communication strategies used by industrial designers when presenting novel concepts to non-design managers – exploring how designers influence decision-making and gain stakeholder buy-in during early product development.

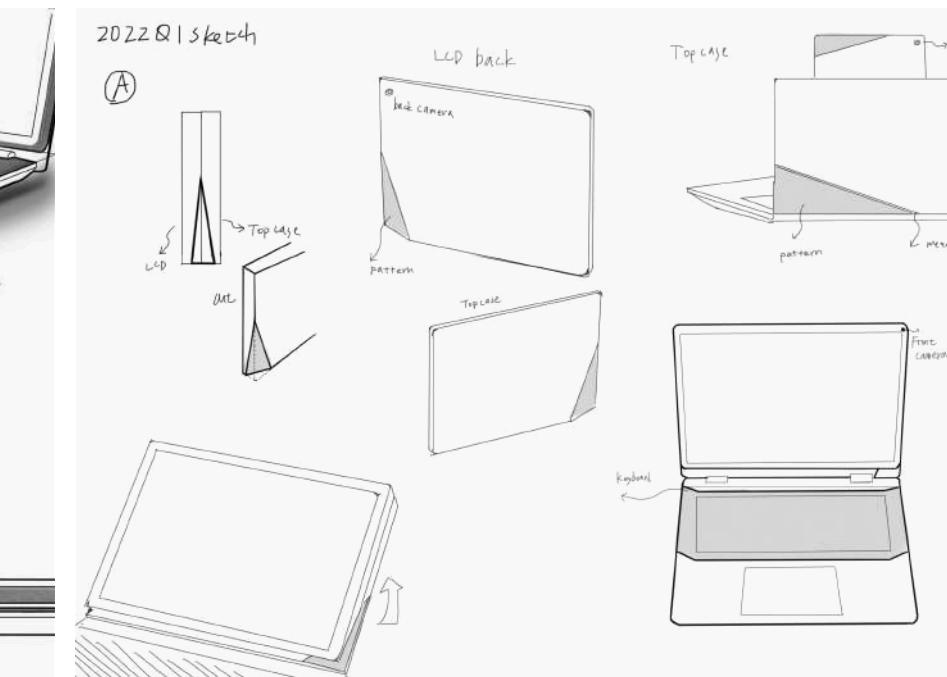
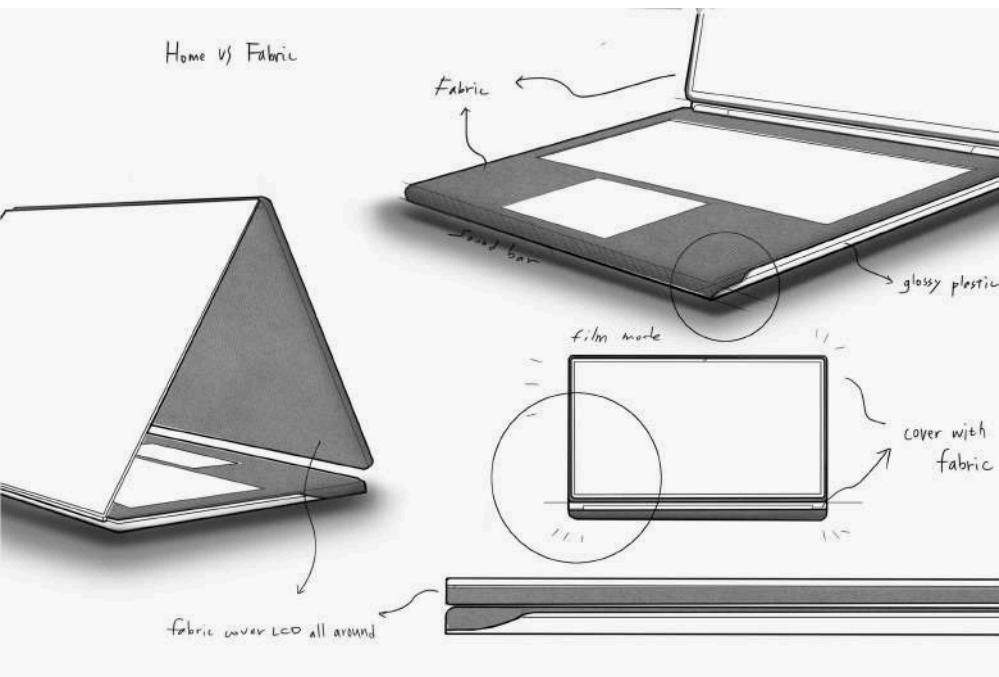
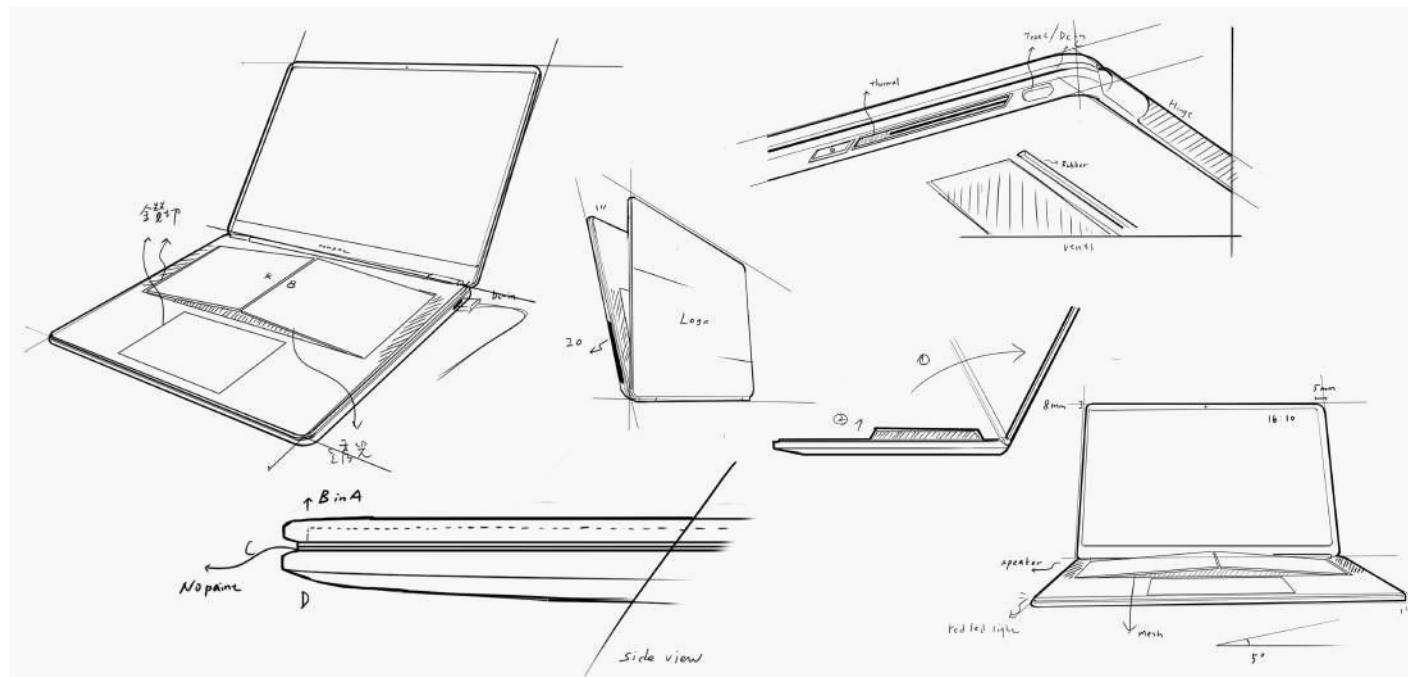
### 2016-2021 Shih Chien University

BA, Industrial Design

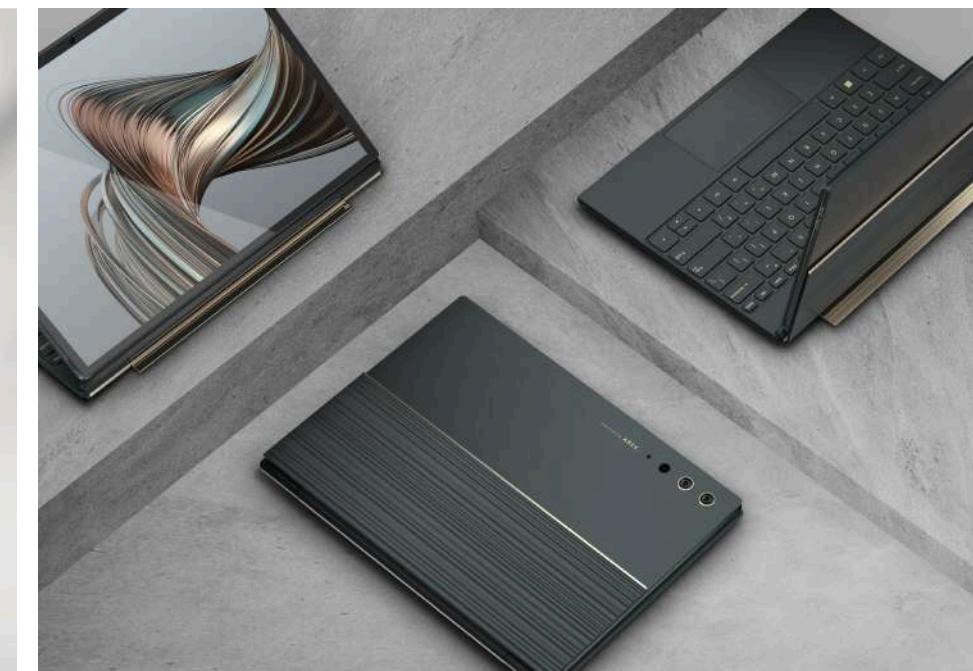
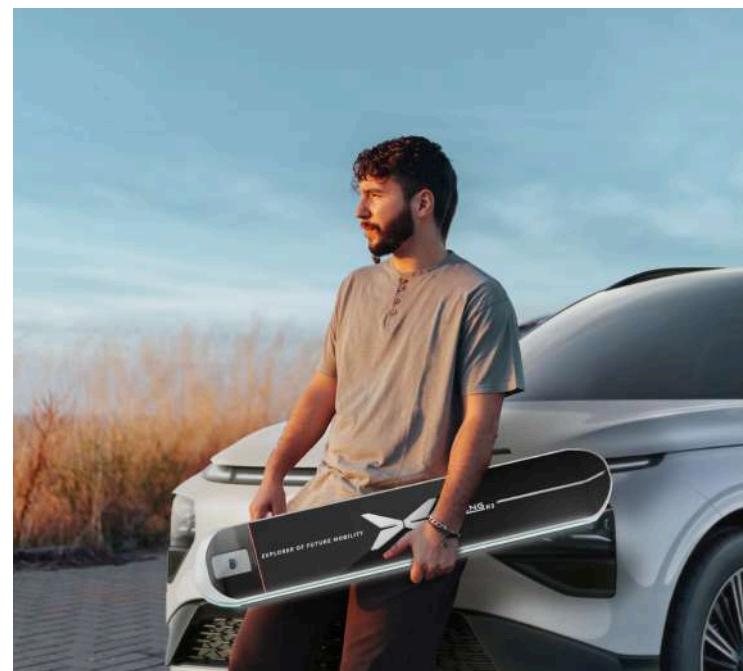
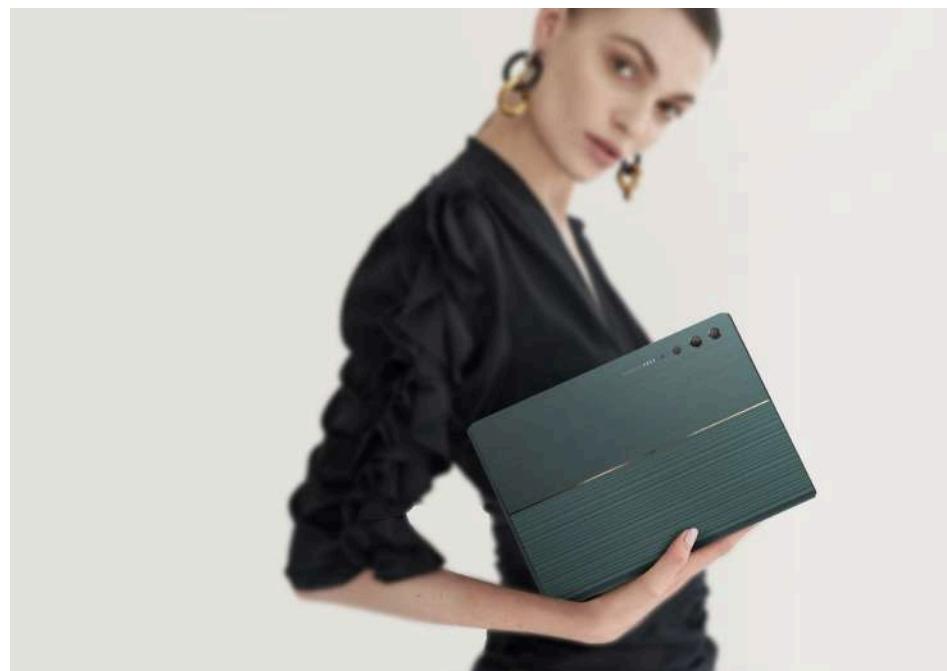
- ▶ Solid training for design processes include research, ideation, appearance design and prototyping
  - ▶ Research and teaching assistant, Design Psychology Lab, Chen-Hui Lu, Ph.D. Associate Professor, Shih Chien University
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- ▶ 2024 iF Design Award, RoverPlay
- ▶ 2023 iF Design Award, Mobile Office
- ▶ Fellowship for Studying Abroad, Ministry of Education, Taiwan

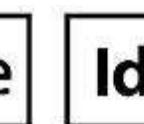
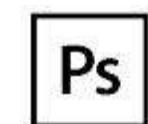
# Design Skills



Sketching



3D modeling with Creo  
Rendering with Keyshot



Prototyping with engineers

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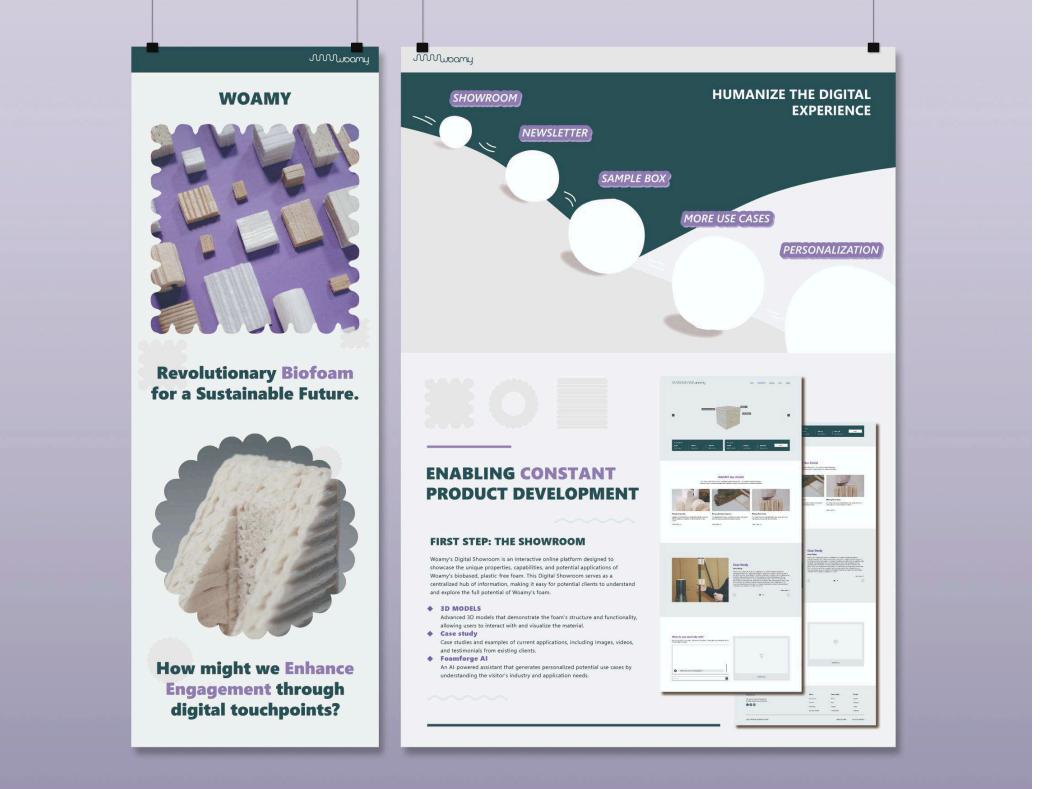
## Rover Play



Take mobile gaming to your PC

04

## Woamy



Enabling constant product development for startup



# Mobile Office

Professional project

Copyright: Compal Electronics

Year: 2022

Duration: 12 weeks

Personal contribution:

- User trend analysis using netnography tools
- Appearance proposal and CMF proposal
- Be responsible for visiting the model lab and the paint factory to verify the status of prototype production.
- Coordinating and driving the patent application process.





## Reinventing the Ultrabook for the Mobile Office

As remote and hybrid work became the new normal after the pandemic, professionals needed devices as flexible as their schedules. Traditional workstations were too bulky, and slim Ultrabooks sacrificed ports for thinness, forcing users to clutter desks with external docks that overheated and slowed performance.

