Akash Mahajan

Master of Design

allaboutakash.com
akash_mahajan@berkeley.edu
linkedin.com/in/akashmj29
510.599.5304

Projects

01 EIDOS

02 Method Inc. *(Design@Large)*

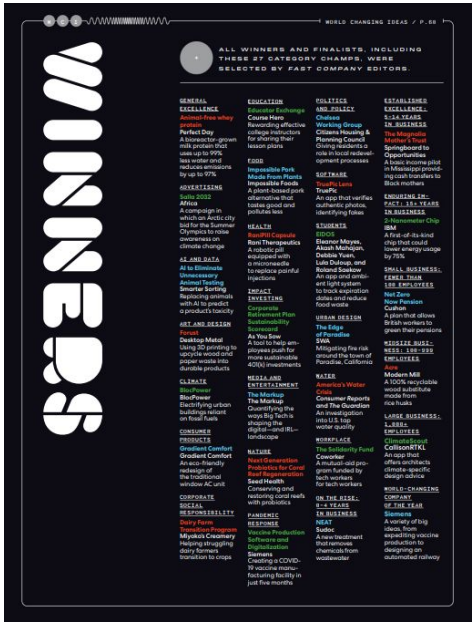
03 Smart Patch

04 Desirable States *(Thesis)*

EIDOS

Smart IoT based reminder system to reduce residential food waste

WINNERS


WORLD CHANGING IDEAS / P.68
WINNERS
ALL WINNERS AND FINALISTS, INCLUDING THESE 27 CATEGORY CHAMPS, WERE SELECTED BY FAST COMPANY EDITORS.
GENERAL EXCELLENCE
Animal-free whey protein
Perfect Day
A bioreactor-grown milk protein that uses up to 99% less water and reduces emissions by up to 97%
ADVERTISING
Suite 2032
Africa
A campaign in which an Arctic city bid for the Summer Olympics to raise awareness on climate change
AI AND DATA
AI to Eliminate Unnecessary Animal Testing
Smarter Sorting
Replacing animals with AI to predict a product's toxicity
ART AND DESIGN
Forest
Desktop Metal
Using 3D printing to upcycle wood and paper waste into durable products
CLIMATE
BlooPower
BlooPower
Electrifying urban buildings reliant on fossil fuels
CONSUMER PRODUCTS
Gradient Comfort
Gradient Comfort
An eco-friendly redesign of the traditional window AC unit
CORPORATE SOCIAL RESPONSIBILITY
Dairy Farm Transition Program
Miyako's Creamery
Helping struggling dairy farmers transition to crops
EDUCATION
Educator Exchange
Course Hero
Rewarding effective college instructors for sharing their lesson plans
FOOD
Impossible Pork Made From Plants
Impossible Foods
A plant-based pork alternative that tastes good and pollutes less
HEALTH
RoniPill Capsule
Roni Therapeutics
A robotic pill equipped with a microneedle to replace painful injections
IMPACT INVESTING
Corporate Retirement Plan Sustainability Scorecard
As You Saw
A tool to help employees push for more sustainable 401(k) investments
MEDIA AND ENTERTAINMENT
The Markup
The Markup
Quantifying the ways Big Tech is shaping the digital—and IRL—landscape
NATURE
Next Generation Probiotics for Coral Reef Regeneration
Seed Health
Conserving and restoring coral reefs with probiotics
PANDEMIC RESPONSE
Vaccine Production Software and Digitalization
Siemens
Creating a COVID-19 vaccine manufacturing facility in just five months
POLITICS AND POLICY
Chelsea Working Group
Citizens Housing & Planning Council
Giving residents a role in local redevelopment processes
SOFTWARE
TruePic
TruePic
An app that verifies authentic photos, identifying fakes
STUDENTS
EIDOS
Eleanor Mayes, Akash Mahajan, Debbie Yuen, Lula Dulaup, and Roland Saskow
An app and ambient light system to track expiration dates and reduce food waste
URBAN DESIGN
The Edge of Paradise
SWA
Mitigating fire risk around the town of Paradise, California
WATER
America's Water Crisis
Consumer Reports and The Guardian
An investigation into U.S. tap water quality
WORKPLACE
The Solidarity Fund
Coworker
A mutual-aid program funded by tech workers for tech workers
ON THE RISE: 0-4 YEARS IN BUSINESS
NEAT
Sudoc
A new treatment that removes chemicals from wastewater
ESTABLISHED EXCELLENCE: 5-14 YEARS IN BUSINESS
The Magnolia Mother's Trust
Springboard to Opportunities
A basic income pilot in Mississippi providing cash transfers to Black mothers
ENDURING IMPACT: 15+ YEARS IN BUSINESS
2-Nanometer Chip
IBM
A first-of-its-kind chip that could lower energy usage by 75%
SMALL BUSINESS: FEWER THAN 100 EMPLOYEES
Net Zero Now Pension Cushion
A plan that allows British workers to green their pensions
MIDSIZE BUSINESS: 100-999 EMPLOYEES
Ame
Modern Mill
A 100% recyclable wood substitute made from rice husks
LARGE BUSINESS: 1,000+ EMPLOYEES
ClimateScout
CollisonRTKL
An app that offers architects climate-specific design advice
WORLD-CHANGING COMPANY OF THE YEAR
Siemens
A variety of big ideas, from expediting vaccine production to designing an automated railway

