

Oasis:

Multi-function Entrance Panel

Group 1

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Our design rationale

Background and Objectives

The Design Problem



High Cognitive load

- Cluttered controls and information
- No clear prioritization

Outdated User Experience

- Control centered rather than human centered
- Interfaces feel technical and impersonal

Poor affordance

- Unintuitive iconography
- Unclear active and non-active states

The problem is not that the wallpad lacks features but that they are cluttered, unintuitive, and emotionless.

Our Design Focus

We looked to reimagine the wallpad not as a control panel but a home companion that makes sustainable living feel effortless. Prioritizing low cognitive load, meaningful energy feedback, and static interaction logic so users can build reliable mental models.

Why sustainability?

Apart from the positive real world impacts that sustainable living creates it's also in demand

It's market relevant

Statista, 2026

"Another trend in the market is the rise of smart homes and sustainable buildings. South Korea is known for its technological advancements, and this has translated into the real estate sector as well. Developers are incorporating smart home features such as remote-controlled lighting and heating systems, as well as energy-efficient designs to attract environmentally-conscious buyers."

It aligns with user concerns

Mordor Intelligence, 2026 & Korea JoongAng Daily, 2025

"Nationwide concern over summer heatwaves and rising electricity bills is accelerating the uptake of connected energy-saving devices."

"The blistering heat has pushed many households to rely on air conditioners despite growing anxiety over rising utility costs."

Why it matters

Smart Home Market Growth

Smart home adoption is rapidly accelerating in Korea but the market is racing to add more functions, not better experiences

Rising User Stress

Heatwaves and electricity costs are pushing energy awareness residents want clarity, not more alerts.

Home interfaces are starting to feel like workplace dashboards, extending digital pressure into personal space

The Core Function Gap

Existing systems treat the entrance as a control panel but residents experience it as a **psychological boundary**. No current product is designed to support the transition between work life and home life

Throughout our design process we aimed to design an intuitive interface rooted in sustainable values and centered around facilitating a holistic and premium residential experience.

Research

Current products and good design principles

Hwasung's Design

Example 1

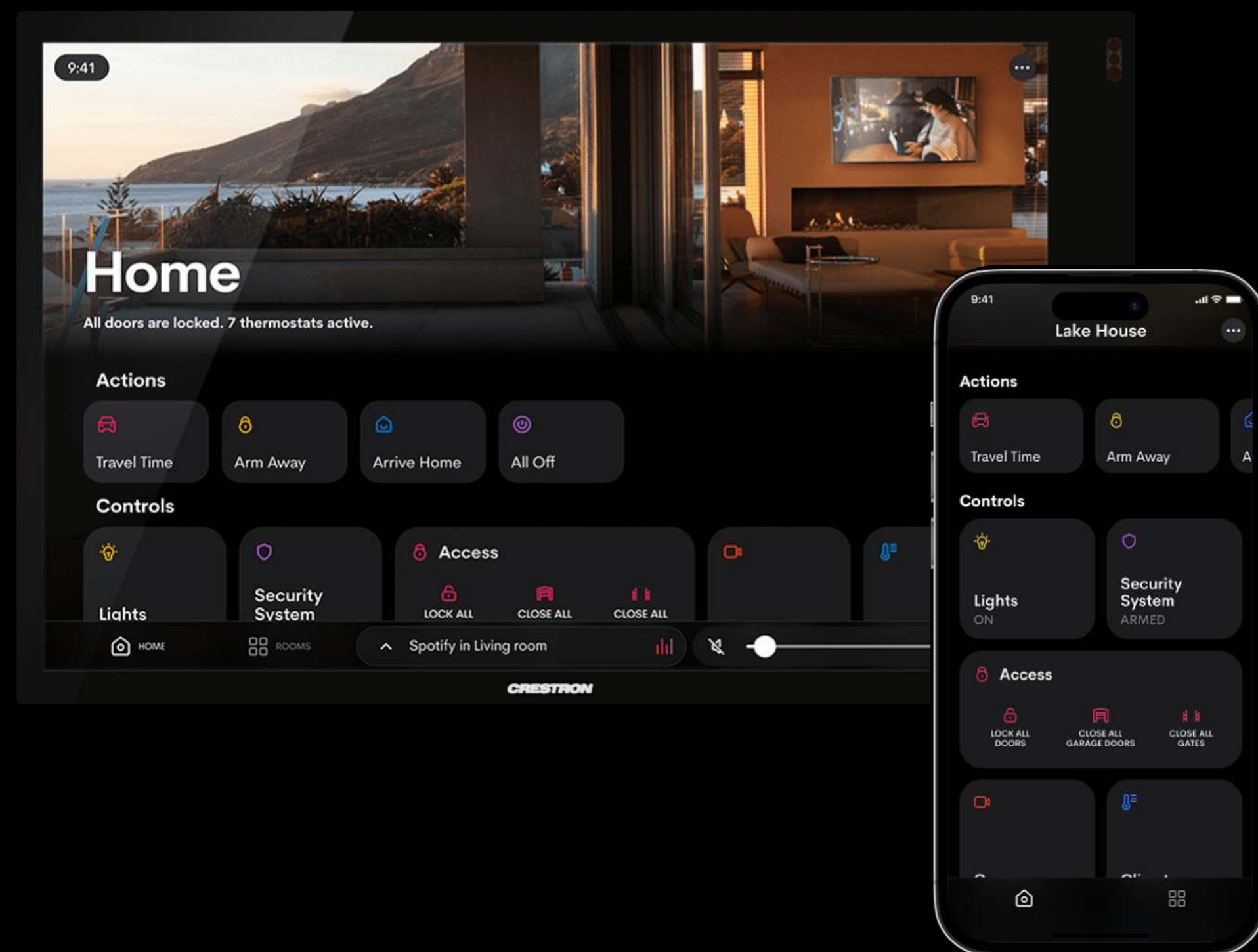


Intent

- At-a-glance view of key information with minimal navigation

Gaps

1. Unintuitive information chunking
2. Poor haptic feedback and interactivity
3. Unintuitive iconography



Intent

- Consolidating and organising features into menus to improve visual hierarchy

Gaps

- “The app has **too many submenus** to be able to do anything” - Reddit User
- “...but navigating it feels like chore. It desperately needs **haptic feedback** for certain actions... and smoother navigation” - App Store Reviewer



Intent

- Integrate and display IoT controls to the wallpad

Gaps

- With apps and controls, visual hierarchy flattens and cognitive load on user increases

Research on good design

Good interface

An empirical study on the collaborative... (2023)

- Optimal button size, vertical layout, and minimalist style reduce errors
- Color and toggles should clearly indicate device status
- Text labels alongside icons improve clarity

Emotional experience

An IoT-based smart home automation system (2026)

- Current smart home systems feel technical rather than human-centered
- Emotional reassurance and seamless routines are rarely considered

Lifestyle-oriented

Calm Technology — Mark Weiser

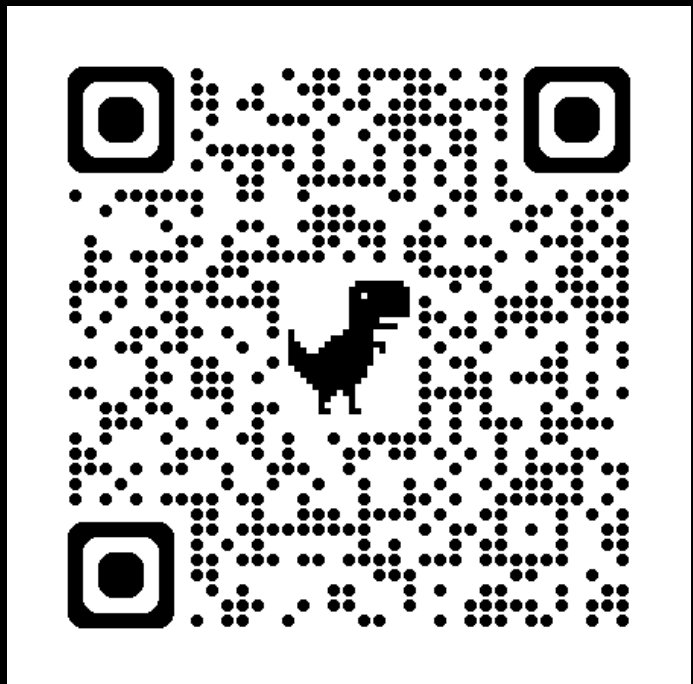
- Fluent interactions support comfort, confidence, and peace of mind
- Premium experiences should be defined by effortlessness, not feature quantity

