PFD501
Progression

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Design Intent

Product intent

The intent of my product is to **strengthen family connection** and **support mental wellbeing** in a society increasingly distracted by digital culture.

My device will be **limited to essential communication and image capturing**, **promoting detox** from social media's harmful environment and allowing users to **focus on strengthening communication with family members**.

Intended users

Intended users of my product are **families experiencing physical or emotional distance**, including those who are living apart due to work, education, or various circumstances.
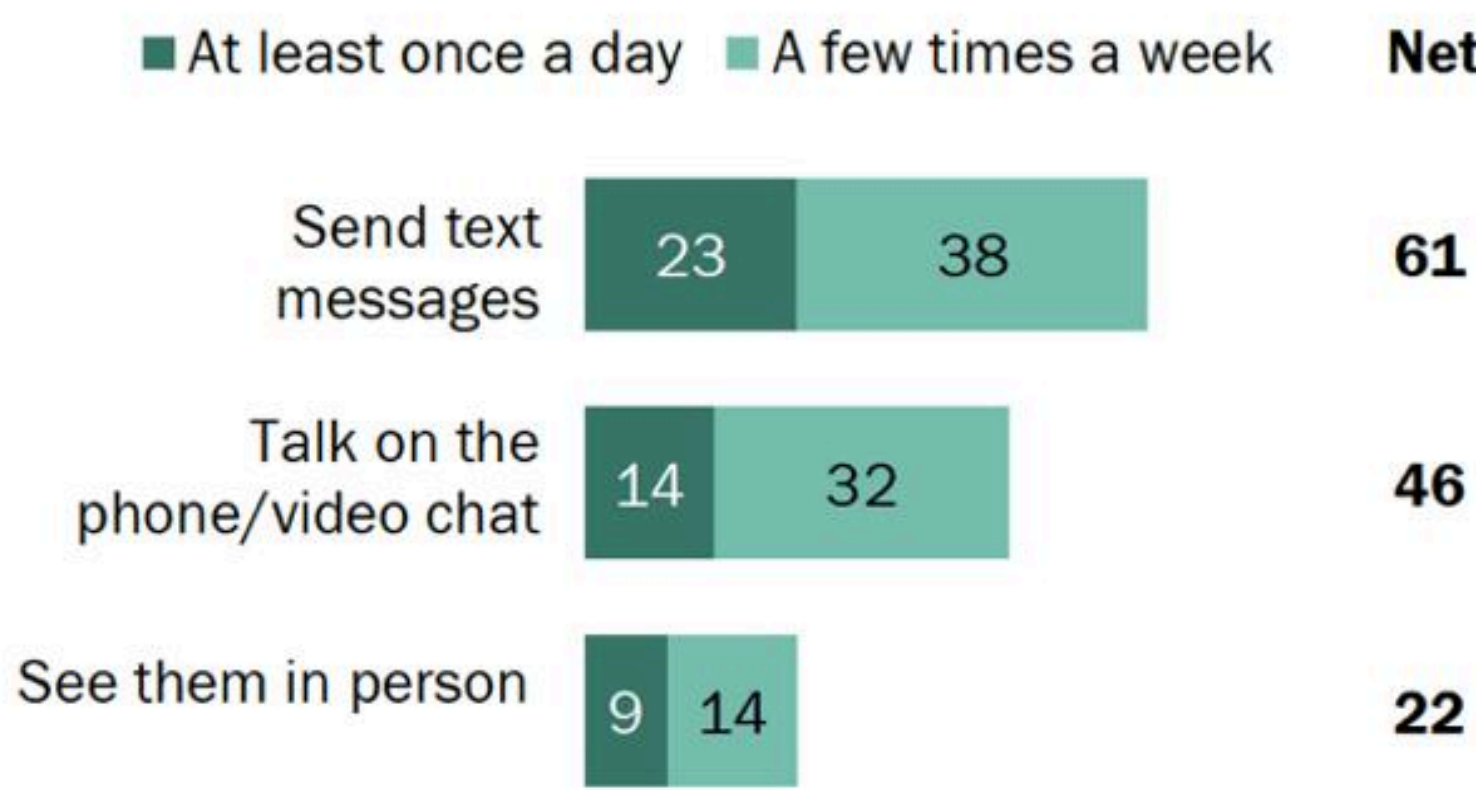
My device is also designed for **trans-generational use**, embracing users of different generations and technological ability.

Design rationale

Research into **weakening family connections** and **declining mental health** highlights an **immediate connection to today's distractive digital culture**. My design is a response to this phenomenon by **prioritising meaningful connections and mental wellbeing over digital technology's influence**.

Data Analysis

Family Connectivity

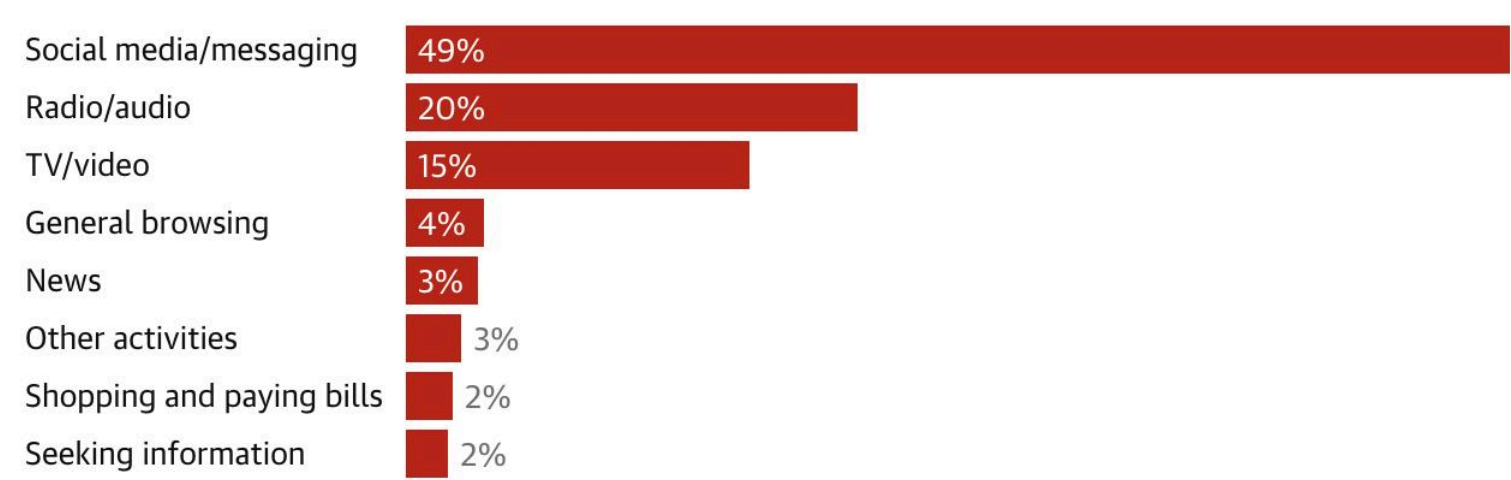*Pew Research centre*: 38% of young adults text parents a few times a week, 32% talk on phone.

Insight: Communication decreases significantly as adults move away from home.

Tech Usage

The Guardian: over-15s spend 7.5 hours daily on screen activities.

Activity	Percent
Social media/messaging	49%
Radio/audio	20%
TV/video	15%
General browsing	4%
News	3%
Other activities	3%
Shopping and paying bills	2%
Seeking information	2%

BMJ mental health: 55.6% of 13–16-year-olds with smartphone issues show depression symptoms.
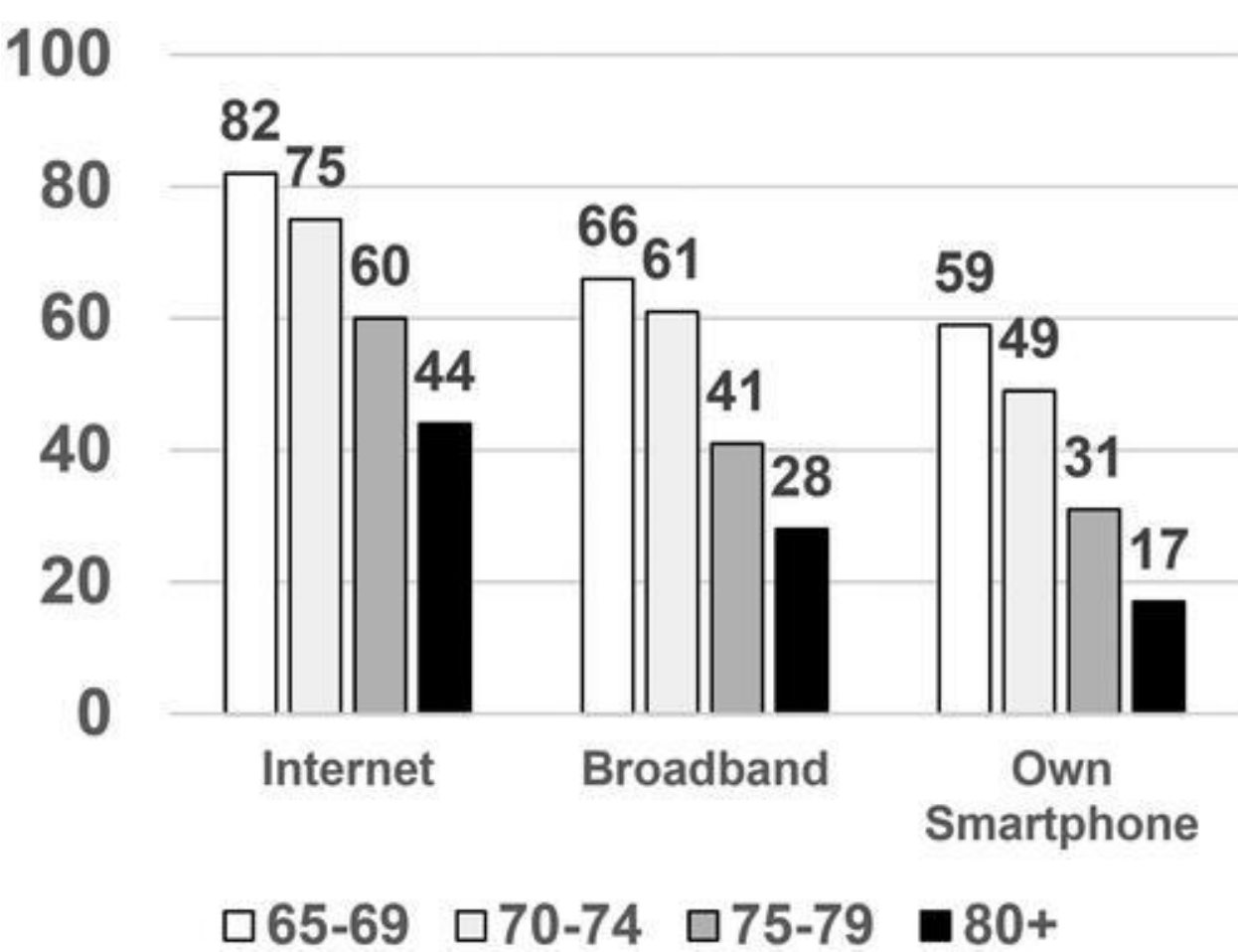
Insight: Overuse of devices in young adults lead to a decrease in mental health.

Generational Tech Challenges

Anderson, M., & Perrin, A.: Under 60% of over-65s own smartphones.

Insight: Older adults struggle with unfamiliar and complex interface

User Analysis

Interview with a University student: Desiree

Family communication

How often do you communicate with your family?

*I communicate with my mum everyday, however not as much with the rest of my family, maybe **2 times a week.***

What methods do you usually use?

*Mainly by **text**, sometimes calls but not as much anymore*

Do you feel like your communication with your family is frequent enough?

*It's at a good level, but I **wish it would be more frequent.***

Through what media do you share information with your family?

*Through text but I share **photos** with them a lot.*

What are some challenges you have encountered through keeping in touch with family?

*Everyone has a **busy schedule**, when I'm free, they're often not, makes it harder to keep in contact. **Different time zones** as well sometimes.*

Do you use GPS tracking with family?

*** Yes**, with my immediate family.*

User Analysis

Interview with a University student: Desiree

Technology usage

How often do you use your smartphone?
*On average **8 hours** a day.*

What apps do you use the most?
***Social media** apps like Tiktok and Instagram.*

How often when you use social media would you use it to communicate?
*A lot but it wouldn't be through text, it would be through interacting with posts such as **liking and commenting.***

Has social media taken a toll on your mental health?
***100% yes**, it influences my mental health quite a bit.*

Have you ever wished to reduce your screen time?
***Yes definitely**, I want to be in touch with reality more sometimes.*

Do you ever feel like your photos and memories get buried or forgotten on your phone?
***Yes**, I have too many unnecessary photos on my phone that its hard to acess my favourite one sometimes.*

Conclusion:

- Desiree wishes communication with wider family members to be more frequent
- Uses photos to share updates most
- Uses GPS tracking with family
- Difficulty in maintaining relationships with family members due to distance
- Wishes to reduce screen time
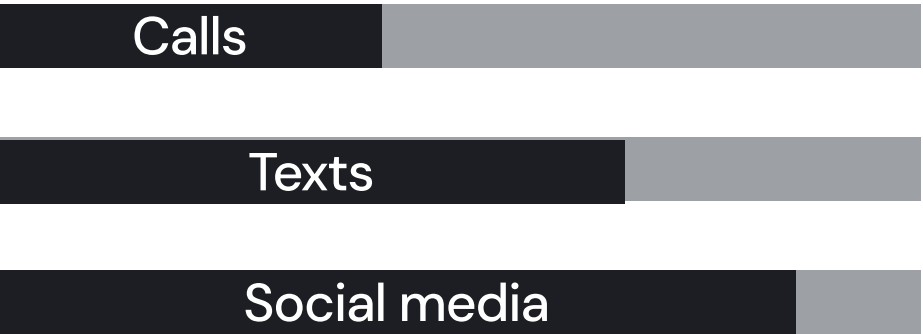- Interacts most with reaction buttons

User Analysis

User persona 1 – SOPHIE WILSON

Gender: Female
Age: 18
Occupation: University student
Family: Mother, father, brother, grandparents

