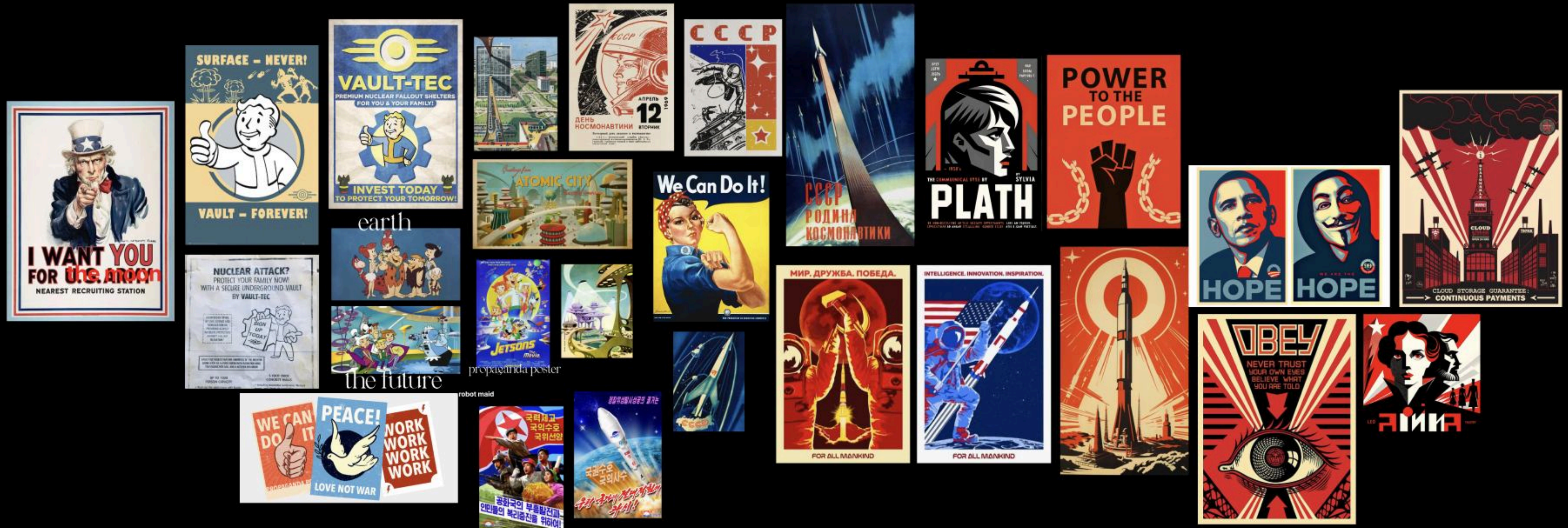




*future track*

# Determining Our Track

Quick initial brainstorming on all tracks led to us pursue the future track due to our interest in space and dystopian worlds.

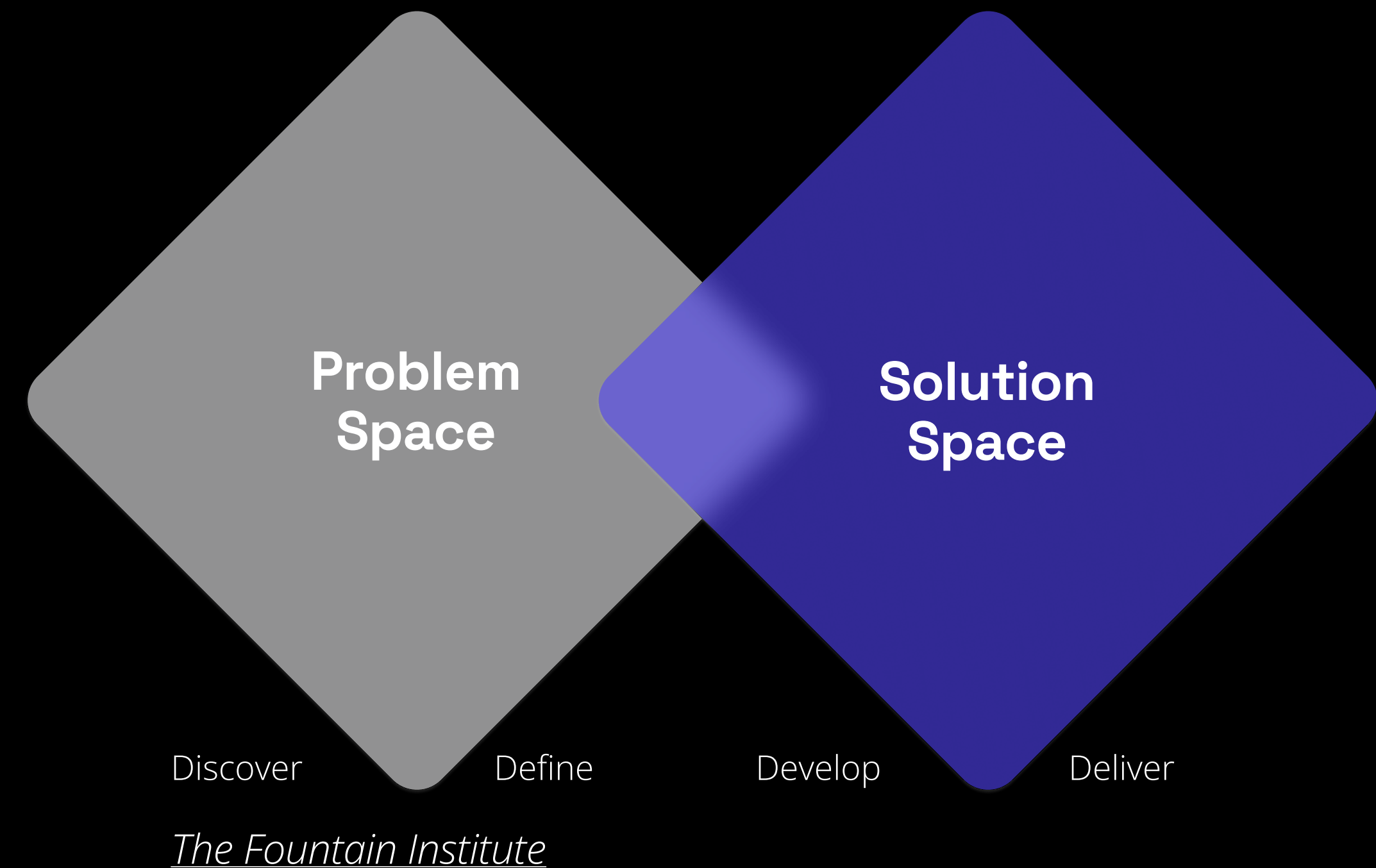




## *Speculative Design*

After initial brainstorming and crit meeting, we decided to approach our project through speculative design. This required us to ground our problem statement in today's societal issues.

To ensure a strong foundation of our problem space, we used speculative design's **double-diamond process** to explore the future of lunar colonization.



# Ground-breaking novelties:

Max

trident ice drill to drill ice water out of teh moon

Irina Ng

the corporate-based moon economy / company towns (again)

Max



mining minerals in space and on the moon and returning them back to Earth to contribute to Earth's economy



SpaceX and for-profit space companies

Max

## STEP 1: DISCOVER

Our secondary research focused on ground-breaking novelties, such as lunar mining, oxygen and water production, and fuel generation technologies--we understood that a lunar colony could theoretically exist.

oxygen production on the moon through lunar soil

Max



Microbial life forms can survive in shadowed parts of the moon

Mikael

TESCREAL (an ideology) describes overlapping movements endorsed by prominent people billionaires in the tech industry to provide intellectual backing to pursue and prioritize projects including artificial general intelligence (AGI), life extension, and space colonization.

Also 21st century eugenics

Max

water → extract the hydrogen and oxygen for rocket fuel (o2, h2)

- used to grow food

Irina Ng

Using heat and electricity, this oxygen can be harvested by robots. , NASA has developed and field tested prototype robots on Earth harvesting oxygen

*feel the guilt of the carbon footprint used to get oxygen by being able to track the oxygen being ordered*

Irina Ng

Artemis missions

Max

Increase in NASA's and EU's grants/challenges for technology used in space

Max

Though the Moon has no liquid water. In 2018 NASA confirmed it does exist on the surface in ice form. Rovers could find, drill and gather this ice.

TESCREAL - Wikipedia  
[en.wikipedia.org](https://en.wikipedia.org)

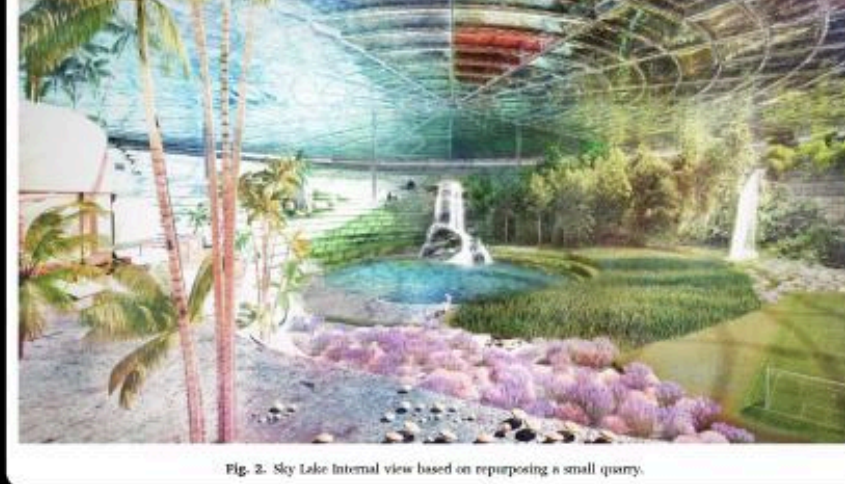


Fig. 2. Sky Lake internal view based on repurposing a small quarry.

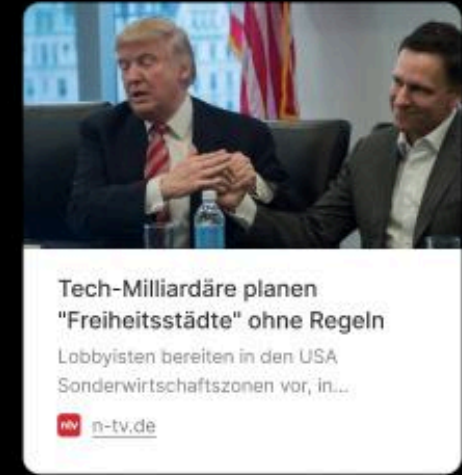
**SkyLake - An environment on the moon**

Sky Lake is a visionary environmental design that uses the natural geological cavities and excavated landscapes on the Moon to provide a new vision for long-term habitation, enhancing the astronauts' experience and their connection with the environment

the corporate-based moon economy /company towns (again)

**STEP 1: DISCOVER**

Our discovery phase leaned into malicious, dystopian company practices: company towns, billionaire ideology, and the effects of late-stage capitalism. We favoured themes we were interested in designing for.