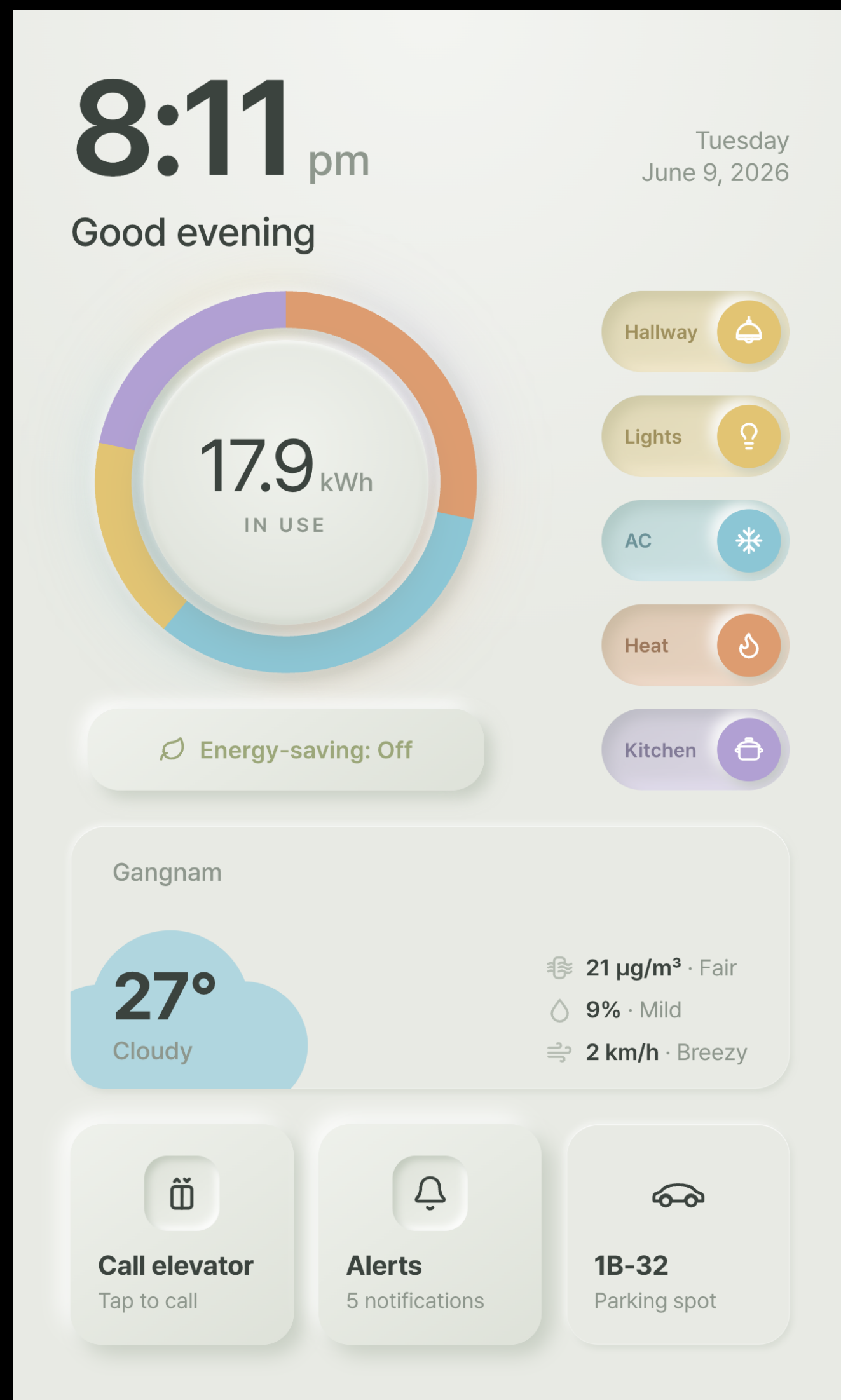
Video Demo

<https://youtu.be/pgg1QOetXW4>

Proposed Design & Rationale

Our design, and why





Home Page

Energy usage breakdown visualization

Real-time energy feedback helps residents understand which systems are using the most power at a glance.

Quick Controls

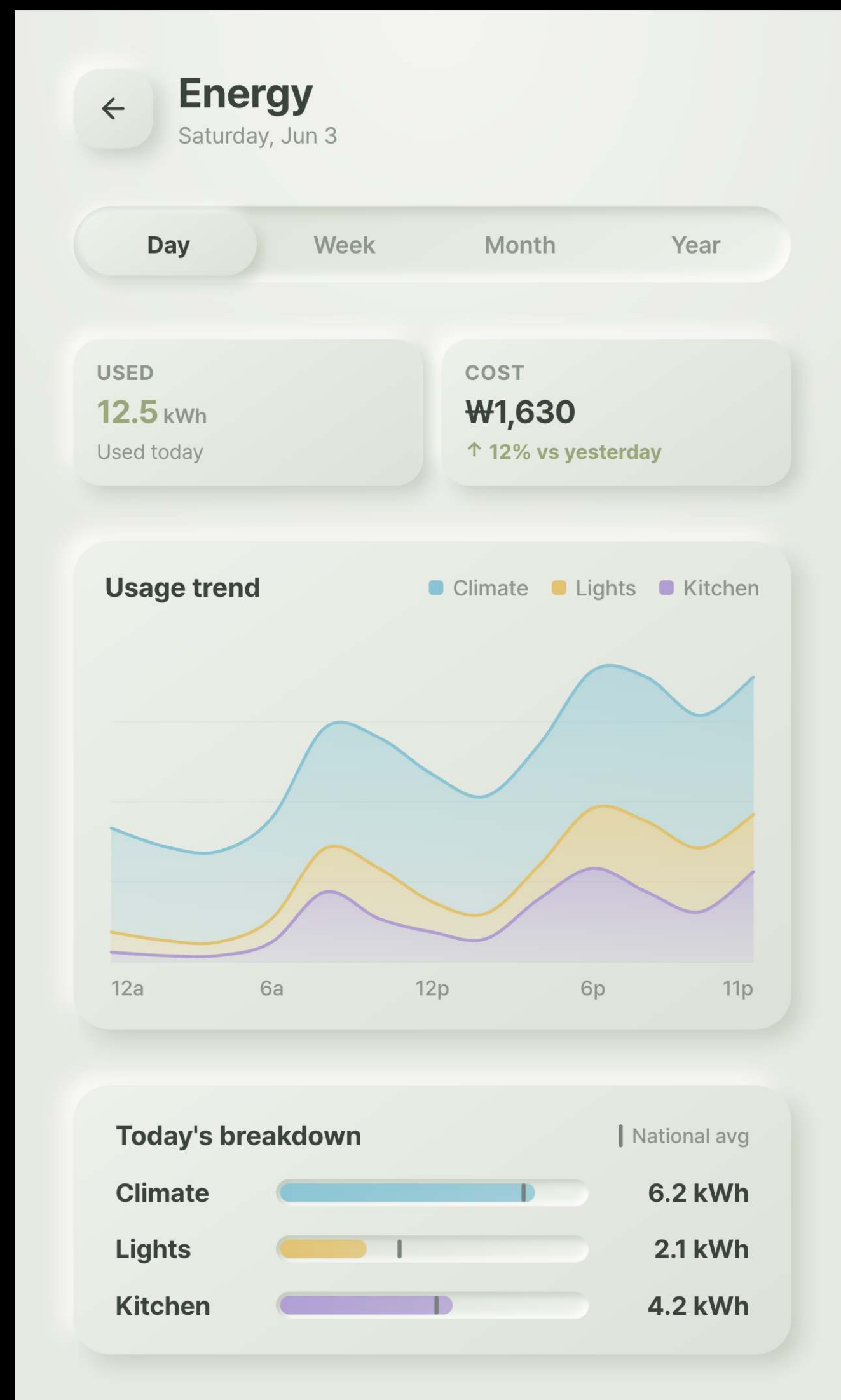
Frequently used controls (lighting, AC, heating, and kitchen power) are accessible directly from the home screen.

Weather Module

Informative and not overwhelming, this module supports the moment before leaving home.

Holistic apartment journey

Elevator calling, alerts, and parking information connect daily apartment routines into one seamless interface.