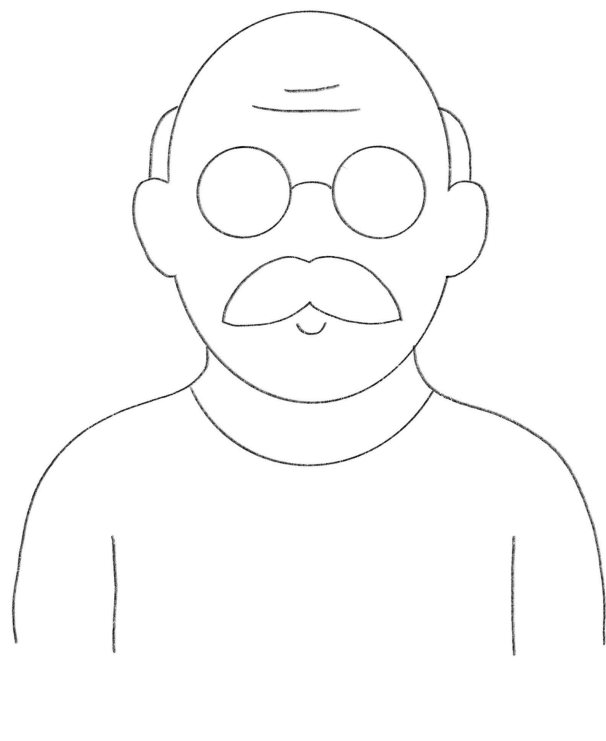### Technology level

Calls
Texts
Social media

User profile

- 1st Year University
- Feels lonely after moving 5 hours away
- Minimal contact with family after move
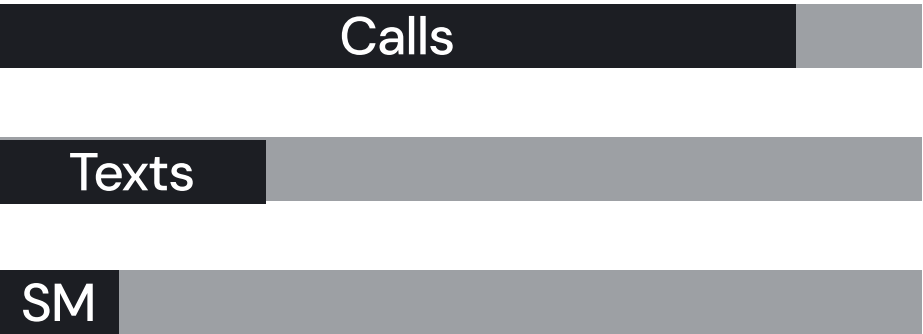- Uses phone daily for social media

User needs

- Simple communication to connect with family
- Motivation for more increased communication
- Digital detox from social media

User persona 2 – PETER WILSON

Gender: Male
Age: 75
Occupation: Retired
Family: Wife, son, grandaughter

Technology level

Calls
Texts
SM

User profile

- Retired homeowner
- Does not know how to use a smartphone
- Haven't seen son and granddaughter in 2 years
- Takes photos with camera

User needs

- Simple UI for easy communication
- Easier way to communicate with family more
- A home device for easy access

Existing Products

Light Phone III

The Light Phone III is a device that is designed for digital detox, containing only the most essential features such as calls, messaging, alarm and directions.

Pros:
- Digital detox
- Simple user interface
- Sustainable with replaceable battery

Cons:
- Small design, not suitable for older generations
- Limited camera and photo sharing functionality

Opportunity: Adopt digital detox principle but make it more trans generational

Amazon Echo Show

The Amazon Echo Show is a smart home display that offers options such as photo displays, home integration and video calls. It is aimed at shared viewing from the comfort of home

Pros:
- Home display encourages photo sharing
- Easy use for older generation
- Video call option allows flexible remote communication

Cons:
- Encourages digital interaction
- Not portable for everyday use
- Complex UI

Opportunity: Adopt home display element whilst adding portability

Ergonomics

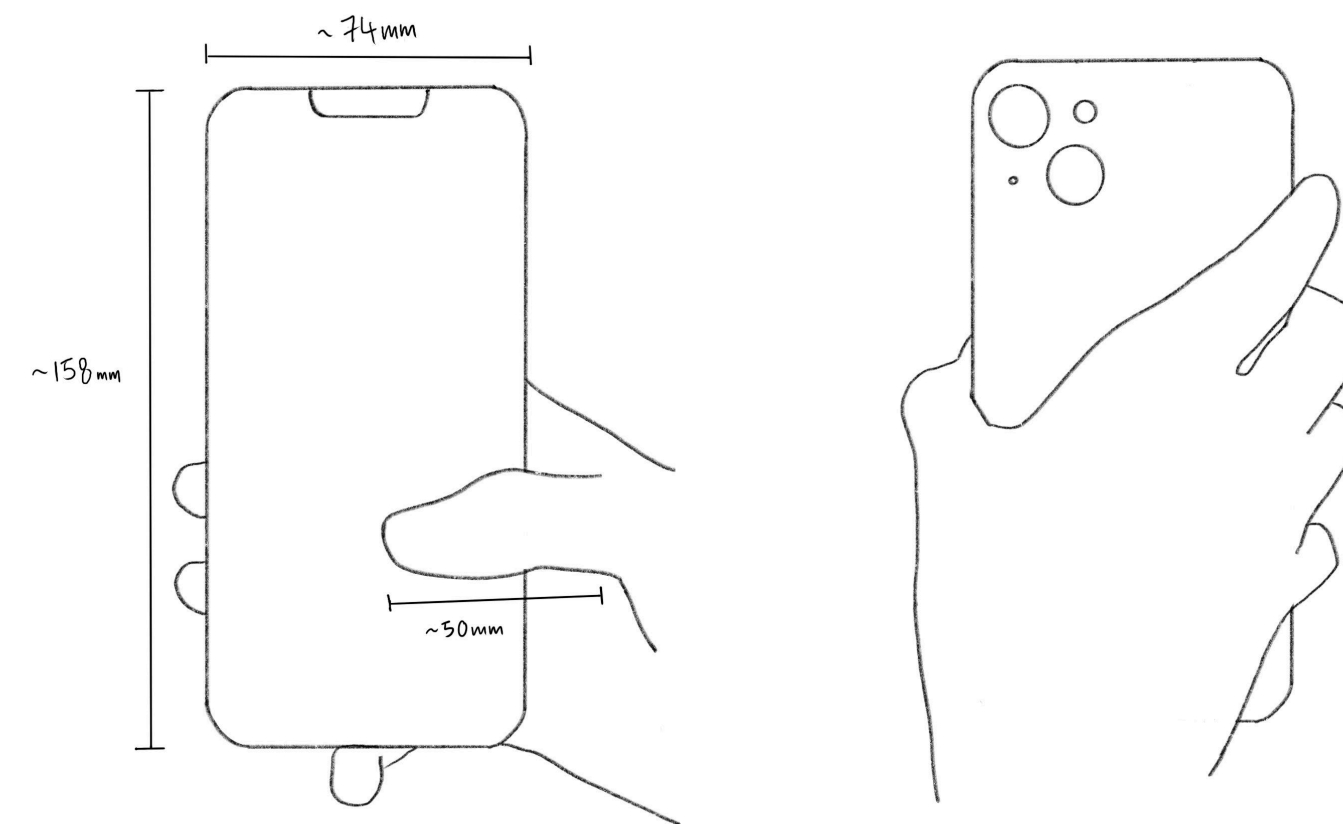*Average hand size in the UK: 183mm in length, 84mm in breadth*

Smartphone ergonomics
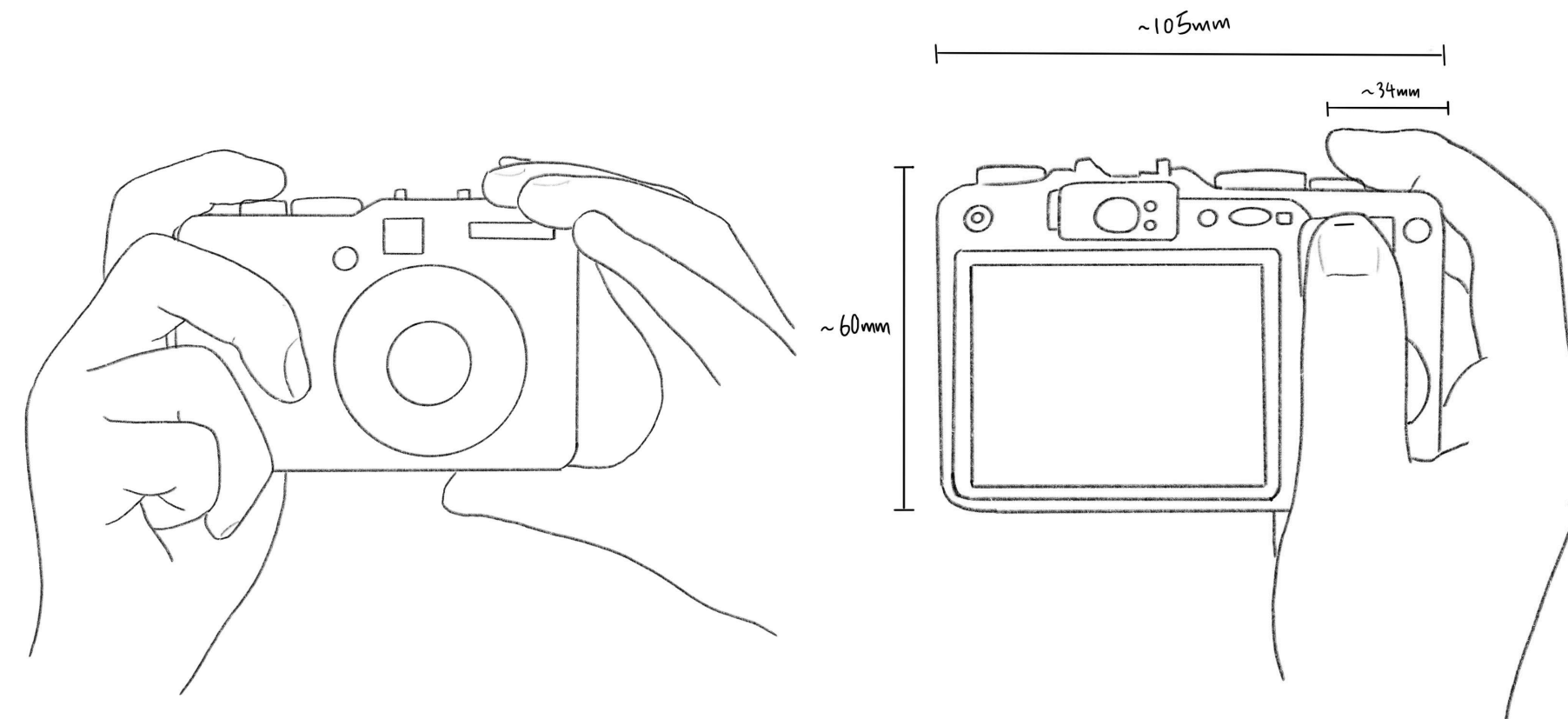
Average smartphone size:

Height: 158mm

Width: 74mm

Depth: 8mm

Camera ergonomics

Average compact camera size:

Height: 60mm

Width: 105mm

Depth: 28mm
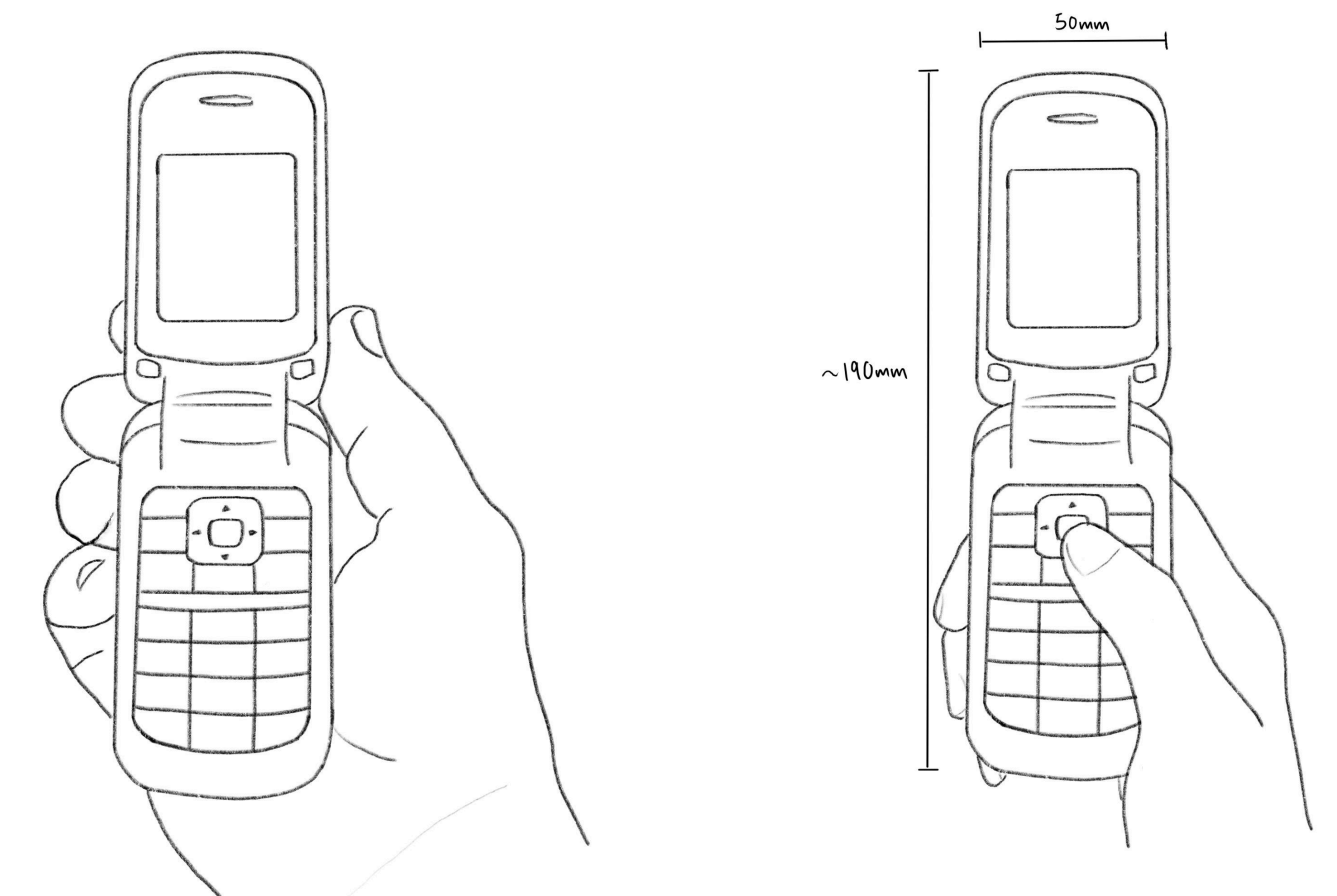

Flip phone ergonomics

Average flip phone size:

Height: 95mm (closed)

190mm (opened)

Width: 50mm

Depth: 22mm

Initial exploration

Concept 1
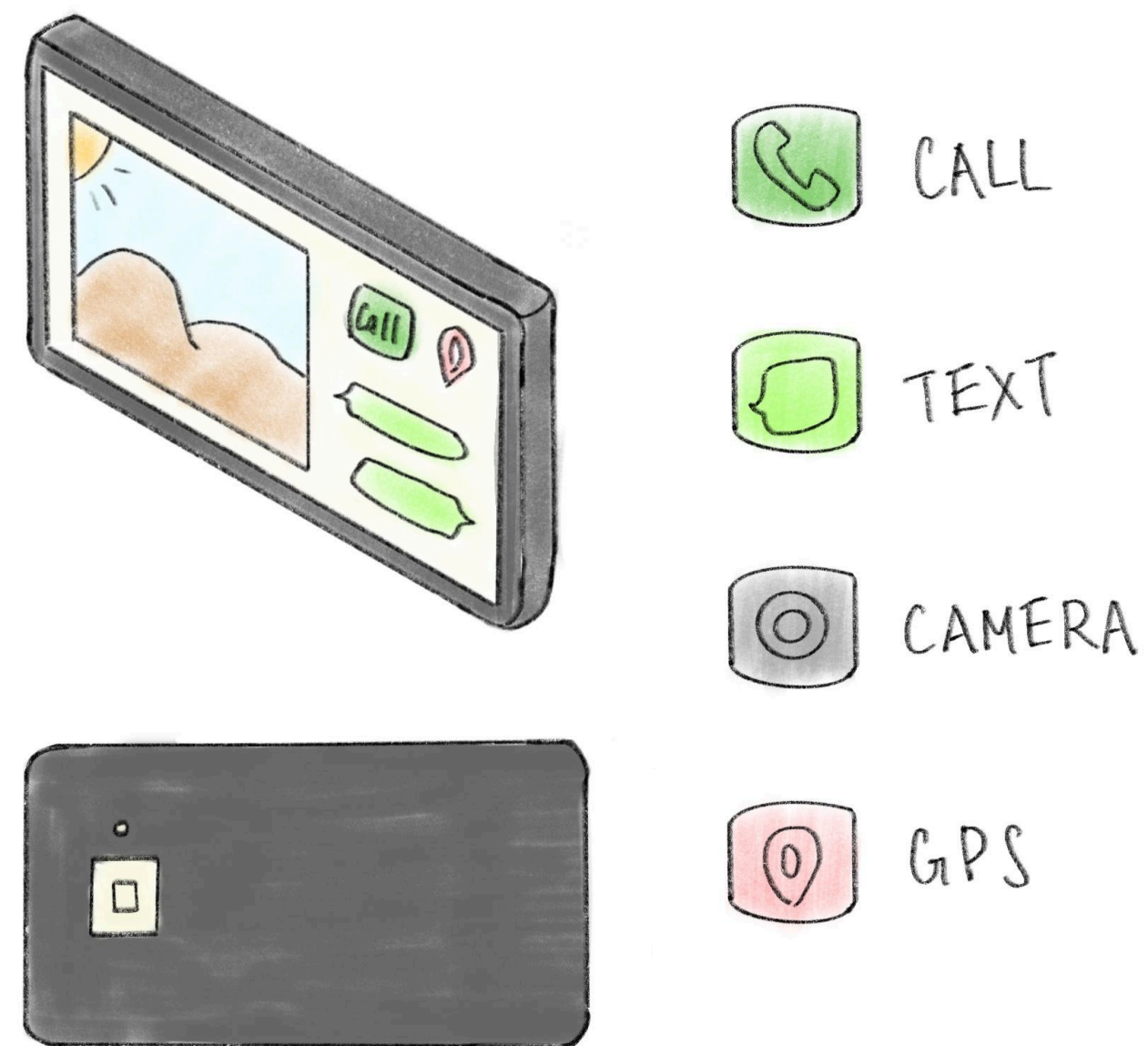
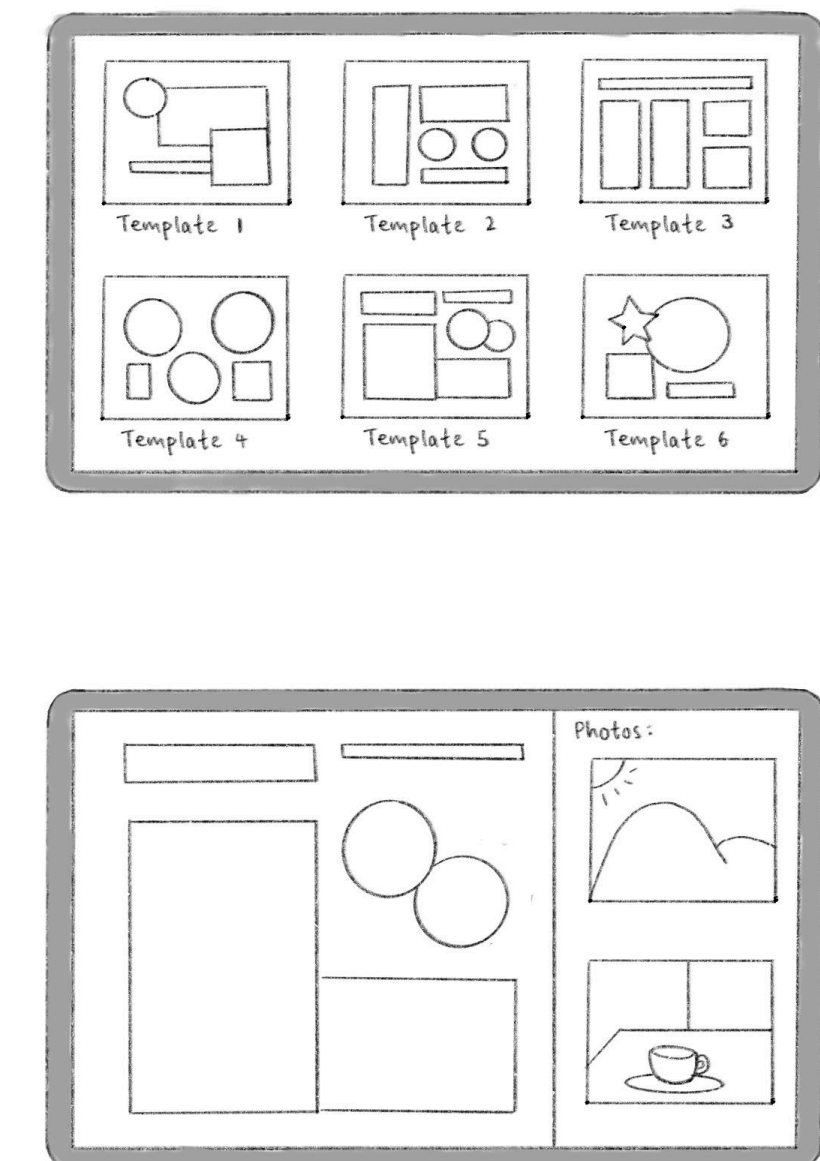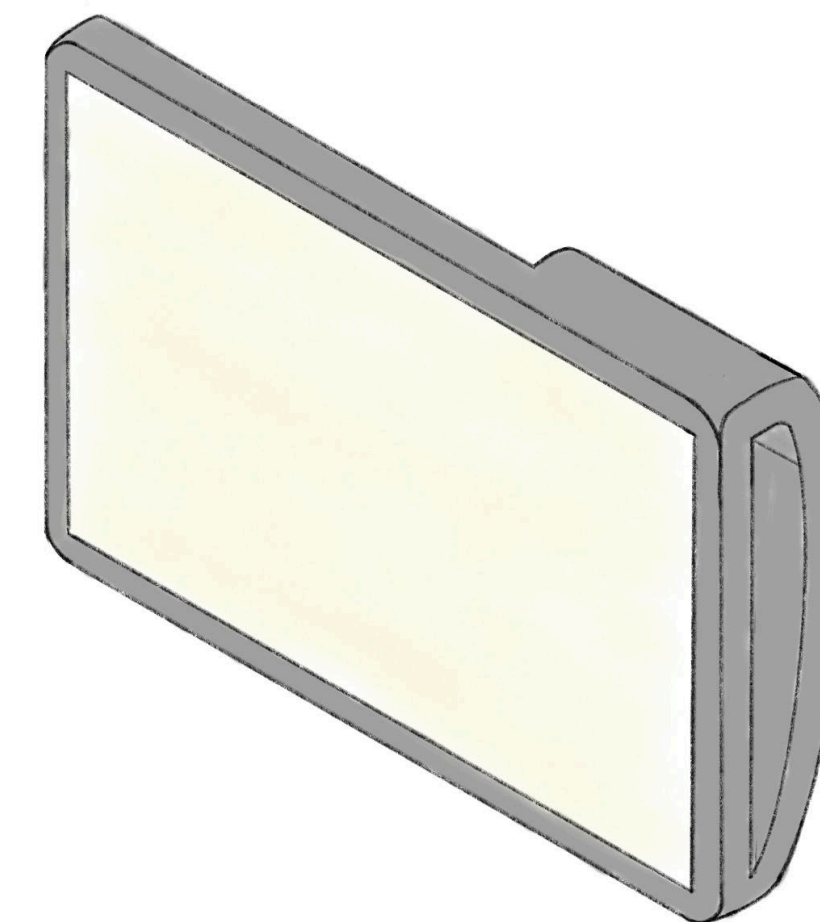## Concept 2

My initial concept was to design a device capable of essential applications limited to interactions with family members only. However, I soon realised there was no desirability nor incentive for families to respond to this product.
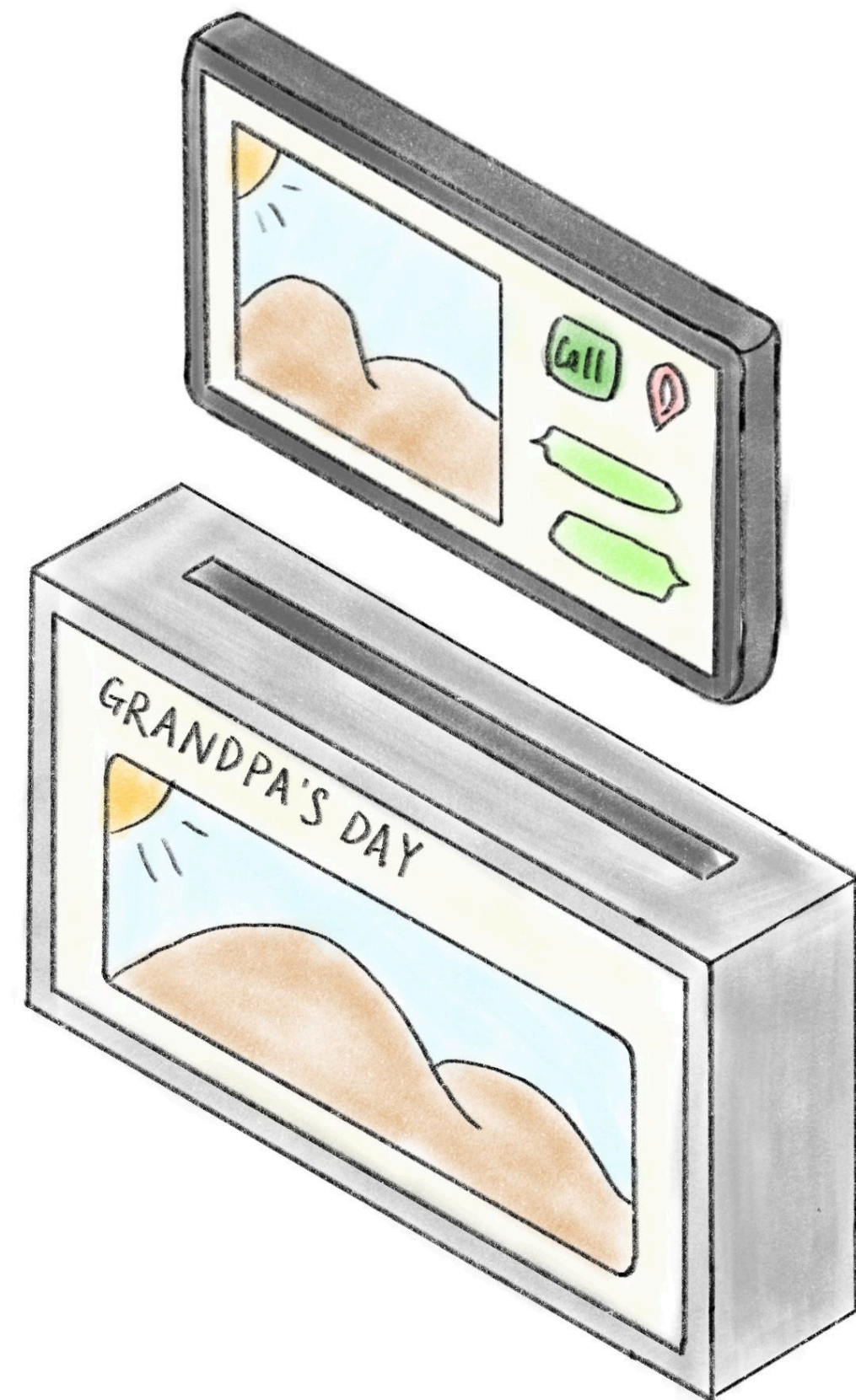
Another concept explored was a device centred on personal memories, working as a digital scrapbook for users to customise and share their favourite images with family members. However, this device lacked incentive for shared family interaction, conflicting with my product aims.

Initial exploration

Final concept

Further development on my initial concepts led to a two part system that combines elements from previous designs.

My final concept consists of a primary device that allows users to communicate with essential applications and capture photos of their every day, alongside a secondary docking device that acts as a shared family hub within each household.

When the primary device is docked, it transfers images captured throughout the day by each family member to each family hub, where they are presented on the device as a slideshow.

This system allows family members across separate households to reflect on their family's everyday, keeping everyone up to date with ease.