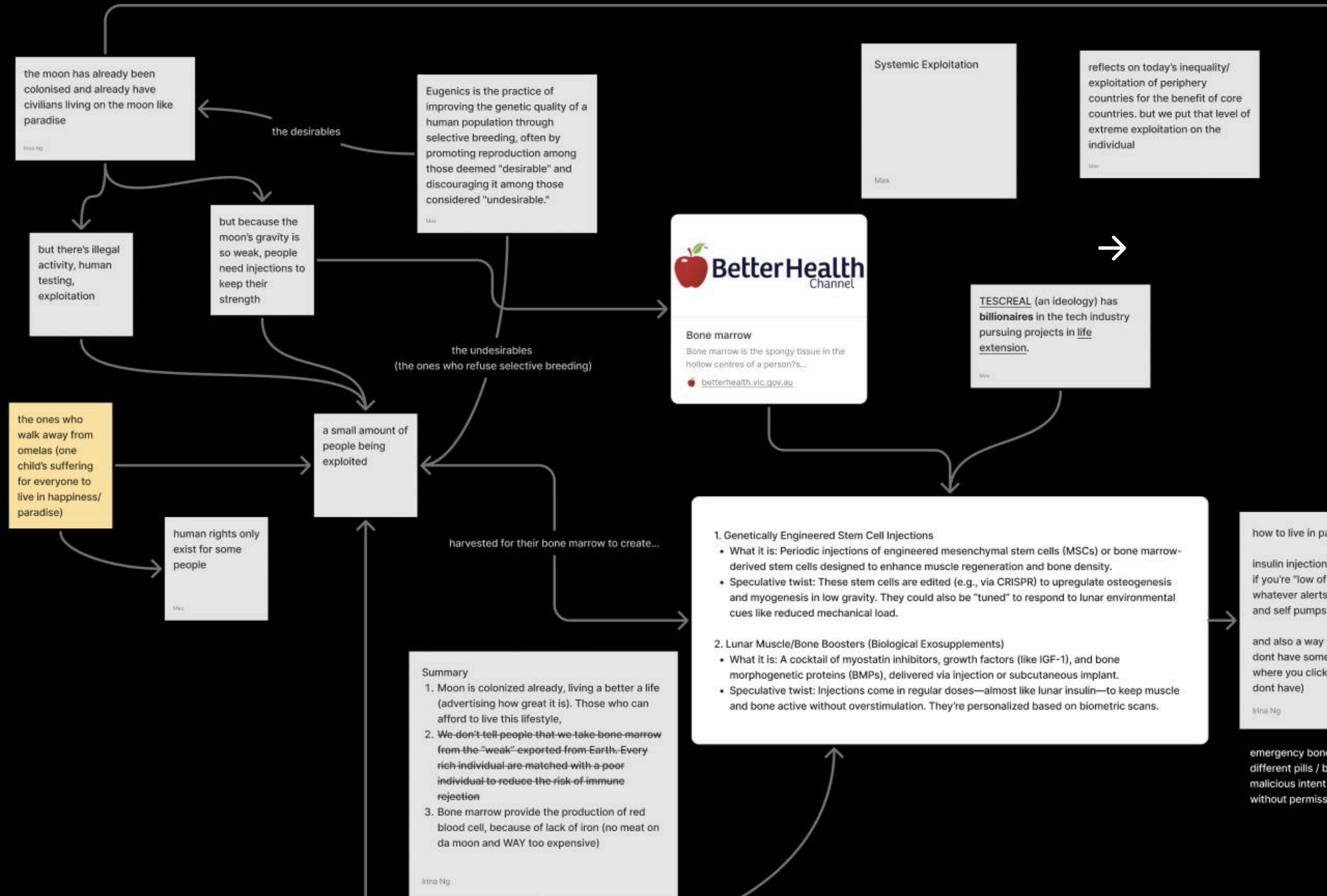
[https://en.wikipedia.org/wiki/The\\_Marrow\\_Thieves](https://en.wikipedia.org/wiki/The_Marrow_Thieves)

1 100 [edit]

After climate change decimates the existing social order, most people lose the ability to dream. This produces catastrophic psychological results. Indigenous people, who can still dream, are hunted for their bone marrow, which is used to create a serum to treat dreamlessness. Francis, nicknamed Frenchie, loses both parents to "Recruiters" from the Canadian government. Recruiters kidnap Indigenous people and take them to schools where they are eventually murdered. Frenchie's brother Mitch allows himself to be captured by Recruiters so that Frenchie can escape.

## STEP 2: DEFINE

We related themes, research, and fictional stories to ideate a scenario of an exploitative colony.



### STEP 3: DEVELOP

We created "how might..." statements to explore our themes more broadly.

How might the technology of modern plastic healthcare look like as the riches move into Moon Paradise ?

How might the human exploitation change the technology of lunar health support?

How might human exploitation change the technology of lunar health support for the lunar individuals and the earthly individuals?

What might the technology of lunar health support look like as the richest people move into Moon Paradise?

How might "moon paradise" be for the poorest and least genetically desirable individuals as the richest people control this paradise with no government oversight?

How might the disparity of society on the moon be when there is no human rights for them?

How might moon paradise be with multi-billionaires controlling a bone marrow harvesting farm to aid in upholding that paradise?

How might legal human exploitation change the technology of lunar health support for wealthy lunar individuals?

How might legal human exploitation on the moon's "paradise habitats" change the technology of lunar health support for wealthy lunar individuals?

paradise habitats = freedom cities

### STEP 3: DEVELOP

Another brainstorm of ideas was conducted to explore our chosen problem statement.



Resort staff are 'under the billionaires' but are actually the powerful ones, profiting off of the billionaires being tricked

Interface / device that spits out the required number of supplements someone needs to take and provides health reports, but shows a decline in their health

reverse classism:  
• workers strike and stop mining oxygen on the moon for better working conditions, threatening to kill everyone in the process

An interface asks people how they want to feel and it will give them drugs. Those drugs are tested and health impacts are recorded (references stuff like vaping that is marketed as not that bad for your health when they actually are, causing health problems could be avoided if companies spent more money testing their products)

In their sleep pathogens are passed onto residents, an interface tells them how to administer to themselves a drug that can cure their ailment. If the test is successful and the medicine works, Earth is given clearance to use the medicine. The residents may believe that their health is being protected by Astra, not realizing they are

Wealthy folks are given virtual reality glasses that show what's in front of them. With their thoughts being recognized by the equipment they can generate anything they want, satisfying their greed thus making them enjoy life on the moon but distracting them from the fact their resources on Earth are being seized from them.

Headgear that somehow diminishes peoples' thinking capacity to not be able to do anything but mine, eat and sleep (they can't resist)? Interface would be created that adjust the miners to their new lives?

STEP 3: DEVELOP

Various scenarios were brainstormed too.

Artificial environment causes health issues as well due to overuse of technology  
↓  
moon becoming earth 2.0  
people becoming out of touch with the generated environment

Bone marrow stem cell injections

Lower class/ Middle class  
• farmed for their bone marrow  
• paid very little for "donating"

Higher class  
• receive bone marrow stem cell injection

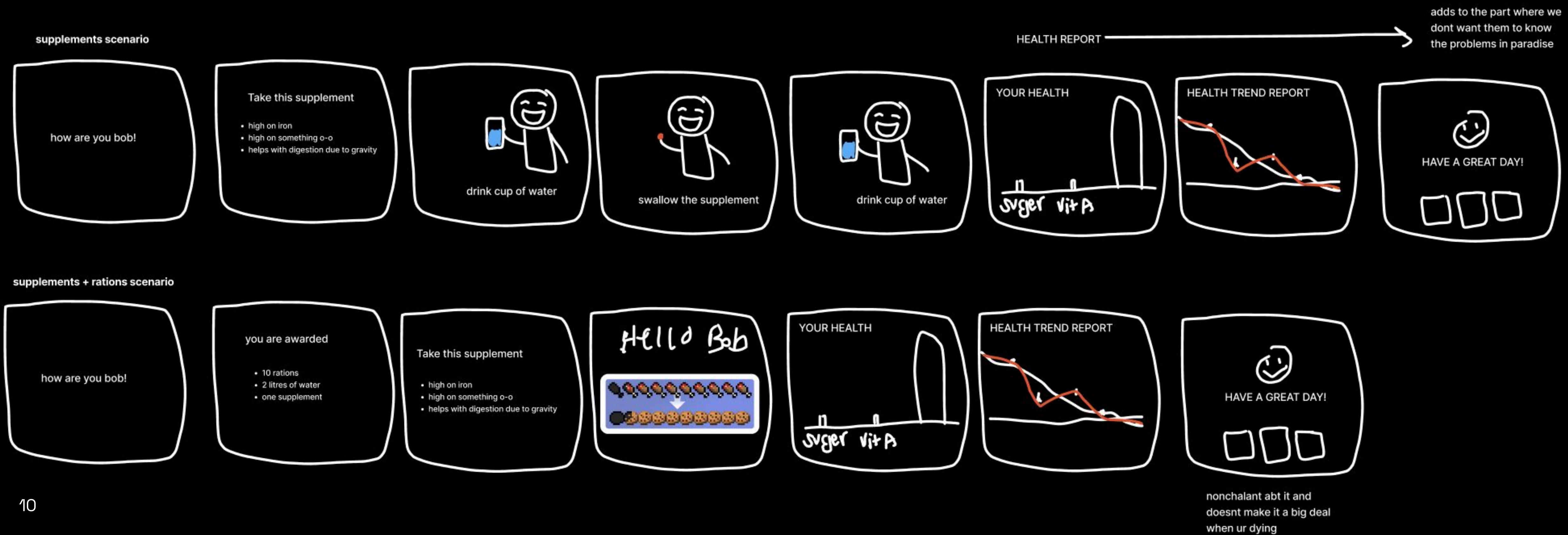
**the moon jail:**  
• convicted criminals  
• criminals receive a specific amount of "convenience points"  
• spend it on good food, a massage, any resort-like activity  
• they will eventually run out of convenience points (aka their health)  
• when they reach zero, they get ejected  
• similar to a prisoner's death sentence on earth's "last meal". These are the last activities that lunar criminals do on the moon until they get ejected.  
• some of the messaging alludes to the fact that you can't leave and some other unsettling fact

Paradise degrading the body of the higher class due to lack of activity → back on earth these higher class turning a blind on the lower/middle class working condition  
  
The longer they stay in paradise, the longer they stay the worse their condition is  
  
Rather than inflicting on the lower class, it's inflicting on themselves. Have the rich reflect how the poor are in real life.

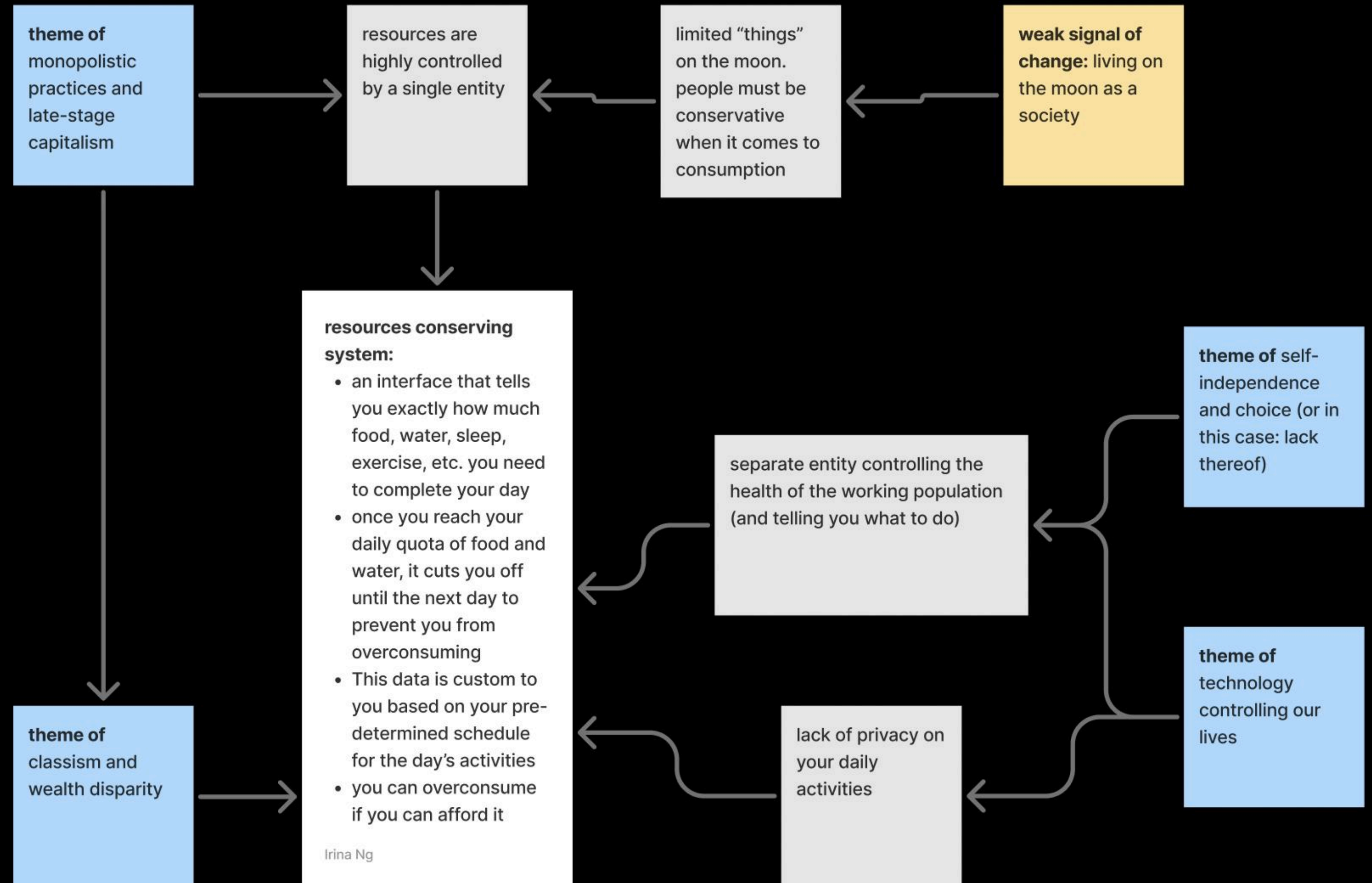
Rich people are getting sick due to the artificial lunar environment and has to take a bunch of vitamins and supplements to maintain their lives