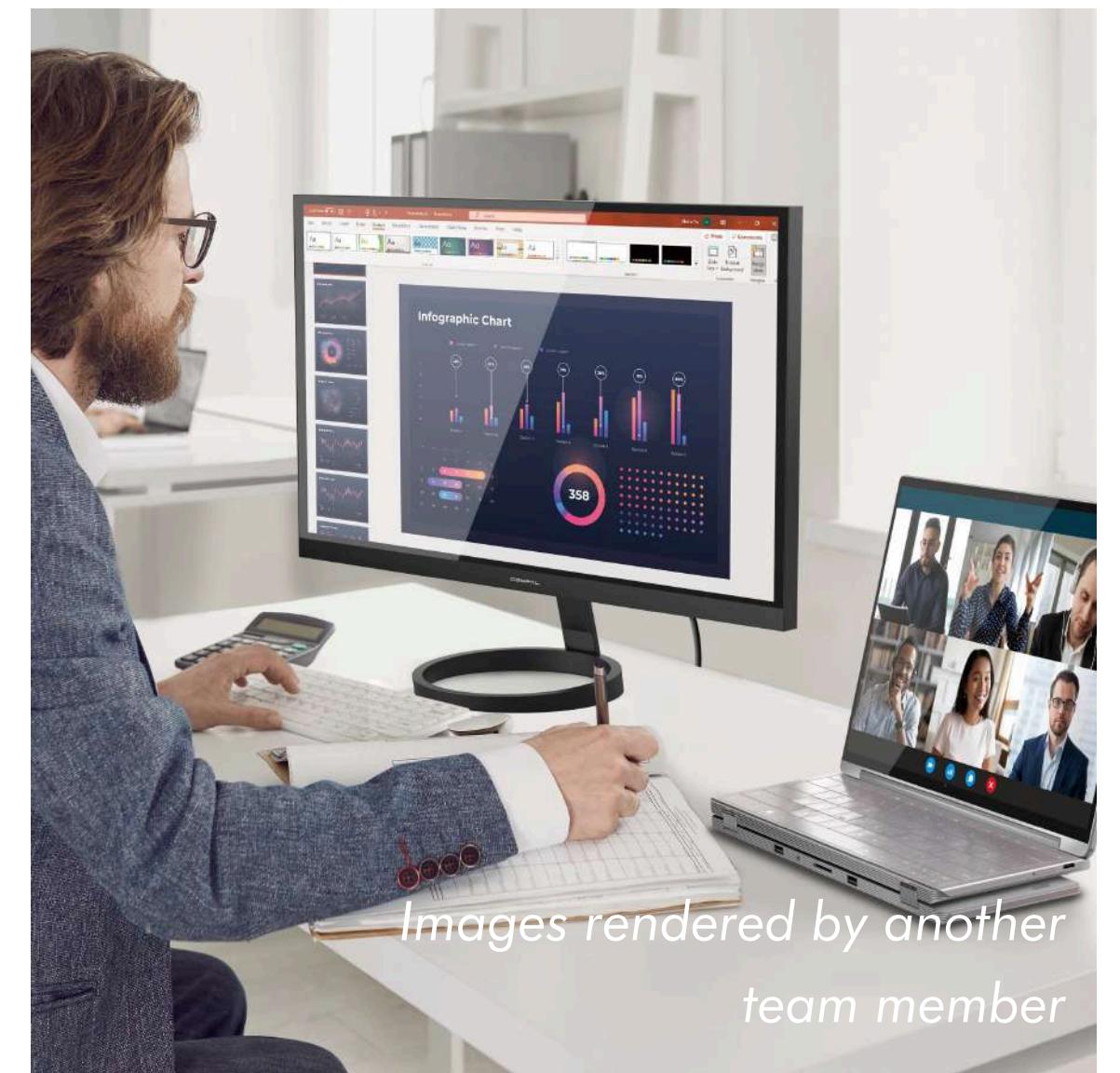
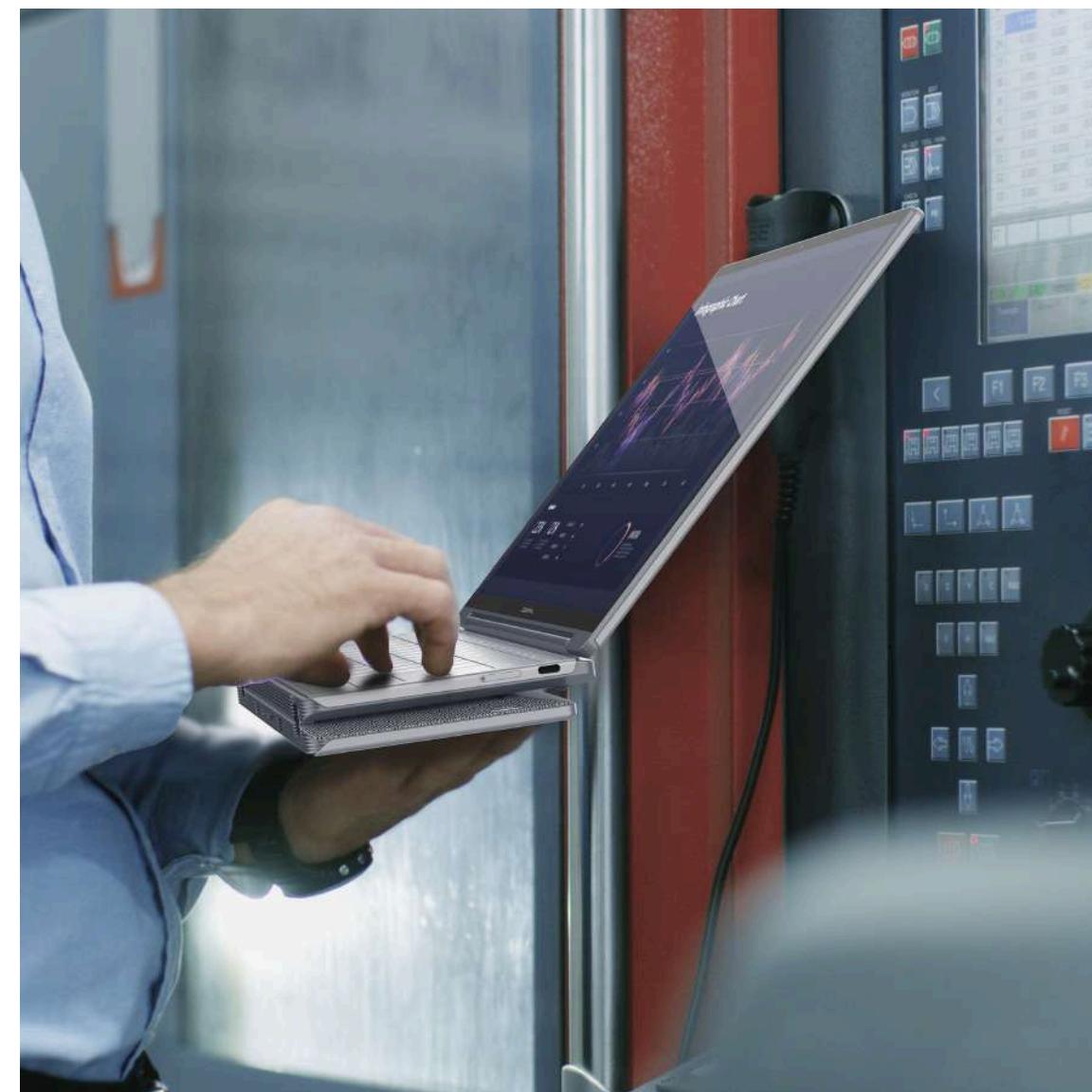
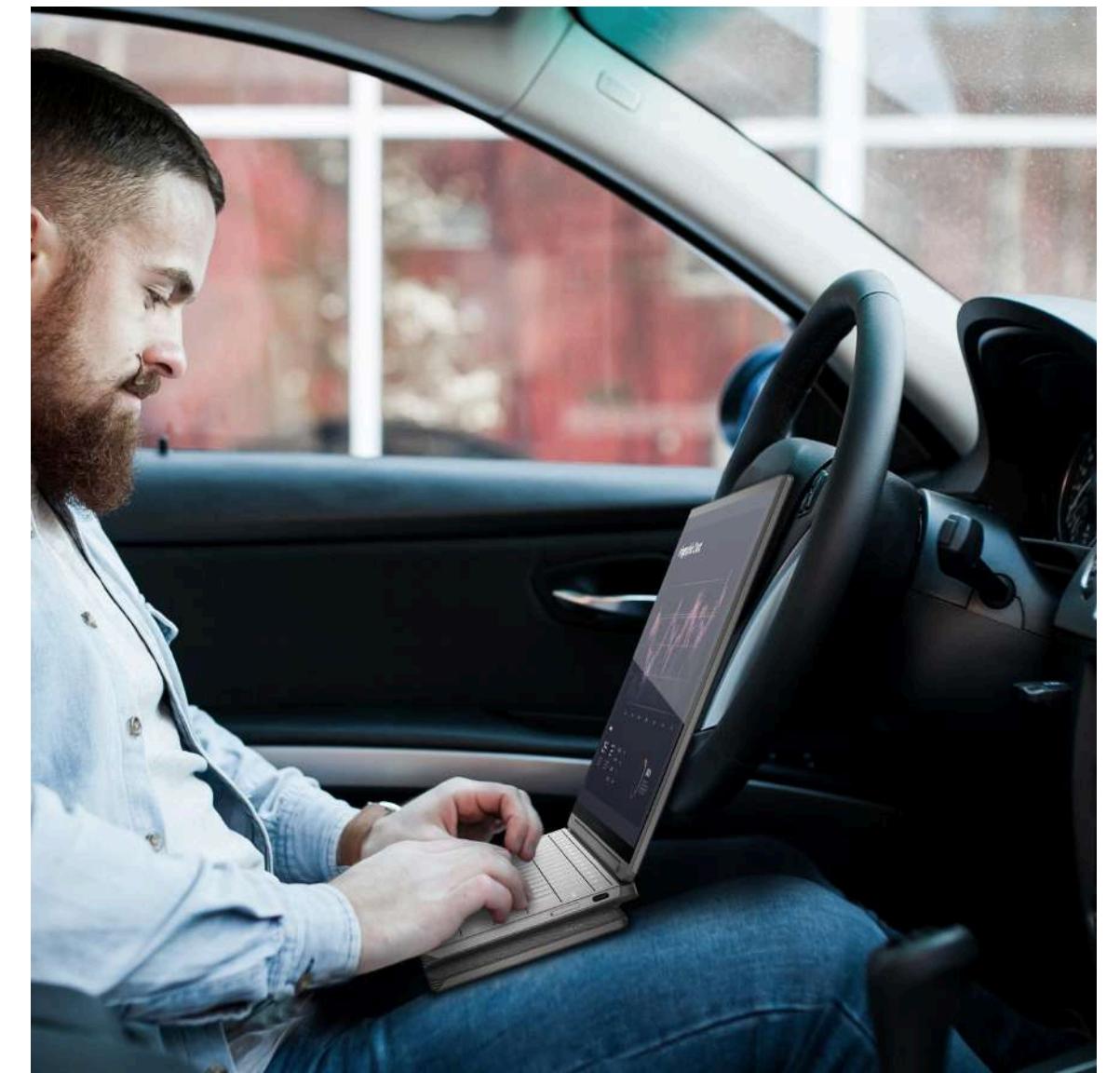
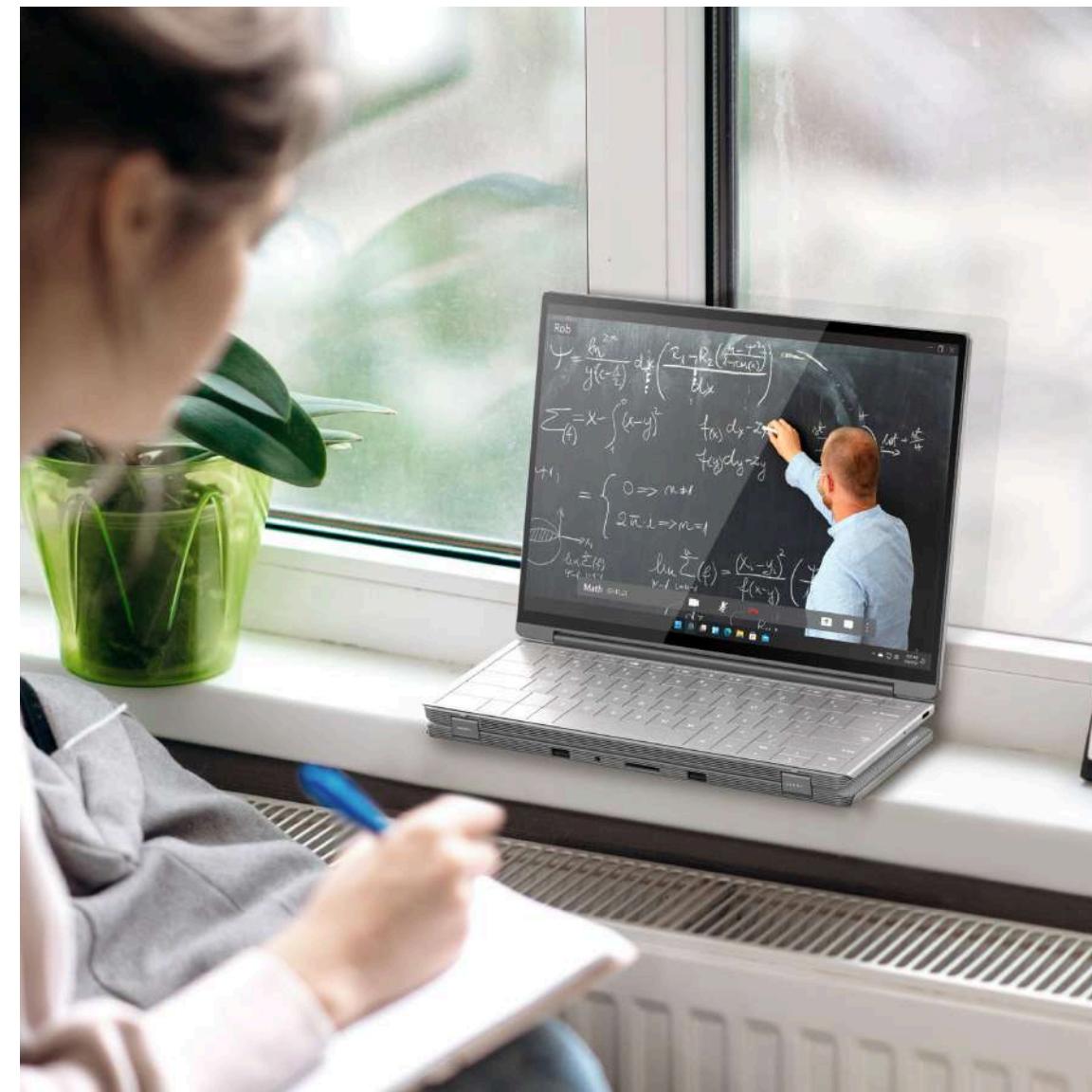
The Mobile Office solves these problems with a patented 360° foldable keyboard base that turns a full-size Ultrabook into a compact, hinge-centered powerhouse. Front-facing air intakes at the hinge improve cooling, while strategically placed ports stay accessible when open and stay sealed against dust and moisture when closed.

# Background

**When mobile office becomes mainstream, portability and flexibility is prioritized by consumers.**

After pandemic, mobile office becomes mainstream. Work has become more flexible, taking place in multiple locations beyond just home and office. From our research, workstations are no longer popular with consumers because of the weight and thickness. Instead, Ultrabook laptops become popular, due to the high flexibility and portability.

However, Ultrabook laptops often lack sufficient I/O ports as they emphasize on slim design and cost considerations, forcing consumers to purchase additional docks for expansion. Many users stated that the additional I/O docks messed up their desks. Furthermore, external I/O docks also frequently suffer from overheating and reduced data transfer speeds due to overload.

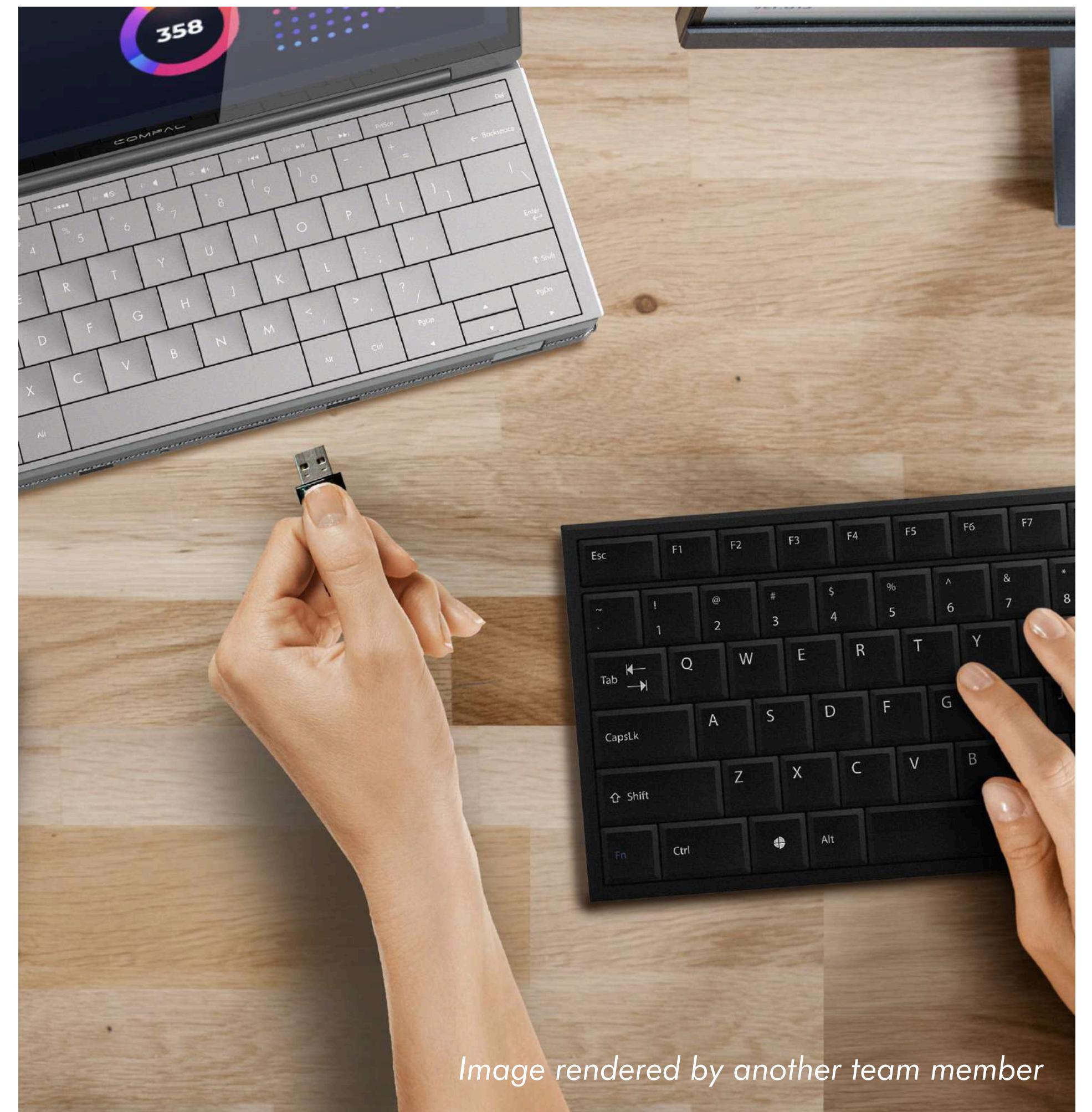


## Challenge 1: Mobility and performance are difficult to achieve simultaneously

| Workstation laptop   | ∅ | Portable laptop                                     |
|--|---|---|
|  Dell Precision, HP ZBook, Lenovo ThinkPad P series |   | Dell XPS, MacBook Pro 14", Lenovo ThinkPad X series |
|  High performance<br>Sufficient I/O ports         |   | Light weight  |
|  Heavy (2-3.5 kg)                                 |   | Lower performance<br>Limited I/O ports              |

## Challenge 2: Due to the inherent nature of laptops, their occupied surface area limits where and how they can be used.

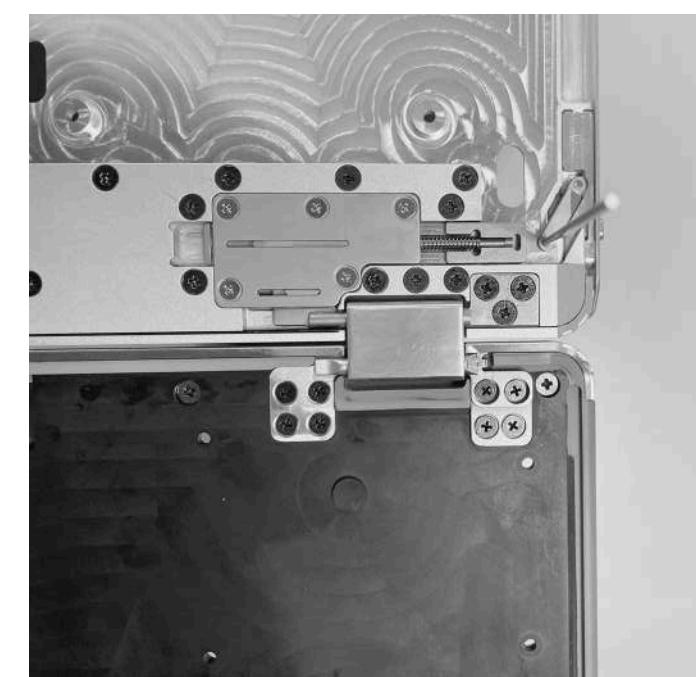
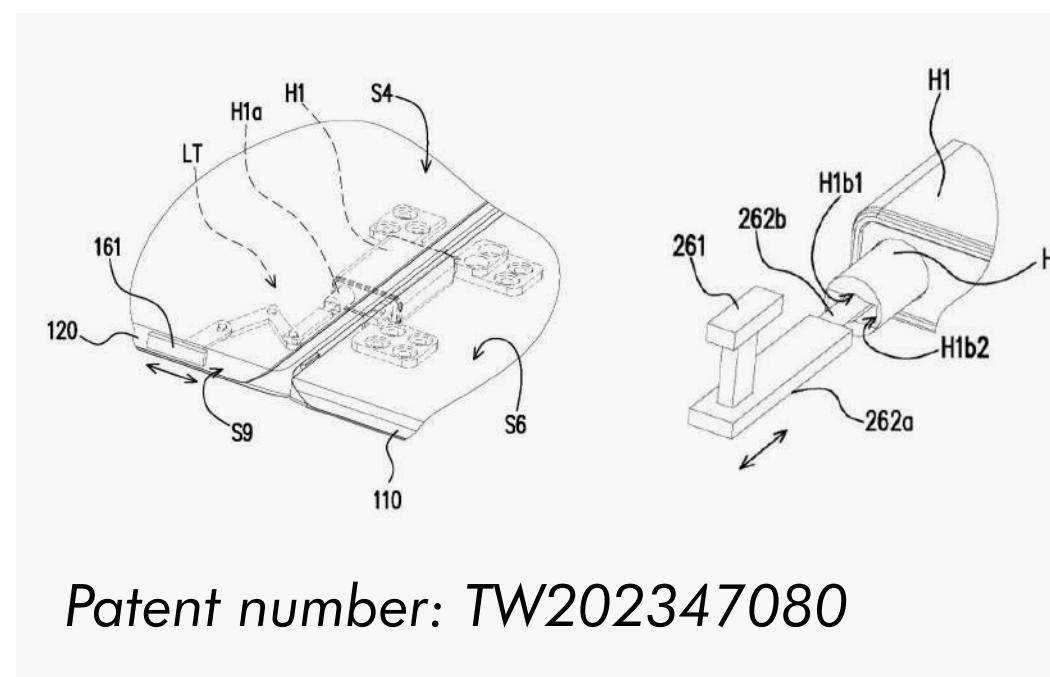
|   |   |
|---|---|
| Due to the inherent nature of laptops, their occupied surface area limits where and how they can be used. |  |
|---|---|



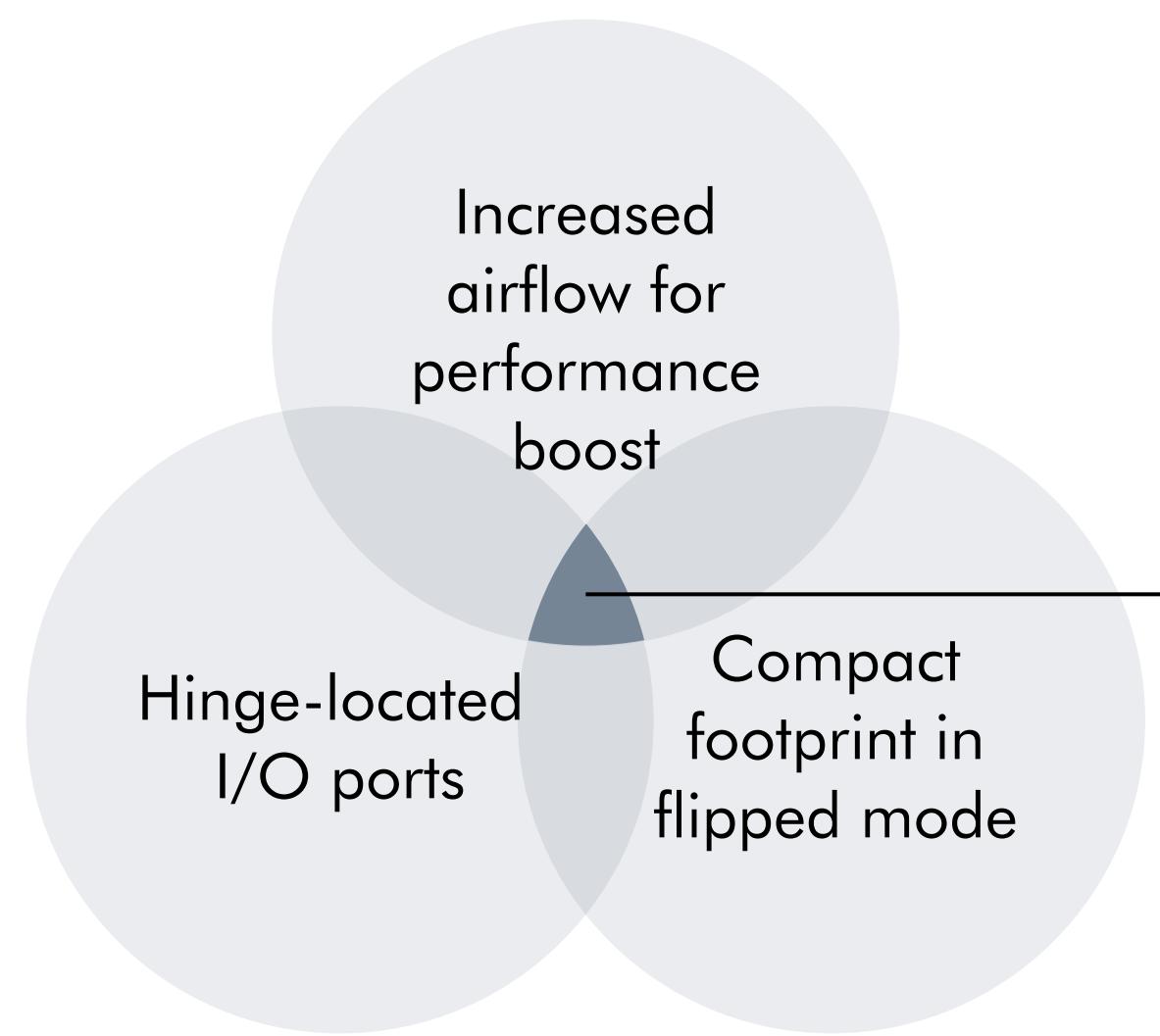
# How might we fold the device—not just for compactness, but for performance?