Energy Details Page

Timeframes

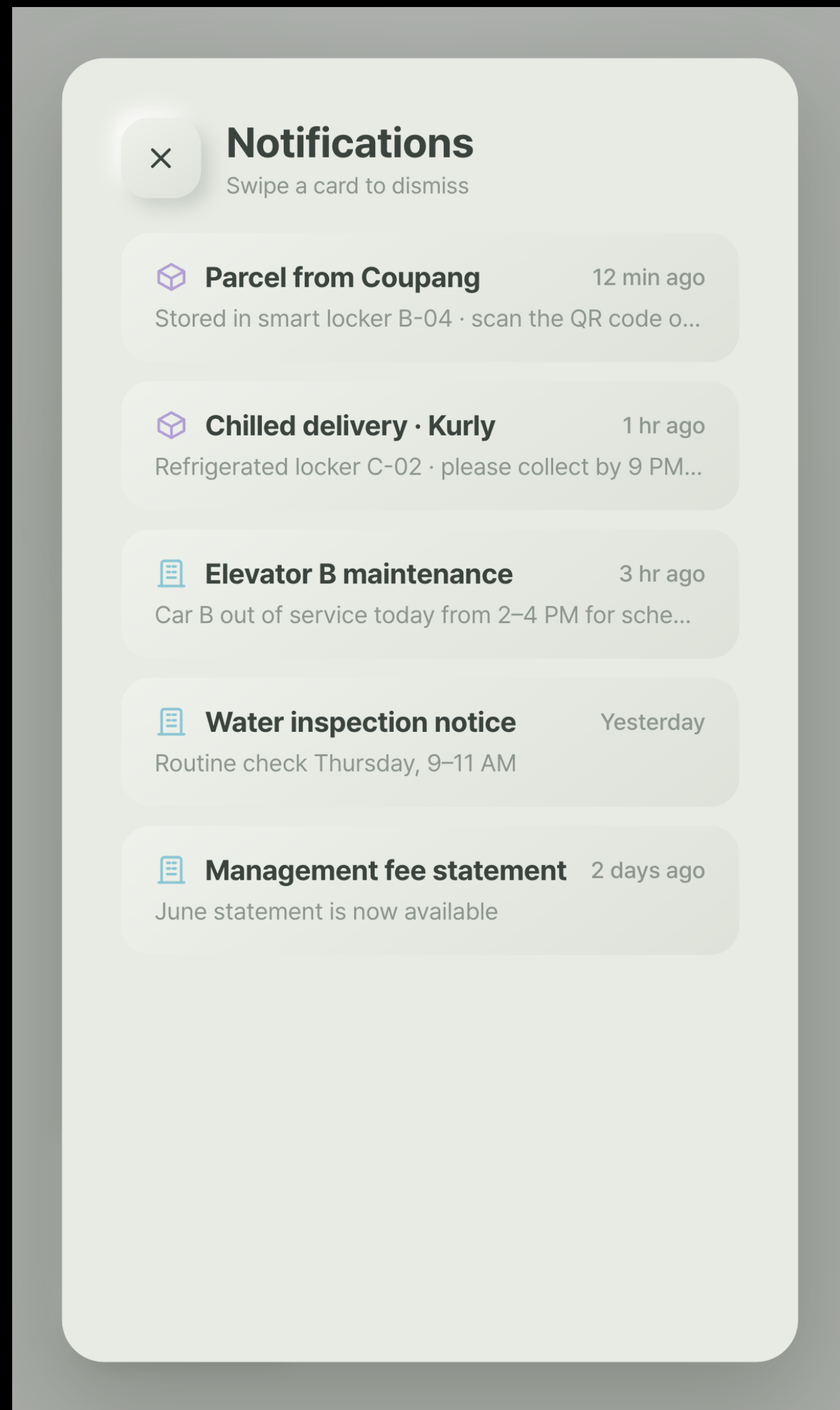
View energy patterns by day, week, month, or year for a deeper understanding of long-term trends.

Contextualized Information

Cost comparisons and national averages make energy data easier to interpret.

Energy breakdown

Category-level usage helps residents identify which systems consume the most energy and where savings may be possible.



Notification Center

Slide to delete notifications

Swiping gestures follow familiar mobile interaction patterns, making the wallpad feel intuitive without extra instructions.

Icons in addition to text

Icons improve scannability and help residents quickly distinguish between types of alerts.



Energy-Saving Mode

Uses logic to determine settings for energy optimization

The system adjusts home settings based on energy use, time, and household conditions to reduce unnecessary consumption and optimize usage.

Green button and inner shadow

A clear visual state change confirms that Energy-Saving Mode is active, making the system responsive, clear, and trustworthy.



Eco-Mode Principles

Effortless Sustainability

Eco Mode is an automated energy optimization system that makes small, intelligent adjustments throughout the day to reduce unnecessary energy use without requiring constant user input

Smart but user-respectful

When Eco Mode is active, the system can automatically adjust heating, cooling, lights, and kitchen power. However, residents can still manually override any setting, so the system supports comfort rather than taking control away.

Context-aware energy decisions

The system responds differently depending on the situation: disable floor heating in warm weather, pre-cool before peak AC usage to reduce energy spikes.

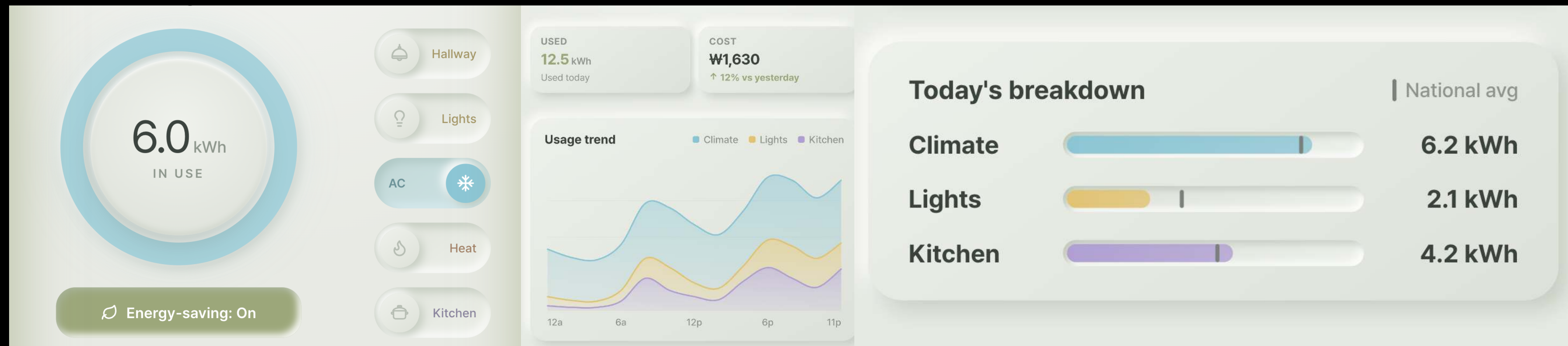
**A premium wallpad interface that connects sustainability,
convenience, and everyday apartment living.**