### STEP 3: DEVELOP

Some of the scenarios we sketched out.

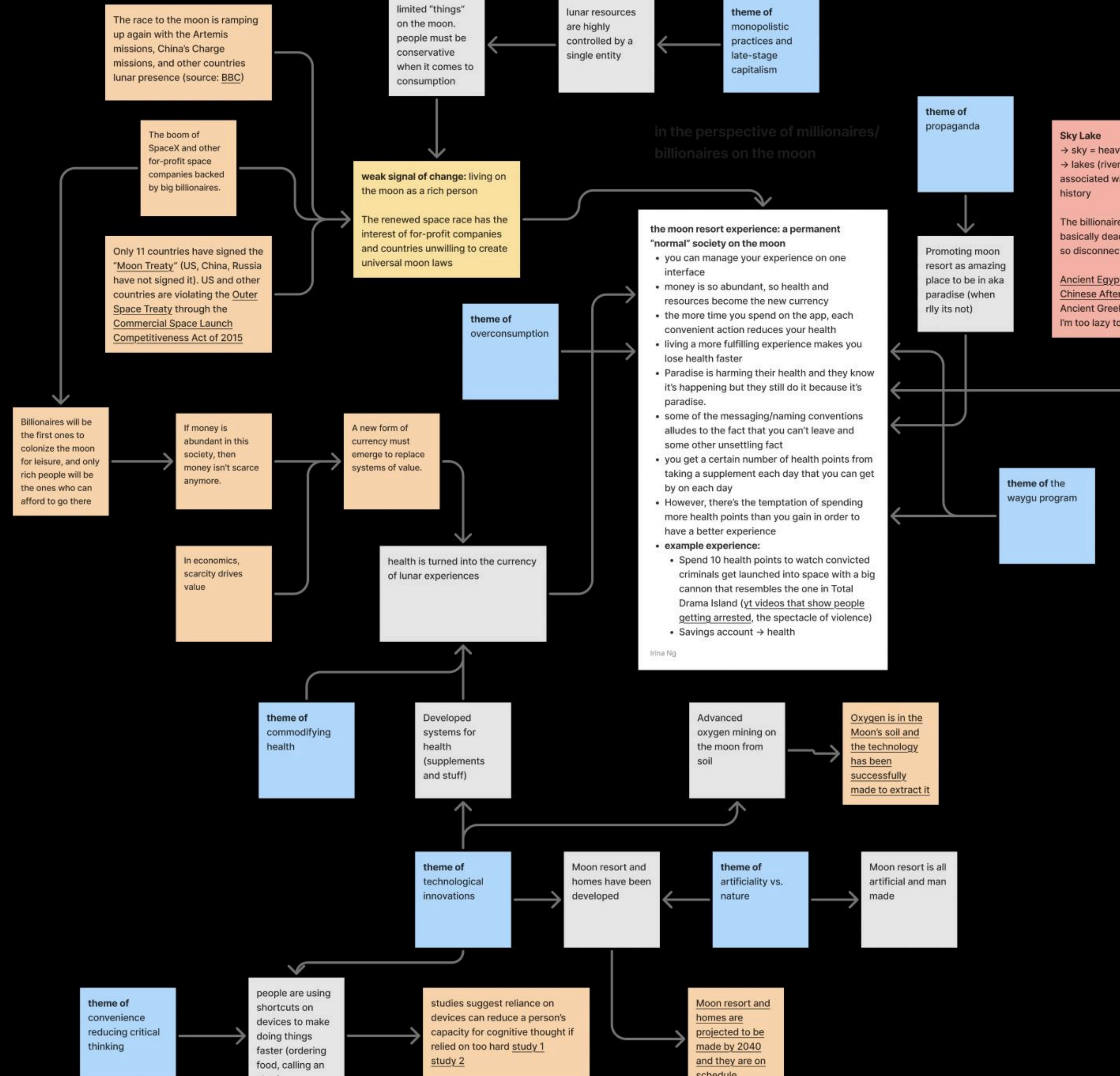


**in the perspective of a working person  
(lower-middle class) on the moon**



**STEP 3: DEVELOP**

We also flowcharted others, connecting our ideas, themes, and ground-breaking novelties to the scenario.



## Initial Scenario

We created our first concrete scenario using the Flowchart Method revolving around a restricted paradise for billionaires. In this narrative, a points system is featured to regulate consumption.

Michelle Swolfs found our narrative strong during critique, but suggested we explore our world through artefacts.

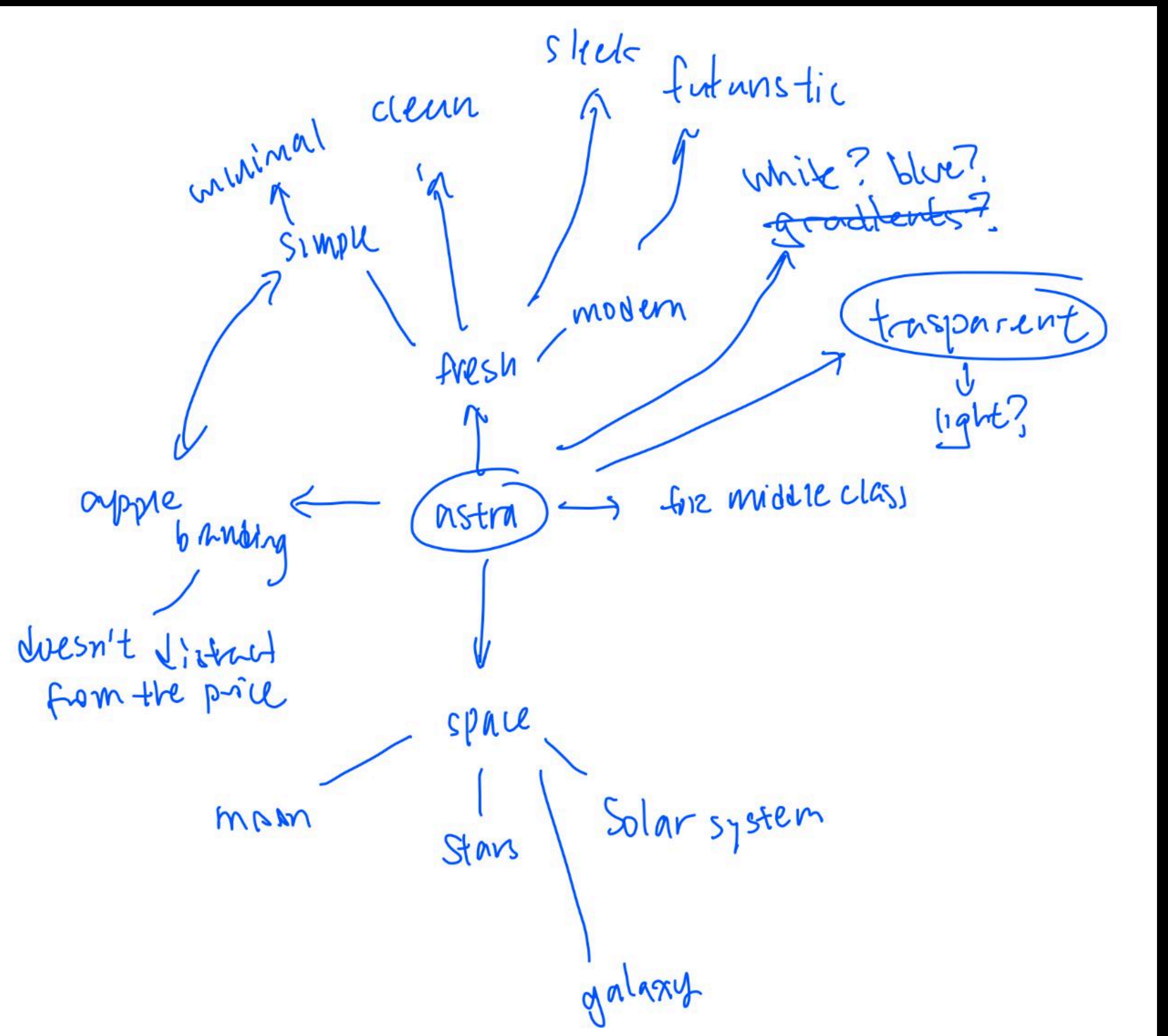
## *World Building*

A monopolistic lunar company "Astra" has colonized the moon and created a Paradise for the low income. To ensure overconsumption doesn't occur in space, individuals surpassing their points limit would lead to a work term.

How might we form a new lunar societal currency to discreetly exploit Paradise residents through regulating the consumption of products to continue Astra's monopolistic practices?