The Mobile Office features a patented foldable form factor that allows the keyboard base to bend 360 degrees at its center. This enables the device to fold into a compact configuration while introducing new functional possibilities. This innovative structure improves thermal airflow, optimizes I/O port placement, and enhances spatial efficiency.

The development process involved close collaboration with mechanical engineers, thermal engineers, and patent specialists. Designers had to carefully negotiate the internal structure, component dimensions, and how mechanical constraints would influence the device's external appearance.



# Impact



The Mobile Office delivers multiple performance and usability advantages. Front-facing air intake vents located at the hinge increase airflow in flipped mode, enabling the CPU to overclock or maintain higher wattage for extended periods. It results in superior performance compared to laptops of similar thickness. Frequently used I/O ports are also positioned at the hinge, ensuring easy access during use while offering dust and water resistance when the device is closed. Additionally, in its flipped mode, the laptop occupies less desk space than conventional models, making it ideal for users who value efficient workspace utilization.

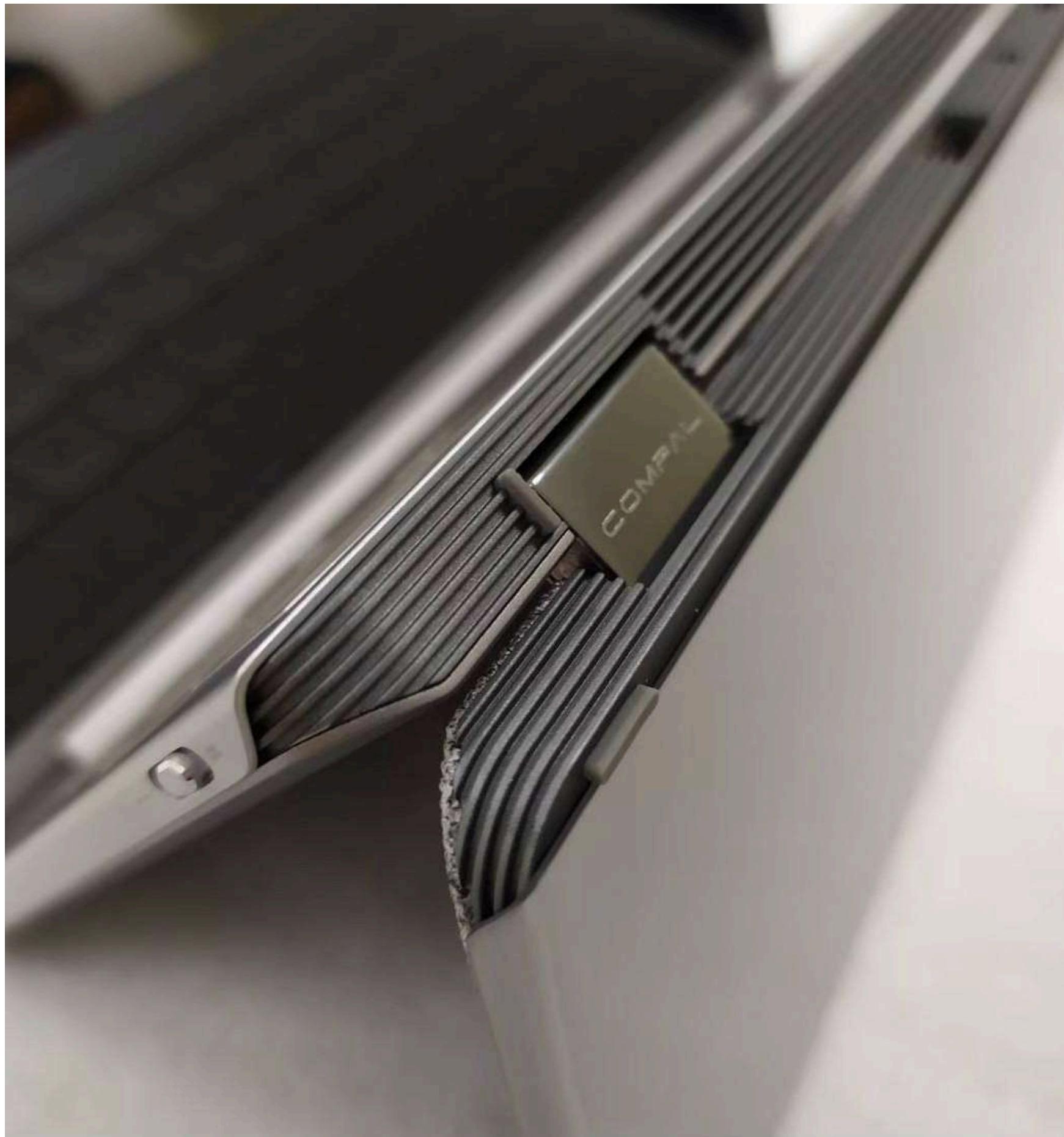




*Images rendered by ChinYing Chu*

## Mass production simulation

Although this project was a conceptual design project, we still worked with external manufacturer and created a mockup. Beside the mechanical structure, the most challenging part of this mockup was the fabric. To prevent the bottom of the keyboard from hitting each other, we decided to cover the bottom with fabric. We constantly adjust the shell thickness and leave enough space for fabric and glue.



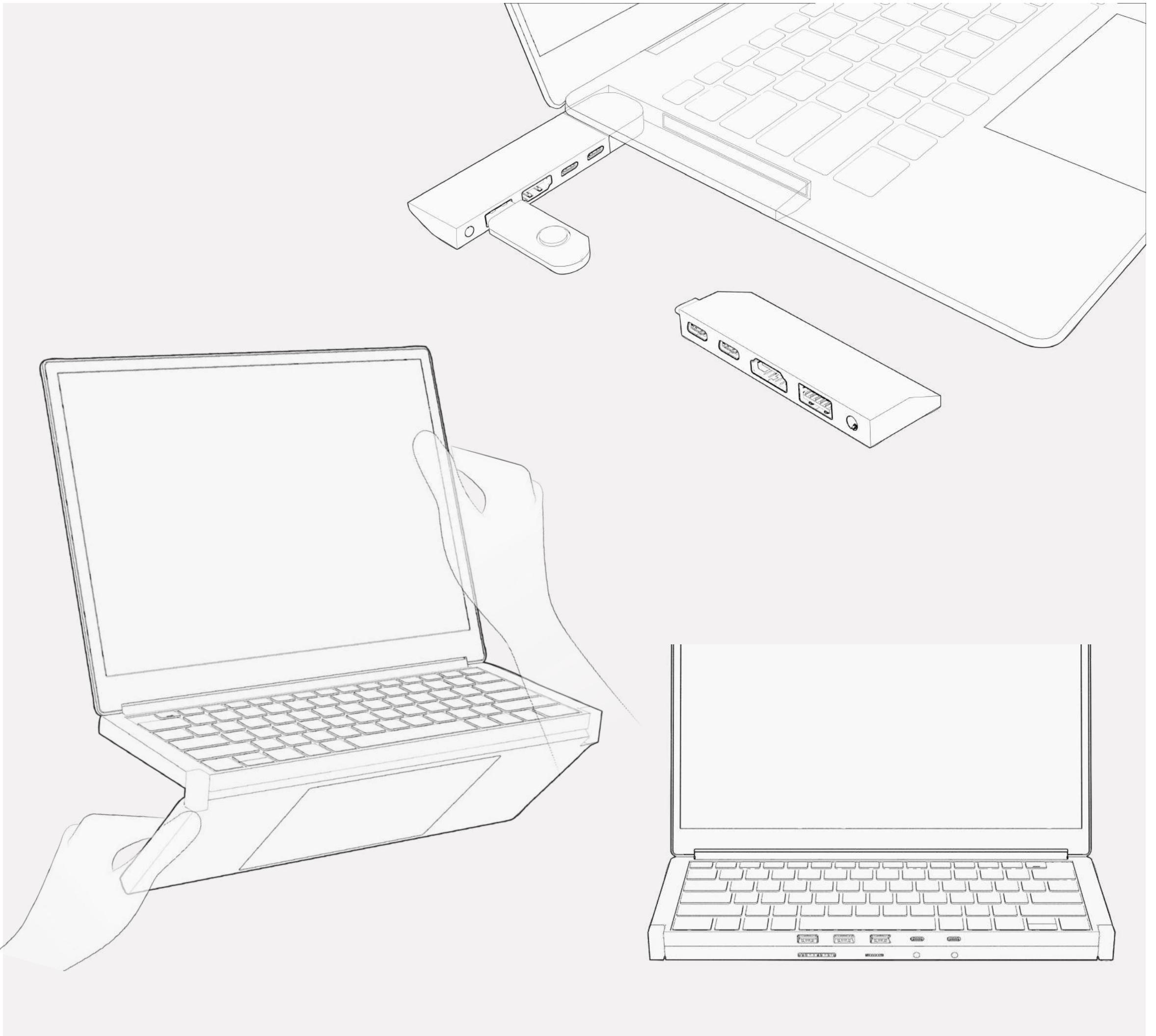
# Behind the Scenes

## Concept ideation

After defining the opportunity areas, which was improving laptops' portability and flexibility, we explored different form factors.

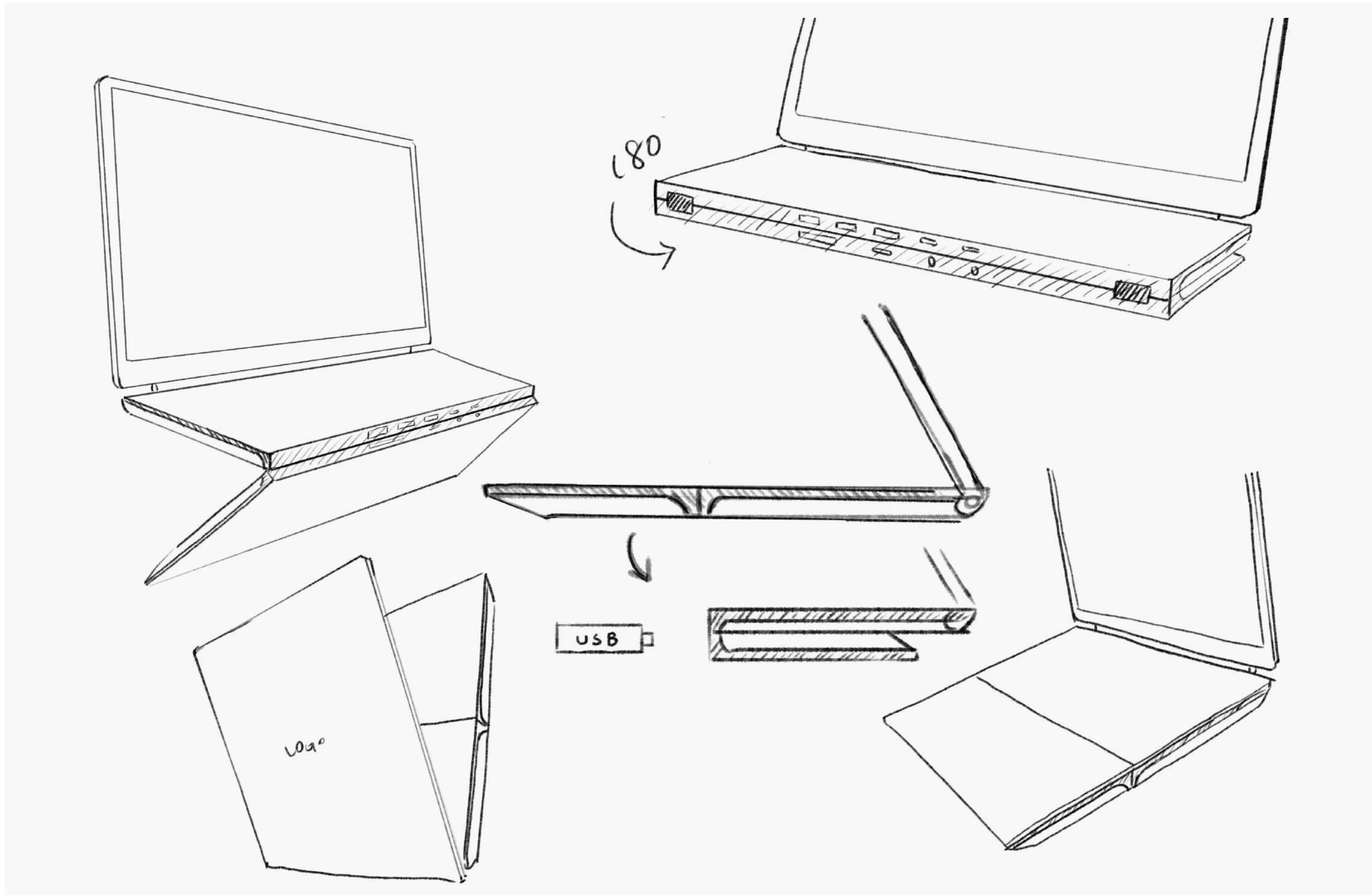
The first concept was to hide the I/O ports within the body of the device and make them accessible through a rotating mechanism. This approach protects the ports from dust and moisture when the laptop is in transit, offering greater durability for users who frequently move between locations. Additionally, since ultrathin laptops often lack sufficient side thickness to accommodate full-sized I/O ports, relocating them to a thicker part of the chassis via rotation allows the laptop's side profile to remain sleek and uninterrupted.

The second concept built on this by relocating all frequently used I/O ports into the central hinge and enabling a vertical "flipped" stance. By positioning ports in the hinge, we not only kept them shielded when the device was closed but also freed up the side panels for a cleaner aesthetic. In flipped mode, the laptop could stand upright on its hinge, drastically reducing desk footprint while aligning front-facing vents at the hinge to draw in cool air. This dual strategy promised both superior space efficiency and enhanced thermal performance, making it our final selected concept.



## Appearance design ideation

### Sketch



### Inspirations



## Design proposal development

The closed laptop reveals a single, seamless curve that flows from lid to base, emphasizing a continuous, sculpted silhouette. The primary chassis is crafted from matte-finished aluminum, chosen for its rigidity and refined feel, while strategic carbon fiber inlays along the rear hinge and side panels add subtle texture, reinforce high-stress areas, and help reduce overall weight. The frosted pearlescent white coating gives the surface a soft, paper-like quality that both invites touch and resists fingerprints. Clean, nearly invisible seams around the perimeter maintain the purity of the form, while a barely perceptible hinge line hints at the device's mobility without interrupting its fluid geometry.

Although this was one concept among several, its careful pairing of materials and attention to continuous form guided critical decisions in the final design. The balance of lightness, strength, and tactile comfort established here ultimately informed the laptop's premium, cohesive appearance.



Images rendered by ChinYing Chu





Images rendered by ChinYing Chu



# PageMate

Type: 6 weeks student team project

Course: Networked Partnering and Product Innovation

Year: 2024

Project brief: Design a user-centred IoT innovation project focused on identifying real-world needs and translating them into a functional concept.

Personal contribution:

- Market and user research
- Form factor exploration and prototyping
- Appearance design proposal
- Working prototype development



## Seamless reading across formats and devices

PageMate is a smart, IoT-enabled bookmark designed to unify the reading experience across physical and digital platforms. Whether flipping through a paperback or swiping on an e-reader, PageMate ensures users always return to the exact page where they left off. With PageMate, reading becomes more flexible, intuitive, and personalized. It meets the needs of today's hybrid readers, those who value the feel of a physical book but appreciate the convenience of digital formats.

By combining a slim, tactile device with a Bluetooth-connected mobile app and cloud syncing, PageMate eliminates the disconnect between print and digital reading.

# How to provide a seamless reading format-switching experience?

## ■ Increased E-book market

In 2020, e-book sales experienced a significant increase, indicating a growing market for digital reading formats (Whiting, 2021). Additionally, platforms like TikTok have contributed to a surge in reading among youth, with many reporting increased book consumption due to TikTok content.

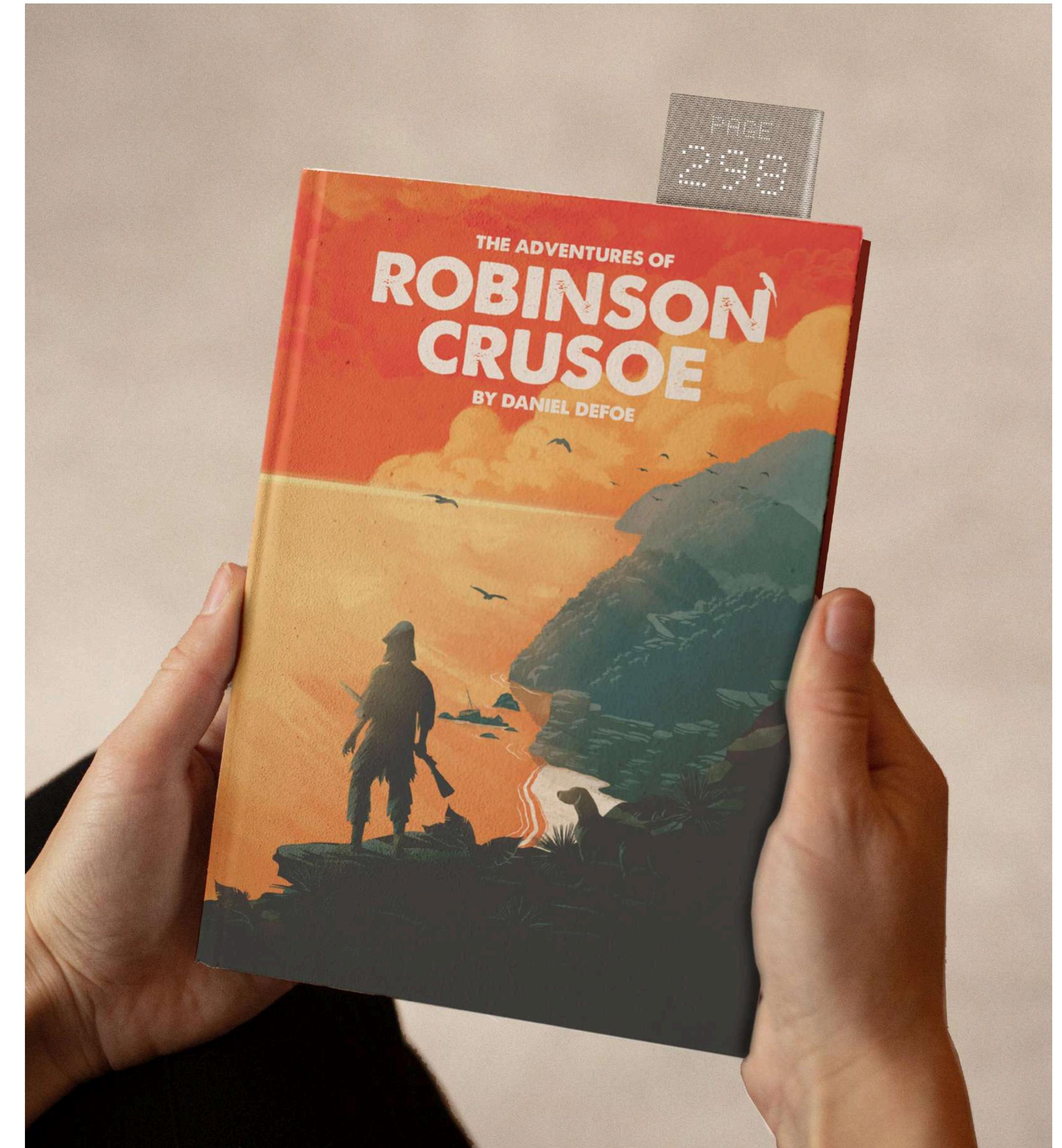
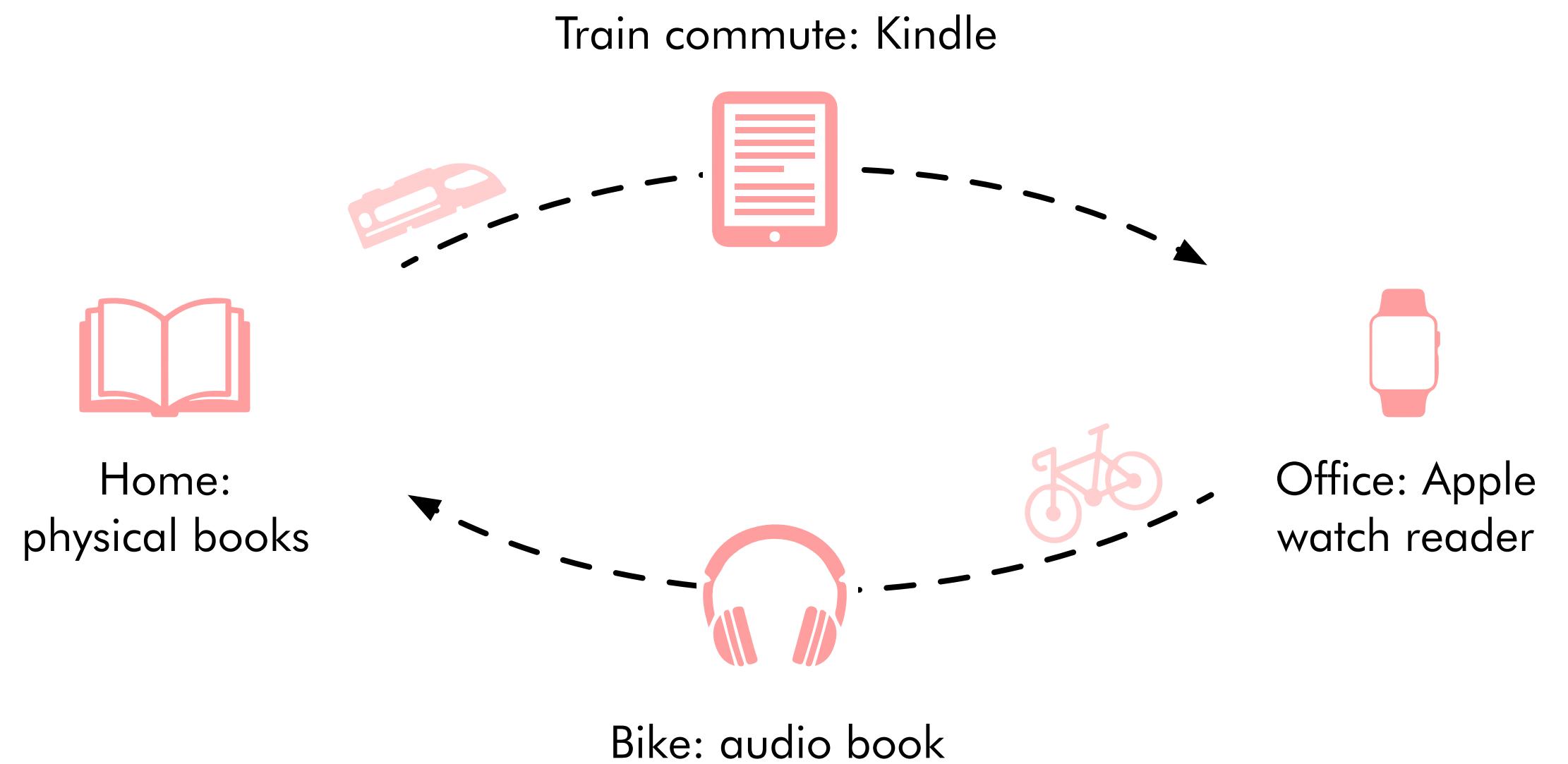
## ■ Growing demands of switching reading formats

In a study by Bailey, Sahoo, and Jones (2020), 50 out of 100 participants owned books in multiple formats, yet 24 refrained from switching between them due to the lack of an efficient method. This highlights a significant deterrent to reading books in multiple formats and indicates a demand for a seamless solution.