<https://snazzy-genie-571d29.netlify.app/>

Value and limitations

The core valuse and where it is limited

Sustainability



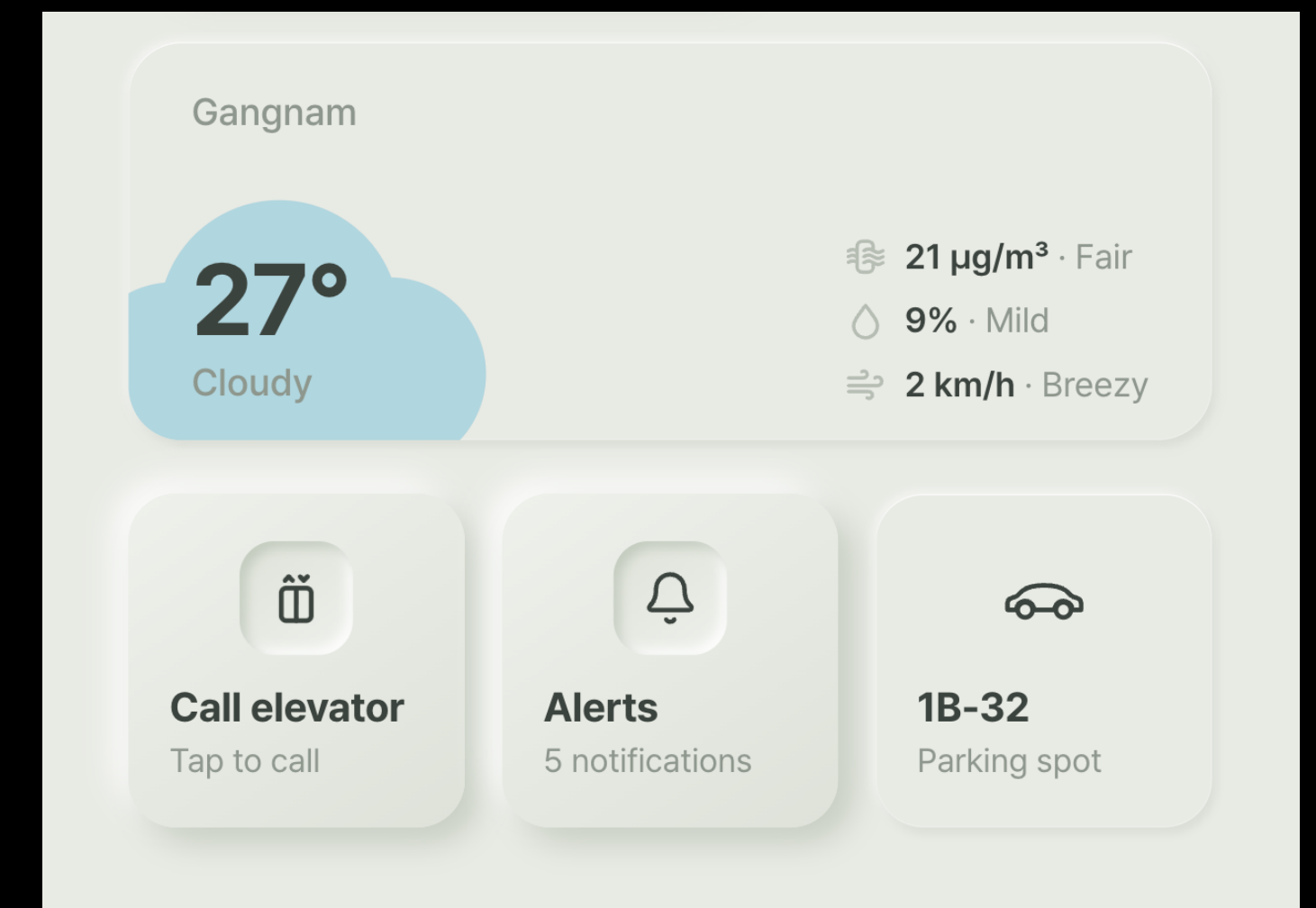
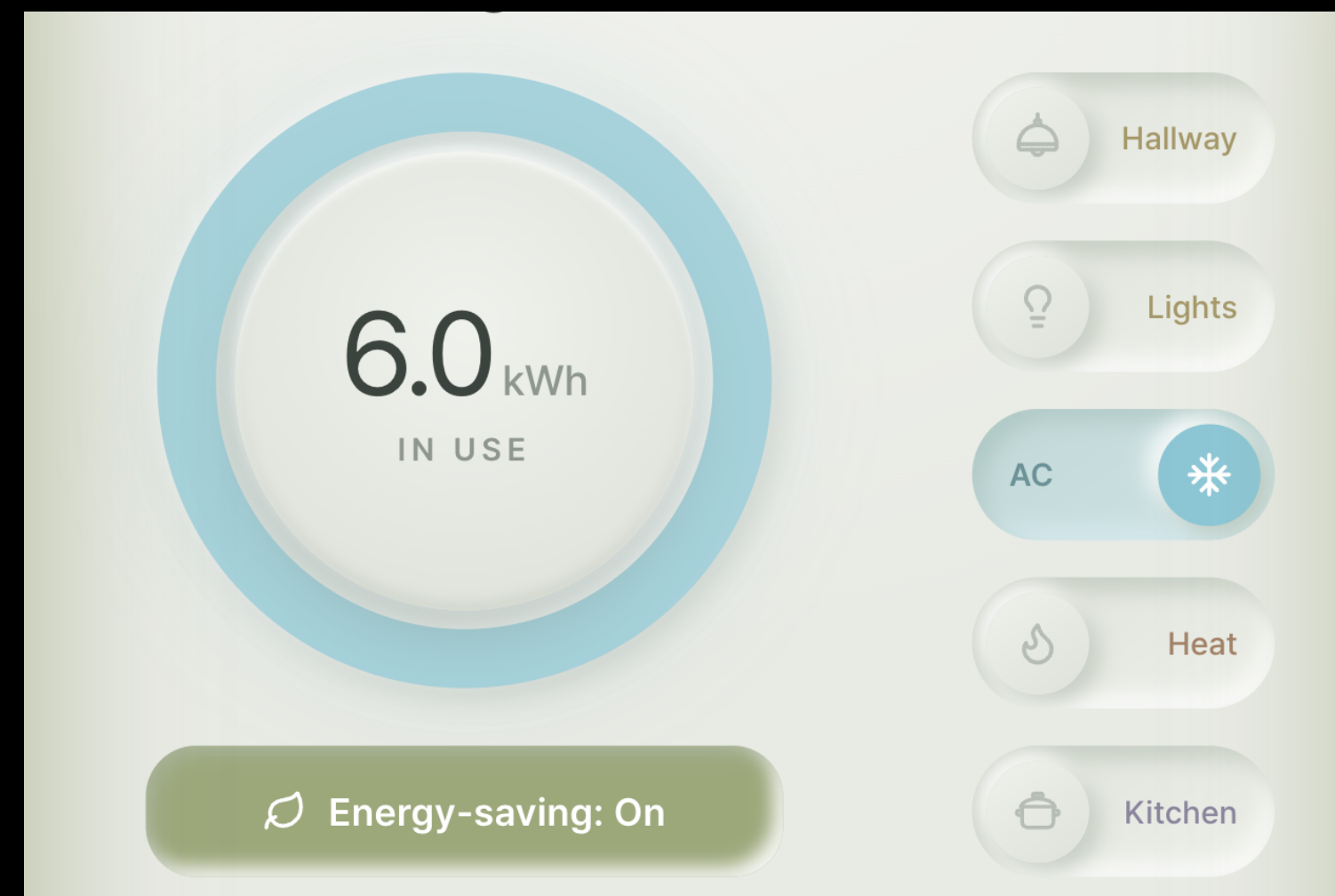
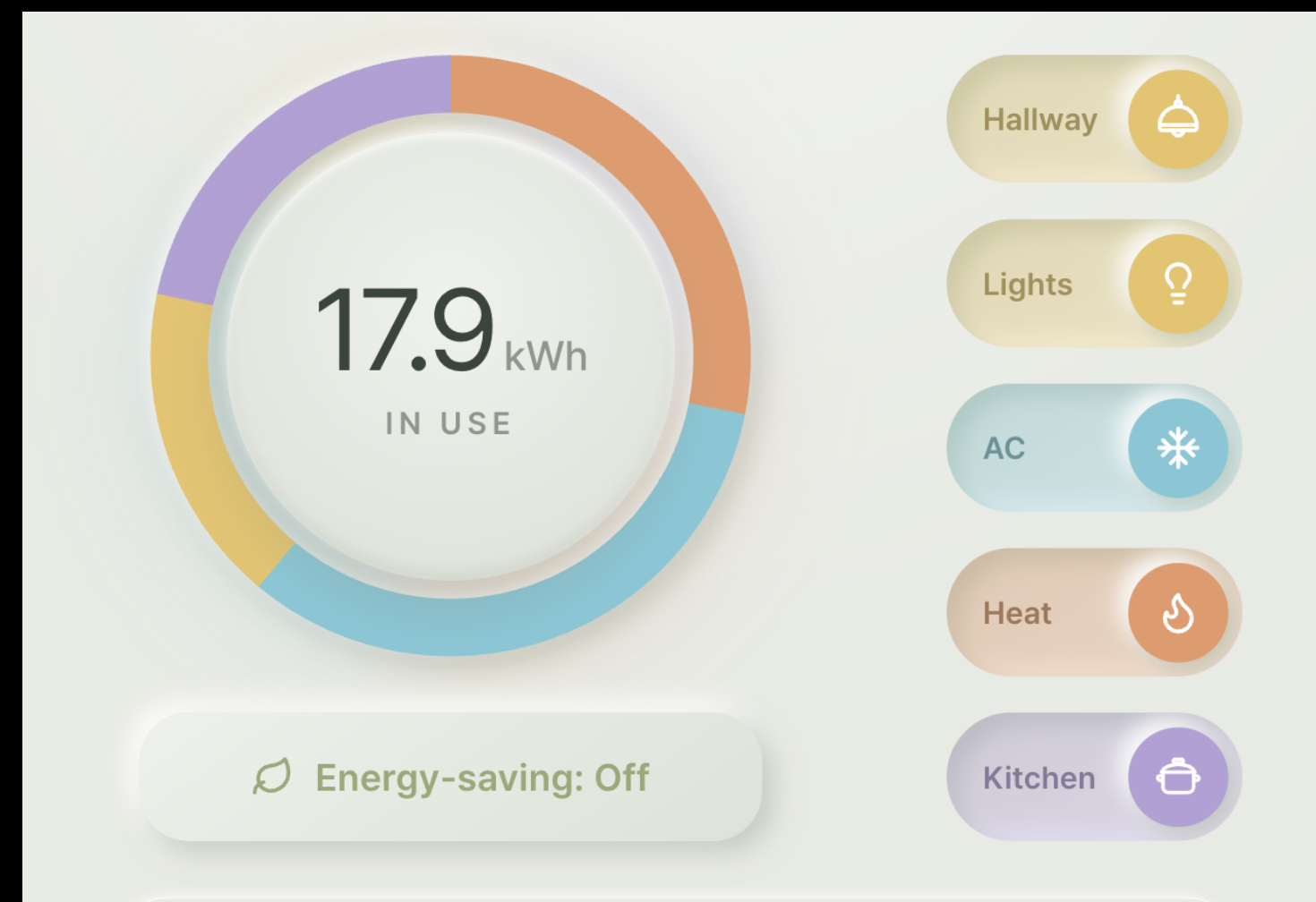
Effortless sustainability

Eco mode removes the gap between intention and action
sustainable choices happen automatically, without effort or guilt.