Form and visual exploration

To incorporate a trans-generational element within my design, I experimented with my product's visual language and how familiar forms across generations can evoke an emotional response within users, improving user experience and supporting users who may be technologically disadvantaged.
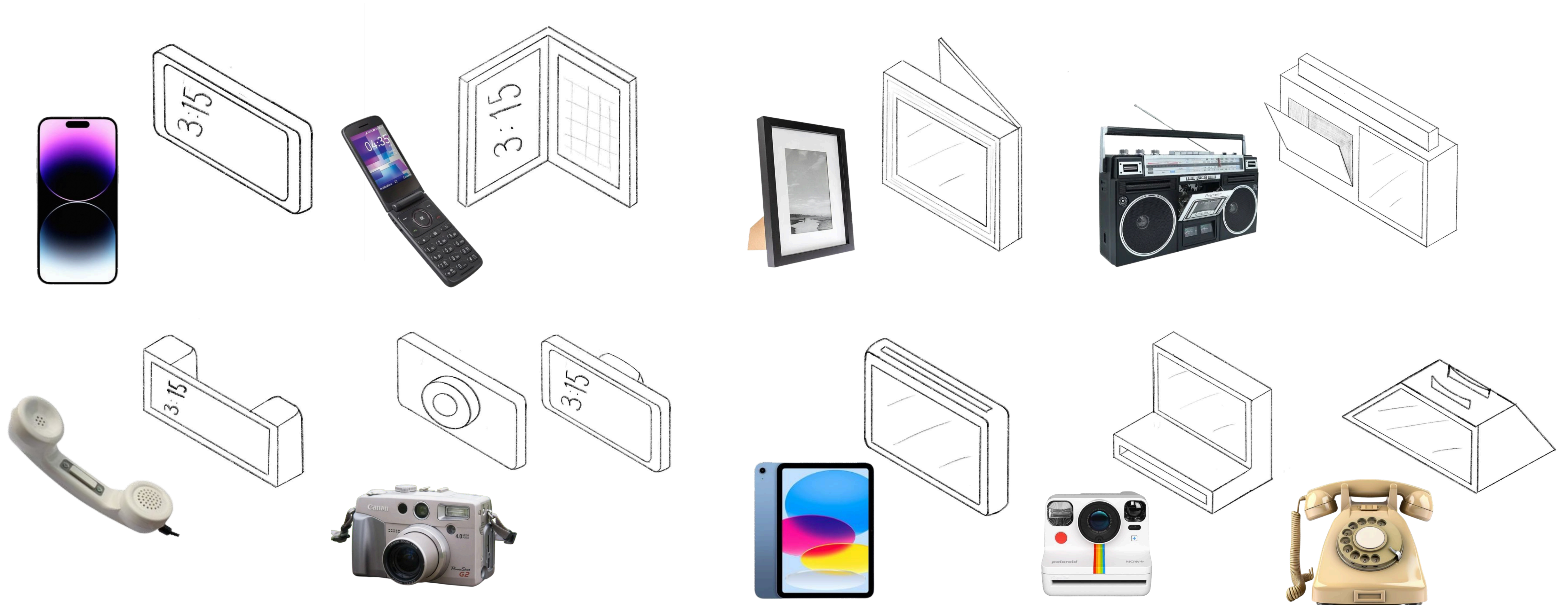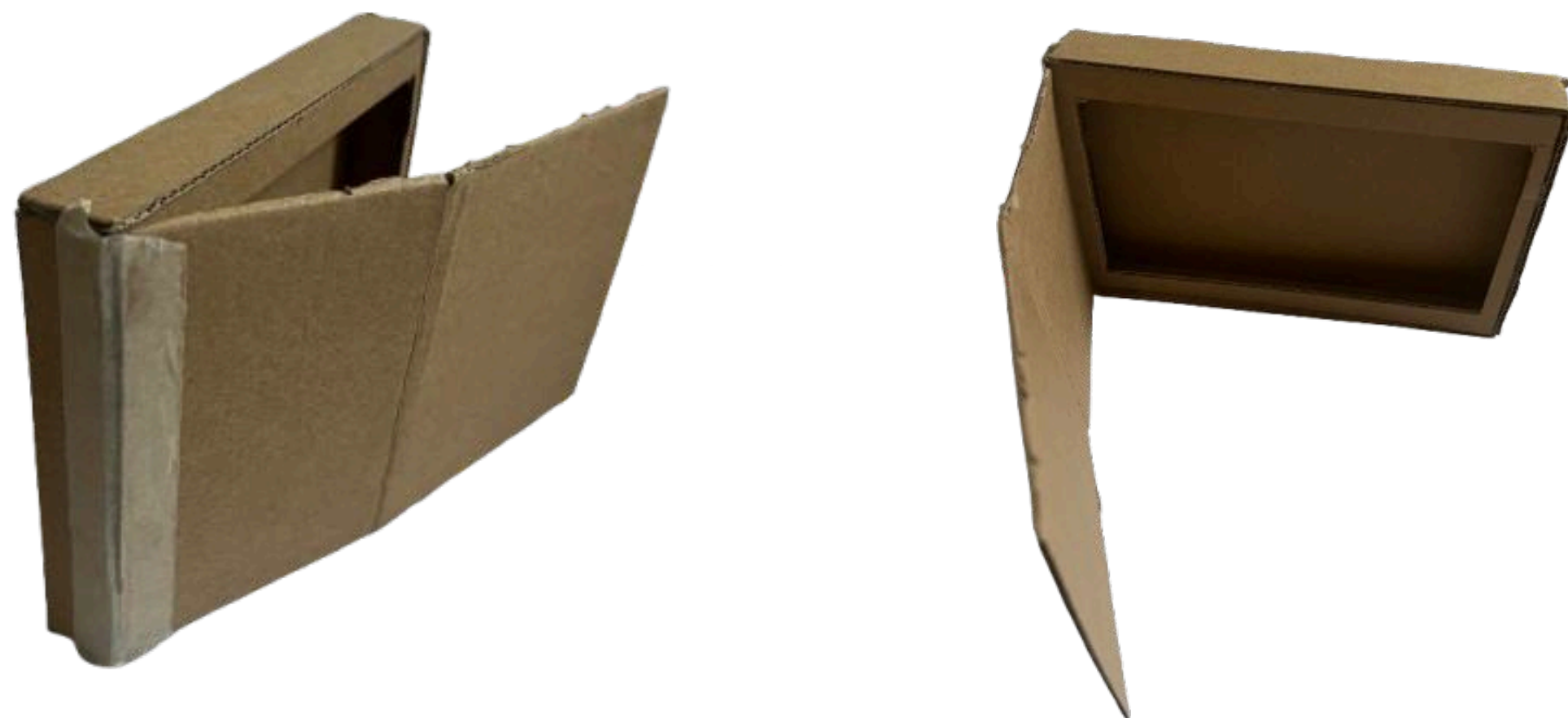
Form inspiration

Prototype testing

Telephone dock



Photo frame


Letter box

Cassette player

To test my initial dock design and its connection between the main device and the dock, I created four cardboard prototypes from the most timely inspirations to assess their viability and determine the best approach. The *letter box slotting mechanism* proved to be the most effective. However, I found it difficult remove once inserted when tested with a cardboard phone prototype.
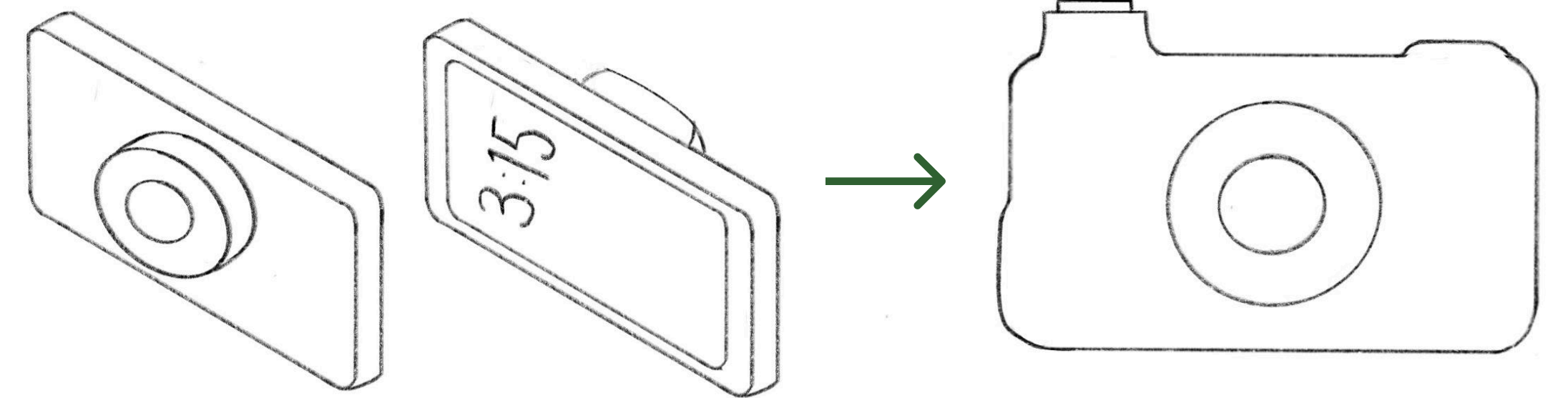
Form refinement

Dock form

To improve ease of removal, I elevated the slot depth, limiting insertion of phone to only be docked partially. To improve stability, I have also added a base connector which would fit onto a narrow recess on the side of the phone.
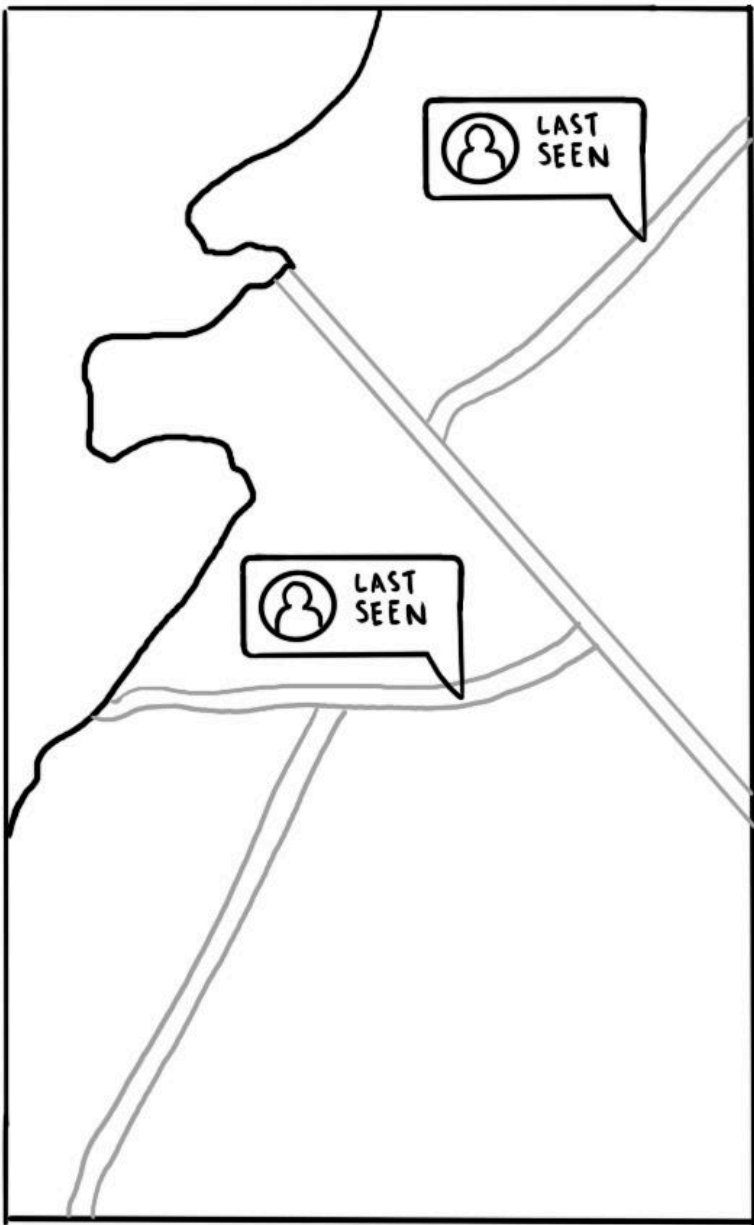