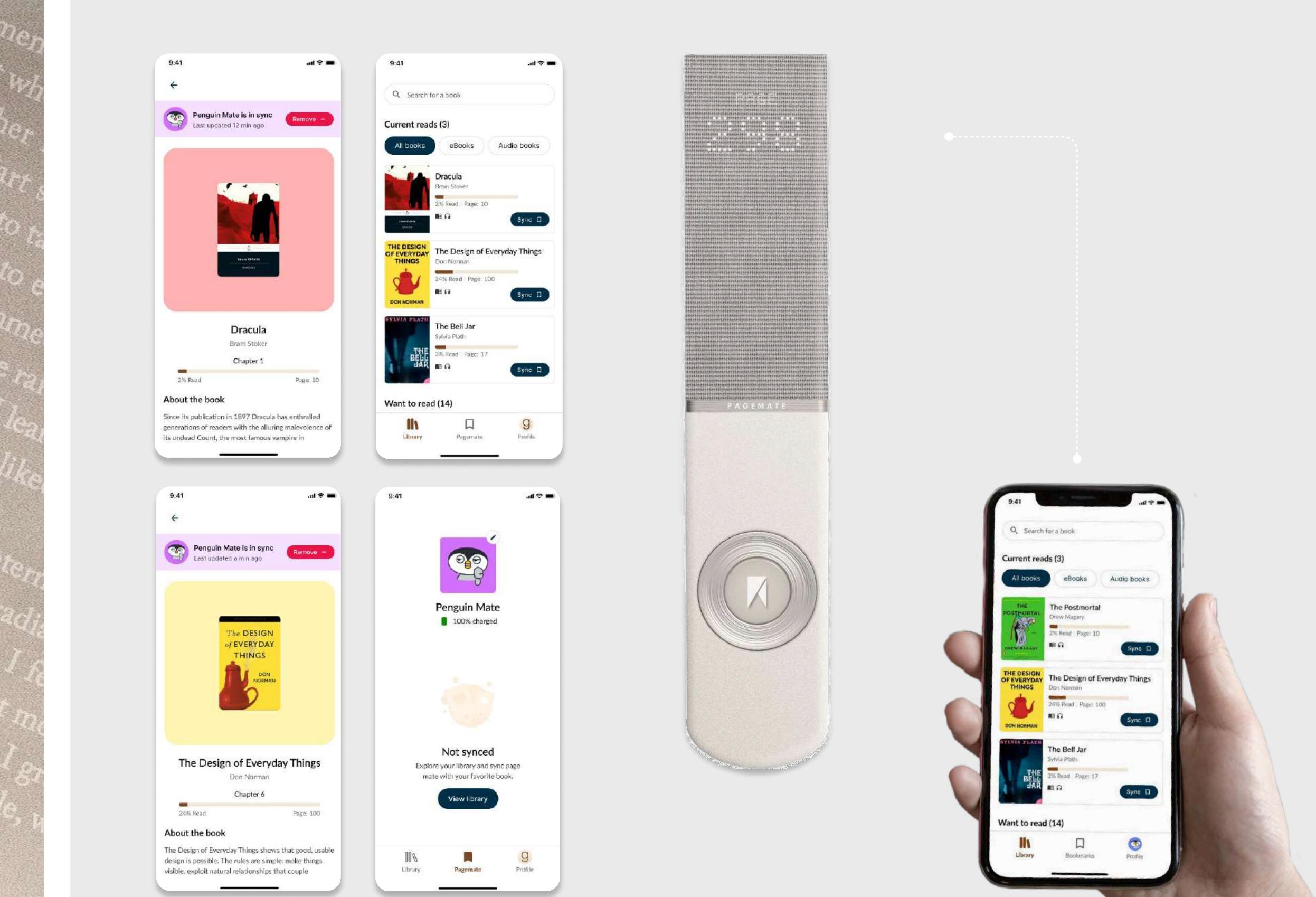
## Pain point: pages cannot be synced between different formats

The format of reading changes depending on the environment. At home, many people prefer physical books, while outside, for the sake of convenience, they often choose e-books. In more extreme situations, such as while cycling, audio books become a more practical option. Although digital formats can be synchronized with one another, synchronization between digital and physical books remains impossible.



# Wherever You Read, PageMate Leads

PageMate is an IoT-enabled smart bookmark that tracks and syncs users' reading progress across various book formats and platforms. It includes a physical bookmark, a smartphone app (created by other team member), and a cloud server. It revolutionizes the reading experience by seamlessly synchronizing progress across both physical and e-book formats. For those who cherish the tactile sensation of a physical book or relish the convenience of an e-book, PageMate guarantees that readers always pick up right where they left off.



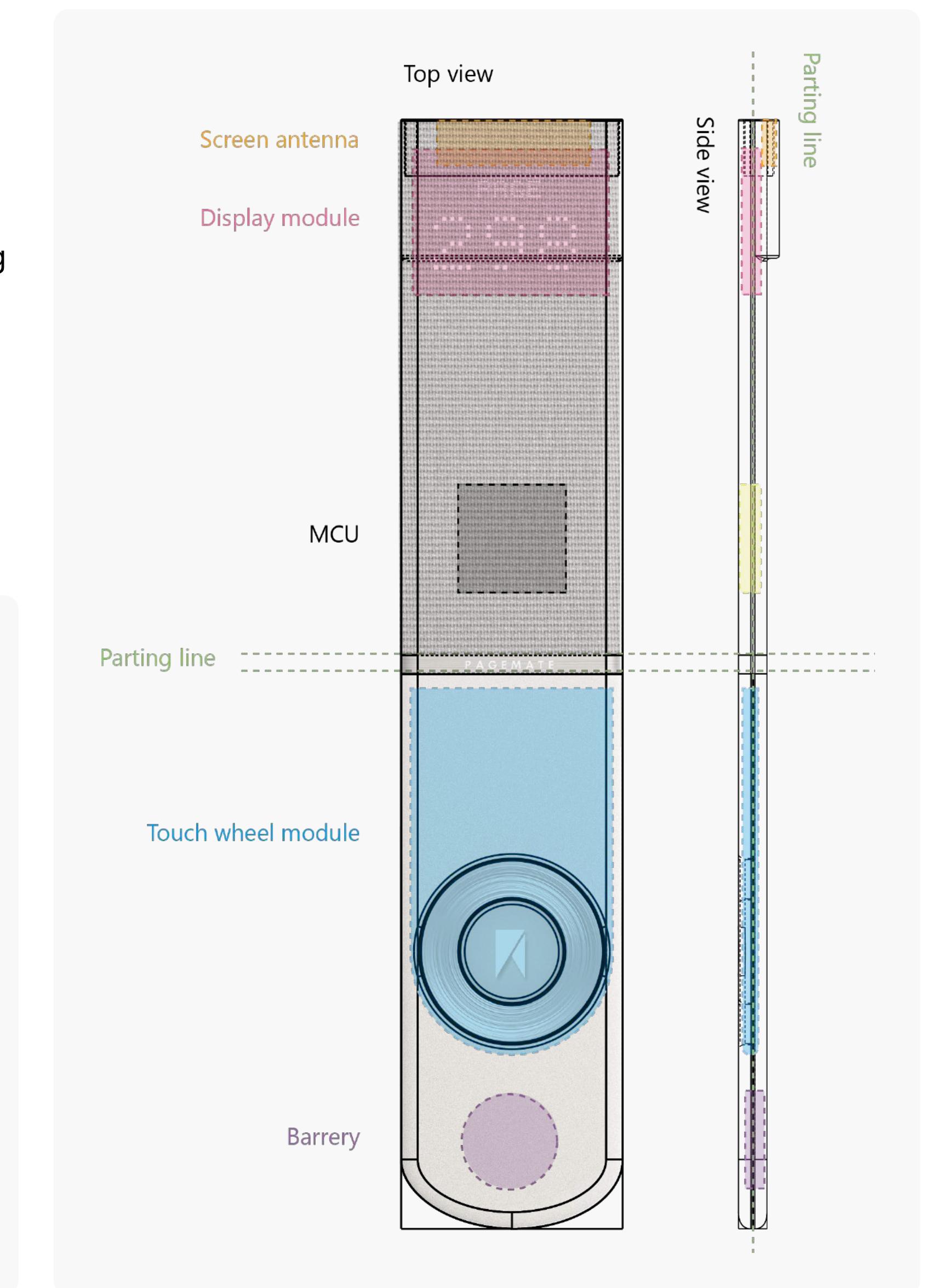
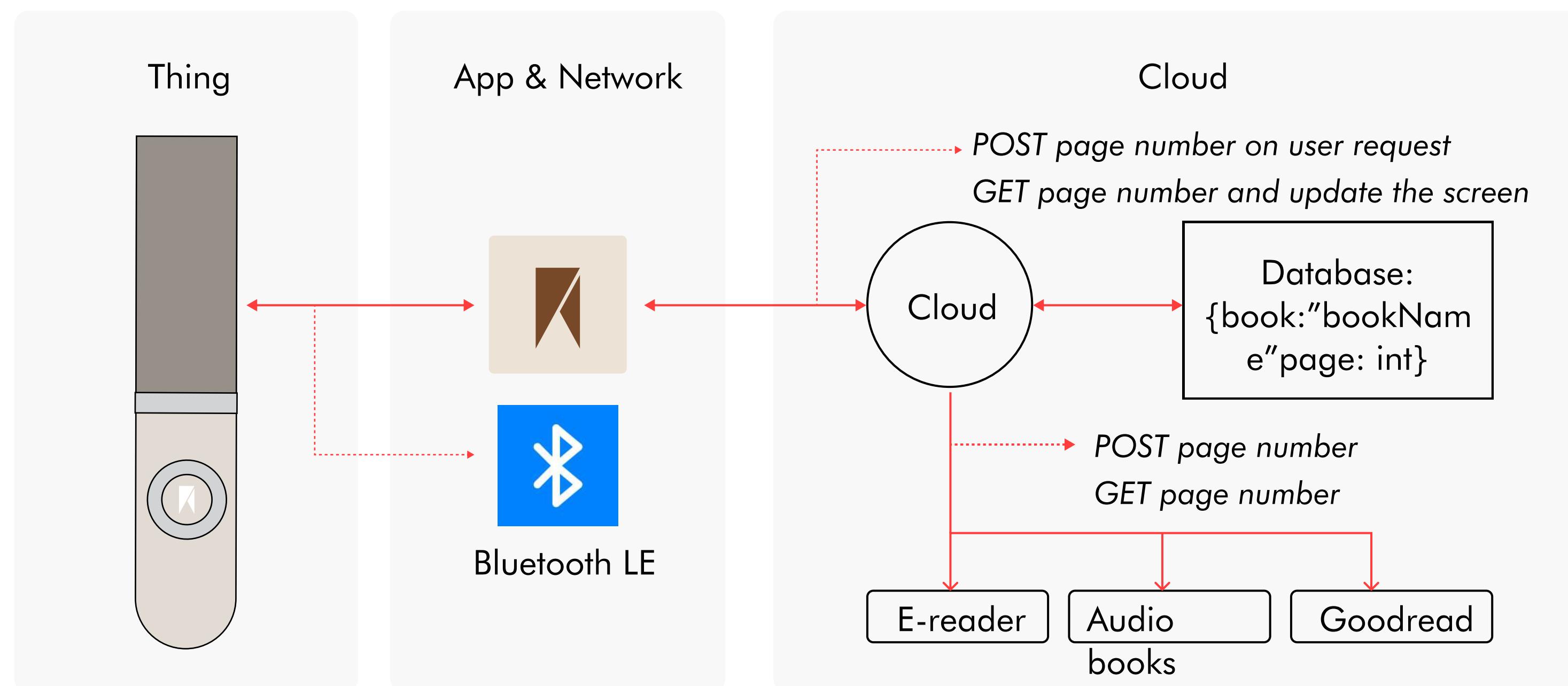
## User flow

At home, the user is reading a physical book and stops at page 32. To log their progress, they use the scroll function on PageMate to set the device to the corresponding page number, then clip it onto the book. The user leaves home without taking the book, relying on PageMate to remember where they left off. Later, during their commute, the user reads on a tablet. Thanks to the synchronized data, the e-book automatically displays the previously saved page. The user continues reading and reaches page 67. When returning home, they scroll PageMate to update the progress to page 67 and insert it into the physical book. The next time they pick up the physical copy, they can instantly resume reading.



## Component & System

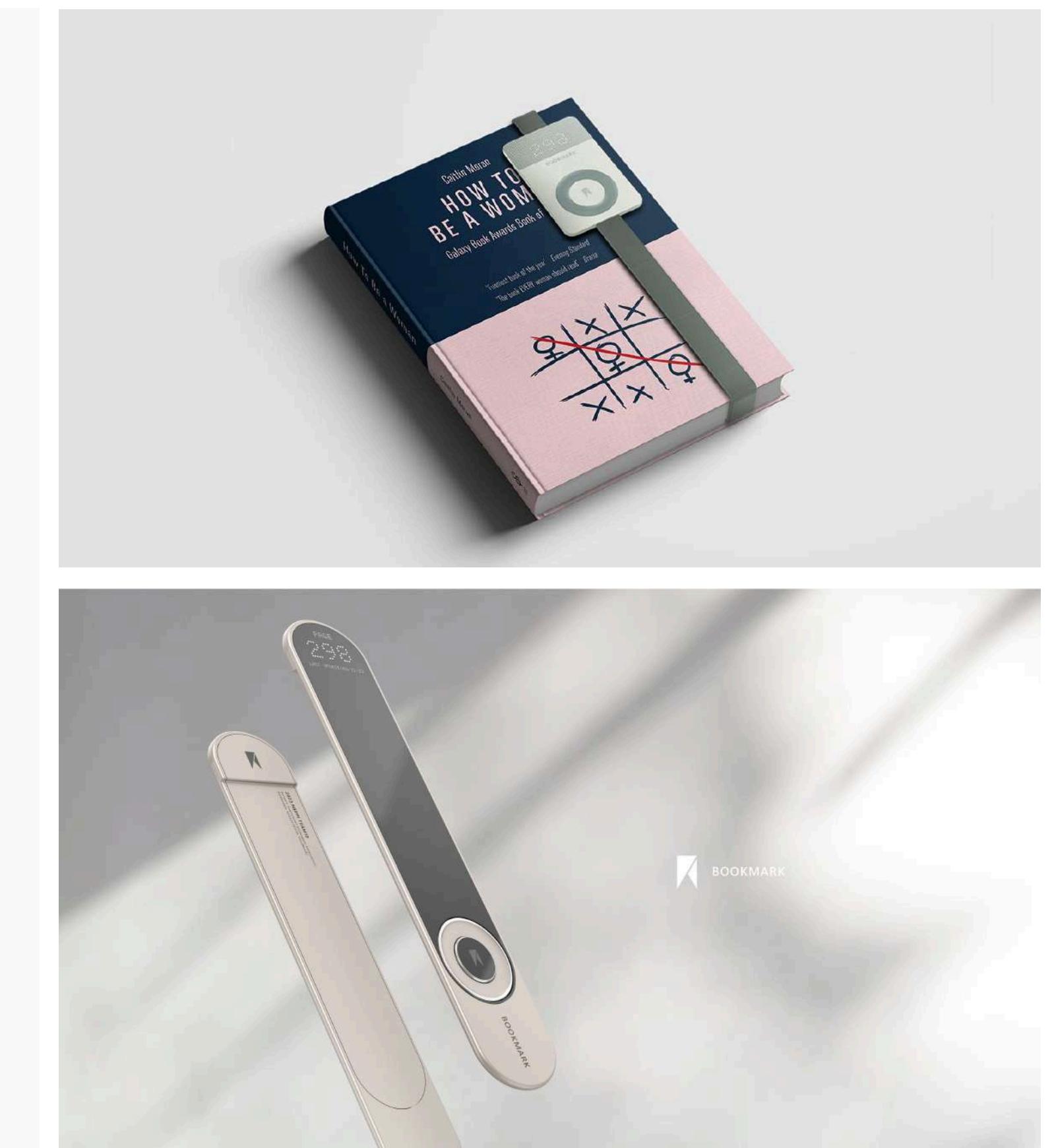
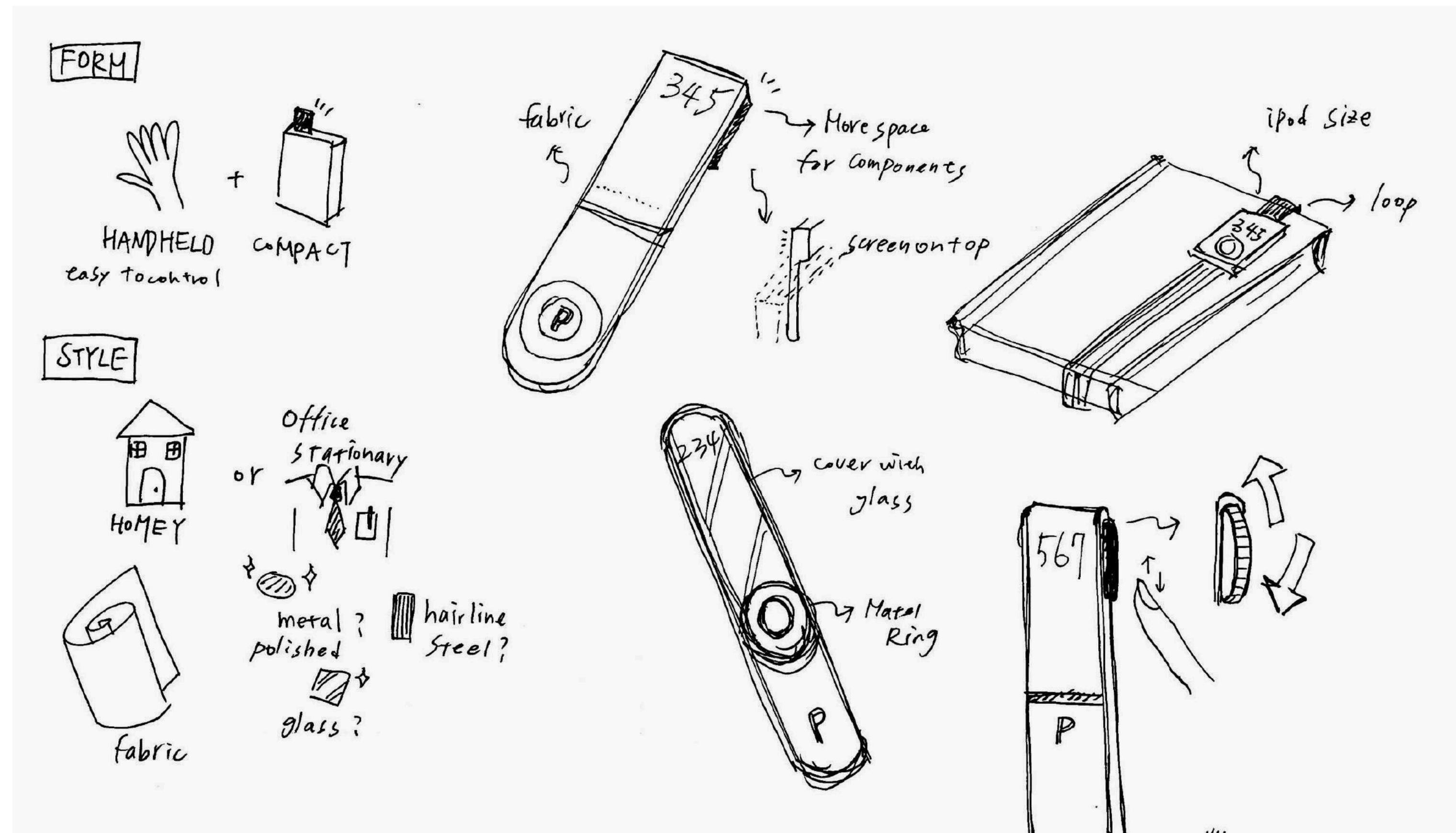
PageMate is a thin and lightweight device that can be inserted into any book to record the user's reading progress. As a bookmark, PageMate needs to be held between pages, so the device must be extremely thin. We referred to the thickness of the iPod Nano and kept the body under 4 mm. When selecting internal components, we prioritized the thinnest options available and avoided stacking parts whenever possible. It features a low-power microcontroller that communicates with the user's smartphone via Bluetooth. PageMate is equipped with a tiny battery that can be easily recharged using a Pogo pin charging interface. It also includes a touch scroll wheel that allows users to enter the page number.