Feedback, not nagging

Energy visualization creates a natural feedback loop,
awareness builds gradually, and behavior shifts without explicit recommendations.

Holistic Residential Journey



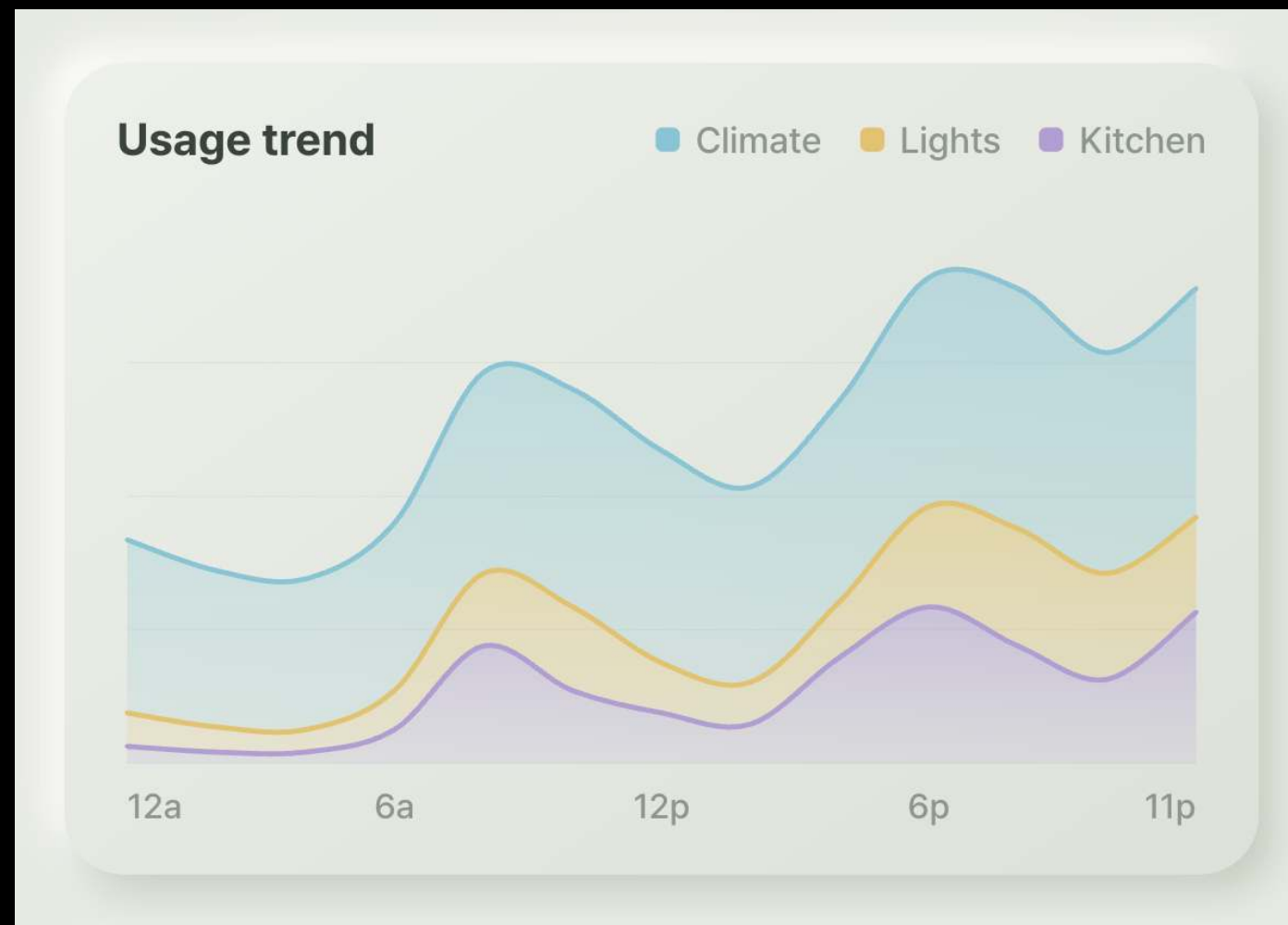
Right place, right time

Only the information you need, exactly when you need it
nothing more, nothing less.

Scales to any household

The system only needs to monitor household energy usage, the
same logic applies whether one person or an entire family lives in
the unit.

Limitations



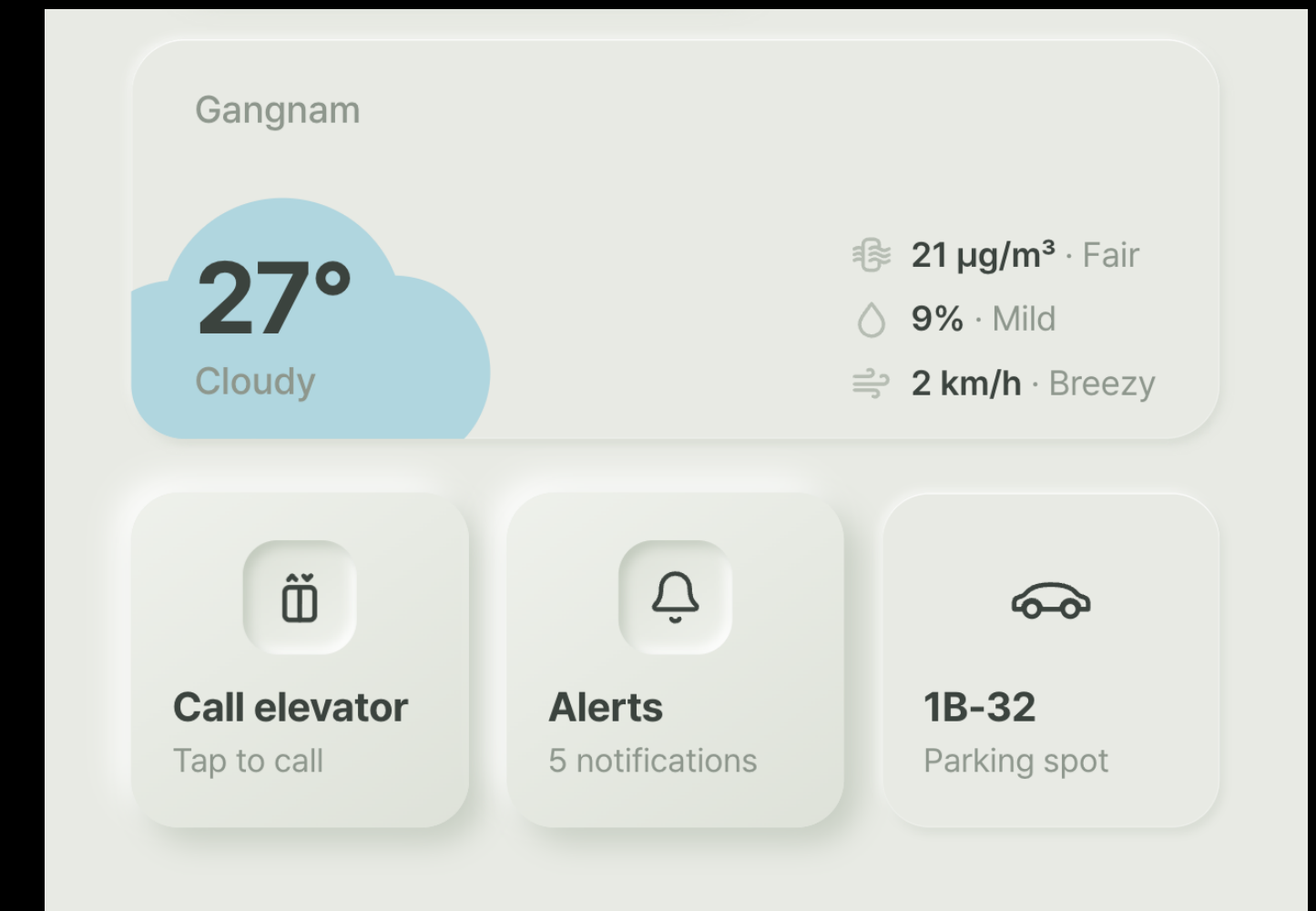
Infrastructure dependency

Full functionality depends on sensor integration and real-time data pipelines — beyond the scope of interface design alone.