Connector

Elevated
slot

Phone form

3:15
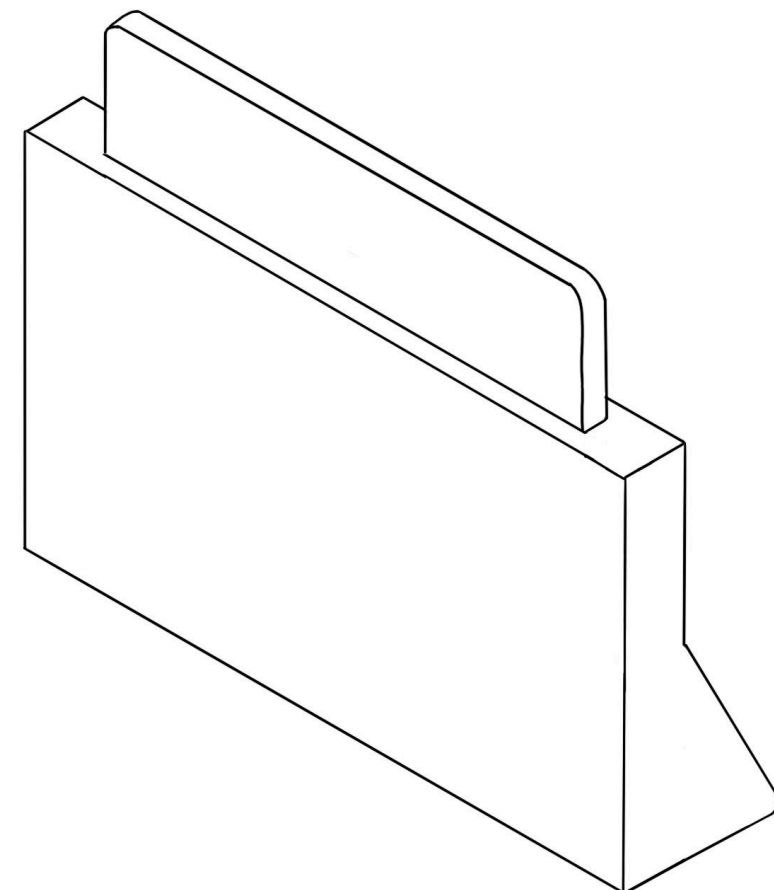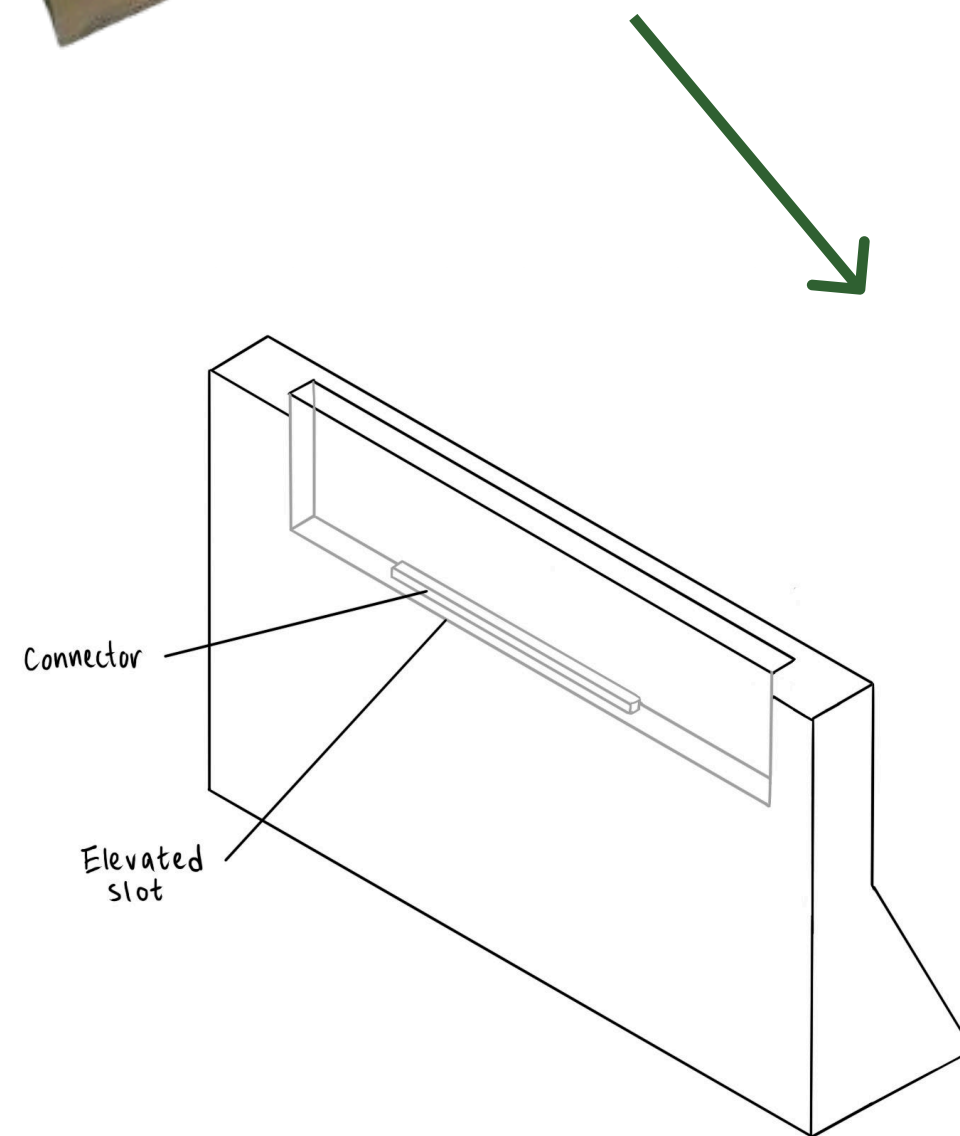
Through form exploration, I had chosen to move forward with the camera inspired form due to its trans-generational familiarity. I initially refined the form to resemble a larger, professional camera, but compactness and docking requirements led to further refinement of a more simplified form with a camera module and a side grip feature.
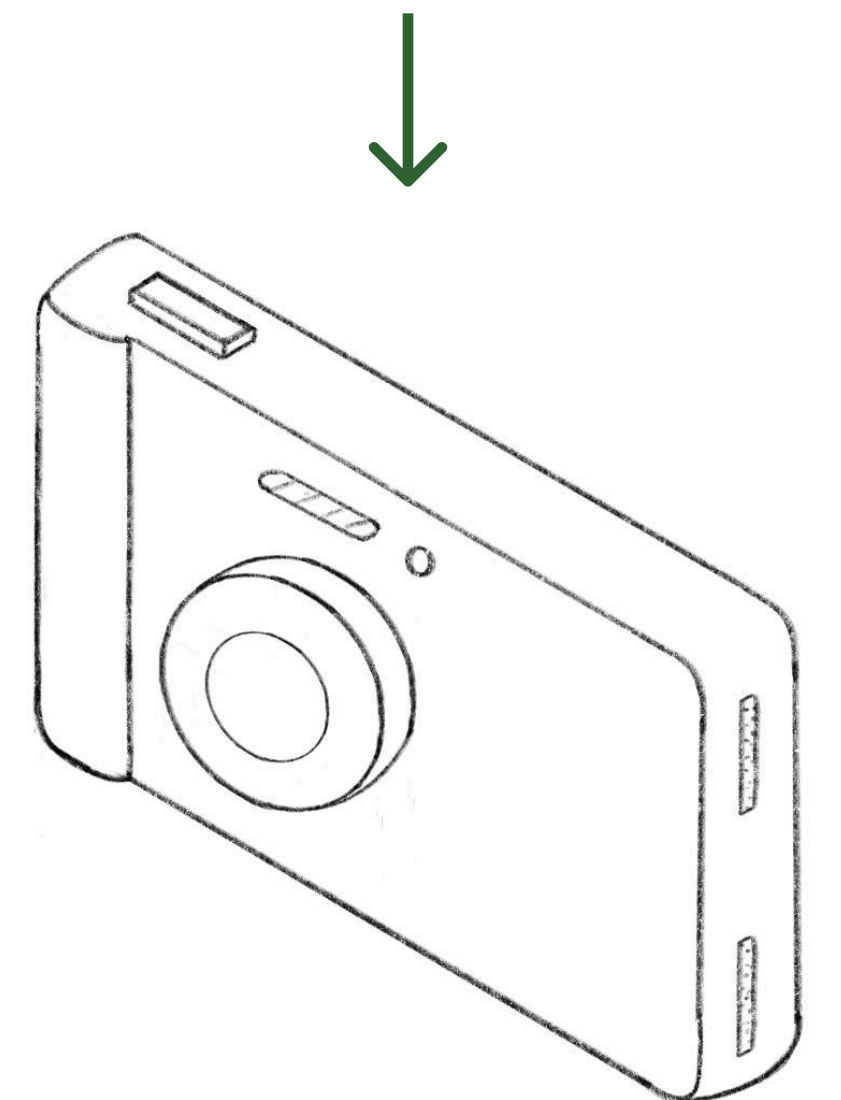
Application development

Initially, my design for the phone system included messaging applications, however, it could promote digital use, conflicting with my product's encouragement of digital detox. As a result, messages are limited to simple reaction responses which can only be used when engaging with the slideshow application on the family dock.
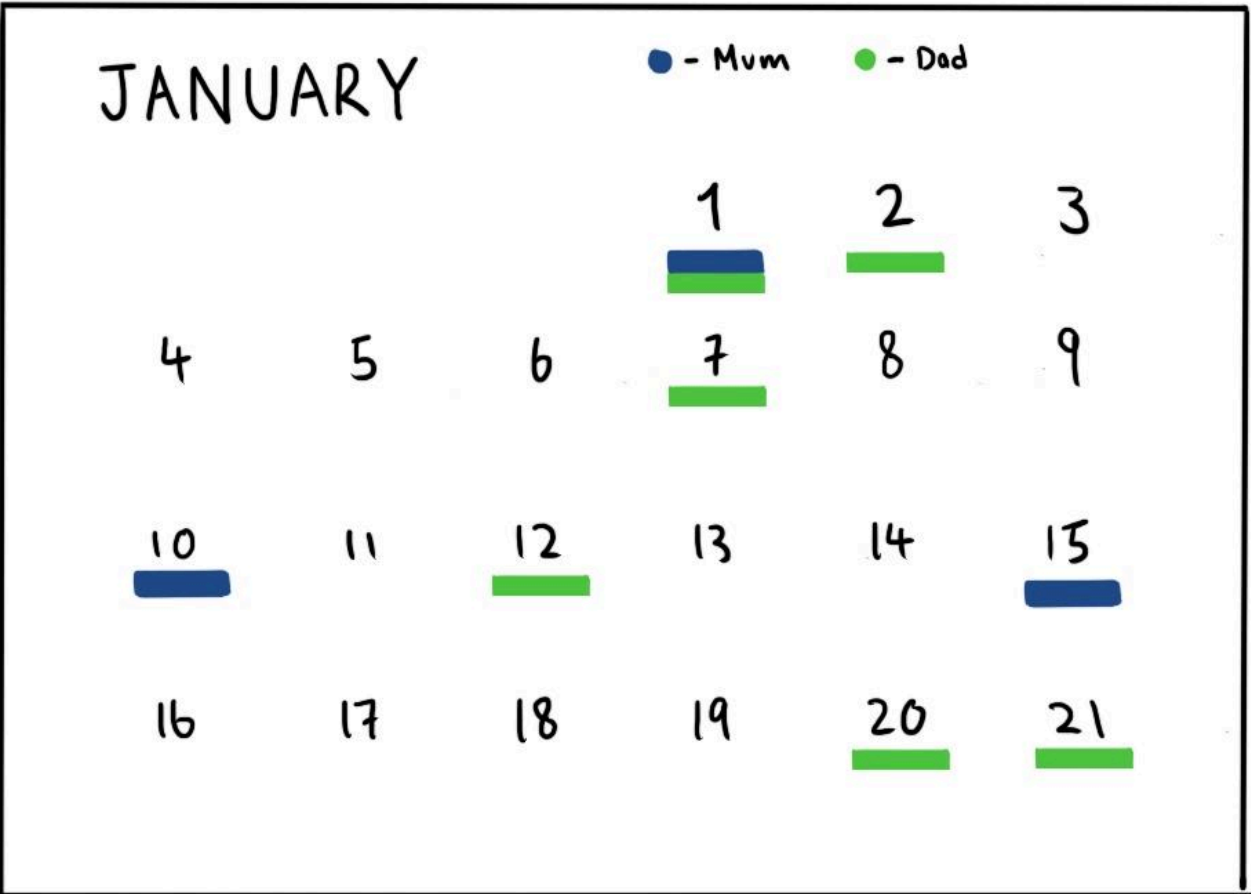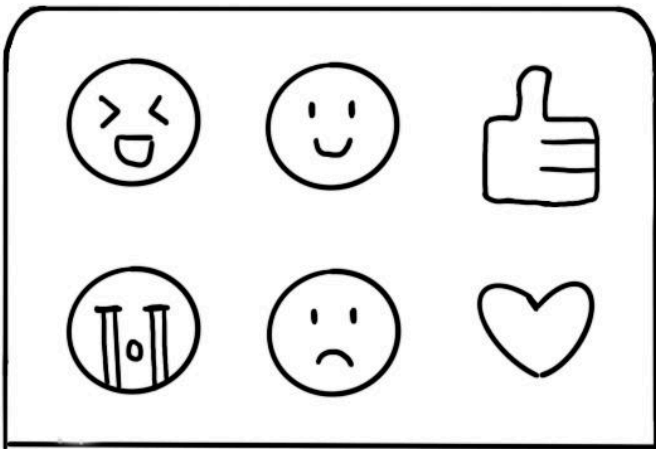

To reinforce the family element of my device, a GPS feature was added to the phone system to allow family members to share their location, providing reassurance for parents monitoring their children's safety.
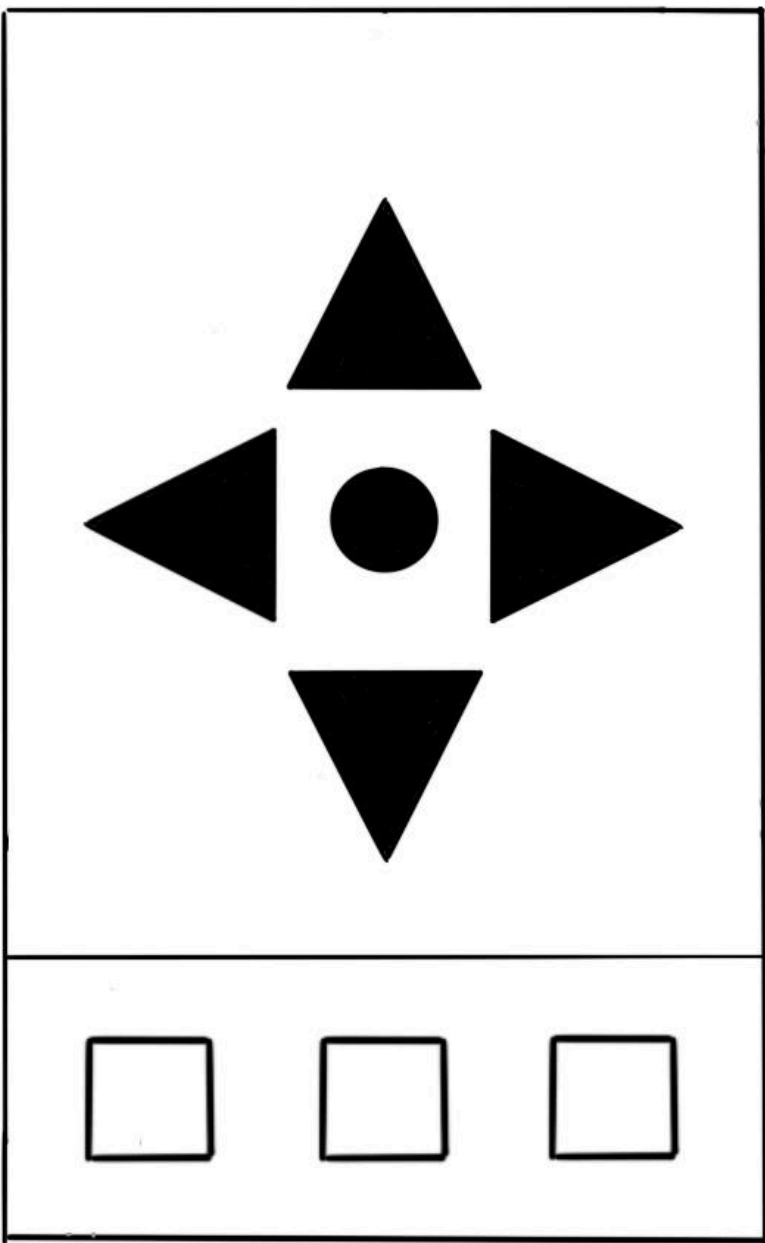
A remote application was also added to the phone to allow users control the docking system from a distance, including a navigation system and quick access to applications
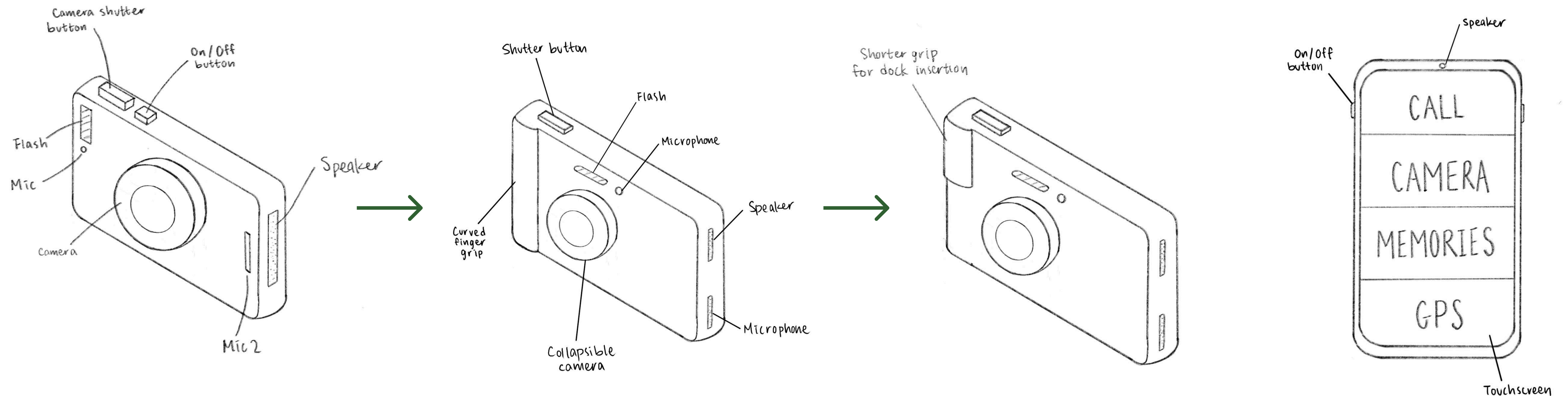