# Behind the Scenes

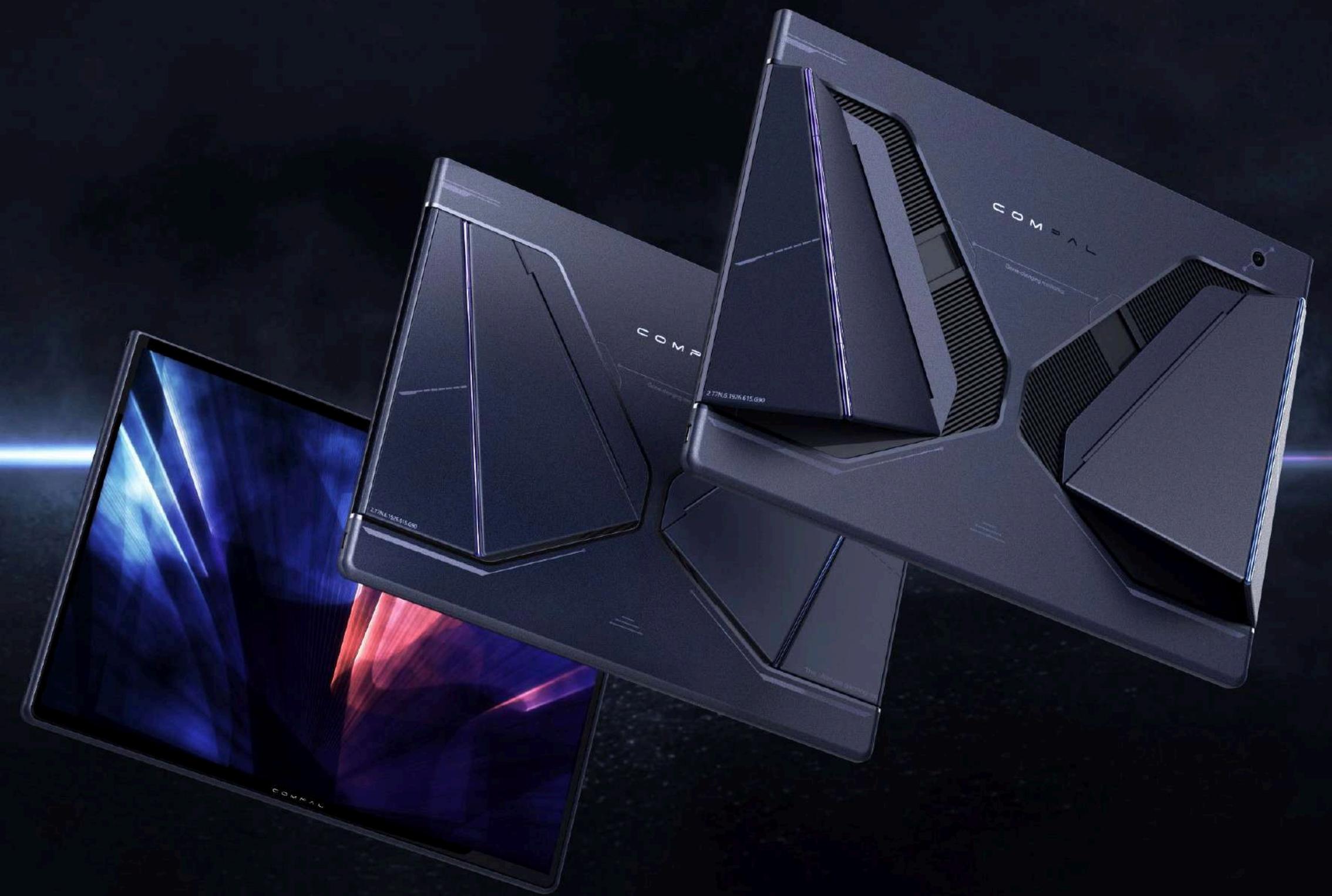
When exploring the form factors, several aspects were carefully considered. Since the bookmark is intended to be used in a fixed location, typically at home, portability was not a key concern. For this scenario, a flat form factor that can be easily inserted between pages is ideal, as it prevents damage to the paper and avoids adding bulk to the book. Initially, we considered a loop design; however, it was difficult to estimate the appropriate loop length, and it made the act of starting to read more cumbersome. In the end, we prioritized the primary use case and opted for a flat design, ultimately removing the loop. At the appearance design stage, we explored two directions: one with a luxurious aesthetic and another with a cozy, homely feel. Given that the primary usage scenario is within the user's home, we selected the latter—featuring a fabric covering and a textured surface to enhance tactile comfort. For the color palette, we chose ivory as the main color. Its warm undertones evoke a sense of comfort and familiarity. Overall, we aimed to make our smart bookmark not just a functional tool, but also a stylish accessory for book lovers.



## Prototyping

The prototyping process was divided into two stages. First, we used 3D printing to verify that the overall design was ergonomic and thin enough not to damage the pages of a book. Second, we developed a functional prototype, including both the system and hardware components. We used Arduino to program the device, display page numbers, and register touch input through a capacitive sensor.





*Image rendered by another team member*

# RoverPlay

Professional project

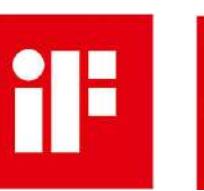
Copyright: Compal Electronics

Year: 2023

Duration: 12 weeks

Personal contribution:

- User research
- Two appearance proposals
- Prototype testing
- Be responsible for visiting the model lab and the paint factory to verify the status of prototype production.
- Coordinating and driving the patent application process.



DESIGN  
AWARD  
2023



*Image rendered by another team member*

## Take mobile gaming to your PC

For hardcore gamers who live for mobile titles but crave the precision of a simulator on their laptop, Rover Play delivers. Say goodbye to awkward controls on big screens. Our revolutionary FlexiRear Controller, with integrated ultrasonic sensors, transforms Rover Play from a sleek tablet into an ergonomic gaming powerhouse with a simple slide. Customize the rear touch areas for a truly personal experience.

But Rover Play isn't just about control; it's about versatility. Prop it up at a low angle for comfortable tabletop play, or attach the included keyboard cover to unlock its full potential as a gaming 2-in-1 laptop. Rover Play adapts to your game, wherever you are.

# Background

## Driven by user demand for enhanced mobile gaming

The conceptualization of Rover Play emerged from two significant and converging trends within the gaming landscape: the increasing prevalence of rear-touch control in mobile gaming and the sustained growth of emulator software. A clear market indicator was the proliferation of rear-touch phone accessories, specifically designed to enhance the mobile gaming experience.

Concurrently, the emulator software market continued its expansion, highlighting a growing user base leveraging laptops for mobile gaming. These combined observations underscored an opportunity to re-evaluate and optimize the role of laptops in this evolving mobile gaming ecosystem.



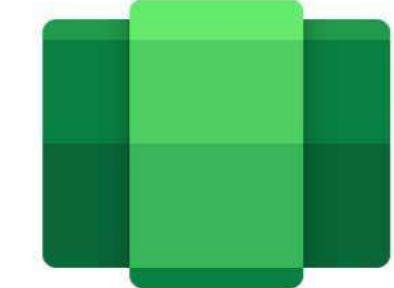
## Market trend

Bluestacks published the first Android game emulator in 2011. Since then, mobile game players started to play mobile games on laptops or PCs. Until 2021 and 2022, Windows Subsystem for Android™ and Google Play Games. The trend shows that the software companies attach great importance to the emulator market.



2011

Third party emulators  
appeared



2021

Windows Subsystem  
for Android™



2022

Google Play Games

## User Research

Most of the mobile action games support cross platform playing. Mobile gamers will choose the proper device based on the scenarios. Notably, some gamers play on tablets with unique gestures because of the heavier weight and the bigger screen.



# How might we enhance laptop-based mobile gaming to meet core user demands?

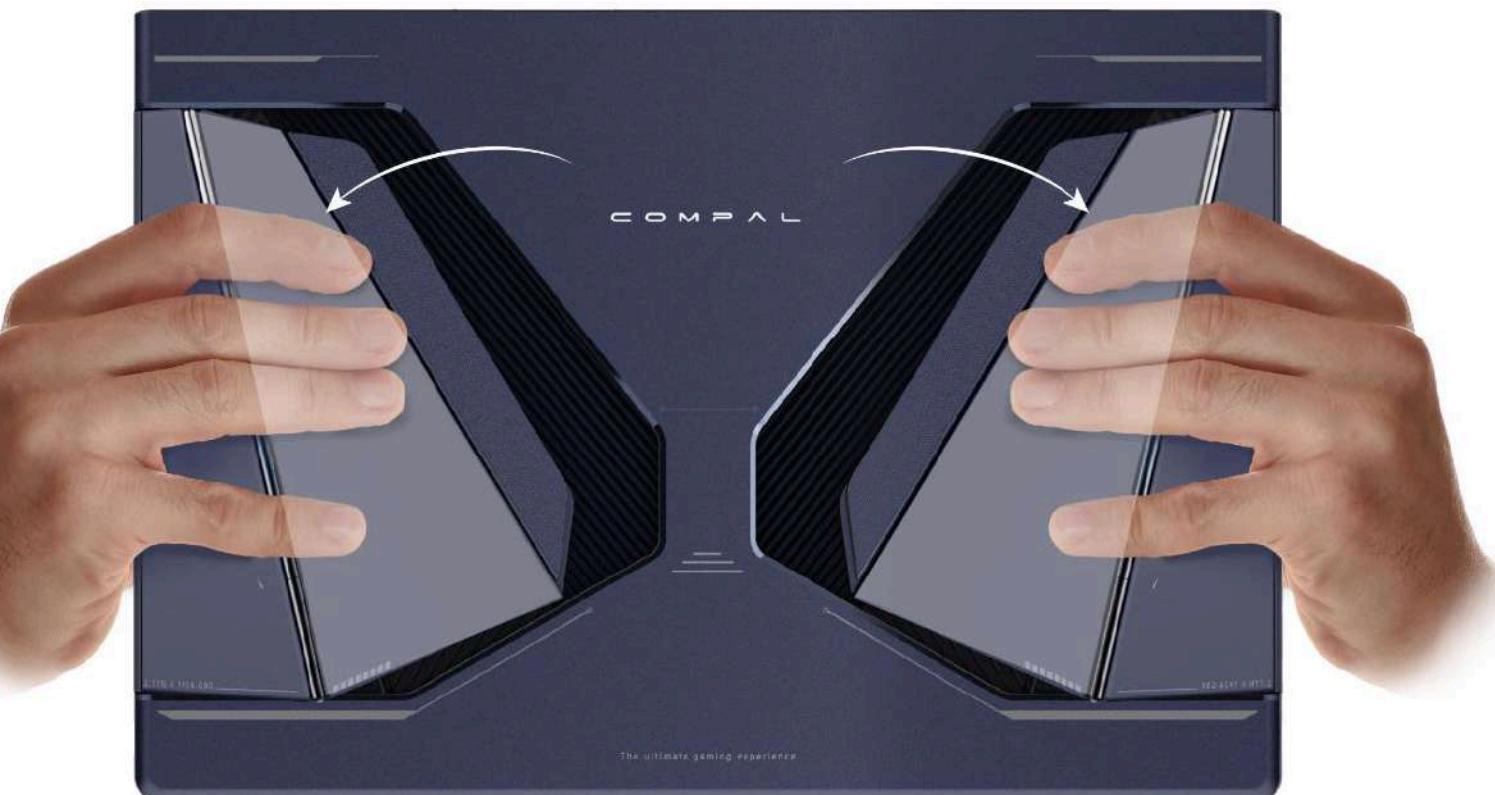
The continued growth of the emulator software market indicated the trend that mobile gamers tend to play on PC or laptops, which provide bigger screen, longer battery life, and precise control. As the first mobile gaming focused laptop, RoverPlay tackled the corresponding concerns such as heavier weight and heat dissipation with the innovative **FlexiRear Controller**. Through unlocking the foldable ultrasonic gaming controllers on the back, Rover Play became an ergonomic gaming console with rear touching function.



Flat mode: the touching area are disabled.



Slide the middle plate to unlock.

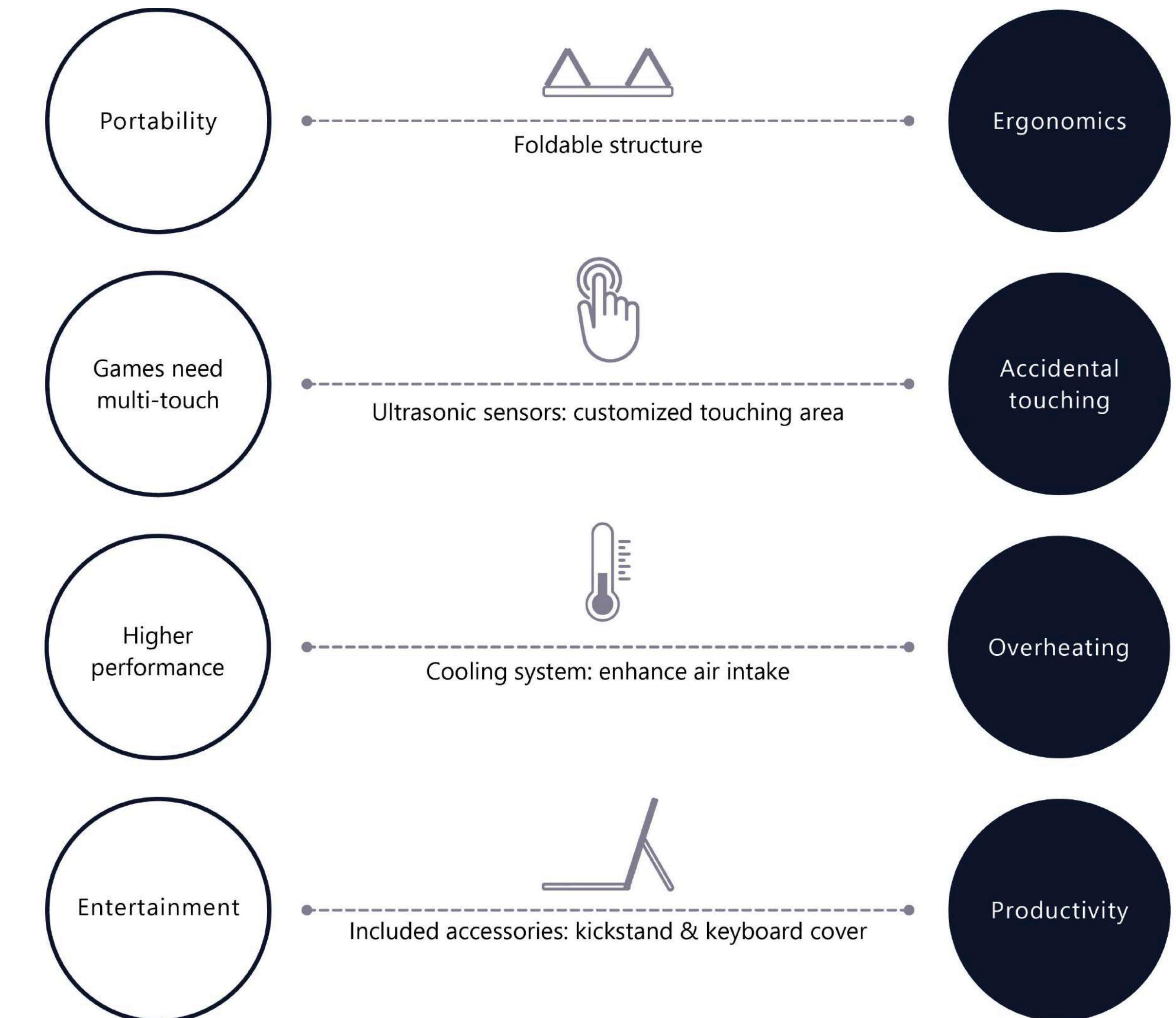
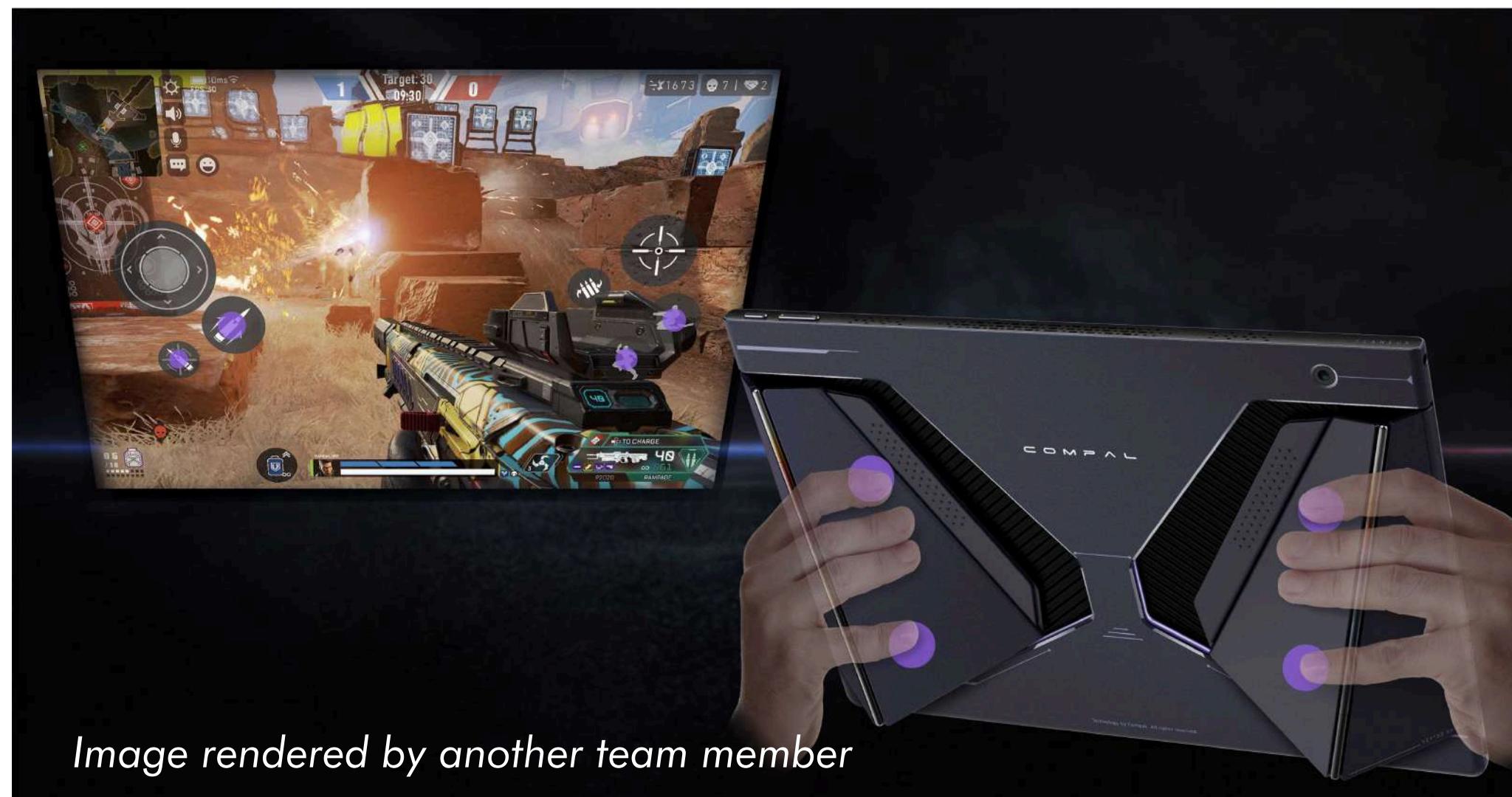


Slide the outside plates and switch to the controller mode.