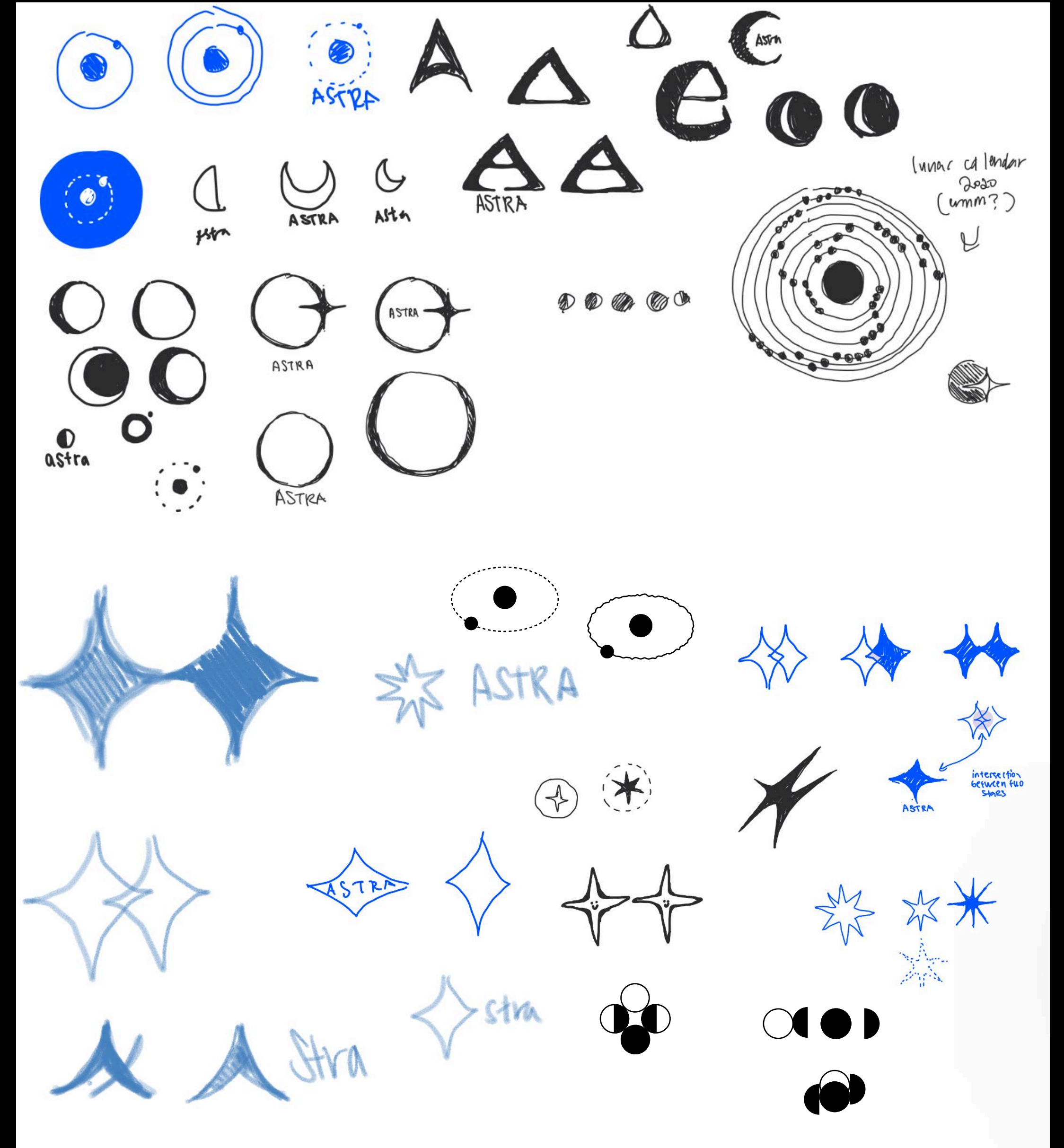
## Astra's Branding

The company branding began with its name on a mind map where keywords modern, minimal, and (outer) space led the logo design process.





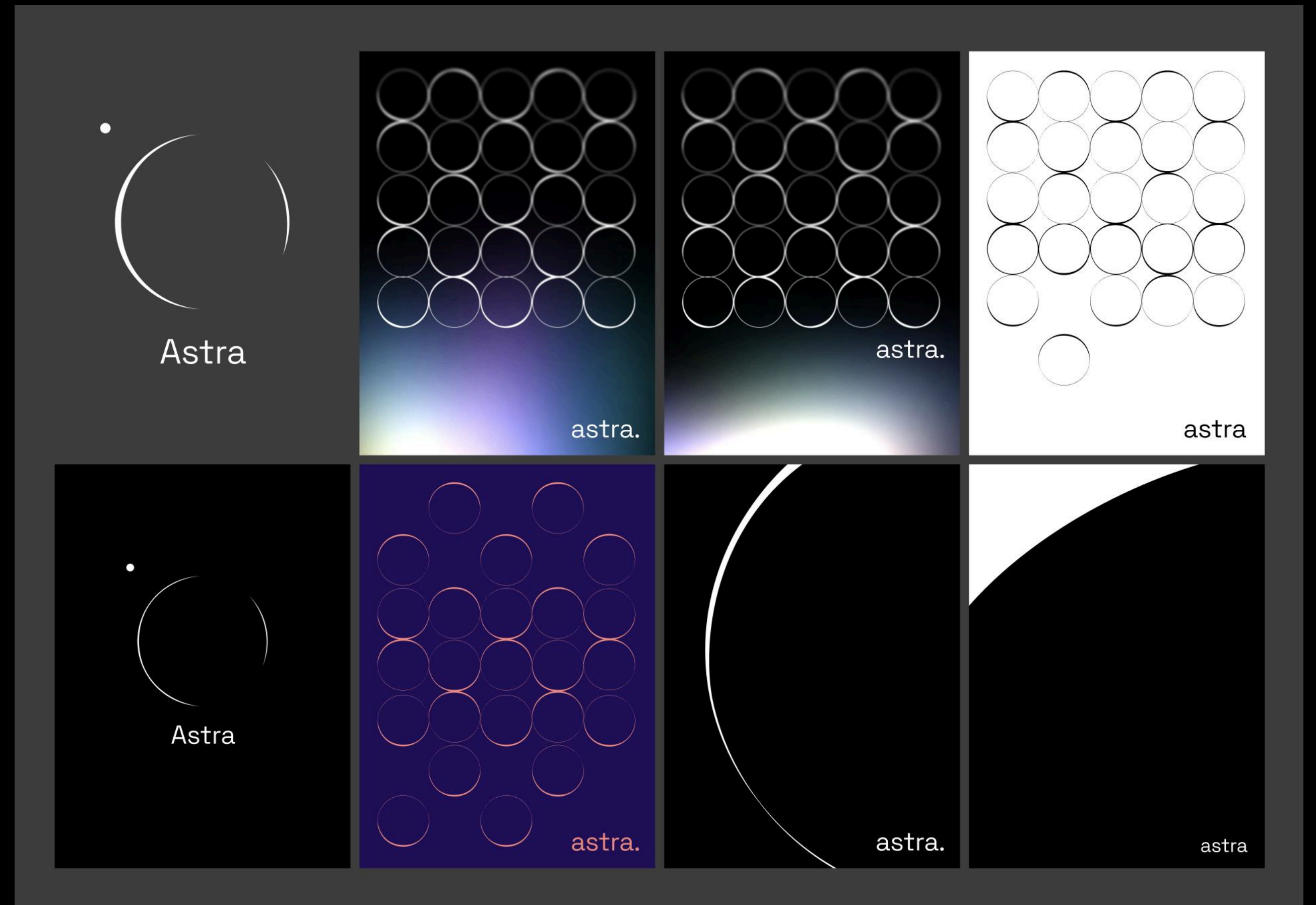
# Logo Ideation



## *Eclipse Imagery*

Initially, an we chose an eclipse logo. Posters and brand patterns were designed to explore the visual potential of this logo.

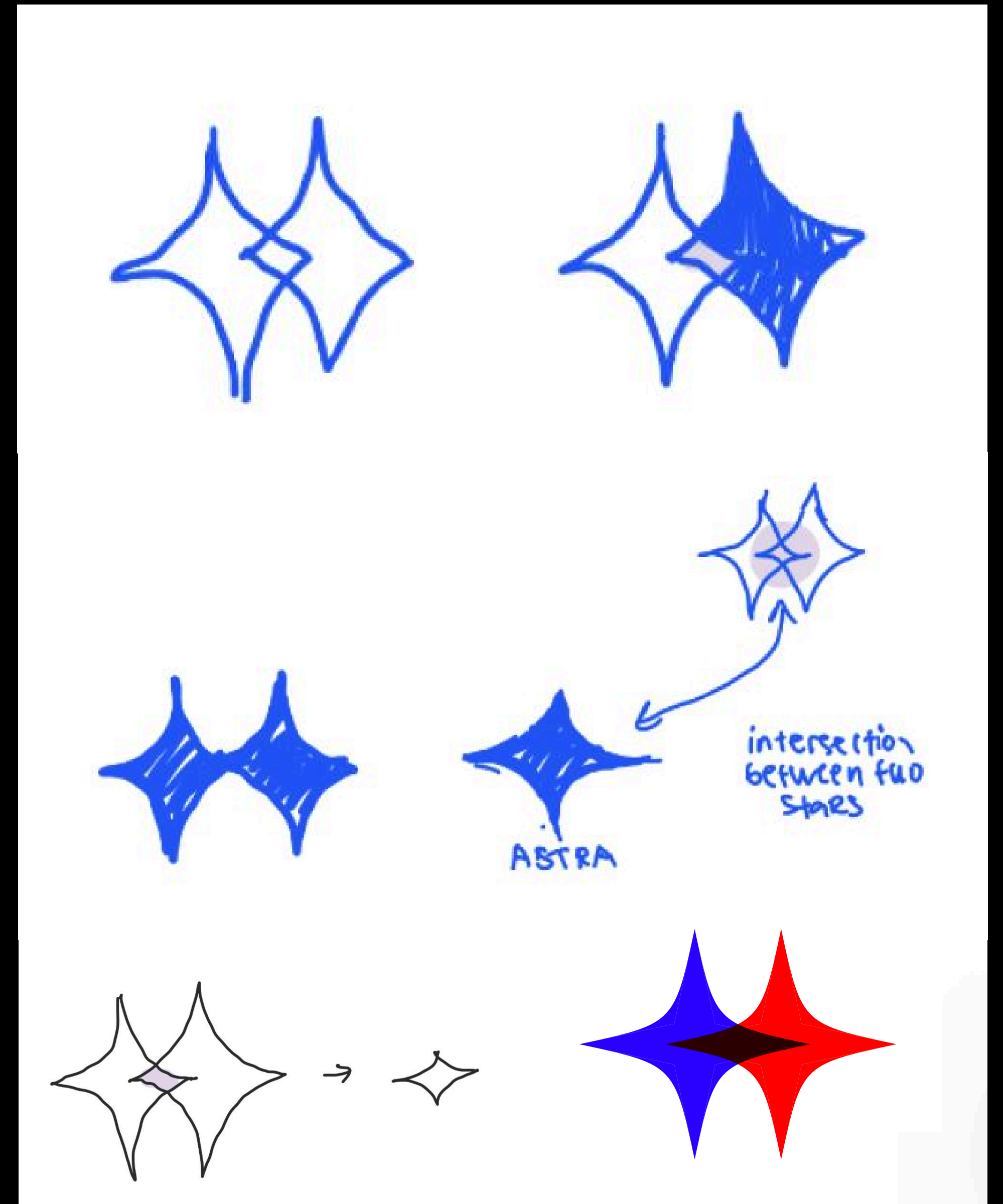
However, there were accessibility issues on the UI and it lacked a clear brand identity.



## Star Logo

We shifted away from an eclipse and focused on the meaning of Astra instead, translating to “star” in Latin.

When two stars collide, there are two outcomes: a new star is born—Paradise—or a black hole, symbolizing Astra’s monopoly over the moon. Exploring the narrative, Astra’s logo features the intersection between two stars to represent the duality.



## *Typography*

Space Grotesk is used for Astra's logo and headers due to its geometric yet rounded letters, creating a futuristic feel while maintaining balance. To complement this distinct typeface, Open Sans is used as body text with its high readability.

Space Grotesk  
Aa Bb Cc

Open Sans  
Aa Bb Cc

## *Colour*

An analogous colour palette is used to create a unified identity for Astra while signifying luxury. It is used throughout the designs to convey Astra's control over every facet of the moon and the illusion of luxury experienced by those living in Paradise.