Whilst the docking system mainly supports image slideshows, video call and shared family calendar applications are also added to the docking system to better support family centred interactions.
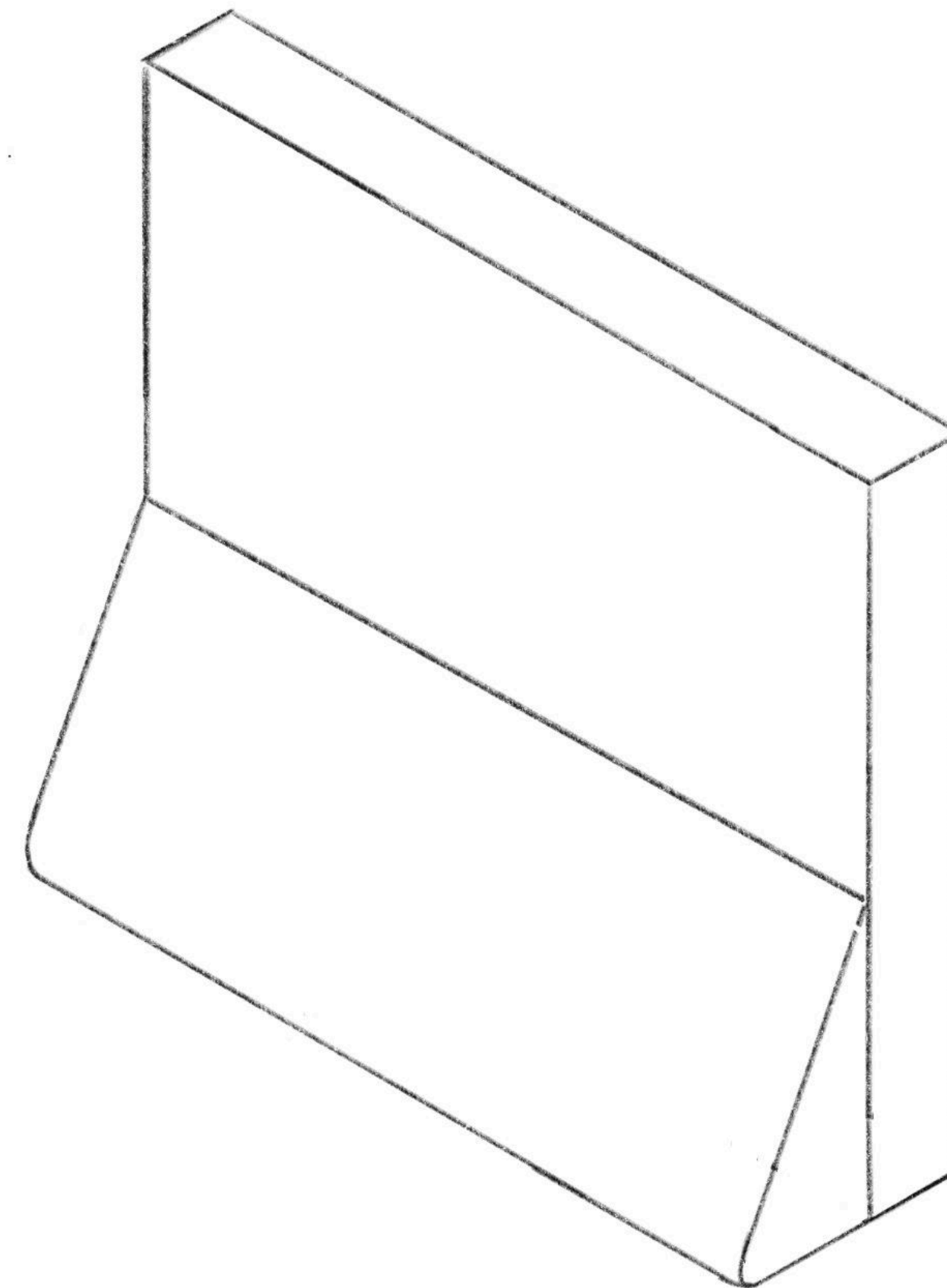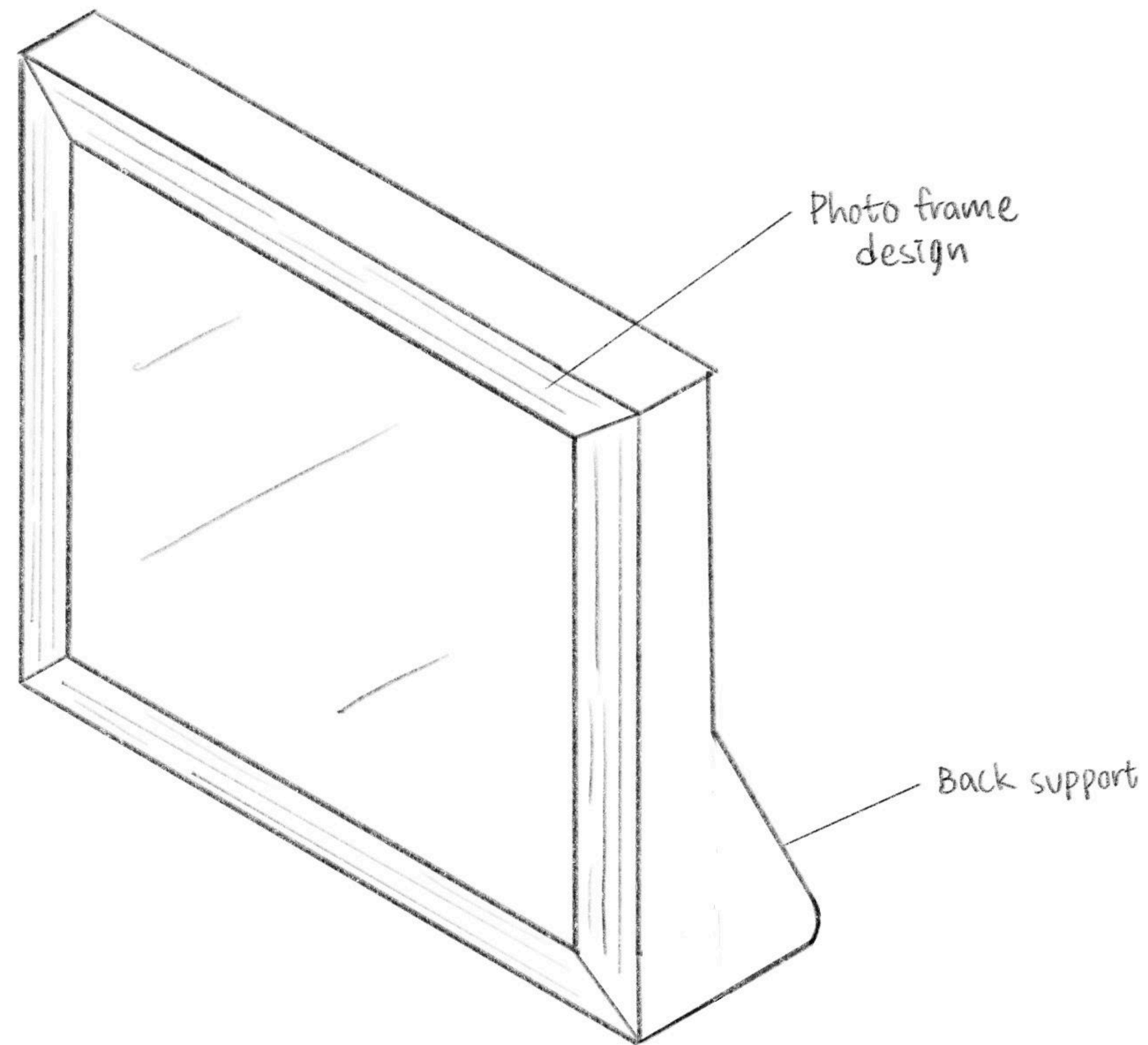
User experience design

Phone UX design

Upon reflection of initial design, I noticed several issues affecting usability and compactness. Button proportions were too large and dominating, and the size and position of the camera made it difficult to hold. The placement of the flash and microphone interfered with hand placement when taking photos, and the location of the bottom microphone was unsuitable for calling

Through development, I had changed the positioning of numerous features to support ease of use. I reduced the size of the camera and made it collapsible when not in use to improve positioning of hand, as well as adding a finger grip on the side for better handing during camera use

User experience design

Dock UX design

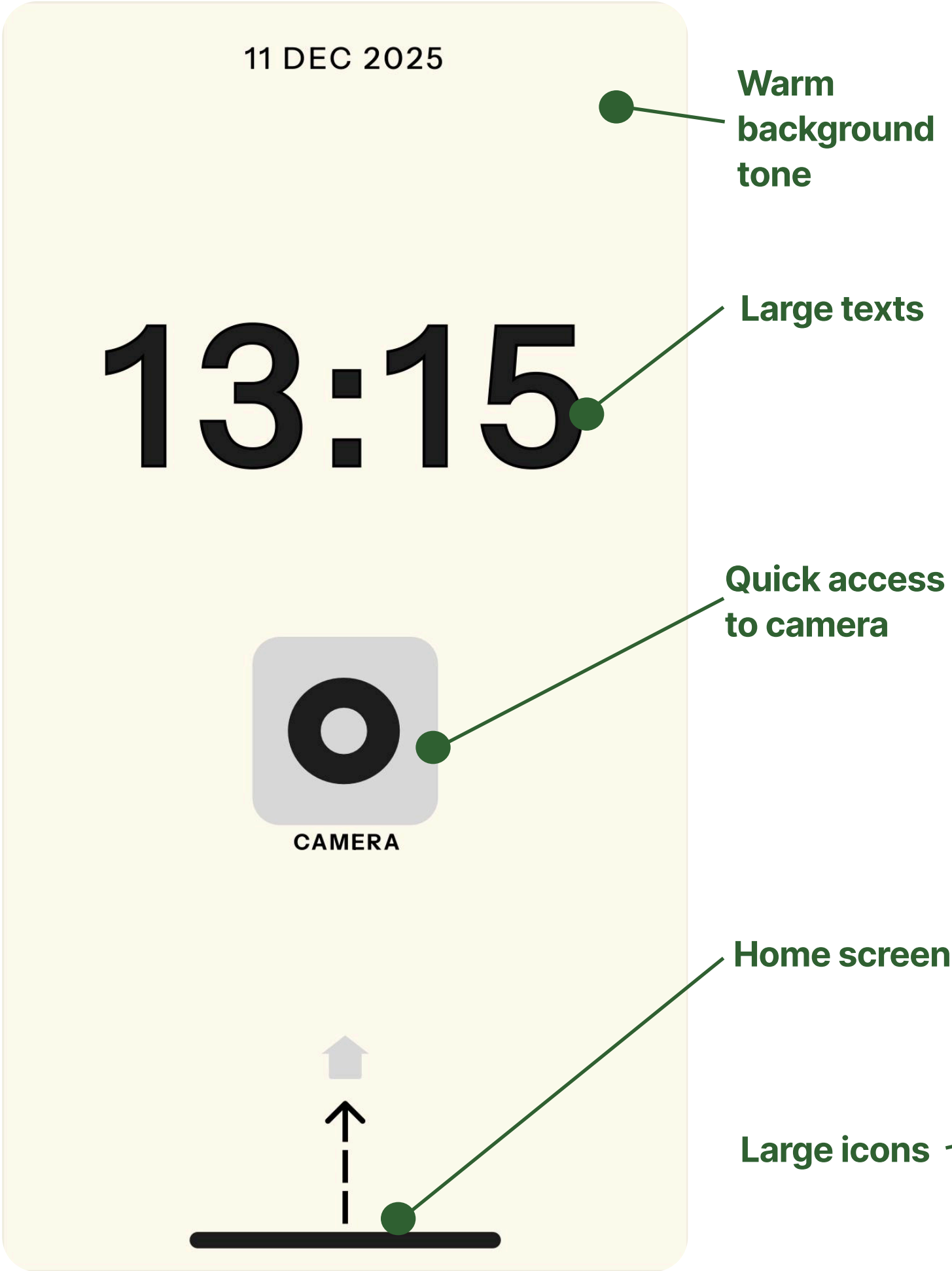Photo frame design

Back support

To improve user experience, the family dock was developed to resemble a picture frame, creating a familiar and realistic feel for users when displaying image slideshows, enhancing both aesthetic and experience of the product.

A back support was also added to allow it to stand independent and positioned freely within the household.