## FlexiRear Controller

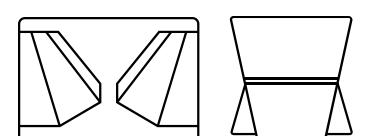
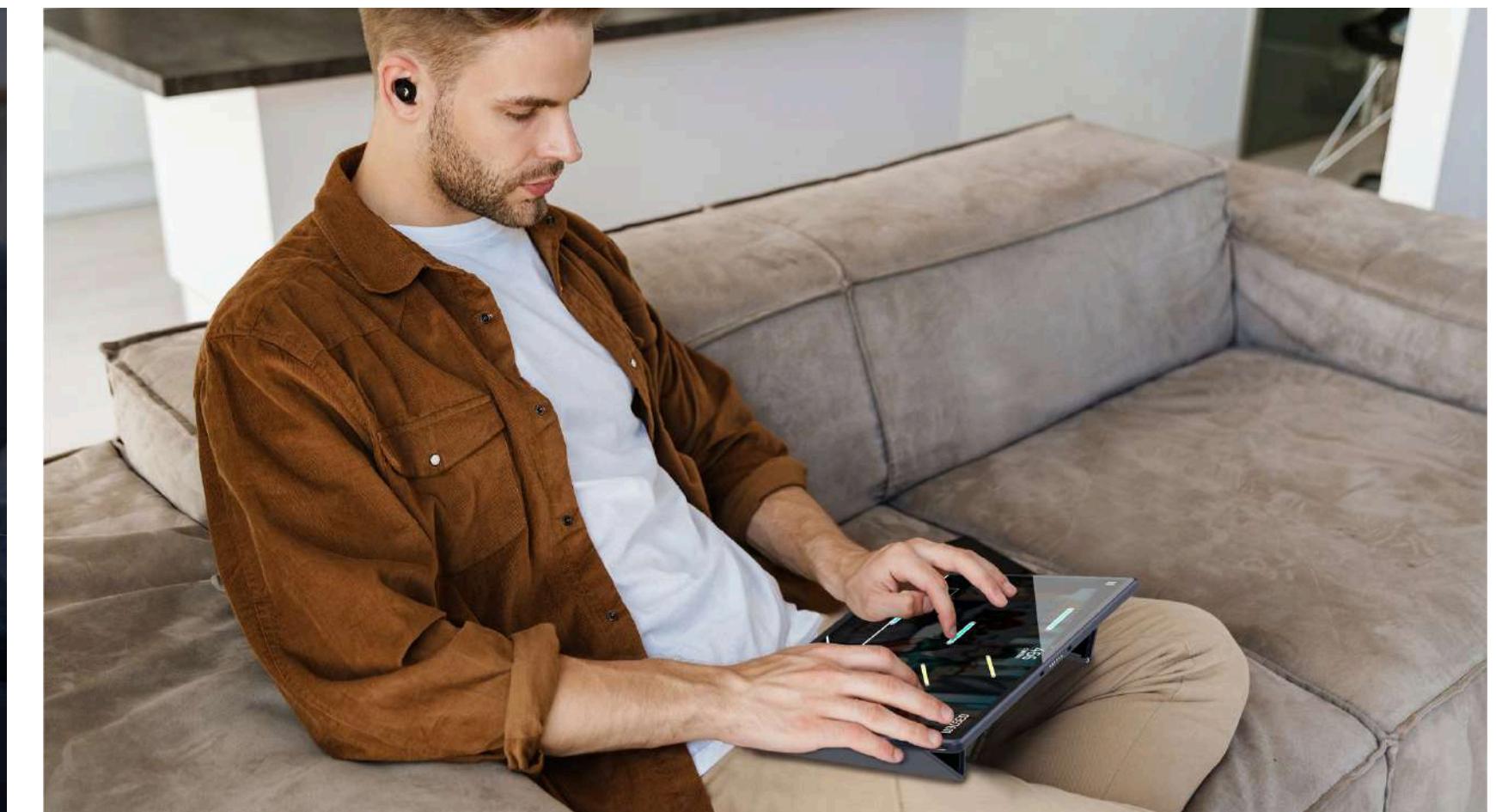
Rover Play directly addresses the pain points of playing mobile games on laptops, delivering an uncompromised experience. It skillfully reconciles seemingly contradictory features like portability and ergonomics through its triangular and foldable structure.

The device enhances gameplay with its built-in app, allowing users to customize touch areas and prevent accidental inputs. In console mode, extra thermal areas are activated to boost air intake, effectively managing heat during intense sessions. Finally, with the included keyboard cover and kickstand, Rover Play transforms into a versatile device, seamlessly blending entertainment with productivity.

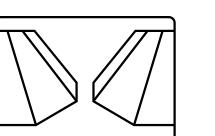


## Four-in-One Flexibility with RoverPlay

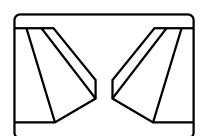
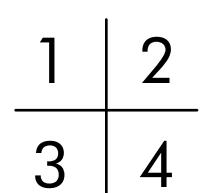
RoverPlay is a detachable laptop consisting of a keyboard, a tablet with a FlexiRear Controller, and a kickstand. These components can be combined into four different usage modes. These four modes are designed to adapt to different usage scenarios, such as gaming, productivity, media consumption, and portability.



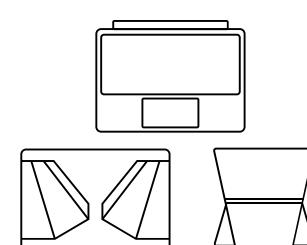
Viewing mode



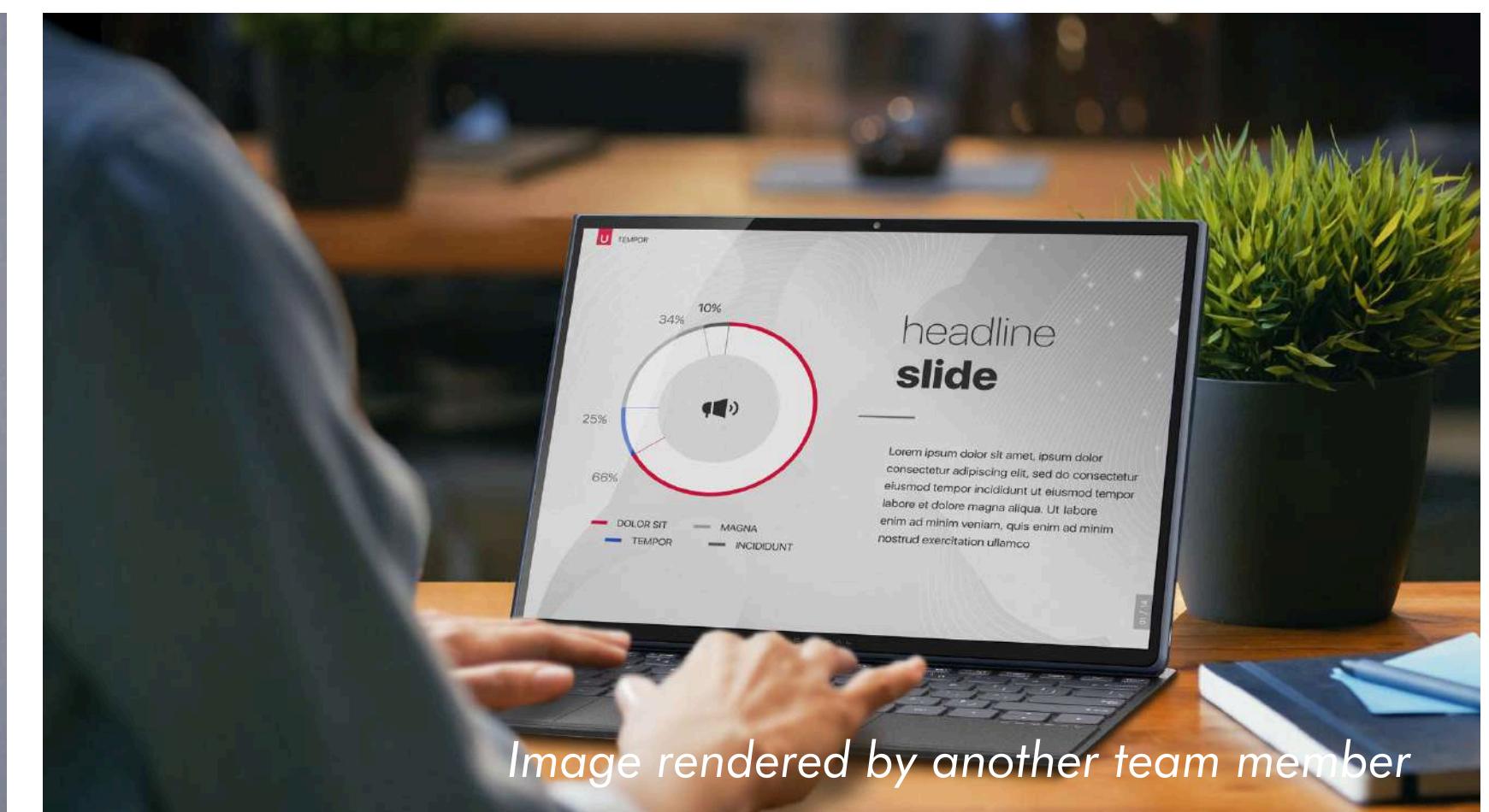
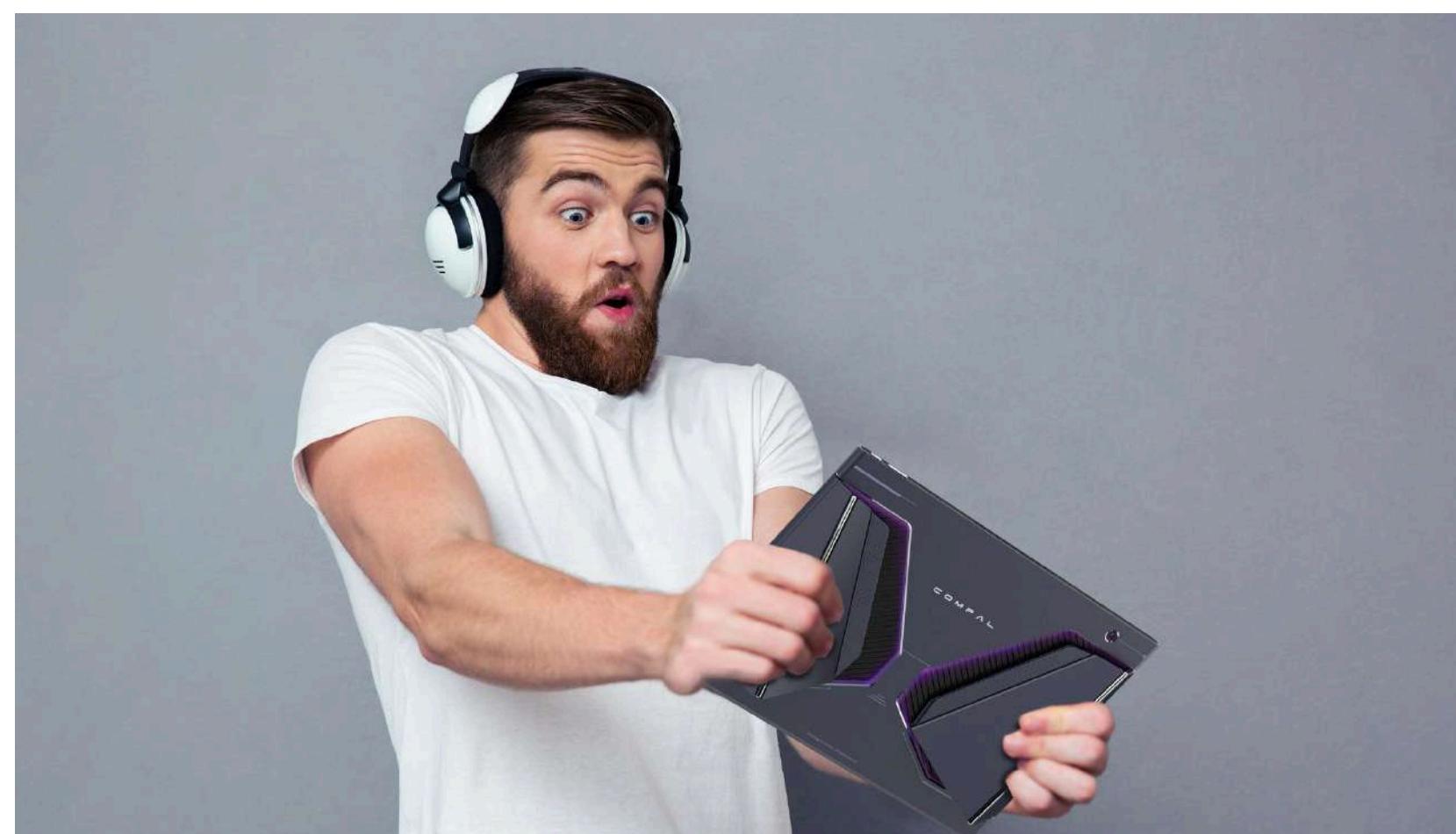
Low angle mode



Handheld mode

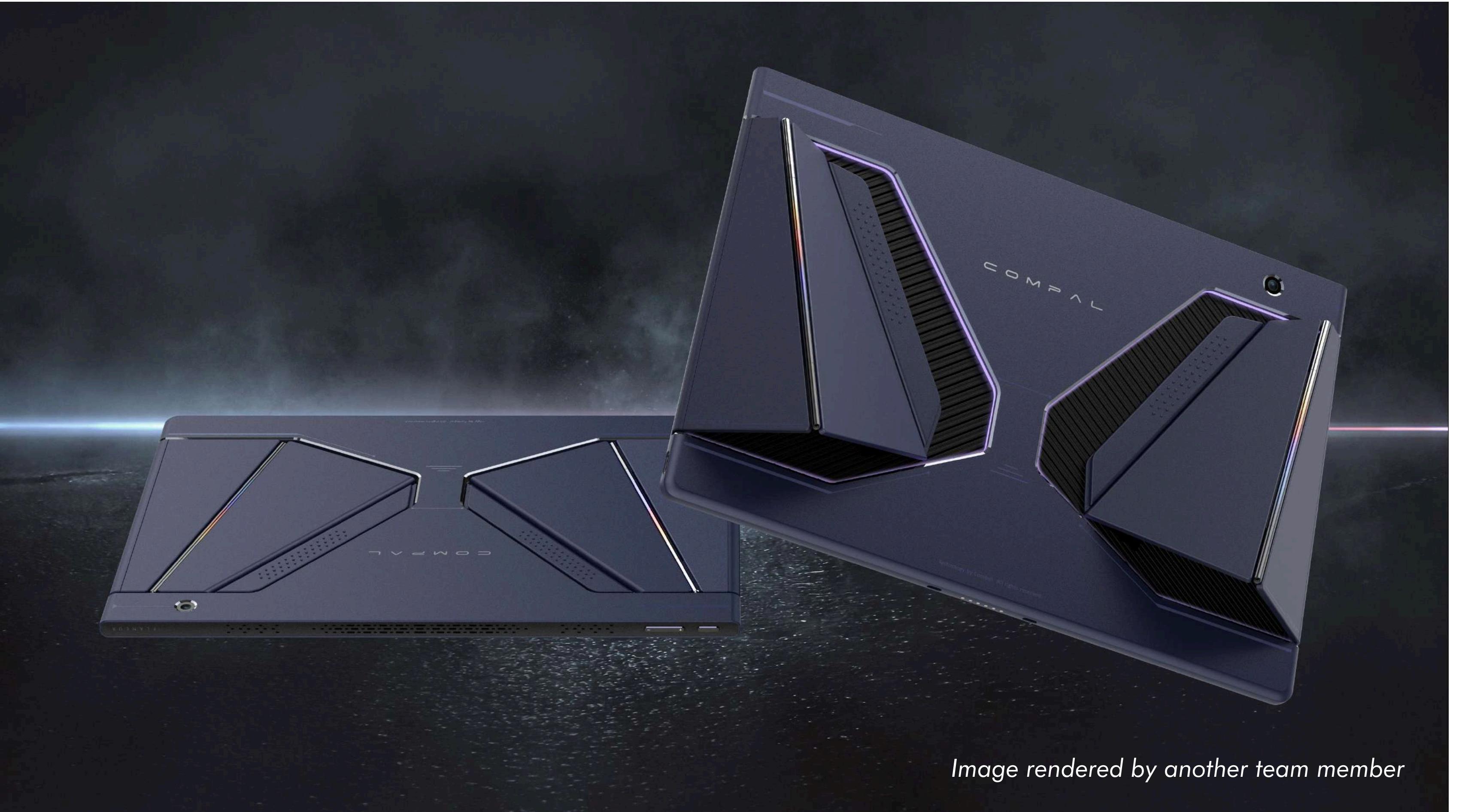


Clamshell mode



## Impact

RoverPlay's marks a significant innovation by merging the traditionally separate field of mobile gaming and laptop functionality. By providing users with the seamlessly transition between different modes of operation, whether it's a compact laptop for productivity or an ergonomic console for immersive gaming, RoverPlay caters to the diverse needs of modern gamers. This versatility opens up new possibilities for users to tailor their gaming experiences according to their preferences.



*Image rendered by another team member*

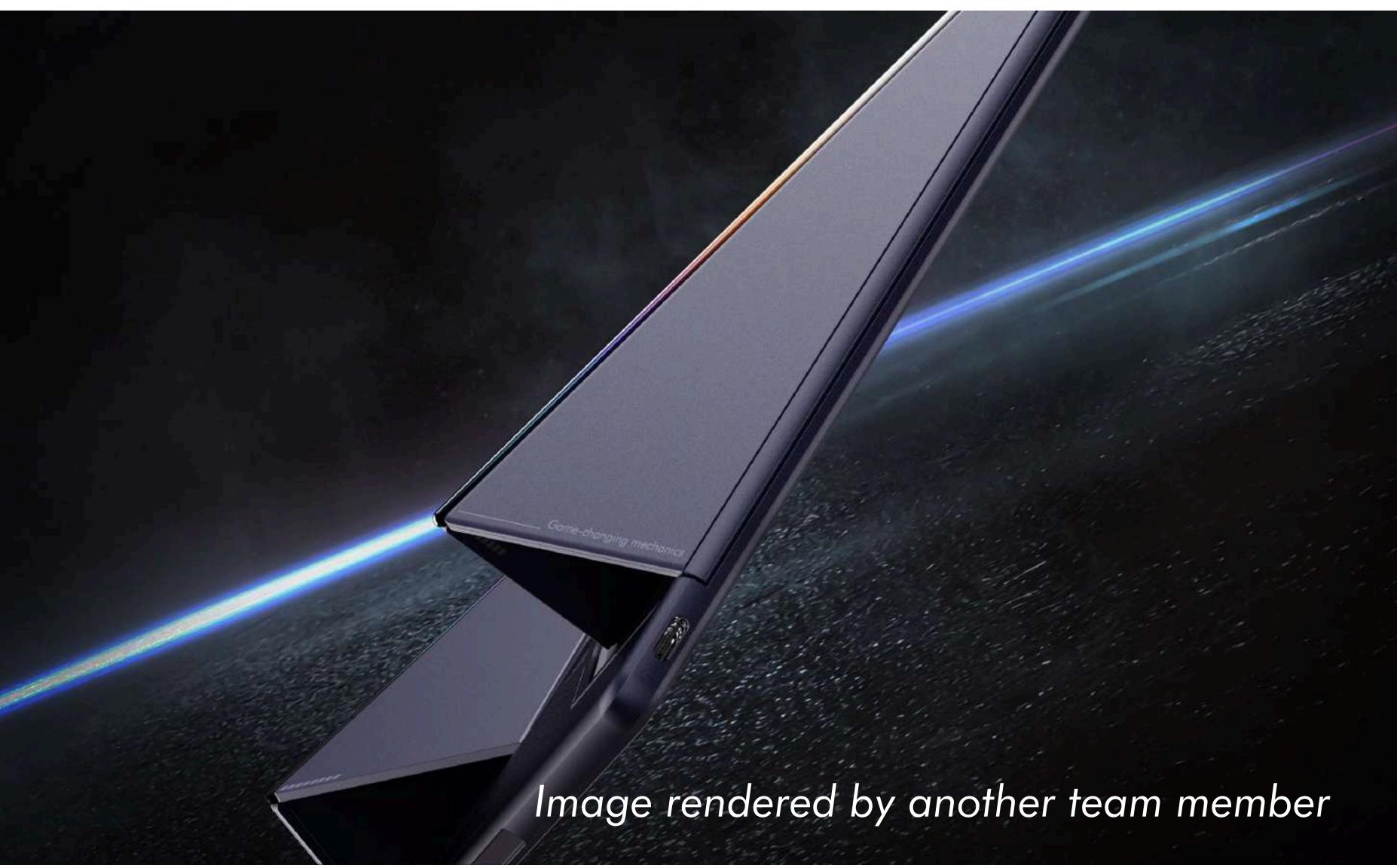


Image rendered by another team member

## Mass production simulation

Although the prototype only includes mechanical structures and does not contain functional electronic components (such as a motherboard and CPU), we wanted to simulate the user experience of gaming—such as vibration feedback and lighting effects. To achieve this, we embedded LED lights, a vibration motor, and a battery inside the model. Additionally, since the FlexiRear mechanism requires internal space, we repeatedly revised the 3D model to ensure manufacturability.