#C2BDFF

#4C60B3

#5446F8

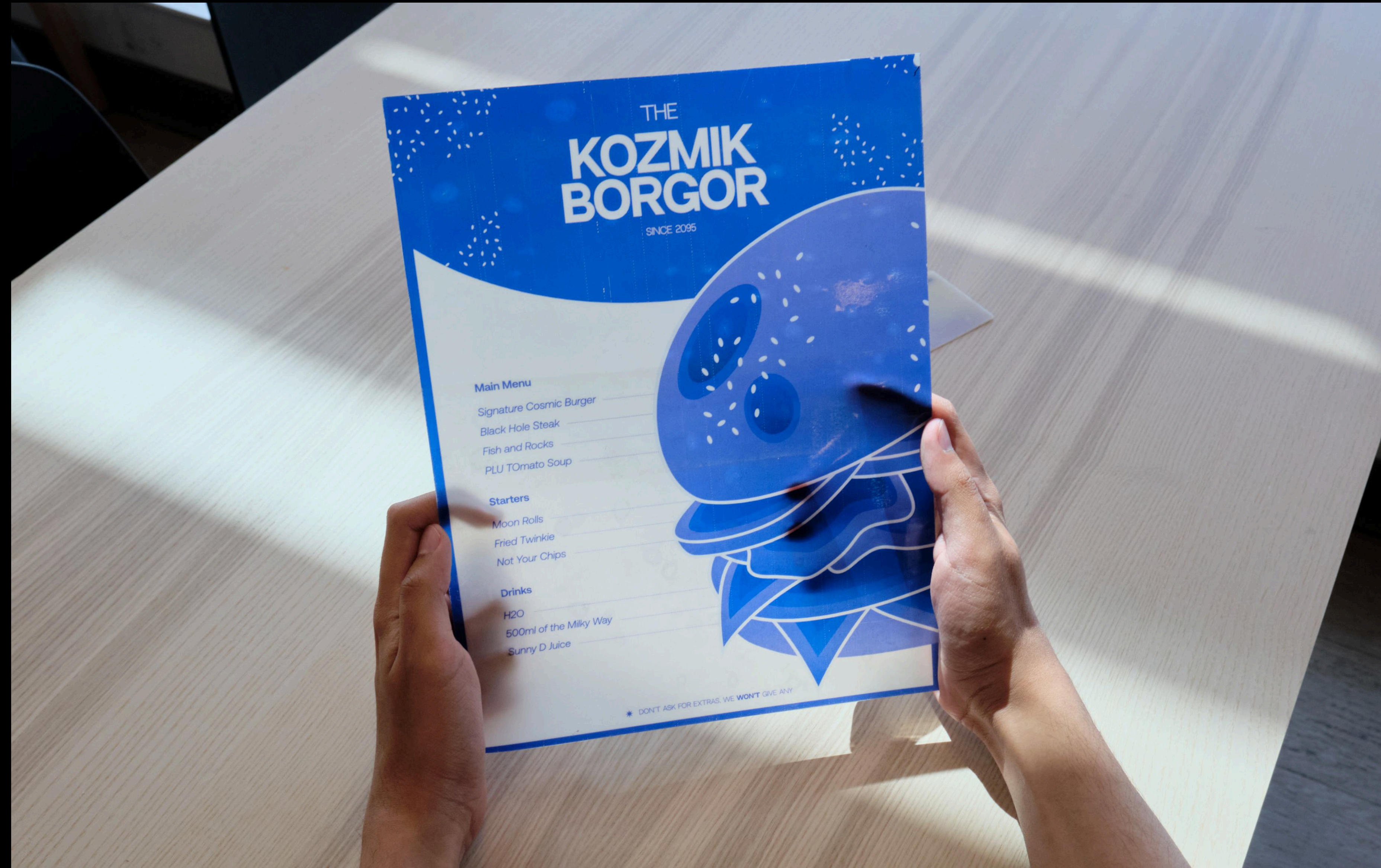


## World Building Through Artefacts

We imagine that the future will have advanced technology such as AR/MR contact lenses, but people will still value the physicality in meaningful items.

We developed a moon restaurant menu and a points card as the user's physical method of payment.





# Card Design

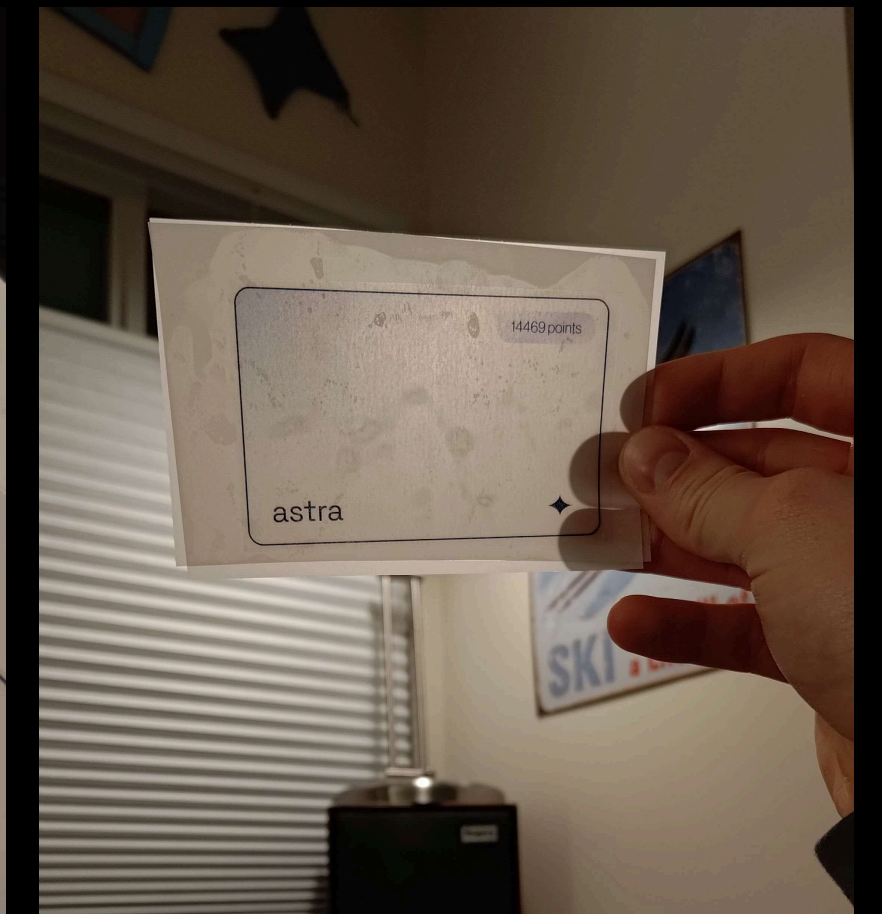
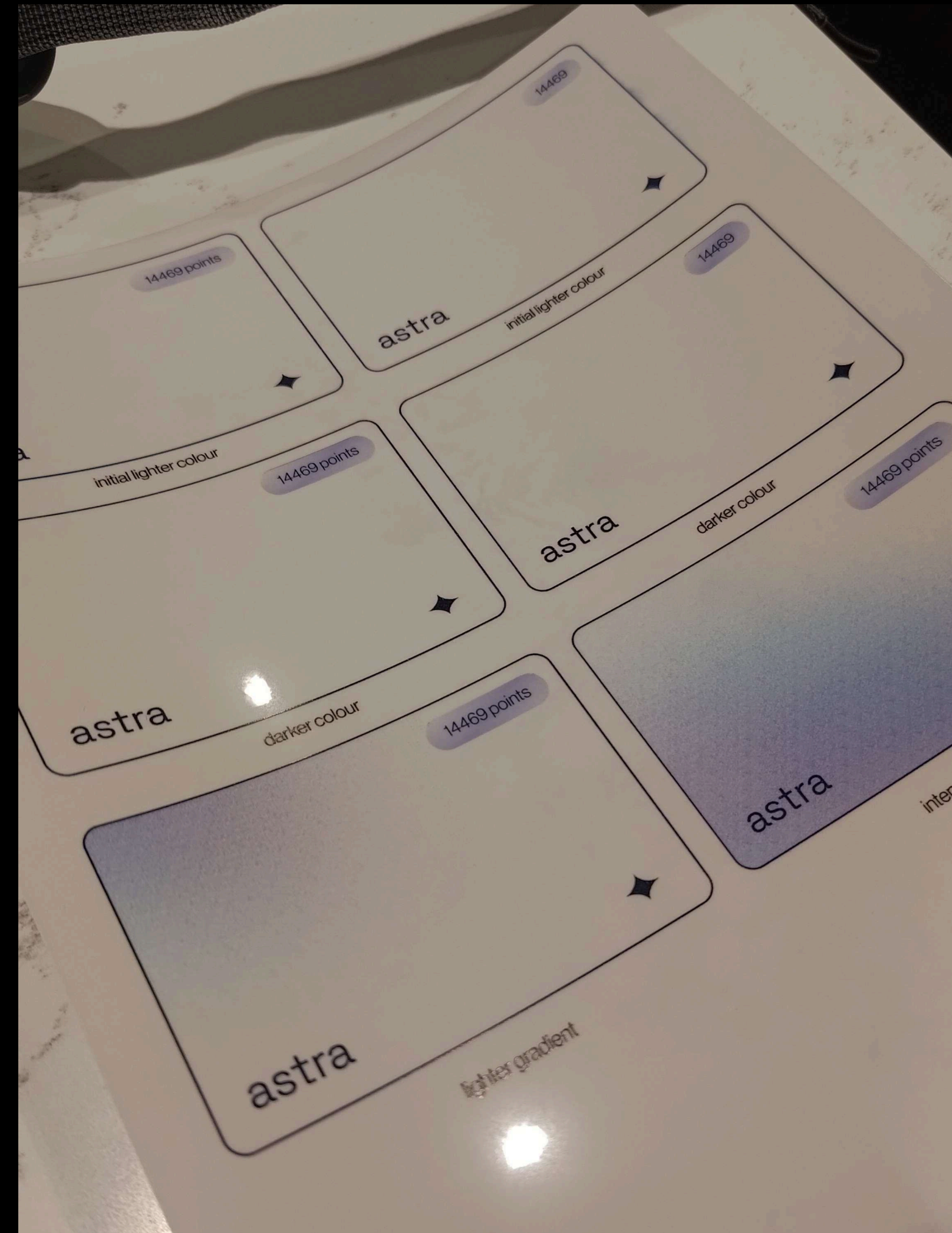


## The Astra Card

*Astra Card, a points card for lunar people to use to spend on entertainment, personal service, and sustenance.*