Override without clarity

Eco mode stays active even when users manually adjust things like the AC or hallway light. Users may assume their manual input has taken over and lose trust in whether the system is actually doing anything.



Customize layout

The current interface does not support adding personal appliances or custom controls. Incorporating individual preferences (such as a fan or TV) would require rethinking the interface structure.

Experience with AI

What worked and what didn't

Our AI design process

Bespoke Design

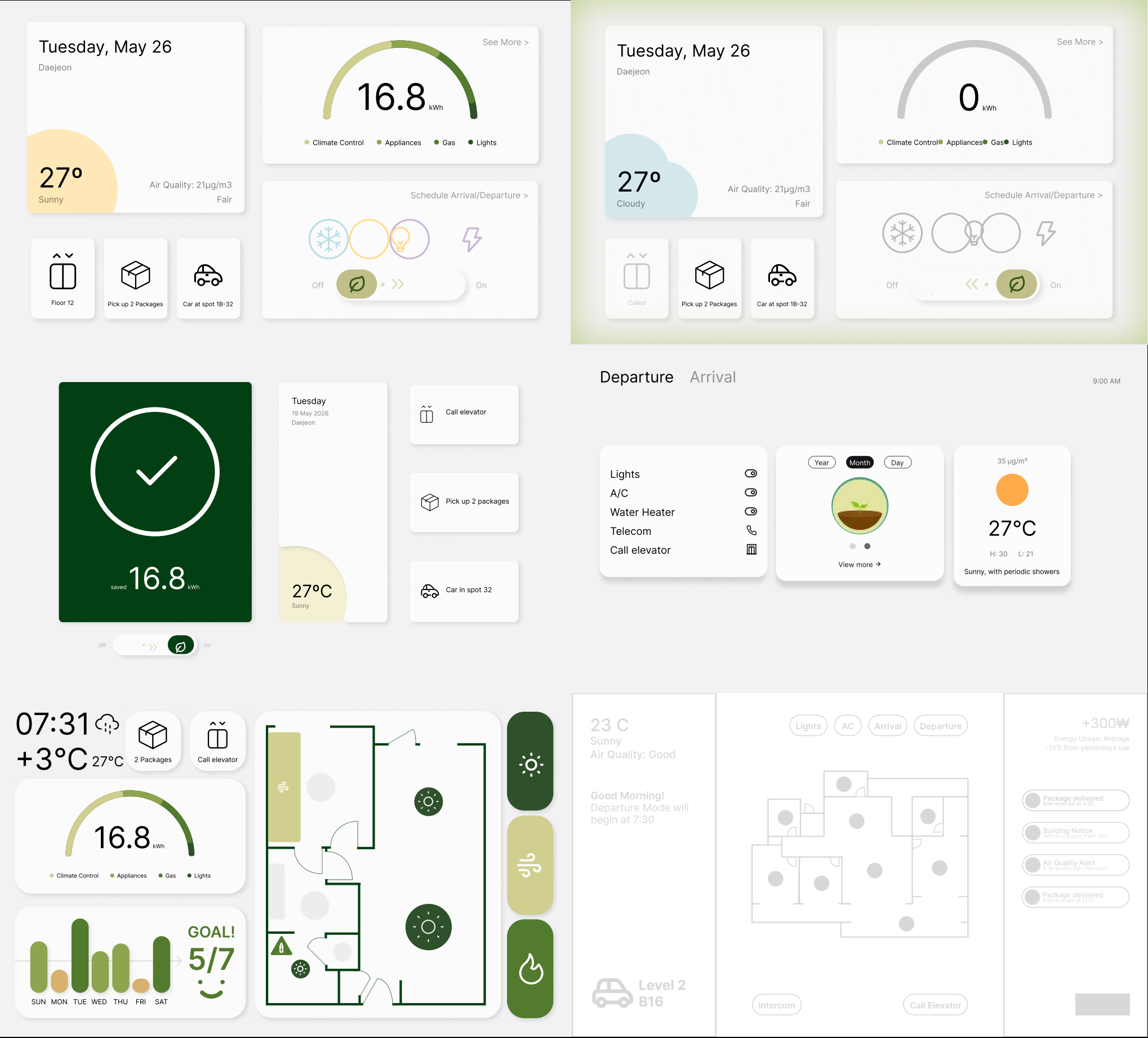
We began our design process by creating mid-fidelity design screens without AI.

AI Iteration

After discussions, we handpicked aspects of our designs we liked and asked AI to create a design combining them.

Refinement

We then refined the AI output to fit our desired vision and explored bigger changes quickly.