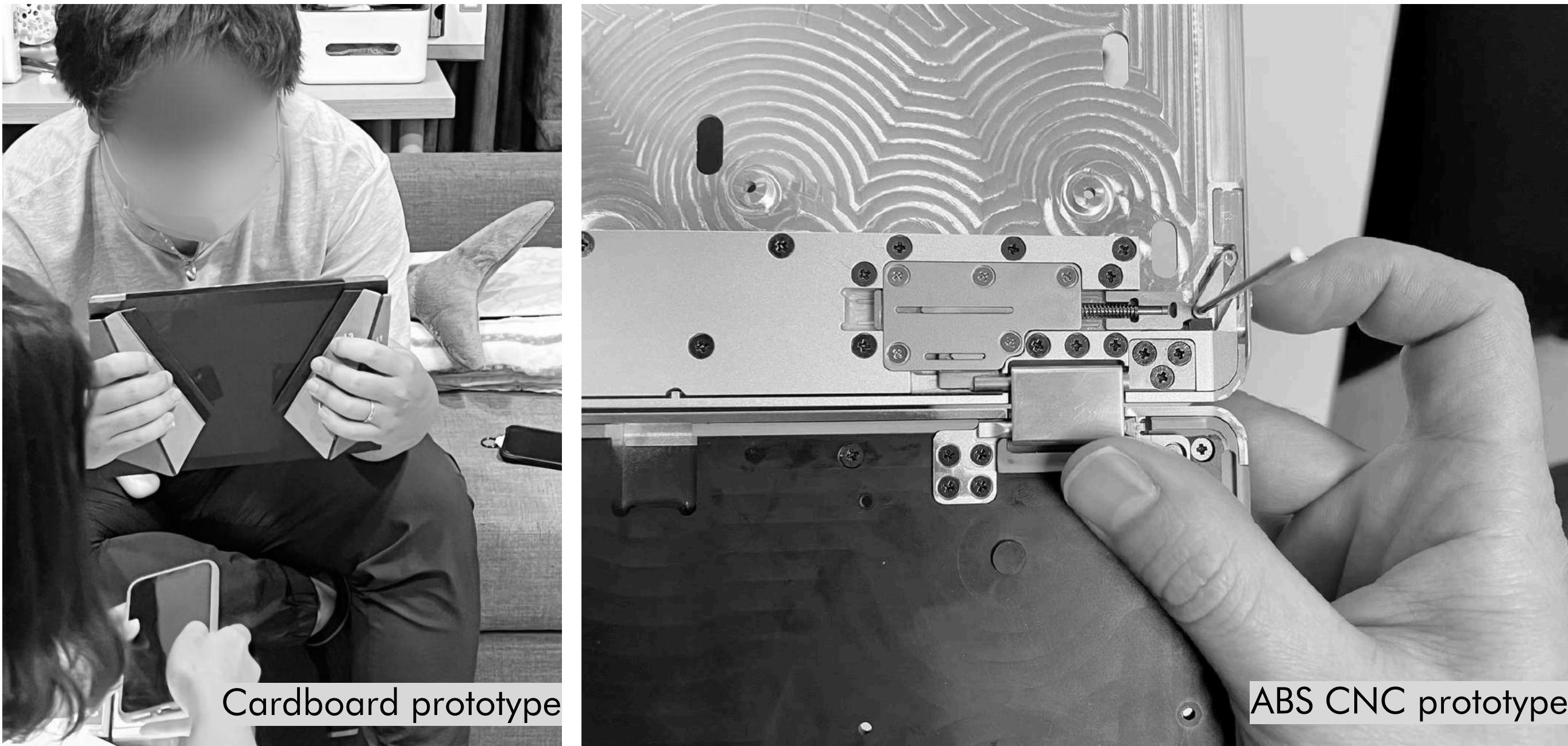


# Behind the Scenes

## Concept ideation and testing

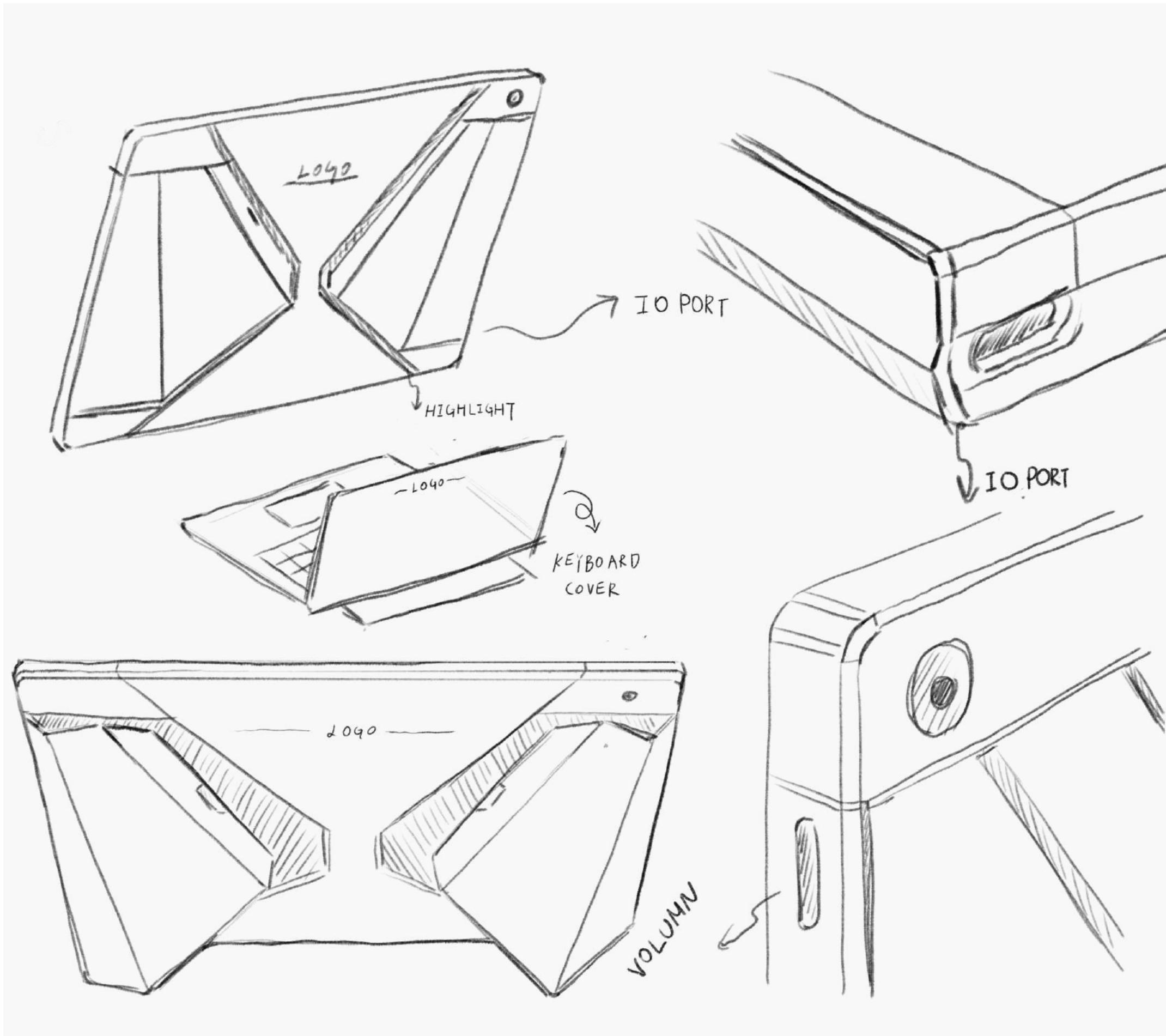
The development process began with quick ideation and low-fidelity prototyping using cardboard models. These early mockups allowed us to explore form, size, and basic ergonomics. We invited users to interact with the prototypes and focused particularly on finding the most comfortable screen angle for adults when worn on the wrist.

Based on user feedback, we advanced to a CNC-machined mechanical prototype to validate the core structure. At this stage, our priority was minimizing the size of the mechanical system while maintaining functionality. This helped us assess the feasibility of internal components and their spatial arrangement. In the final stage, we developed a fully functional prototype that behaved like a real device. It allowed users to interact with the interface and experience the product as if it were a working unit, similar to using a compact, wrist-mounted laptop. This hands-on testing helped us refine both the usability and mechanical reliability of the final concept.



## Appearance design ideation

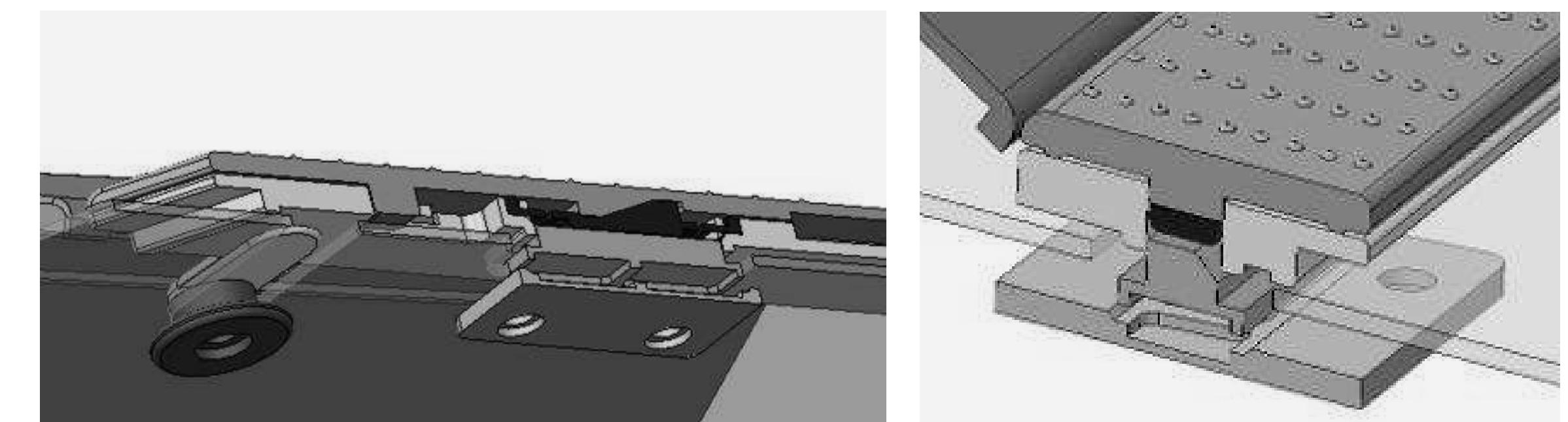
### Sketch



### Inspirations



### Modeling process



## Design proposal development

This design proposal aims for a clean and futuristic look, inspired by science fiction, advanced technology, and modern performance products. The use of pure white gives the product a sleek and minimal feel, while matte metallic finishes add a cold, high-tech touch. The goal was to create a visual style that feels modern, smart, and slightly futuristic—something that could easily fit into a sci-fi setting or a cutting-edge tech environment. The overall shape is simple and refined, with sharp lines and gentle surface transitions that give the product a sense of precision. Small texture changes and details are used to highlight areas the user interacts with, while keeping the overall design calm and focused.

Note: This concept represents my personal design direction. The final design, shown in the previous pages, was not developed by me.





**WOAMY**

**Revolutionary Biofoam for a Sustainable Future.**

**How might we Enhance Engagement through digital touchpoints?**

**SHOWROOM**

**HUMANIZE THE DIGITAL EXPERIENCE**

**NEWSLETTER**

**SAMPLE BOX**

**MORE USE CASES**

**PERSONALIZATION**

**ENABLING CONSTANT PRODUCT DEVELOPMENT**

**FIRST STEP: THE SHOWROOM**

Woamy's Digital Showroom is an interactive online platform designed to showcase the unique properties, capabilities, and potential applications of Woamy's biobased, plastic-free foam. This Digital Showroom serves as a centralized hub of information, making it easy for potential clients to understand and explore the full potential of Woamy's foam.

- 3D MODELS**  
Advanced 3D models that demonstrate the foam's structure and functionality, allowing users to interact with and visualize the material.
- Case study**  
Case studies and examples of current applications, including images, videos, and testimonials from existing clients.
- Foamforge AI**  
An AI-powered assistant that generates personalized potential use cases by understanding the visitor's industry and application needs.

# Woamy

Type: 6 weeks student team project  
 Course: IDBM Capstone: Industry Project  
 Industry partner: Woamy Oy  
 Year: 2024

Project brief: Develop a scale-up plan to establish Woamy's international brand and presence.

*\*This project was associated with the EU-founded EIT-HEI Initiative project INCREDIT*

Personal contribution:

- Desktop research & field research
- Lead co-creation workshop with the client
- Visual communication design
- Digital showroom design

Supported by  
**woamy**

**eit** RawMaterials  
Connecting matters

Funded by the  
European Union

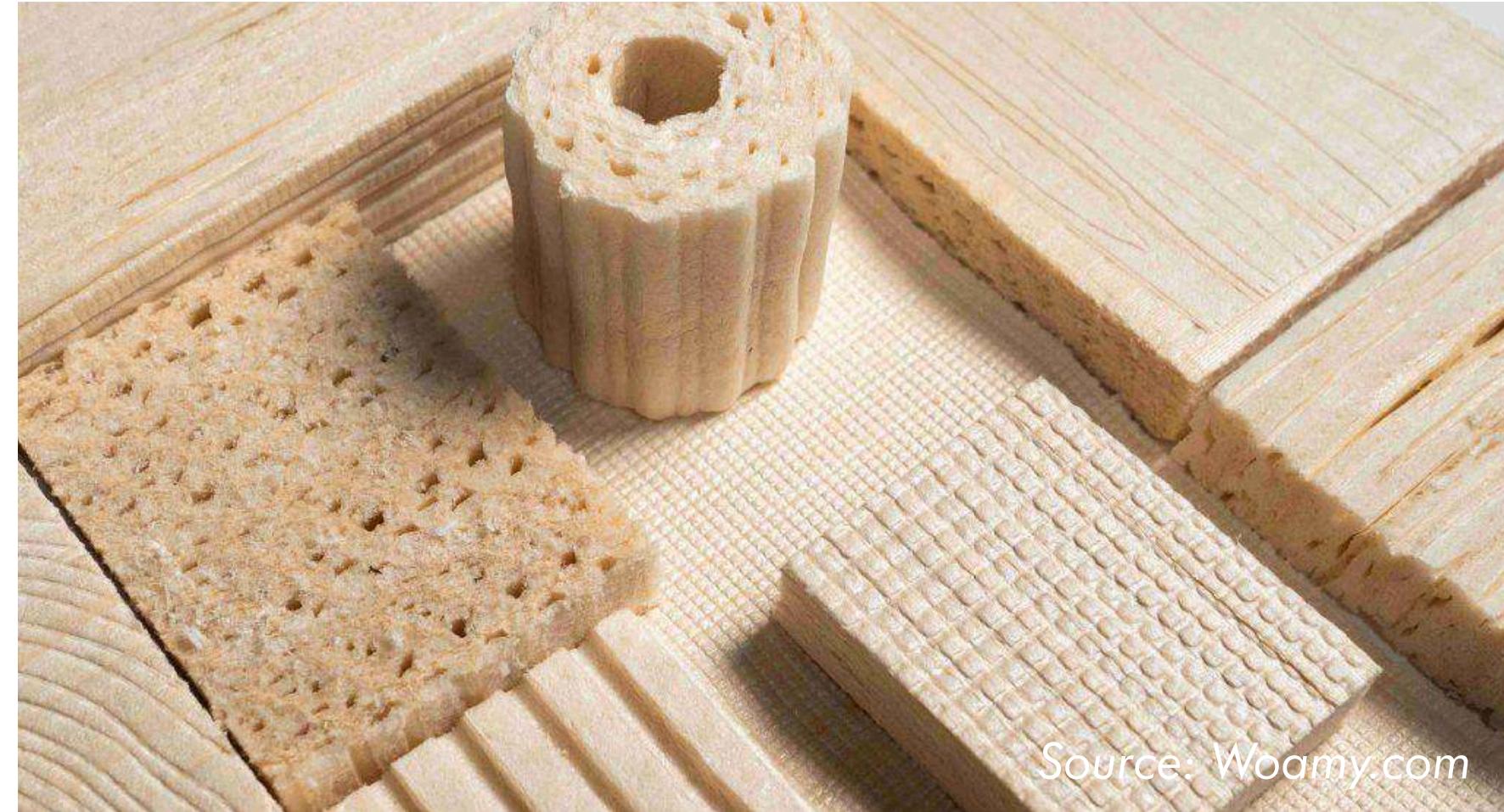
**A!**  
Aalto University

## Enabling constant product development for an early stage startup

Woamy, an early-stage startup, aims to set new standards in packaging with its revolutionary bio-based, plastic-free foam. However, introducing such a novel product into B2B markets presents unique obstacles. Businesses may hesitate to adopt unfamiliar materials due to the unknown company and products as well as implementation complications. These dynamics add layers of complexity for Woamy as it works hard to establish itself within this market. As a result, Woamy needs an effective marketing plan in order to effectively convey its unique value proposition of biofoam.

As the delivery, we delved into the research findings that informed the development of the Snowball Effect Strategy, provides detailed descriptions of each component of the solution, outlines an implementation plan, and highlights the anticipated benefits for Woamy and its customers. Essentially, the strategy encompasses a range of digital tools and tactics designed to increase touchpoints with potential clients, improve market learning capabilities, and finally drive the adoption of sustainable packaging solutions provided by Woamy.





Source: Woamy.com

## Our industry partner: Woamy

Woamy, an early-stage startup, is redefining packaging with its bio-based, plastic-free foam. This eco-friendly material offers a sustainable alternative for protective packaging, featuring biodegradability, recyclability, and a dust-free composition, making it versatile across various applications.

However, entering the B2B market poses challenges. Companies may resist adopting unfamiliar materials from a new brand, and implementation hurdles can arise. Meanwhile, the sustainable packaging market is rapidly evolving, driven by growing consumer demand and stricter regulations, creating both opportunities and intense competition for Woamy.

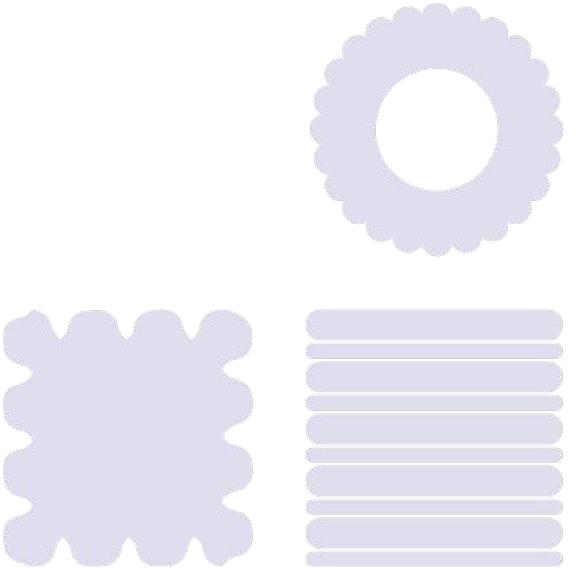
### Business Target

## How to communicate the properties of Biofoam to the market?

In this project, Woamy's business target was to strengthen its position in the sustainable packaging market by increasing brand awareness, customer engagement, and market adoption of its bio-based, plastic-free foam, especially within B2B markets.

The business targets were to:

- Effectively communicate the unique properties and benefits of Woamy's foam to potential clients.
- Generate qualified leads and move them toward purchase or proof-of-concept stages.
- Build long-term relationships through personalized, digital touchpoints.
- Scale market presence with cost-effective, easily implemented marketing tactics.



## Topic break down

To develop an effective strategy, we analyzed market dynamics, consumer preferences, regulatory impacts, and the competitive landscape. Key insights from this research highlight opportunities and challenges for Woamy in the sustainable packaging industry. The findings map below outlines themes such as visibility, engagement, sustainability, and scaling within the industry.

The map connects these themes, showing that increasing visibility can result in improved engagement, leading to support sustainability efforts and enable scaling. Digital marketing may attract more clients who can then be engaged through personalized communication or interactive experiences to promote sustainability messaging while driving market adoption.

### Visibility

#### Market dynamics

- Growth in sustainable packaging
- Environmental awareness
- Favorable positioning

#### Consumer preferences

- Preference for sustainable
- Demand for biodegradable materials

#### Regulatory impacts

- EU regulations
- Competitive edge

### Scaling

#### Strategic partnerships

- Key to scaling operations
- Enhances credibility

#### Market presence

- Strategic approach
- Multi-channel strategy

### Sustainability

#### Role of sustainability

- Core aspect of innovation
- Communication challenges

#### Innovation challenges

- Balancing requirements
- Refining products

### Engagement

#### Marketing strategies

- Effective B2B marketing
- Online presence and personalization

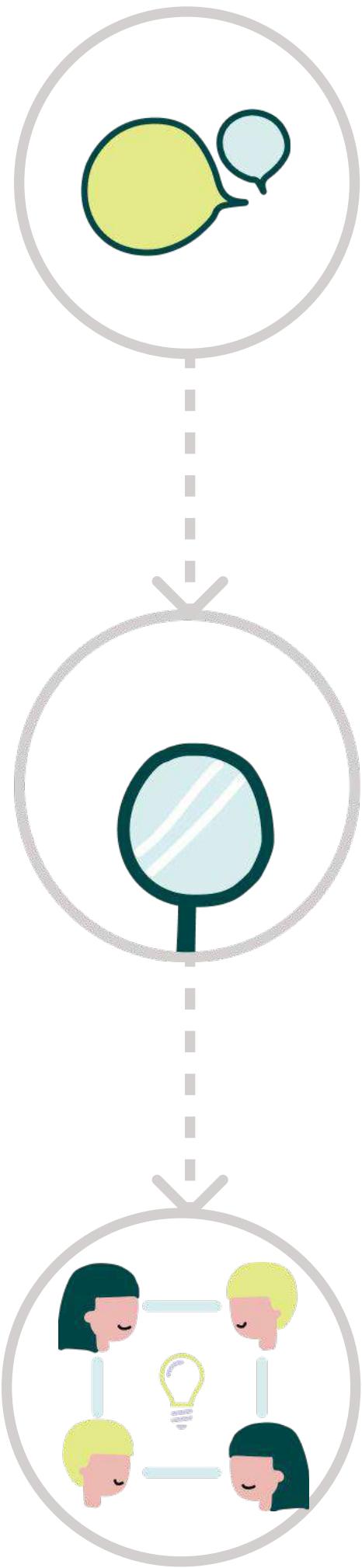
#### Brand identity

- Strong brand identity
- Consistent communication

#### Customer journey

- Understanding B2B processes as in B2C
- Engaging experience

# Research methods



## 01. Interview with 20 experts

Beginning by knowing our target audience and understanding their needs and pain points through research, we embarked on our strategy of empathizing with stakeholders such as potential clients, industry experts, and Woamy team members through 20 in-depth interviews. These interview provided valuable insights into market dynamics, consumer preferences, and regulatory impacts.

## 02. Field research: Foam Expo

Engaging with stakeholders through interviews and field trips to expos provided insights into their expectations and challenges, which laid the foundation for our problem statements.



2023 Stuttgart Foam Expo



Workshop with Woamy

## 03. Co-creation workshop with Woamy

In the co-create workshop, we used the 10+10 method, where team members sketch 10 ideas, share them, and refine one in a second round, producing 20 diverse concepts. Incorporating speculative design principles, we envisioned future scenarios to bridge practical challenges with user values and adapt to evolving market conditions.

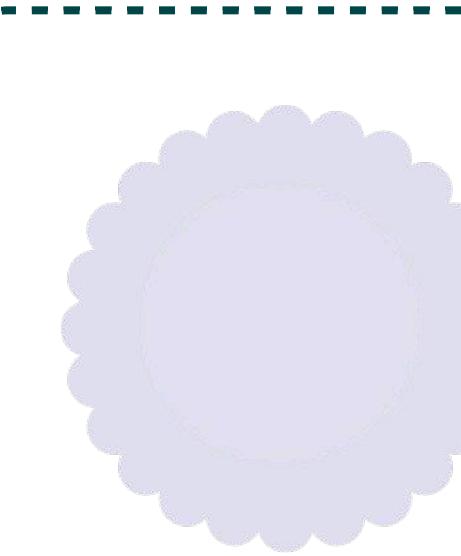


Workshop with Woamy

# Solution framing

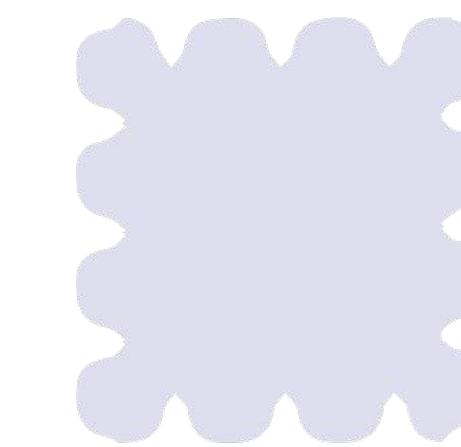
Many ideas came from the co-creation workshops. It was about how to build an online community, how to leverage partnerships and create viral content. Creating a huge presence on social media platforms, implementing an innovative viral video campaign or developing education materials for B2B customers to make them informed about packaging sustainability and EU regulations, and improving their awareness, were some of the ideas that we discussed. There was a focus on improving interaction with customers through personalized communication. For example, making targeted video or messages and creating an online community to improve engagement with customers and increase the visibility of the brand.