User interface design

Phone lock screen

11 DEC 2025

13:15

CAMERA

Warm background tone

Large texts

Quick access to camera

Home screen

Phone home screen

PHONE

CAMERA

MEMORIES

GPS

REMOTE

Large icons

Dock home screen

13:15   11 December 2025

VIDEO CALL

CALENDAR

SLIDESHOW

Shared family calendar

Home icon to home screen

13:15   11 December 2025   MAYA'S DAY

Photo display
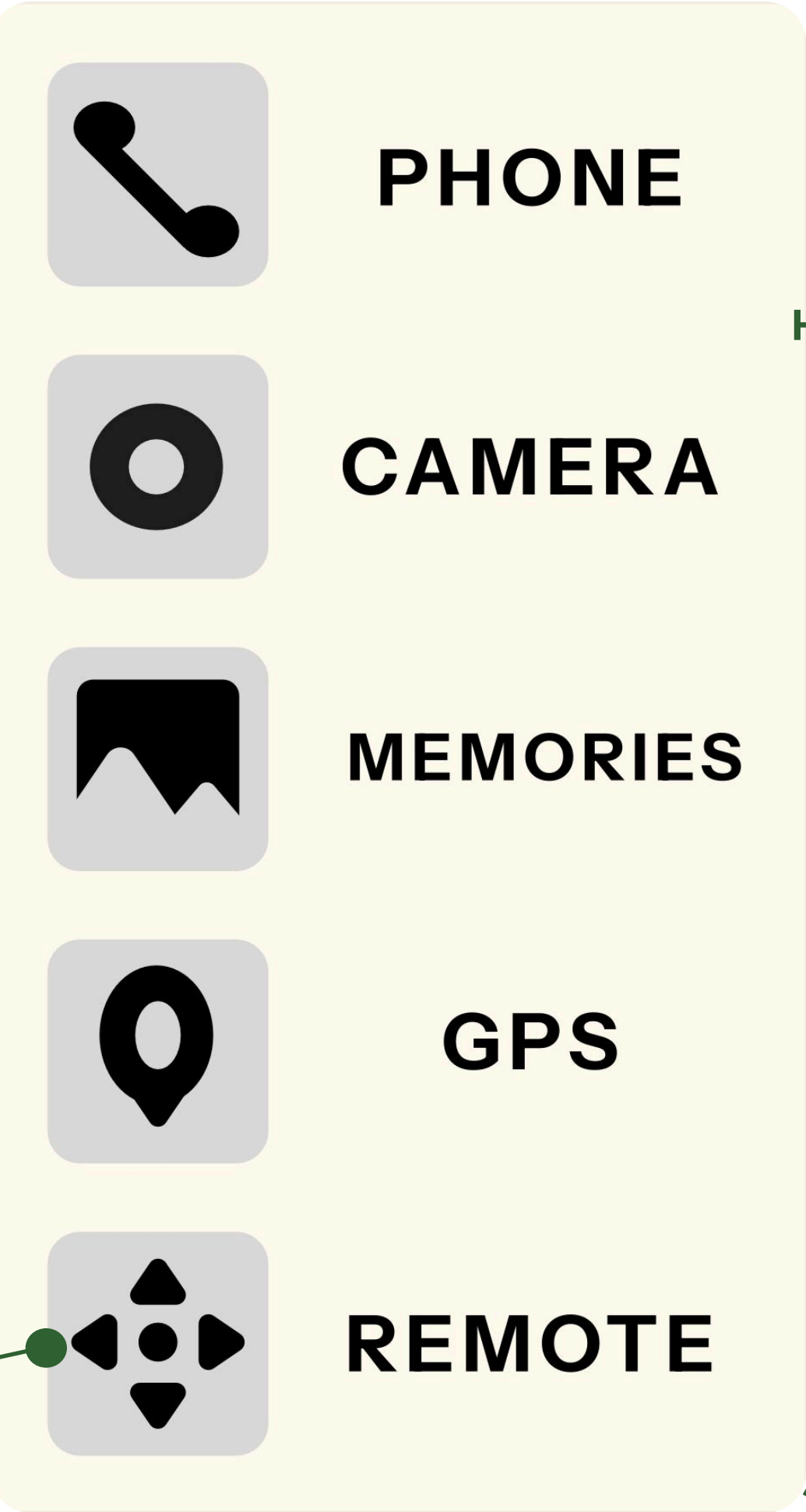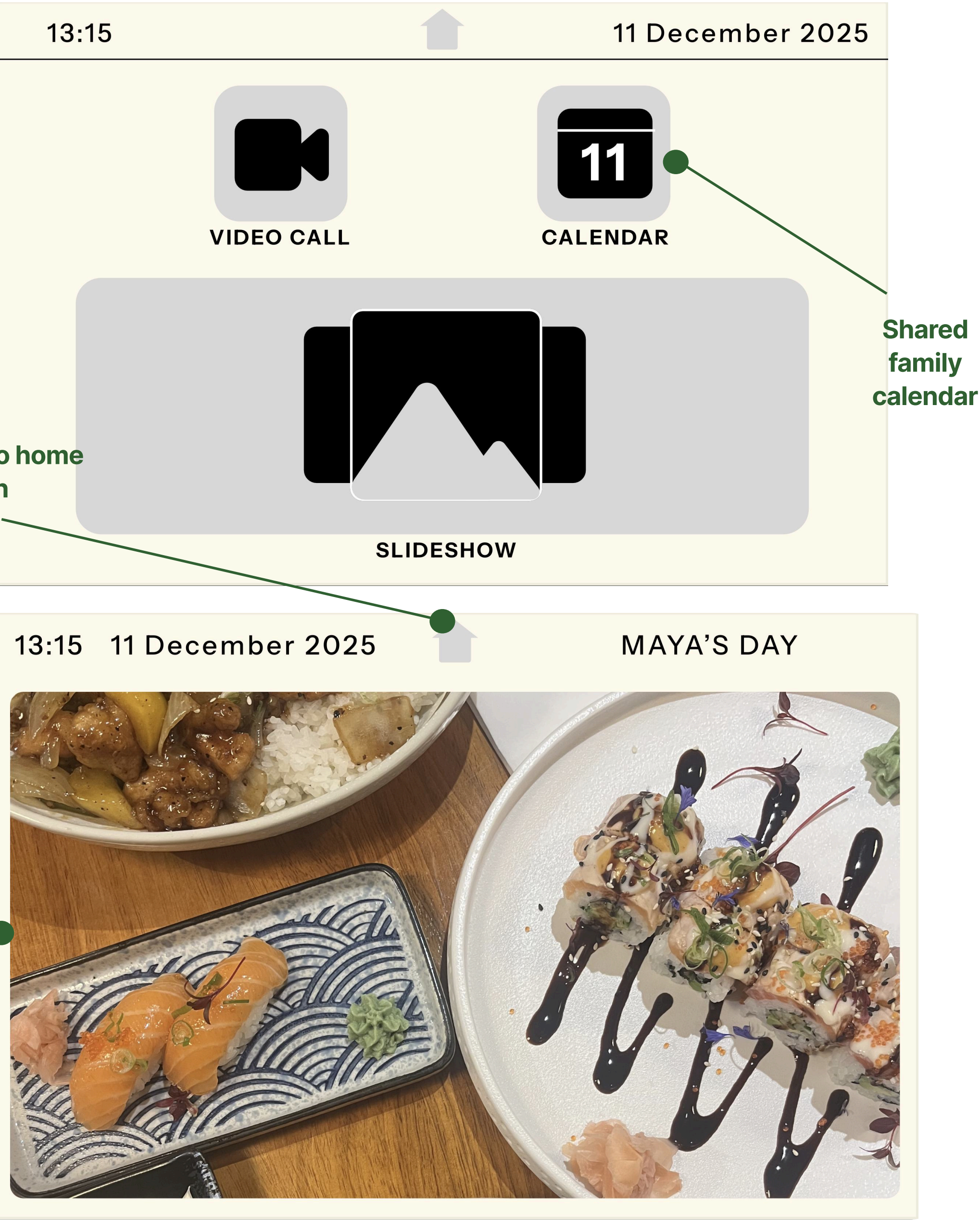
User interface design

Remote application

- Navigation arrows
- Select button
- Quick application access buttons
- Swipe up keyboard access
- Quick home screen button
- Reaction buttons for slidehsow

VIDEO CALL SLIDESHOW CALENDAR
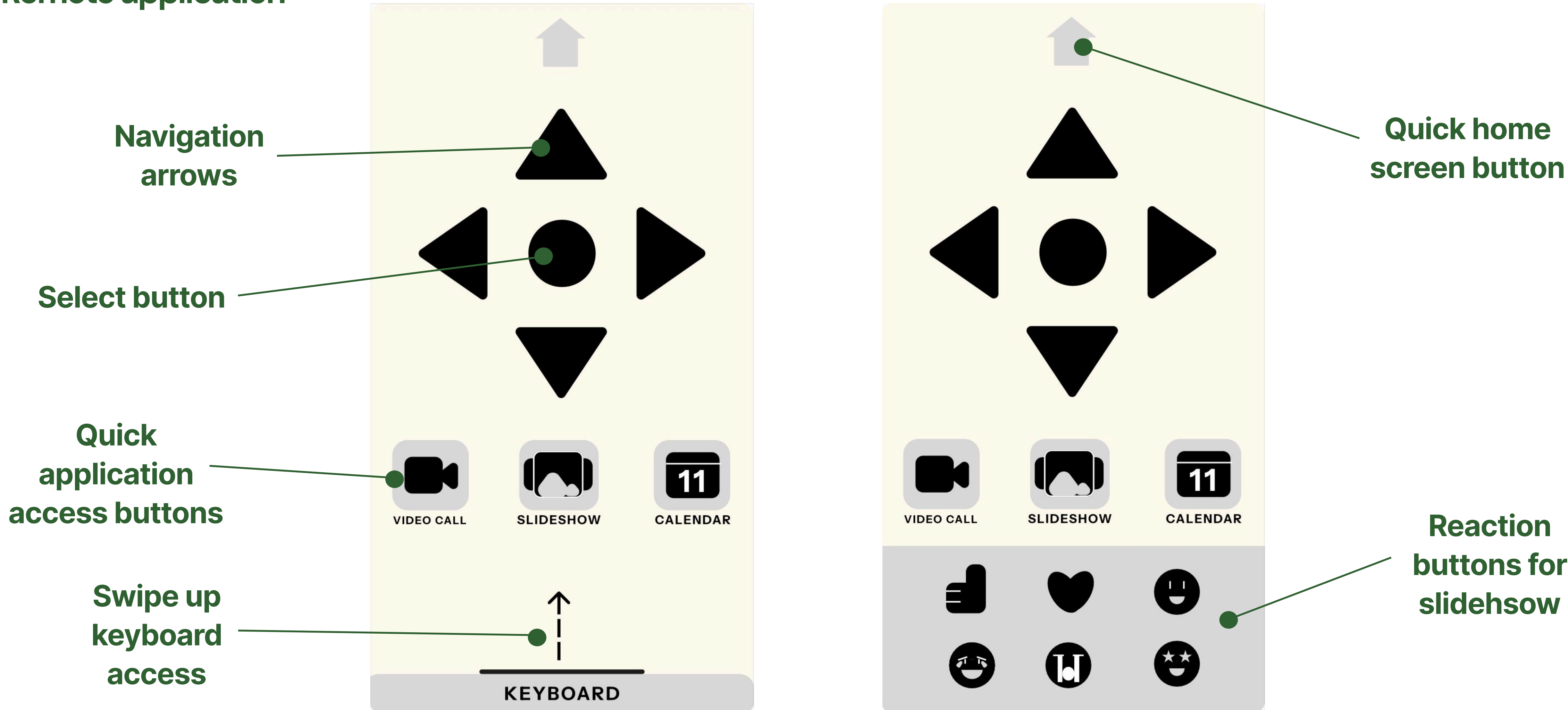
KEYBOARD

CAD modelling
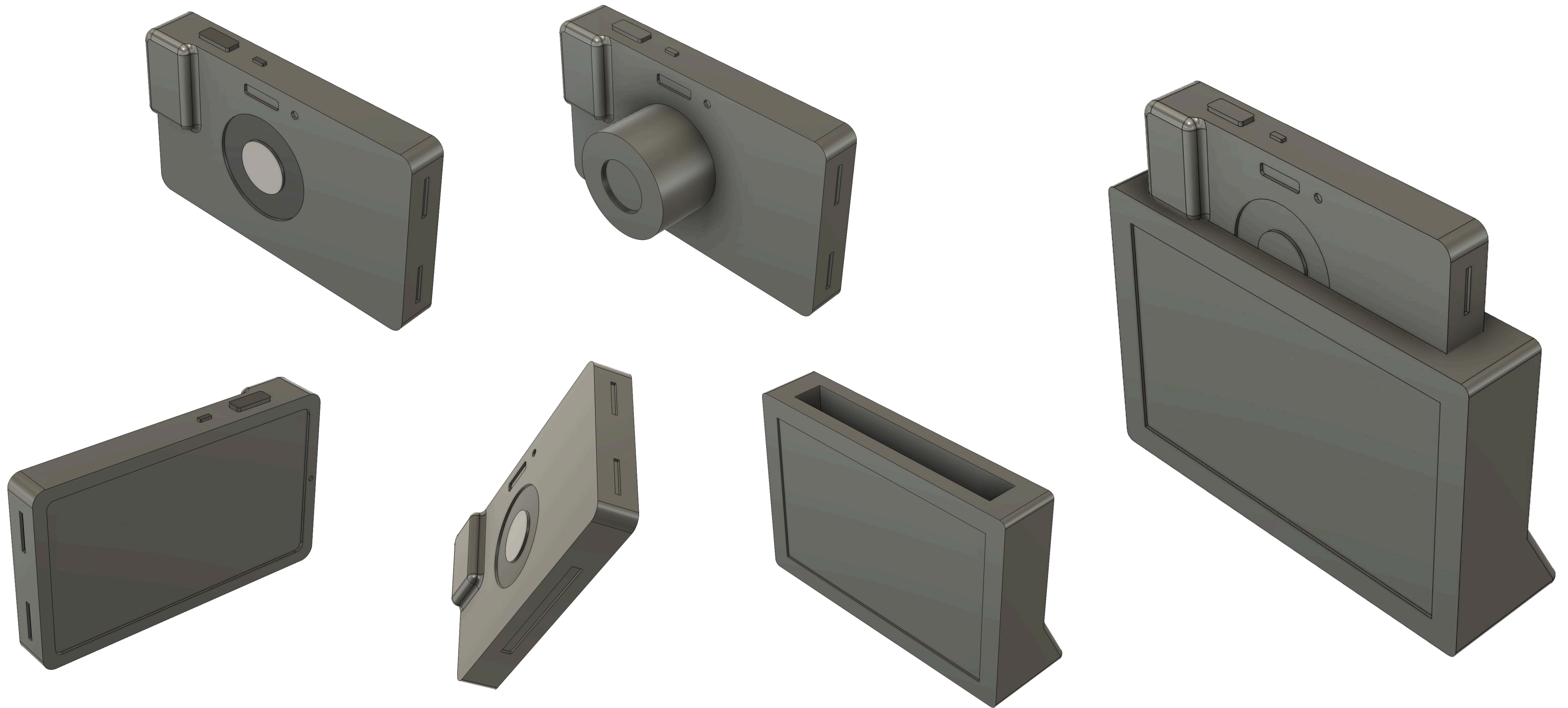
Material and sustainability