Bespoke Design

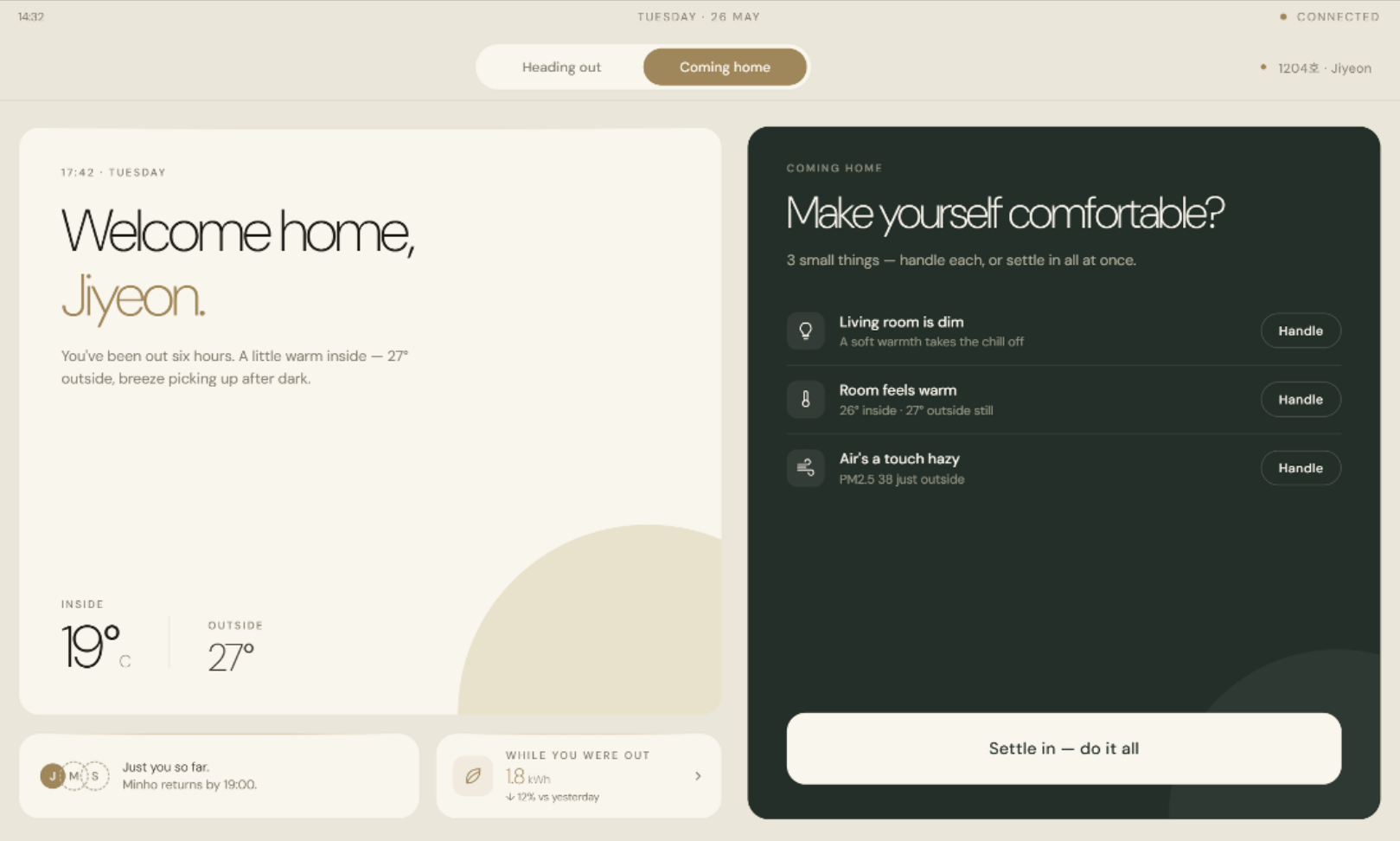
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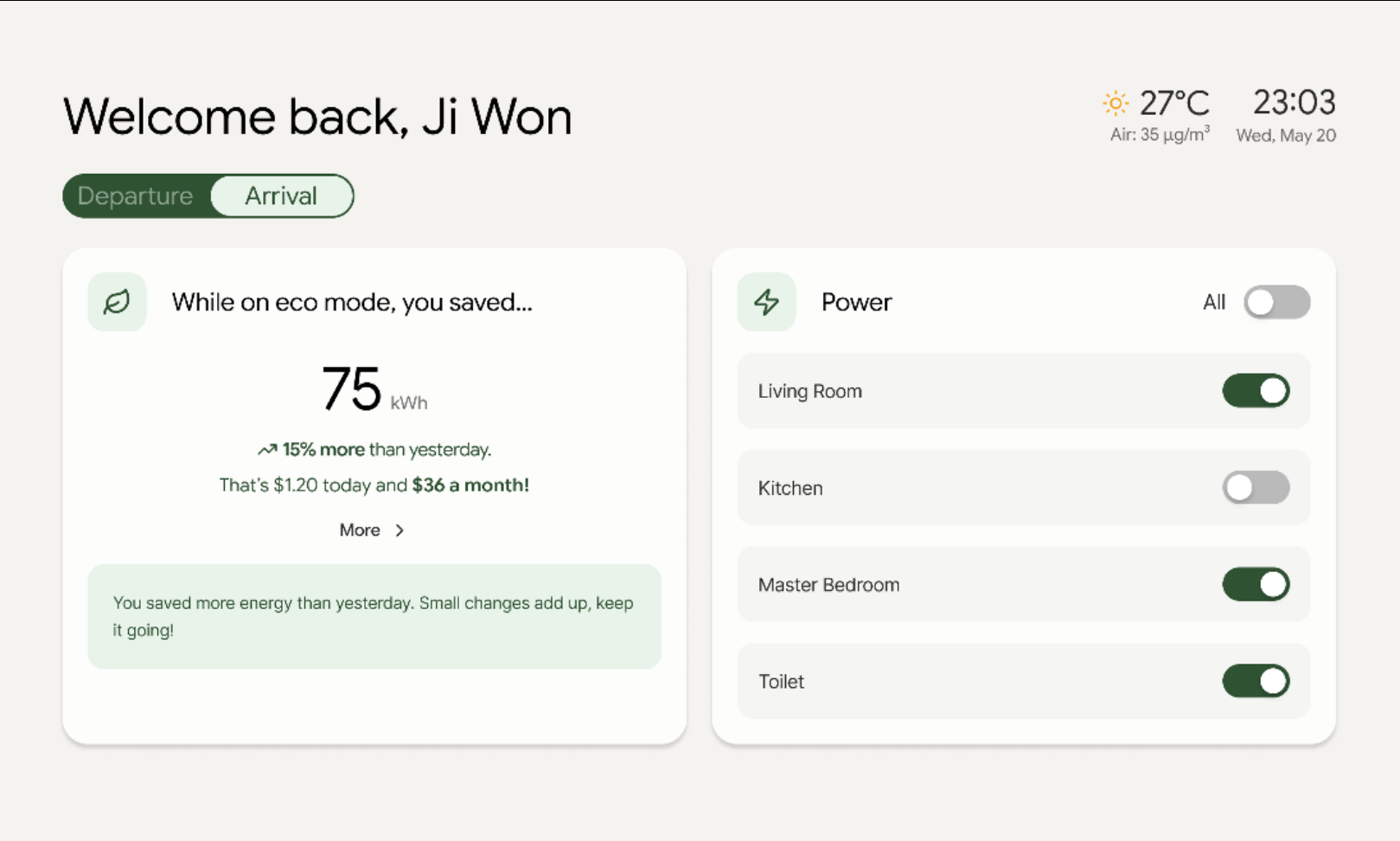
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What worked

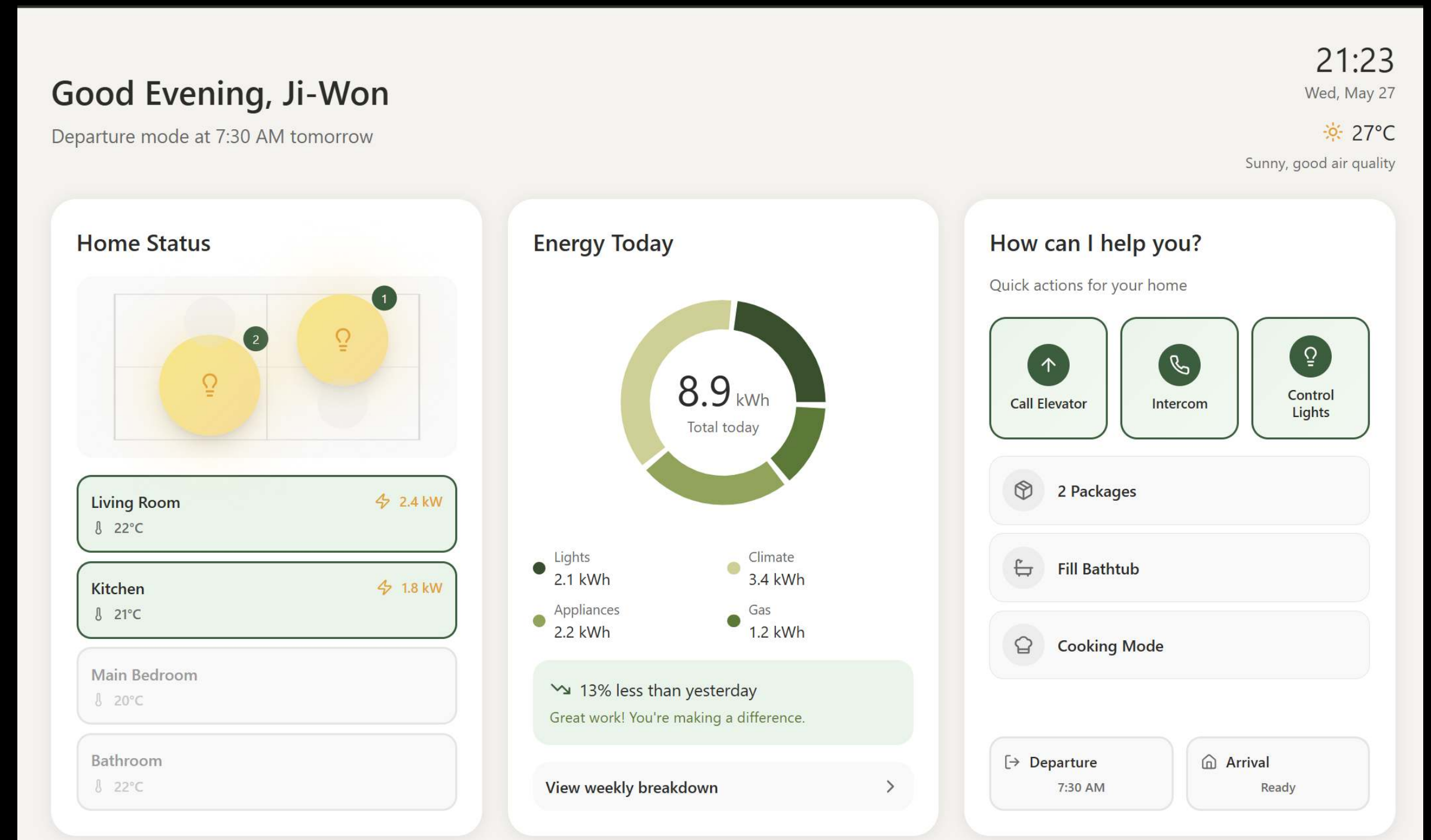
(In our experience)

Quick visualization and ideation

Prompting AI with our design goals and early specifications helped visualize out initial layout ideation and configurations.

It also came up with ideas we didn't initially think of.