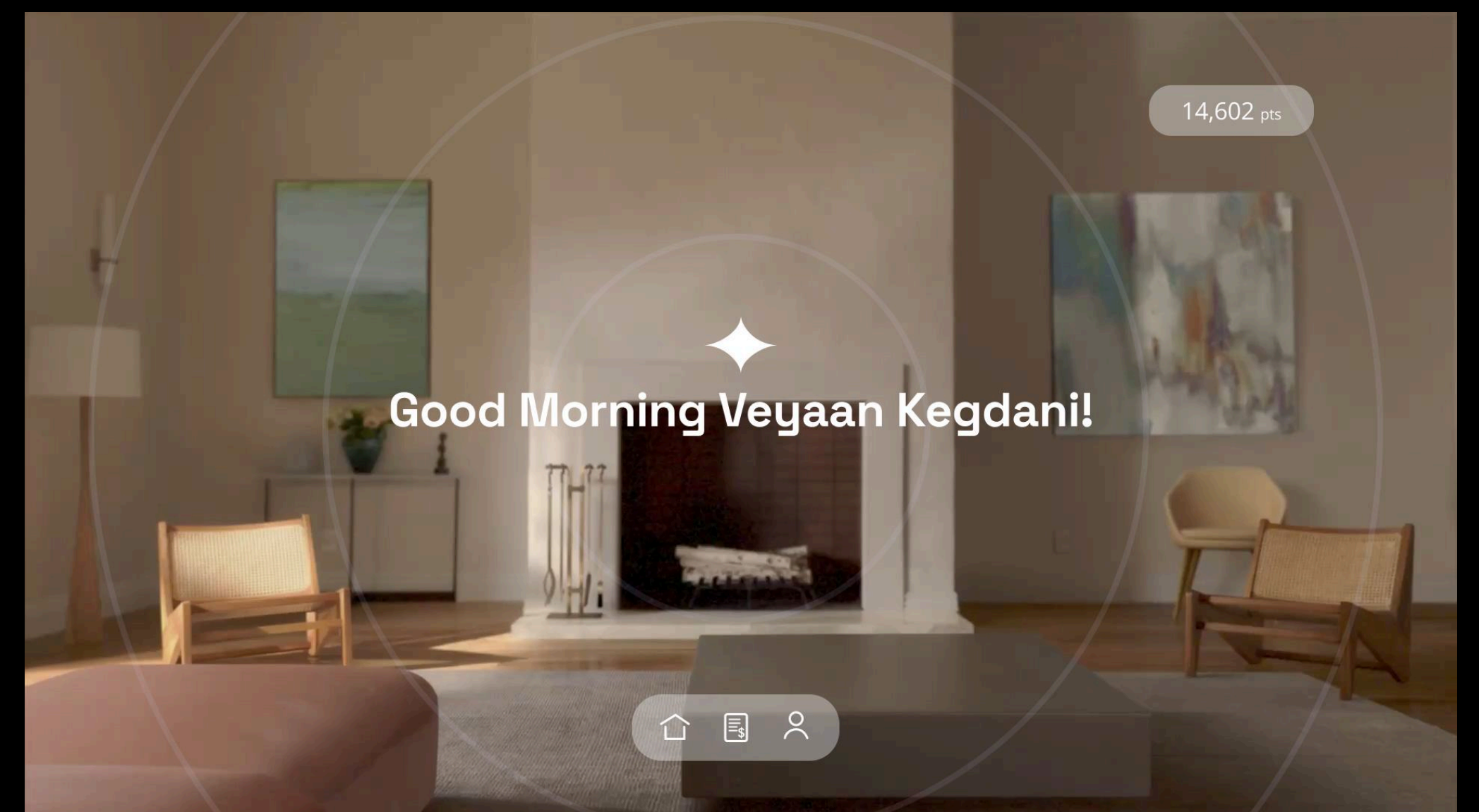
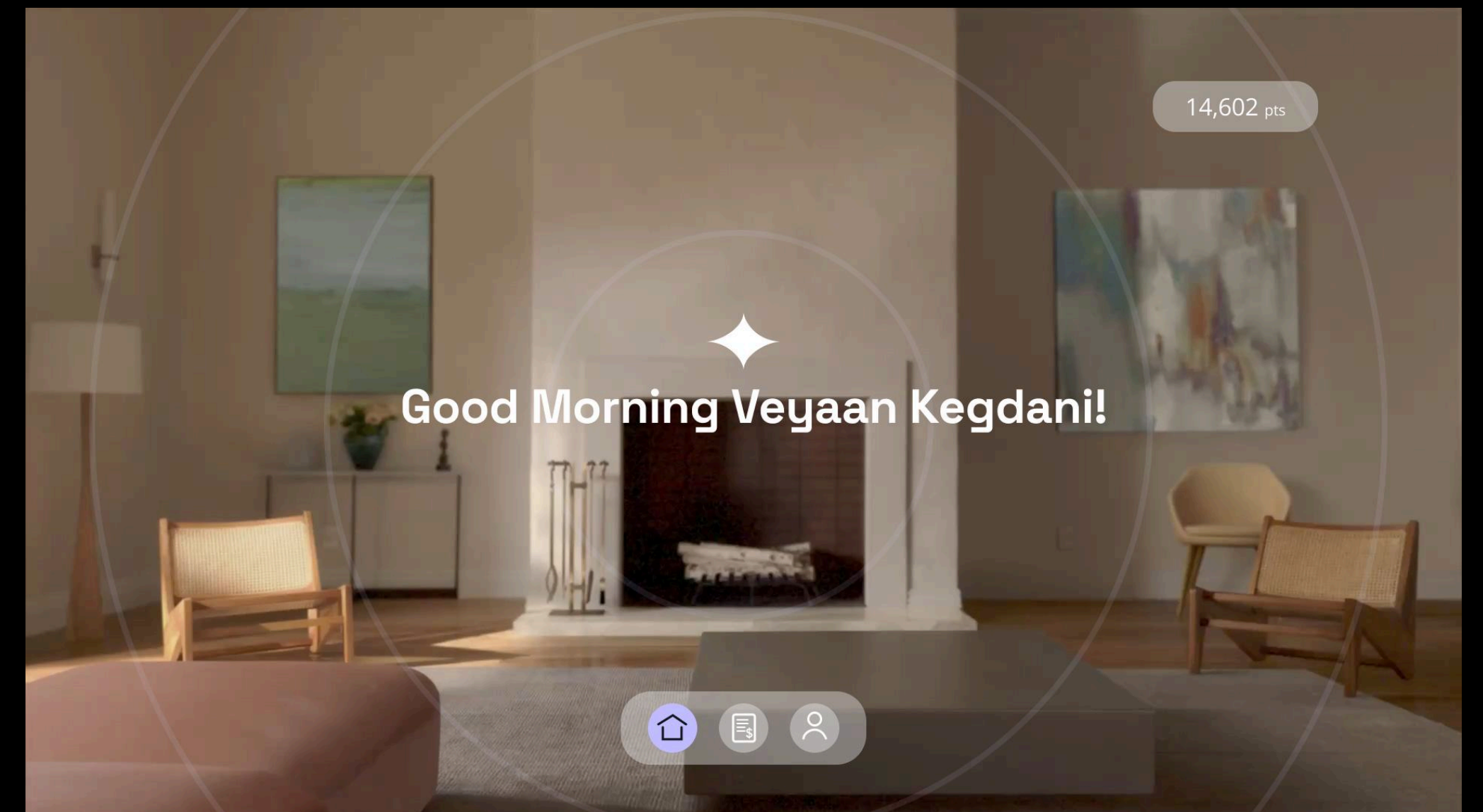
The credit card futuristic aesthetic comes from Astra's brand identity. The card's transparency makes it cohesive with the UI.

To make the card, we cut out transparent drafting film and glued the layers together. We printed the card's design onto A4-sized film and glued that to the card. Then, we covered that layer with blank film to prevent smudging.



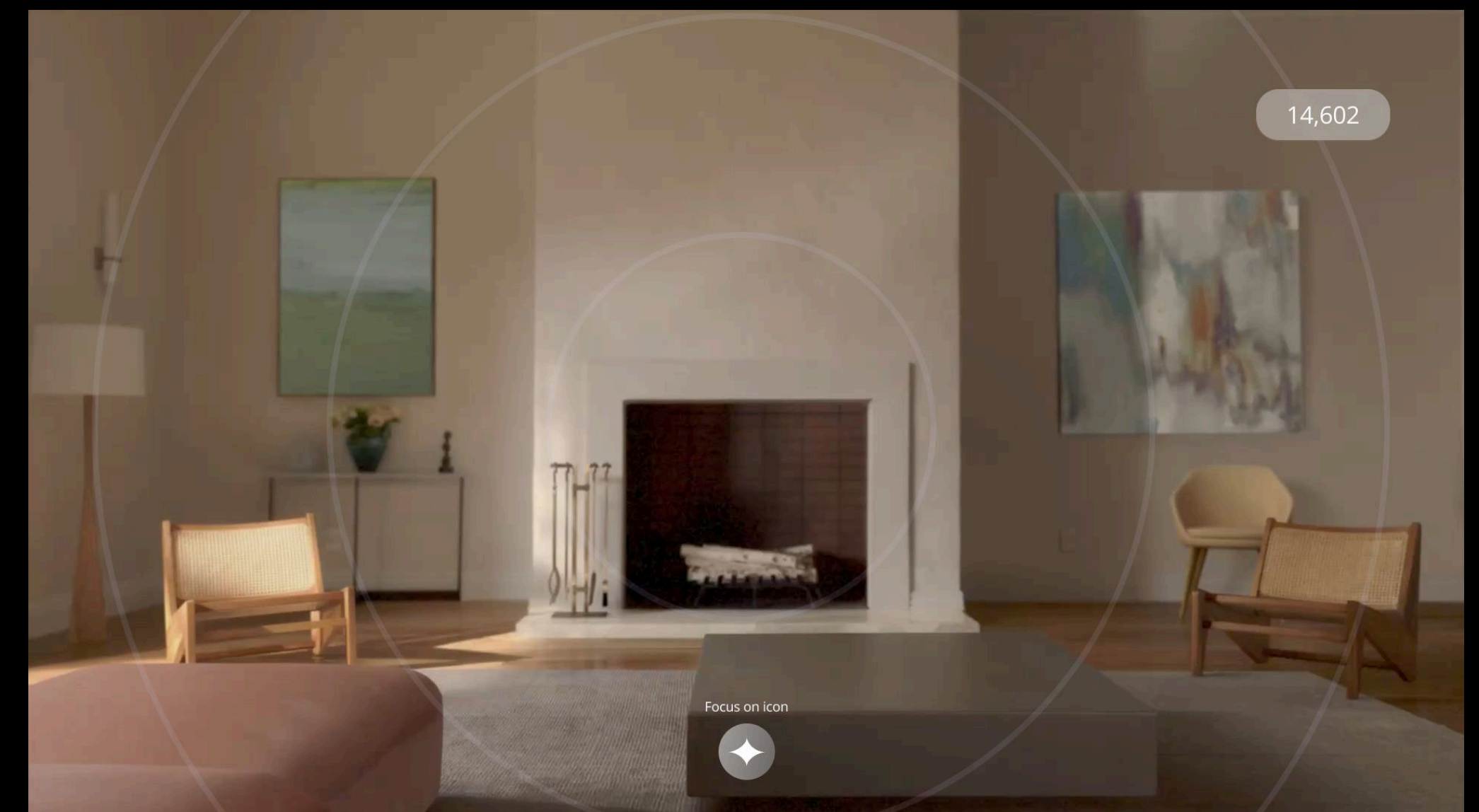
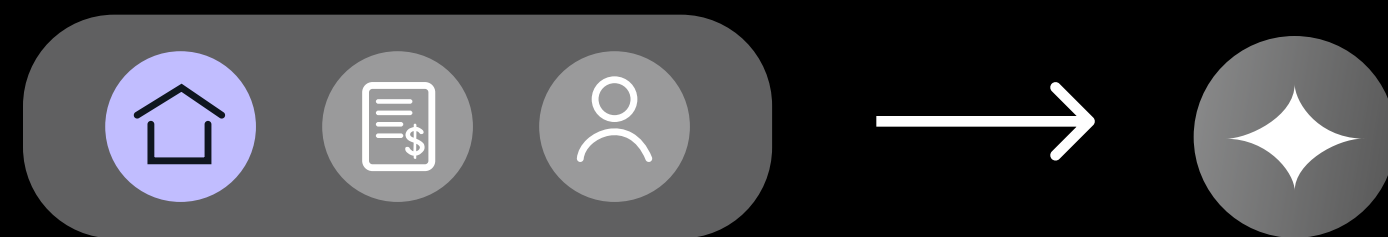
## Starting Screen UI

The initial interface was too heavy on the points display and menu bar, distracting users from center view. The main text was too wide, forcing users to shift their head left and right.