Polycarbonate
- **Impact resistant, protects camera components**

Glass
- **Clear image capture**

Recycled ABS polymer
- **Lightweight and durable**

Glass
- **Scratch resistant**

Bamboo
- **Aesthetically pleasing, resembles photo frame material**

PMMA
- **Transparent and lightweight**

13:15 11 December 2025

MAYA'S DAY

11 DEC 2025

13:15

CAMERA
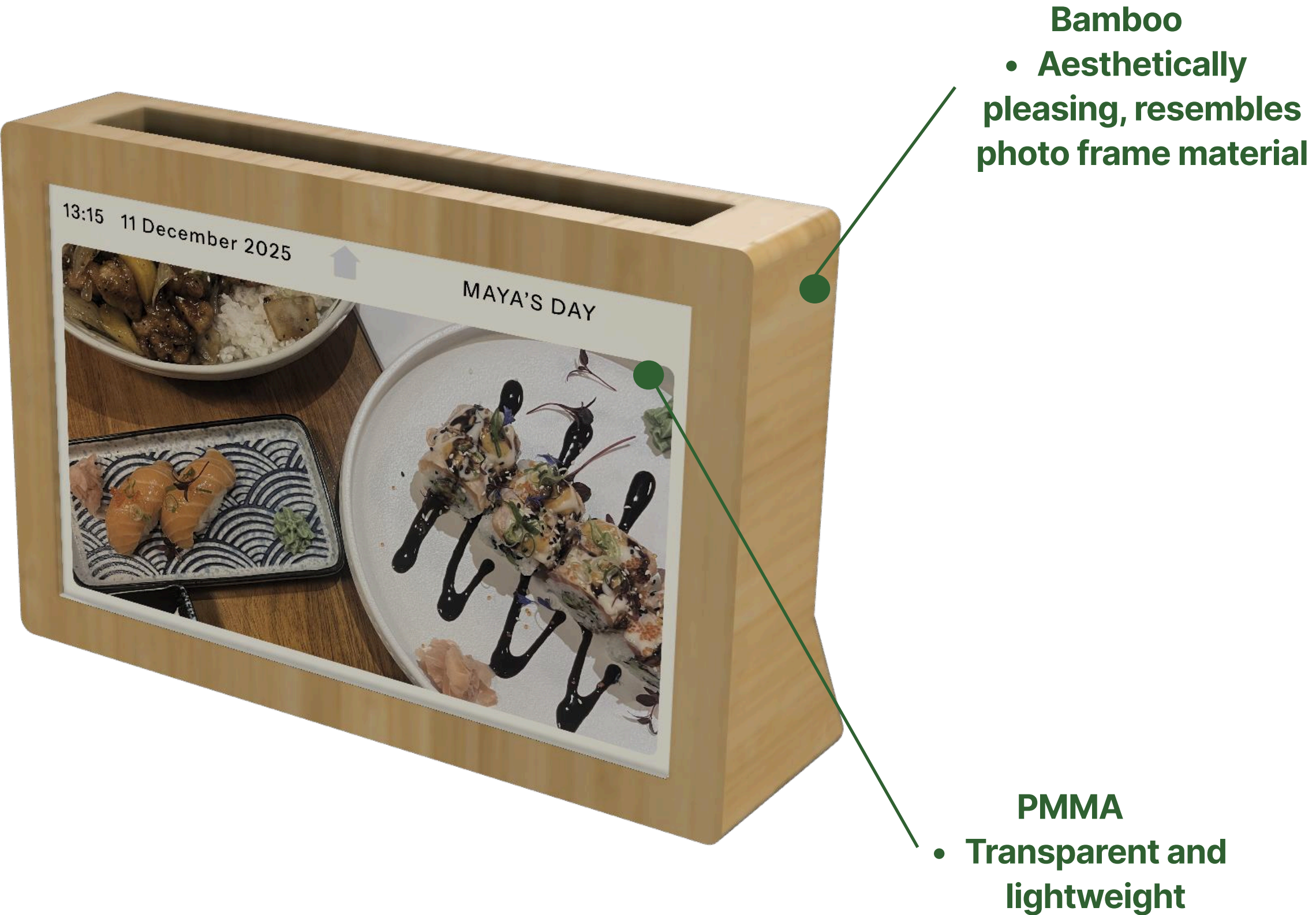
Illustrative Storyboard
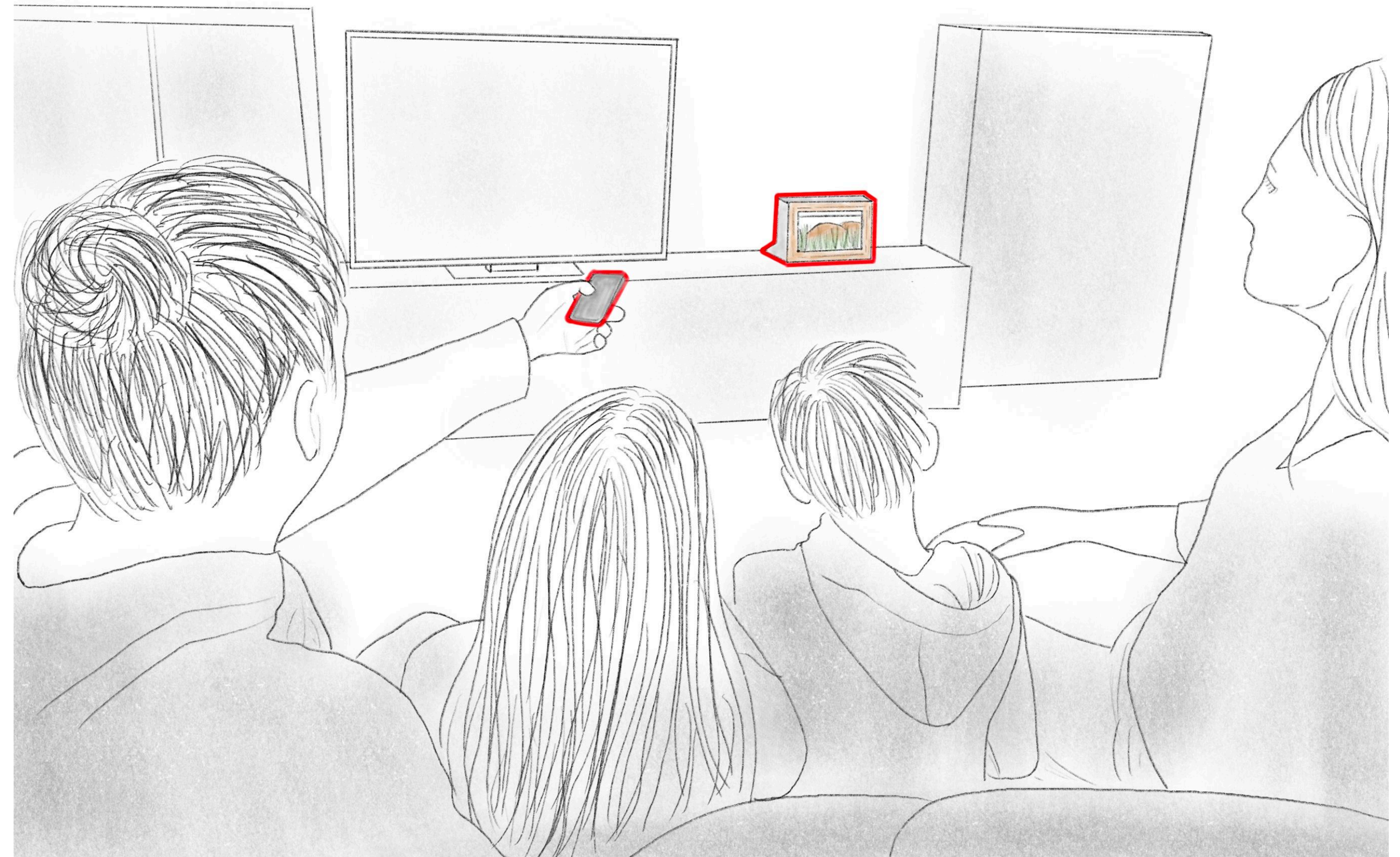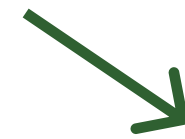
Final CAD render

Target industries

Australia social media ban

Meta blocks 550,000 accounts under Australia's social media ban
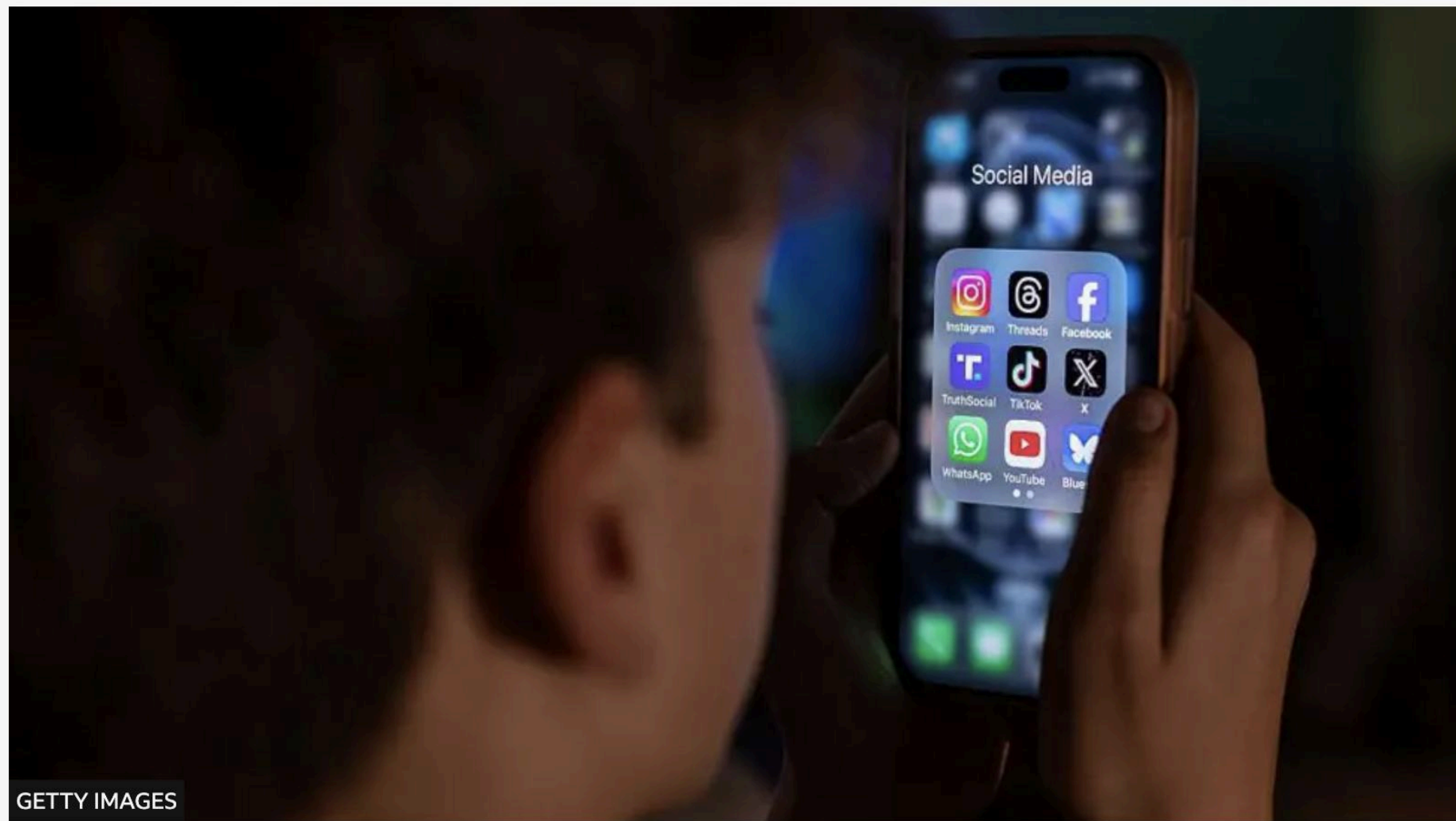
GETTY IMAGES

| Australia's landmark socual media ban for kids is being watched closely around the world

Tiffanie Turnbull
Sydney

Australia has recently come out with a new policy to ban social media for under 16s to promote mental wellbeing.

Product relevance to policy

My product aligns closely with Australia's policy and provides a suitable, alternative way for teenagers to approach digital use rather than a complete withdrawal.

Through my product's restriction to social media and other engaging and harmful applications, it encourages digital detox and emphasises focus onto personal wellbeing and family connections, offering an alternative and healthier way of using technology. By strengthening familial connections, it aims to support the development of social awareness skills to bring into everyday life.

My product can be potentially adopted by wellbeing organisations advocating this policy in Australia, as well as the Australian government looking to provide an alternative and more supporting approach to discourage digital engagement.

Final prototype

Phone size and finger grip tested with final prototype

Reflection

Project outcomes

Upon reflection of my final product and my design intent set upon prior, my final device successfully captures the main elements set upon improving mental wellbeing through digital detox and strengthening of family connections. My device offers a way for users to be able to keep each other updated even through physical distance with the docking and image slideshow system, which was a main obstacle reflected in my interview with Desiree. My device also encourages a decrease in digital engagement through limiting applications and messages, providing an alternative, reaction based system instead, allowing a alternative approach for users seeking to reduce digital use.

Key learnings

Through this project, I have also grown to understand the importance of user experience in my design, which was something I have never emphasised before. Through form of design and intention of use, I understood the importance of emotional design as a key factor to improve desirability. I have also learned to develop my use of CAD and rendering techniques by experimenting through my designed device.

Development opportunities

Upon reflection, I have also noticed elements that were lacking in my product. Although my device could be desirable for users seeking stronger family connections and digital detox, it lacks incentive for use amongst users who may not want to seek out change in digital engagement. Furthermore, my device offers little motivation for users to capture their everyday, and upon reflection, a system could have been added to encourage users to share their memories, improving desirability at the same time.