This allowed us to quickly pinpoint the strengths and weaknesses in our design logic and biases.

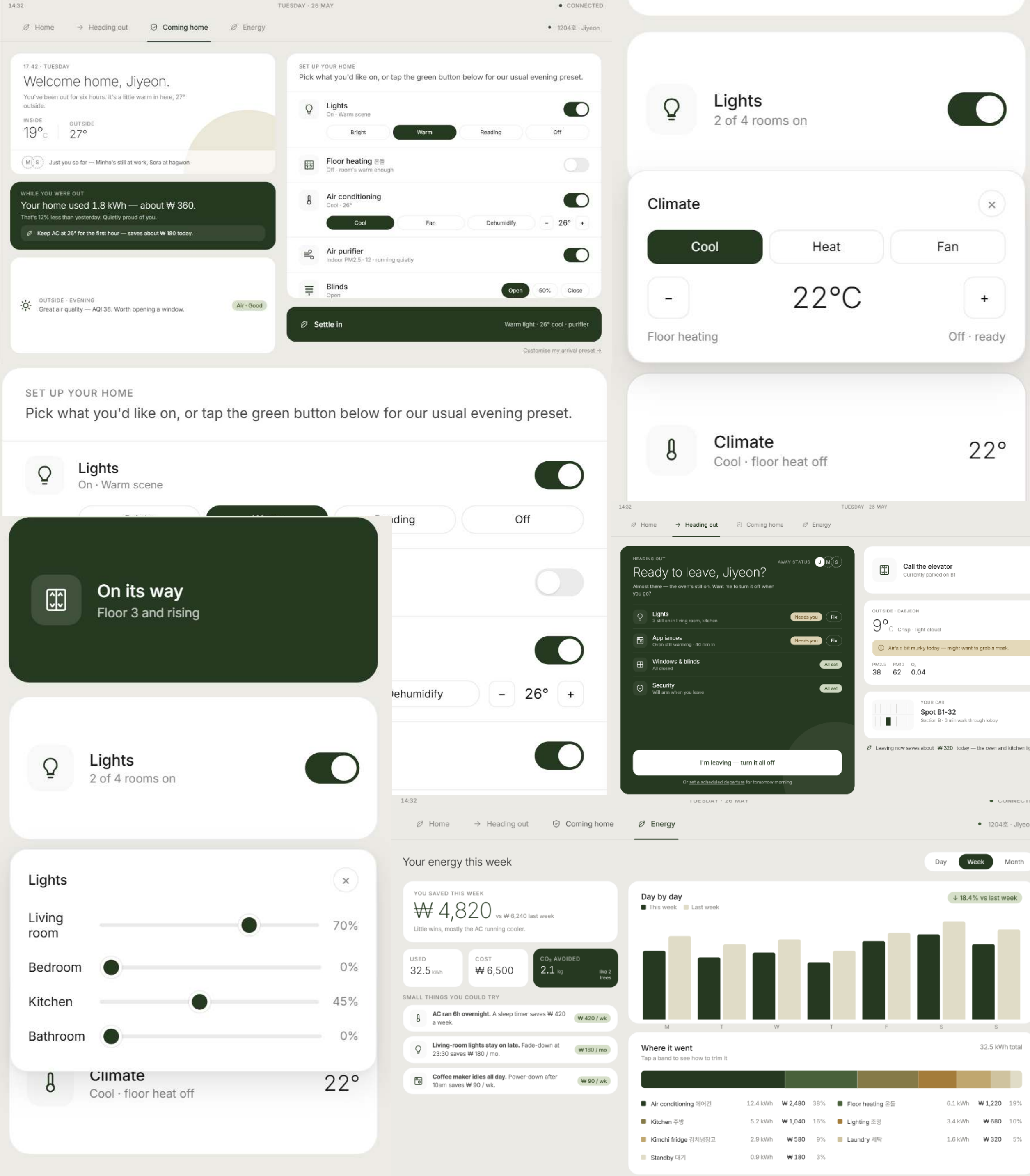


What did not work

(In our experience)

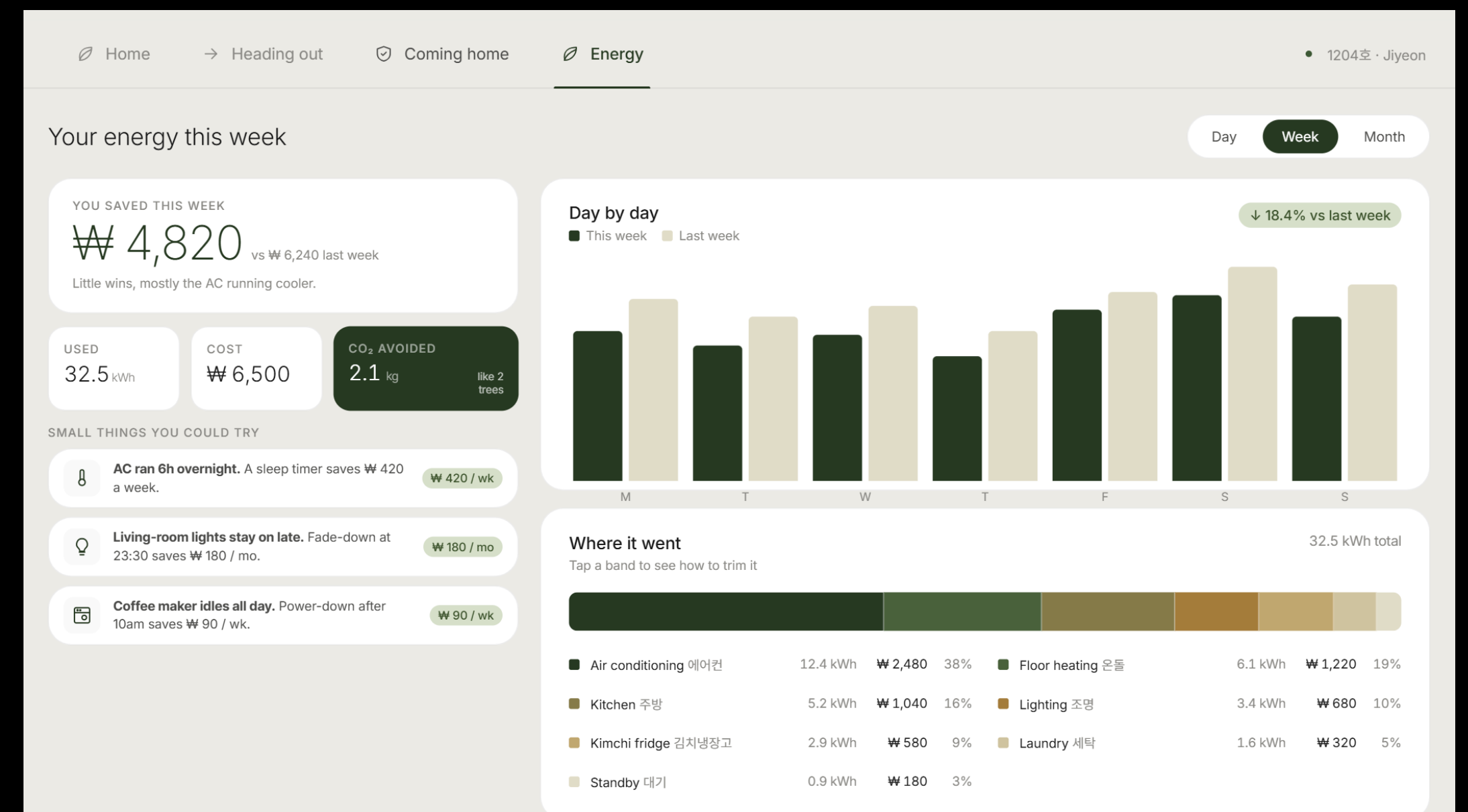
Tunnel vision

- Having so much done at such high fidelities shifted our design thinking from “what can we create” to “how can we refine what's already there”.
- Essentially, it accelerated the design process too quickly, and caused us to tunnel-vision on small UI refinements instead of solving larger UX issues.



Decision fatigue

- Many unnecessary functionalities and information were being introduced at high fidelity, always feeling like a “nice-to-have”.
- The cognitive load then lies on the designer to constantly process and cut components
- It becomes easy to include things that does not answer the core design problem, diluting the design solution.



In summary...

We found that while AI can generate and describe what “good” design elements should look like, it won’t know what actually interacting with them will feel like.

When using AI in design, building on a foundation of human creativity alongside critical thinking is essential to craft suitable and novel design solutions.

Oasis

Where home finds balance.