## Menu Bar

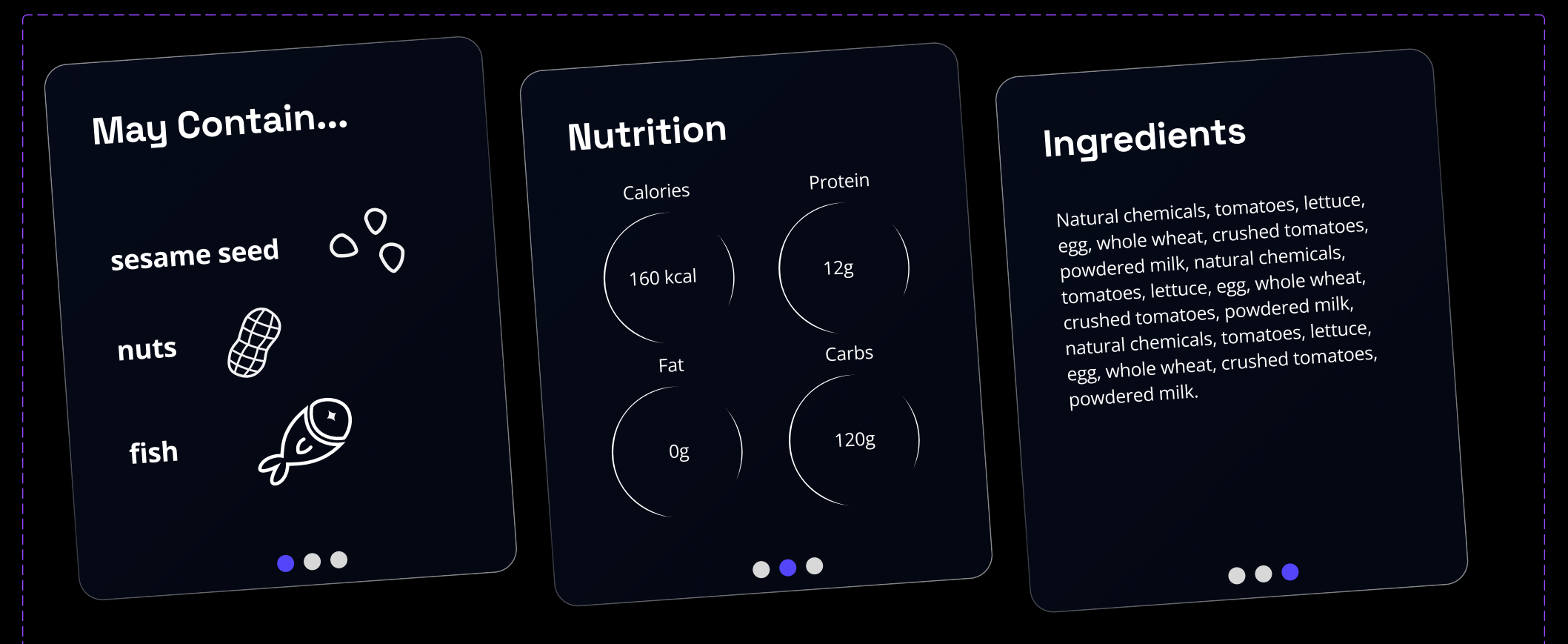
We create an App Display button that displays all apps within the interface when clicked. This keeps the interface minimal and opens up the main view.



## Interacting with Objects

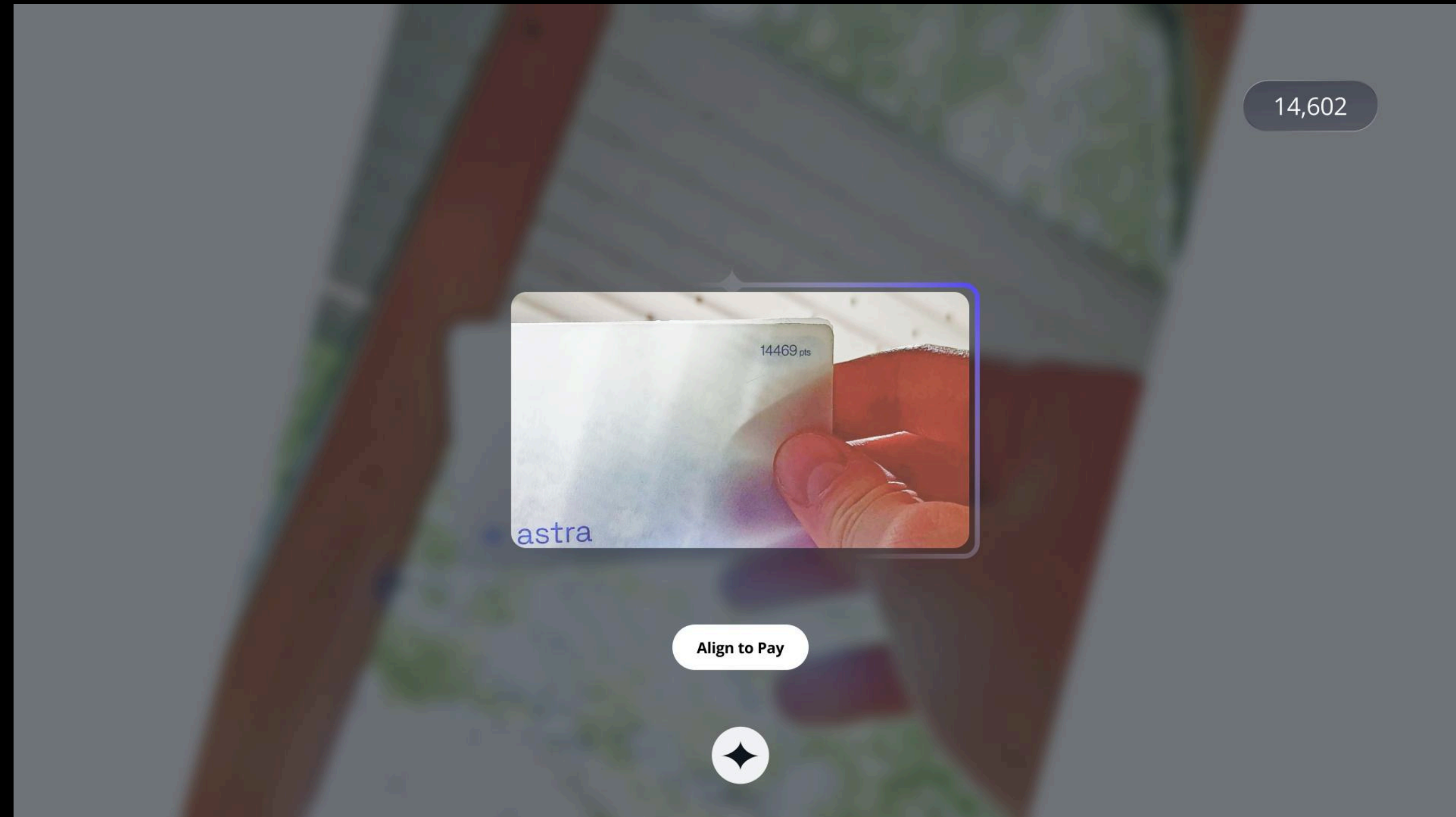
The semi-transparent glass UI created an accessibility issue in bright environments.

We considered displaying nutrition details and ingredients on the interface, but scrapped the idea due to visual clutter.



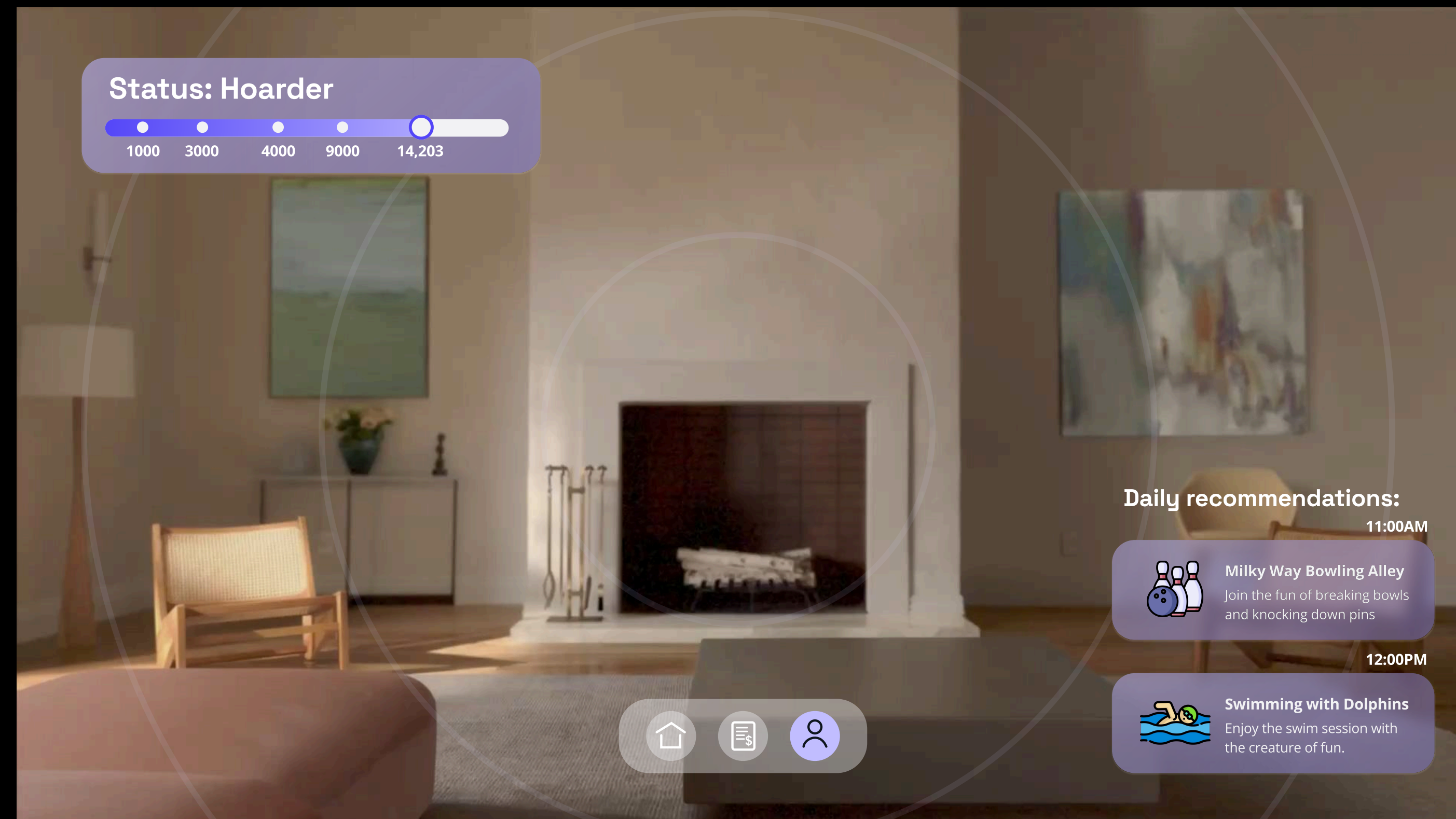
## Payment

Required clear cues of transaction being made between the physical world and digital world.



## Point System

The status descriptor had a negative connotation and the visuals were framed to clearly indicate the achievement of a tier upgrade.



## *Using VR*

Throughout the project, the AR/MR world and other artefacts were designed in Figma while referencing Apple's VR Guidelines testing through a VR headset.