Incorporating speculative design principles, we aimed to anticipate future scenarios and bridge the gap between practical challenges and user values. Speculative design involves envisioning potential futures and designing strategies that can adapt to evolving market conditions. Applying these principles, we created three initial design visions, each focusing on different aspects of Woamy's market strategy.



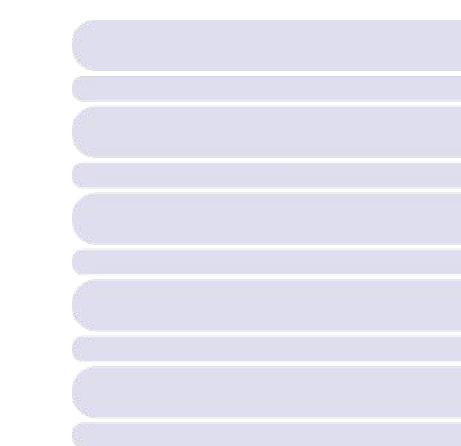
## Vision 1: Digital Experience

Design an interactive digital showroom illustrating product information, use cases and 3D models to intercept potential clients and 'zoom in' on the unique benefits of our Foam making us even more desirable.



## Vision 2: Humanizing B2B Marketing

Personalize communication, storytelling and social media to create long-term relationships with our clients. This approach sought to humanize Woamy's brand by emphasizing the company's values and mission.



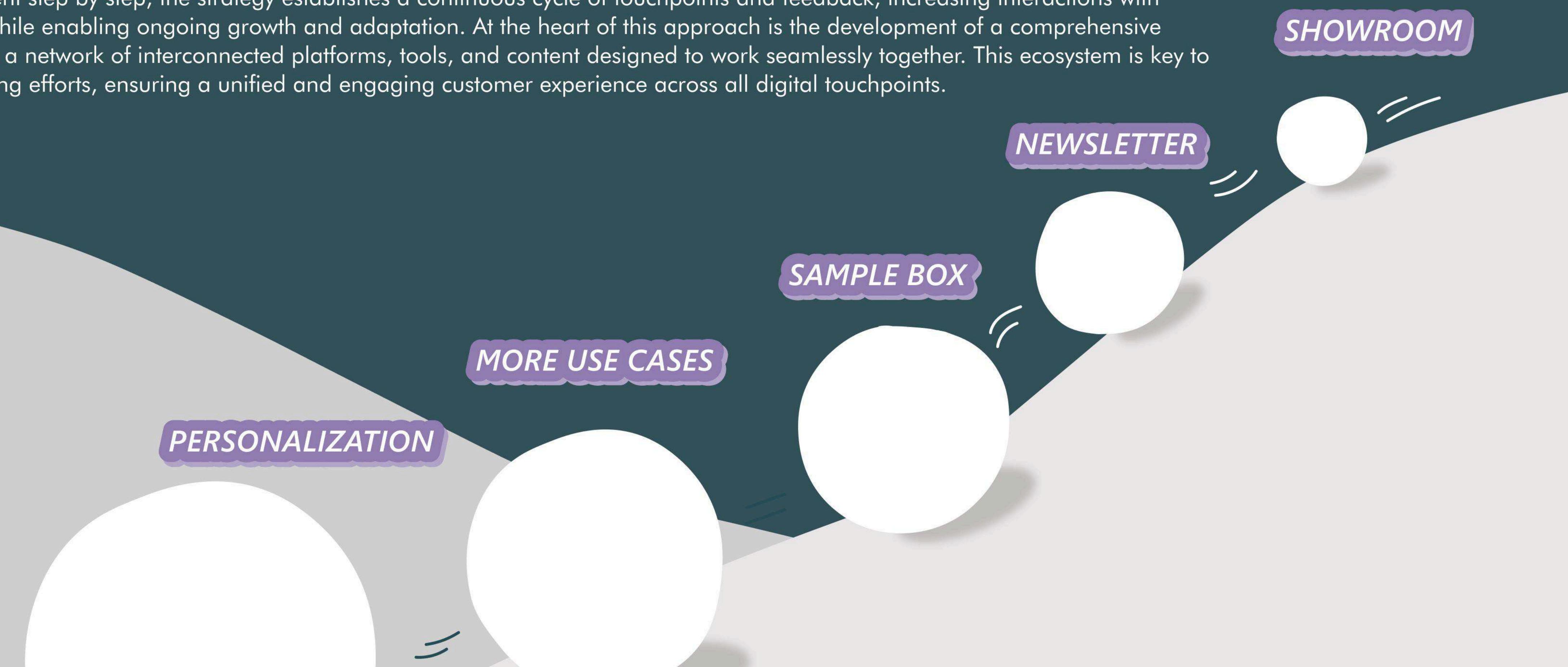
## Vision 3: From Sustainable to Safe

Make sustainability easy and accessible by communicating our unique benefits and lasting practical advantages such as the best option regarding safety and environmental issues.

# Solution: Snowball Effect Strategy

From the initial stages of design, we went through multiple iterative feedback cycles. By incorporating stakeholder input, we refined our approach and developed a sharper focus on the most impactful aspects of the vision. Through this process, we brought together the strongest ideas into a single, streamlined strategy, ultimately shaping the final iteration of the vision: "Snowball Effect Strategy."

This strategy for Woamy centers on creating a cumulative and self-reinforcing impact known as the Snowball Effect. It leverages a range of interconnected digital solutions to strengthen brand recognition, enhance customer engagement, and deepen market insights. By building on each component step by step, the strategy establishes a continuous cycle of touchpoints and feedback, increasing interactions with potential clients while enabling ongoing growth and adaptation. At the heart of this approach is the development of a comprehensive digital ecosystem, a network of interconnected platforms, tools, and content designed to work seamlessly together. This ecosystem is key to Woamy's marketing efforts, ensuring a unified and engaging customer experience across all digital touchpoints.



# The First Snowball: Digital showroom

The Digital Showroom is prioritized as the first step in the Snowball Effect Strategy due to its potential to serve as a central hub for all of Woamy's digital marketing efforts. It will function as a virtual storefront, showcasing product information, use cases, and 3D models of the foam materials in an interactive way. By providing potential clients with a comprehensive and immersive experience, the Digital Showroom can raise brand awareness, generate leads, and lay the groundwork for subsequent interactions through newsletters, sample boxes, and personalized recommendations. This integrated approach ensures that every engagement with Woamy's digital ecosystem contributes to a broader impact, resulting in sustained growth and a lasting market presence.

The Digital Showroom is designed to be implementable almost immediately using limited resources. It combines product information and elements Woamy already has or can generate at a low cost. There are three main elements to be showcased in the digital showroom, two of which Woamy already has: 3D models of their foam and existing use cases. As the existing use cases are limited in this early stage, the third element is designed to show potential use cases using generative AI and a customized foundation model, which we call Foamforge AI.

The key feature include (1) 3D models, (2) Case studies, (3) Foamforge AI

woamy

Home SHOWROOM Our Story News Contact

Appearance: Cube, Select shape: White, Select color: Volume, Select volume: Strength

Property: Wood, Select material: Density, Select density: Strength

**WOAMY Bio-FOAM**

Our unique biofoam has various outstanding qualities, that enable us to create the optimal packaging solutions for your products, that help both to protect your product and upgrade your sustainability game.

**Woamy foam cube**  
Experience Woamy biofoam's remarkable strength combined with the lightness, unmatched by other biofoams on the market.

[Learn more →](#)

**Woamy laminate structure**  
Our patented technology, inspired by the cellular structure of wood, provides exceptional directional strength.

[Learn more →](#)

**Woamy foam sheet**  
In the near future, we anticipate enhancing our portfolio with improved bounciness and water resistance.

[Learn more →](#)

**Case Study**

**Secto Design**

Woamy, Secto Design, and Paptic, are collaborating to transform the lighting industry's packaging standards. The lighting industry's packaging is not recyclable and when it reaches the circular economy, Secto Design's customers are faced in a certain hand-made design lamps, moved its Petite product line's products from traditional foam-based packaging into new, packaging made of materials that are recyclable and in line with the circular economy. The plastic foam used to protect the delicate lampshades during transportation in the Petite floor lamp will be changed to fully bio-based, plastic-free, biodegradable, and recyclable biobloom produced by Woamy. The plastic wood will be replaced with ones made of renewable and recyclable all-scale Paptic® material.

[Learn more →](#)

**What do you need help with?**

With this we want to make three things easy for the client – To learn the unique properties of the foam through 3D models.

Woamy

Hello! What do you need to package?

Text here



## 3D MODELS

Showing models of the foam helps potential customers understand the unique properties of the foam, and having a 3D model is especially beneficial since Woamy's foam has directional properties. We suggest including informational hotspots in these 3D models to show key features. According to Batra et al. (2021), stating the key features of a product should be one of the first tasks of a startup to increase familiarity with a product. This further demonstrates the potential benefits for Woamy to show the 3D models.

## Case study

By incorporating existing use cases, Woamy can show their current capabilities and build trust and credibility with future customers. As our research has shown that trust-building is essential in B2B relationships, providing proof of existing partnerships is a great way to build legitimacy for a startup. Showing the existing use cases can therefore effectively influence decision makers by increasing the perceived reliability of both the product and the company.

**Case Study**

**Secto Design**

Woamy, Secto Design, and Paptic, are collaborating to transform the lighting industry's packaging standards. The redesigned packaging is recyclable and aligns with the principles of the circular economy. Secto Design, a company specializing in modern hand-made design lamps, moved its Petite product line's products from traditional fossil-based packaging into new packaging made of materials that are recyclable and in line with the circular economy. The plastic foams, used to protect the metal parts from scratches during transportation in the Petite floor and table lamps, will be changed to fully bio-based, plastic-free, biodegradable, and recyclable biofoam produced by Woamy. The plastic hoods will be replaced with ones made of renewable and recyclable at-scale Paptic® material.

## Foamforge AI

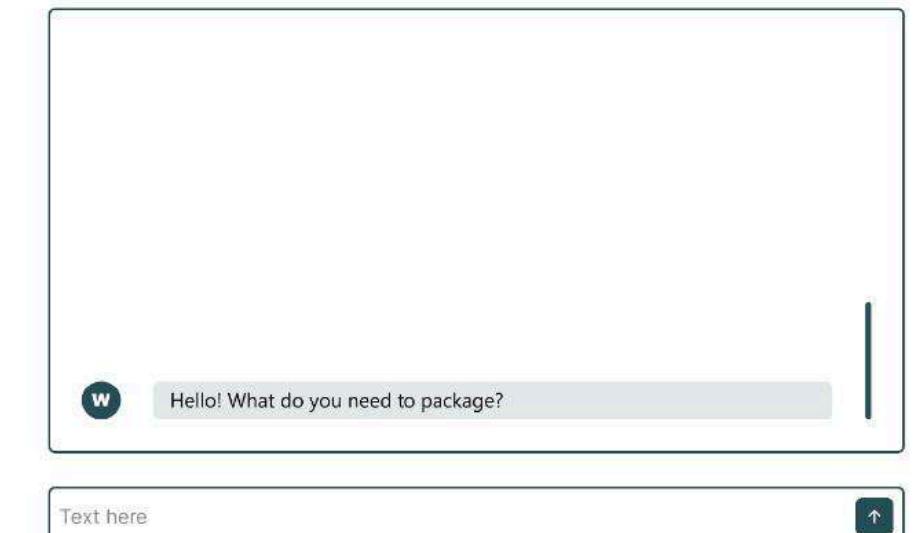
We suggest creating a customized foundational model, Foamforge AI, that visitors of the digital showroom could use to generate personalized use cases for Woamy's foam. Developing task-specific AI, like Foamforge AI, is achievable through prompting and small-scale training on existing foundation models. Our proof of concept demonstrates the functionality of Foamforge AI using OpenAI's ChatGPT 4 and a custom model. The process involved generating and labelling foam use cases, incorporating them into the model's instructions, and prompting the model to create visualizations. This customized AI tool provides personalized recommendations and design assistance, making it easier for clients to integrate Woamy's foam into their products.

This was the input and output of our trained model and the steps to achieve this customized model are listed below:

1. Generate 200 foam use cases for different industries.
2. Automatically label these use cases using ChatGPT into good and bad ones based on practicality and feasibility.
  - a. Good example: Using Woamy's foam for packaging fragile electronics due to its shock-absorbing properties.
  - b. Bad example: Using Woamy's foam as a construction material in high-heat environments where it may degrade.
3. Out of these, 50 good and bad use cases were added to the custom GPT instructions.
4. The custom GPT was also prompted to create illustrative and sketch style visualizations of each generated use case.
5. In a second iteration, a PDF file was attached with technical properties to be referenced in the generated use cases.

### What do you need help with?

With this we want to make three things easy for the client – To learn the unique properties of the foam through 3D models.

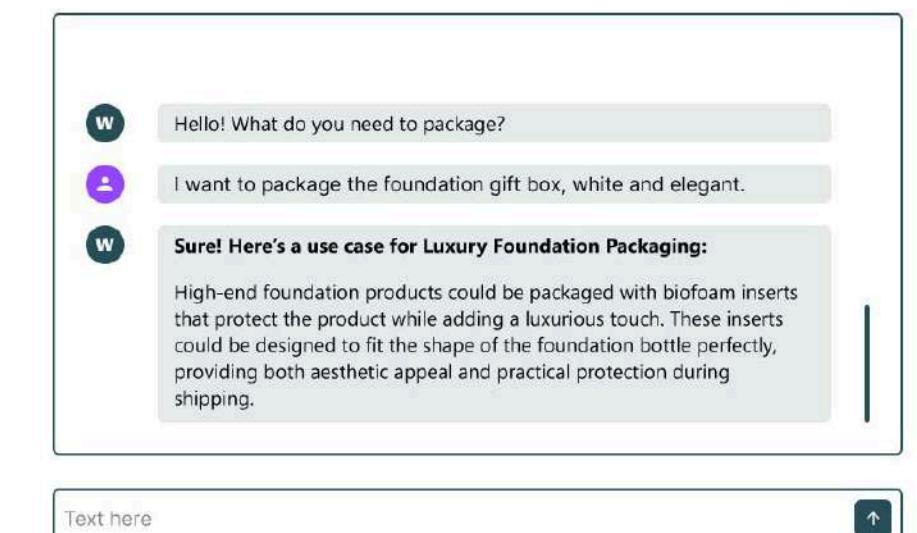


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woamy

### What do you need help with?

With this we want to make three things easy for the client – To learn the unique properties of the foam through 3D models.



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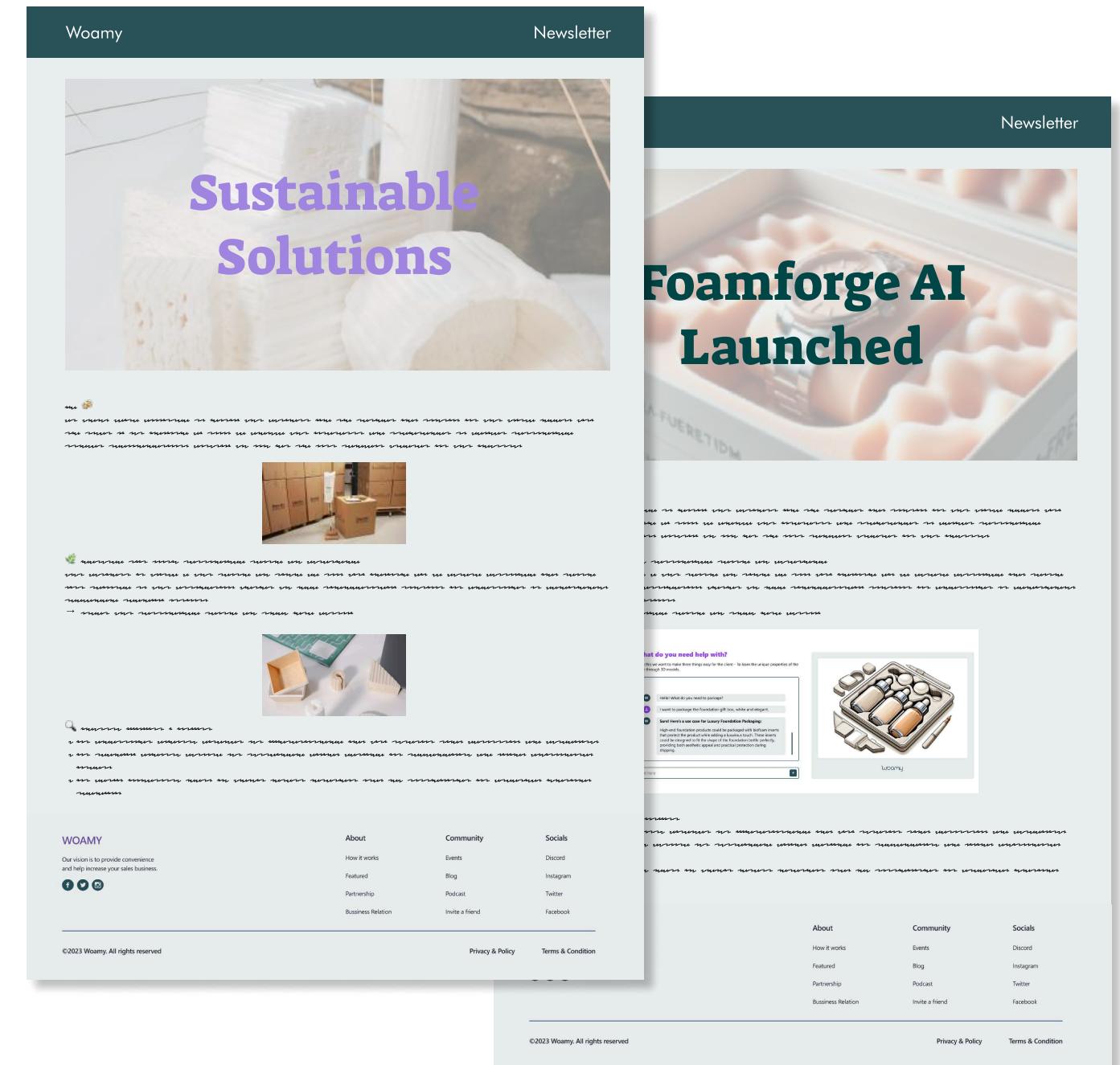


Example of the generated images



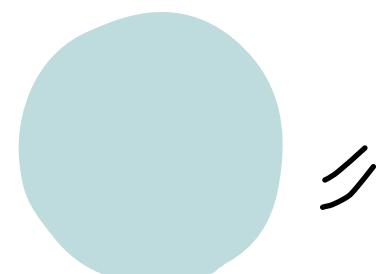
## The Second Snowball: Newsletters

Personalization is key to successful newsletters, and Woamy can achieve this by integrating CRM data with WIX through API connections or tools like Zapier, enabling targeted content based on client needs. For example, electronics clients can receive updates on shock-absorbing properties, while packaging clients get insights on sustainability and recyclability. Leveraging its Digital Showroom as the primary channel to engage potential clients and drive newsletter subscriptions, Woamy can expand its reach and customer base. Additionally, by using the Foamforge AI tool to track user interactions and preferences within the Digital Showroom, Woamy can tailor newsletter content to individual interests, ensuring relevance, boosting engagement, and increasing conversions.



## The Third Snowball: E-commerce Sample Box Scaling

Woamy's sample box, featuring various foam types, is a valuable tool to boost brand awareness, generate revenue, and attract qualified leads. Integrating sample box sales into the redesigned website will enable seamless e-commerce, making the boxes more accessible and allowing potential clients to experience the foam's unique properties firsthand. A well-designed box with clear labels, brochures explaining applications, and a QR code linking to an intro video can enhance customer engagement. Over time, using Foamforge AI to personalize sample box recommendations based on client preferences will increase relevance, improve customer satisfaction, and drive more conversions while reducing manual lead qualification.



## The Forth Snowball: Extended Use Cases

While developing an extended use case library is not an immediate task, it should be a key part of Woamy's long-term strategy. As the company grows and accumulates more cases from its clients, the library will evolve into a dynamic and informative platform. The use of technology is also advocated to optimize the library in order to maximize user experience and engagement. Examples for technological improvements can be introducing an advanced search operator to refine results, comparison tools that allow users to compare different use cases side-by-side, and/or a content management system to aid with the creation, editing, and management of use cases within the library. The use cases can also be further linked with the sample box sale as discussed in the previous section. Based on different use cases, the sample box can be curated, making it easier for people to buy a sample box related to their unique business needs.

## The Fifth Snowball: Personalisation

Personalization is the final stage of Woamy's strategy, aiming to enhance client satisfaction, loyalty, and retention by delivering tailored experiences that make every customer feel understood and valued. By leveraging data and automation, Woamy can recommend the most relevant foam solutions and content based on client behaviors, preferences, and interactions. This involves collecting and analyzing customer data, implementing automation tools for personalized recommendations, developing advanced website features for dynamic content, and using predictive analytics and machine learning to anticipate client needs. Together, these efforts strengthen relationships, encourage repeat business, and drive long-term growth.



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Hi!

*Thanks for taking a look at my work! If you need a designer who balances aesthetics, functionality, and manufacturability in every project, I'd welcome the chance to discuss how I can help your team achieve its goals.*

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- (358) 41-5767243
- [linkedin.com/in/chuchinying](https://linkedin.com/in/chuchinying)

Chingying Chu

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