Google Cardboard



Oculus Rift S

## VR Usability Testing

Testing our design in VR revealed the following:

- Square-shaped screen sizes make the experience more immersive in VR
- Repositioning UI closer to center due to issues with viewing information at all directions
- Initial UI designs were too large

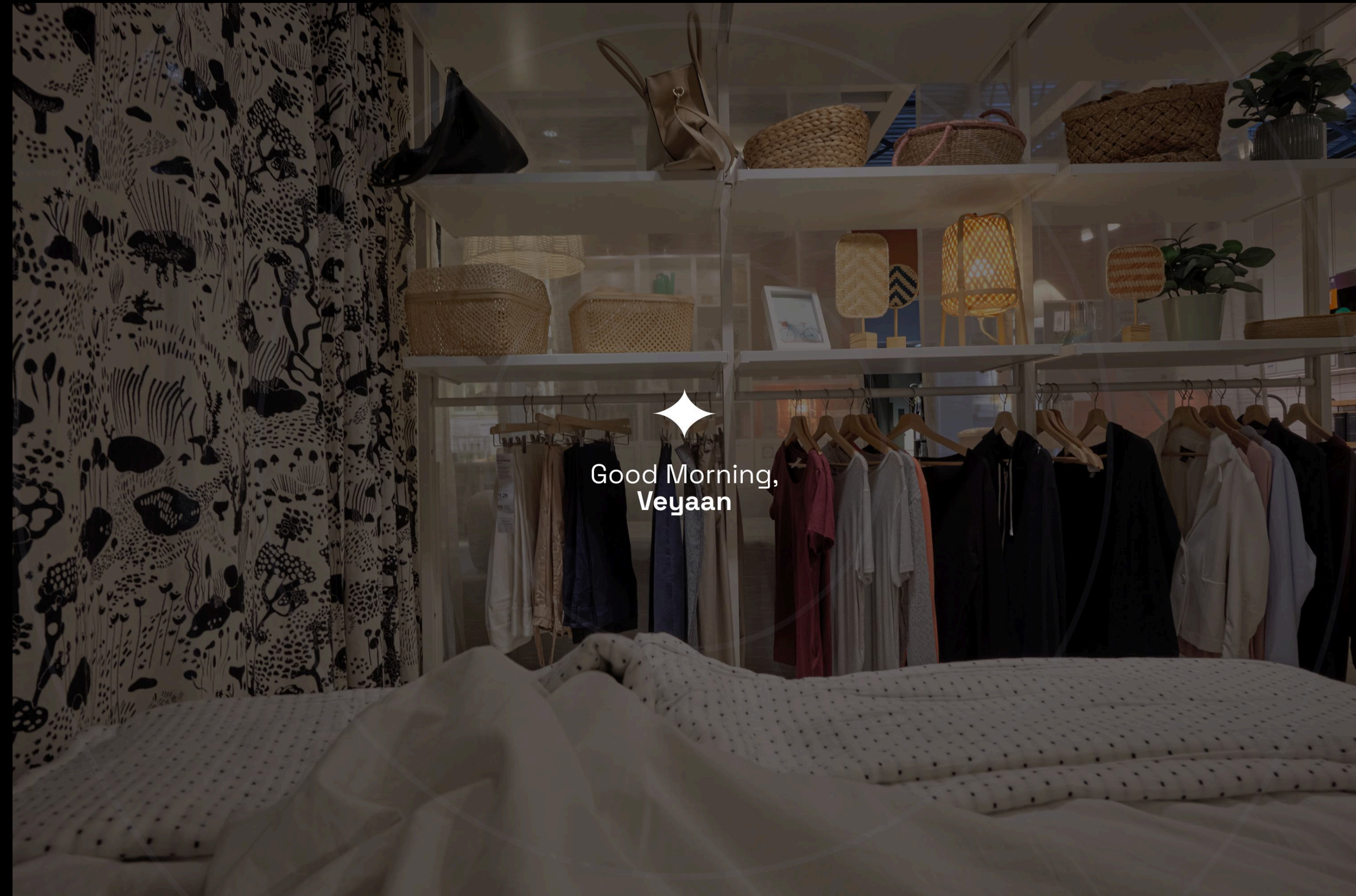


Menu mockup

## Starting Up

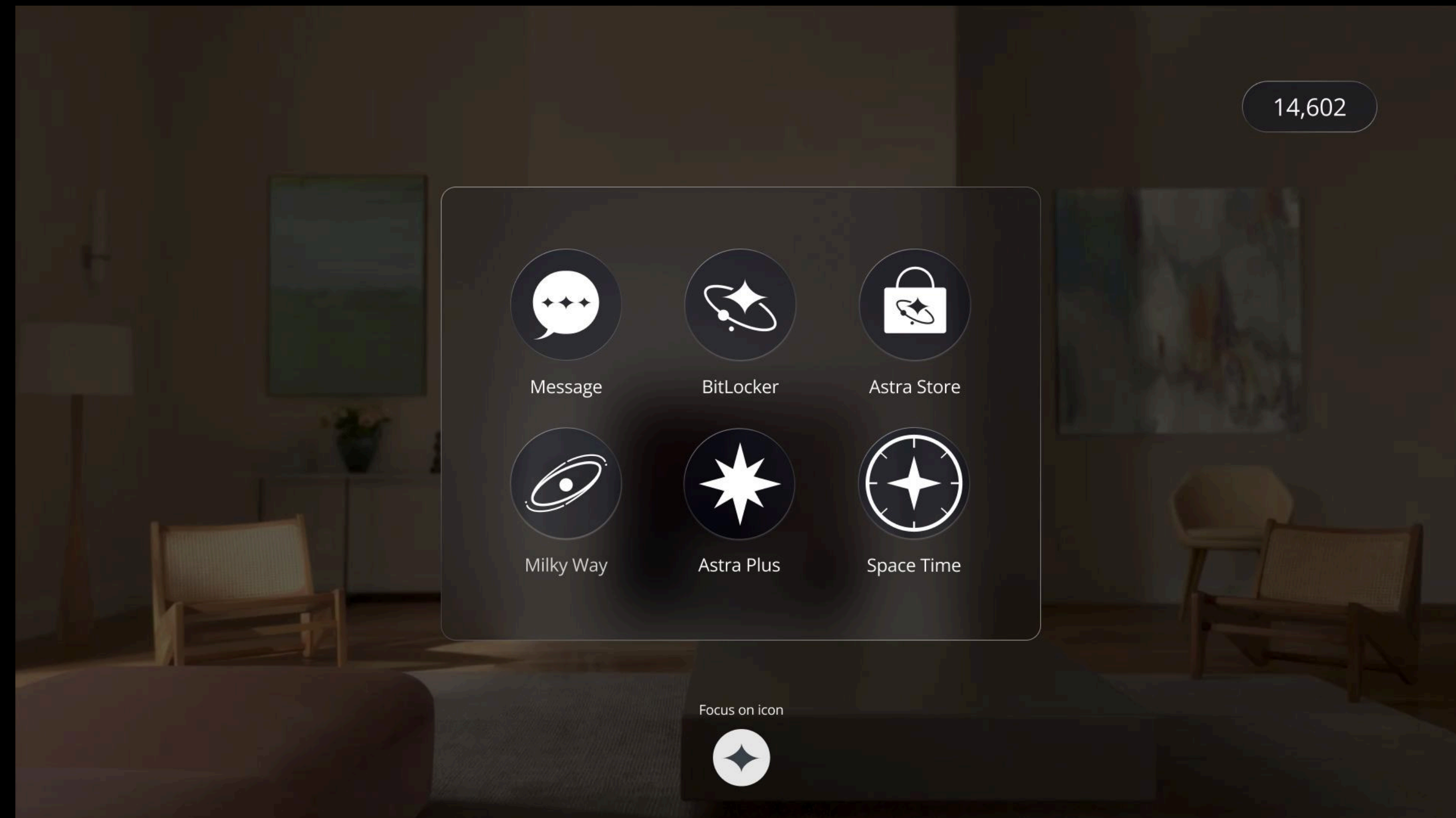
The Starting Screen provides a welcoming experience to the start of the day. It provides:

- **Encouraging reinforcement** to set up the experience
- Information to **smoothly** come in as the user in the mind of state of waking up



## Menu

One icon for the menu ensures **simplicity** and offers shortcut to the application menu, maximizing available space to display important information.



## Detail Pop-up

Allow user to gain more information of physical objects

- Reviews collected from external sources
- Description of the components of the item
- Recommendations item to pair together



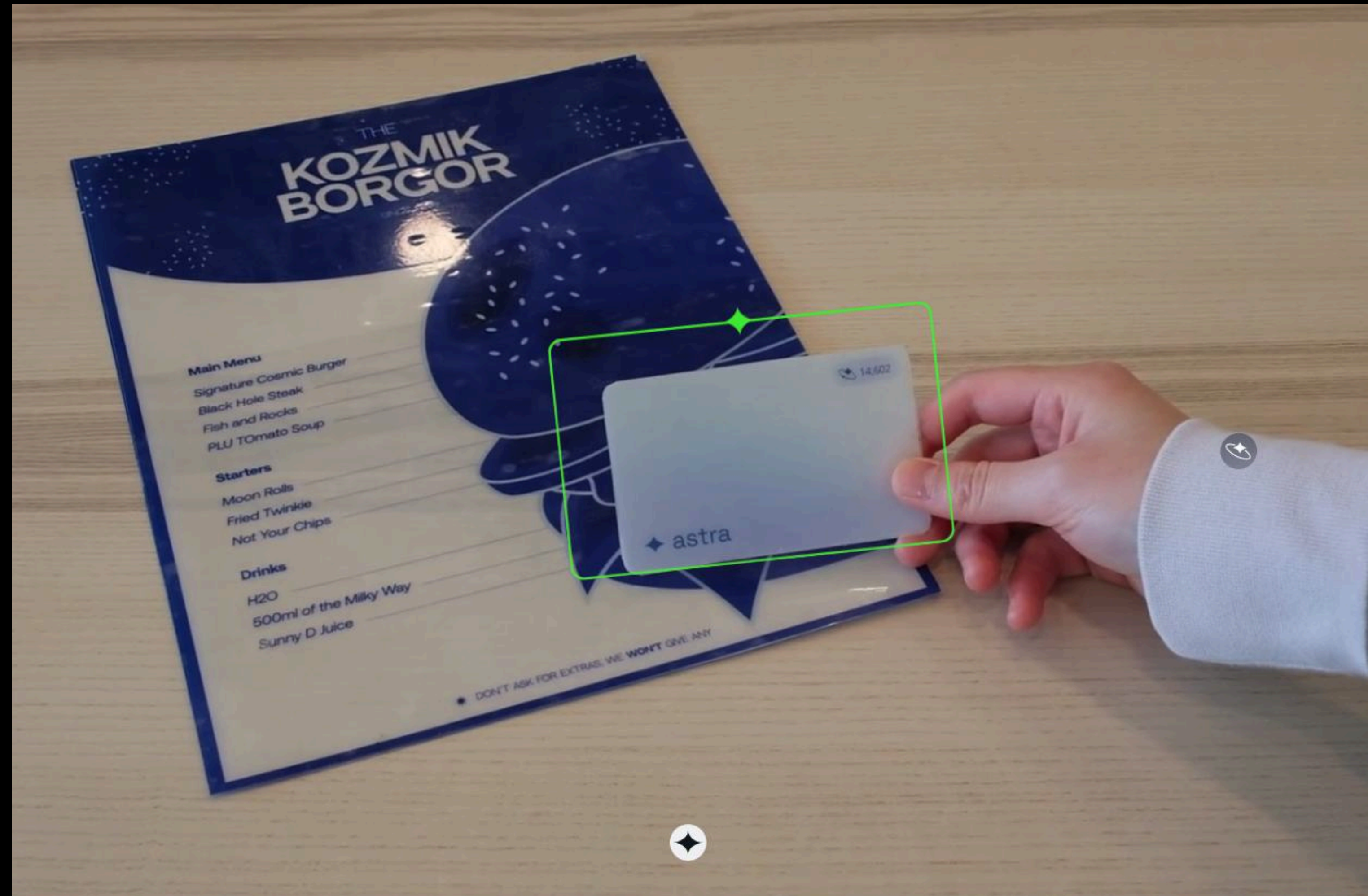
## Points System

Each user is assigned a status depending on the number of points they've spent. Vibrant, illuminating visuals highlight the significance of spending.



## Payment Method

Ensuring **secure payments**, a user aligns the card with their field of view. The system verifies the card holder in order to confirm a transaction.



## *Speculative Design is Hard*

It was difficult to start speculative design without prior experience. Initial concepts and narratives went through many changes; however, it allowed us to explore in depth of the new subject and expand our horizons.

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thank you!