SAN FRANCISCO DESIGN WEEK
AWARD WINNER 2022

FAST COMPANY
World Changing Ideas 2022

Problem

By 2050, worldwide

60%

greater food demand

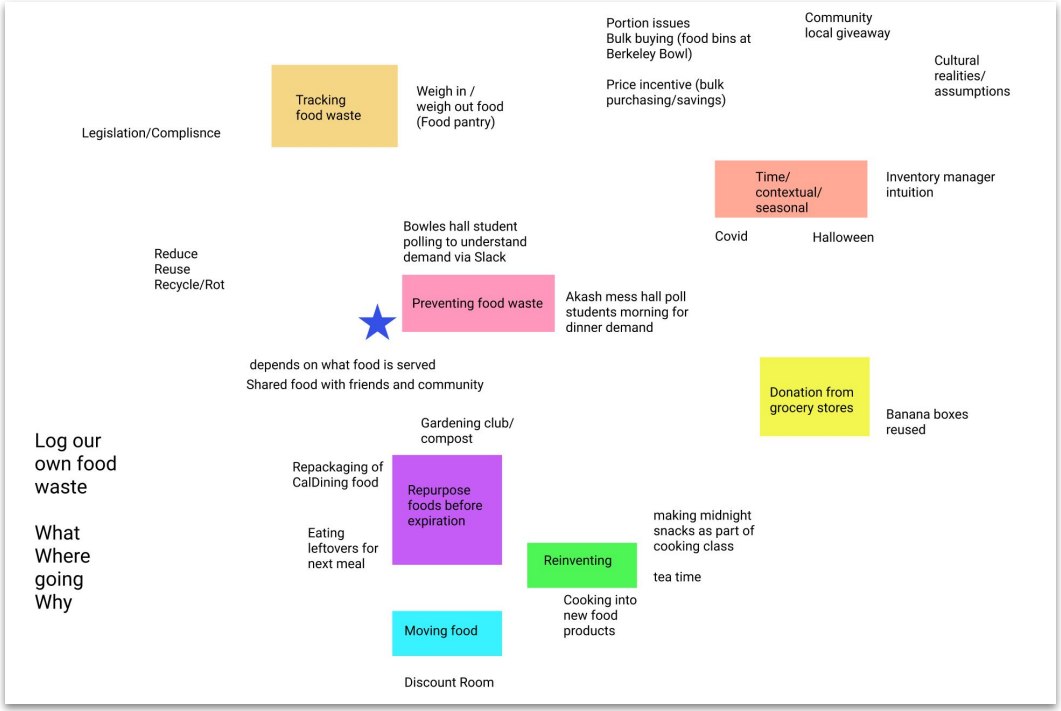
840 million

people will go hungry

User Research

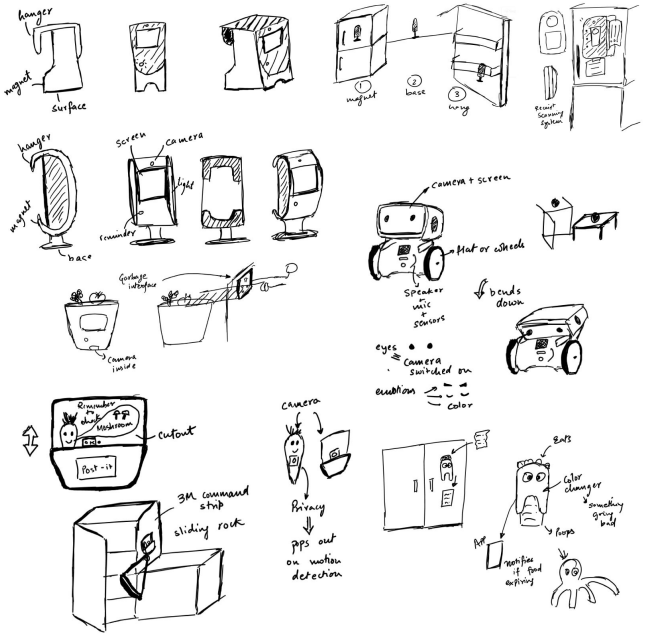
Findings

- Many solutions for reuse, fewer solutions to reduce
- Supermarkets and restaurants have mechanisms in place to handle food waste
- 60% of the food waste is created in households

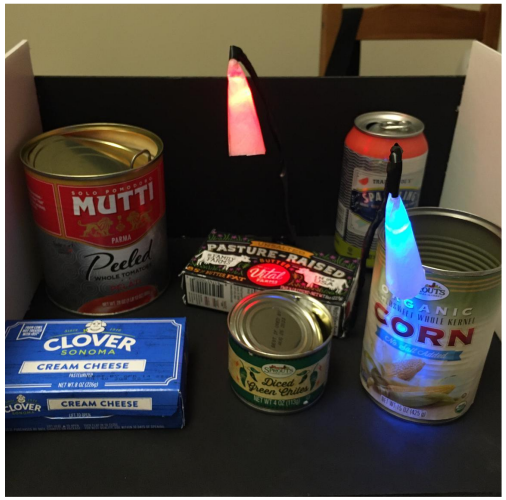


Ideation

MODULAR FRIDGE
Garbage Truck Detector
SMART BIN/ COMPOST (TRACK + PHONE)
assistant for putting away food

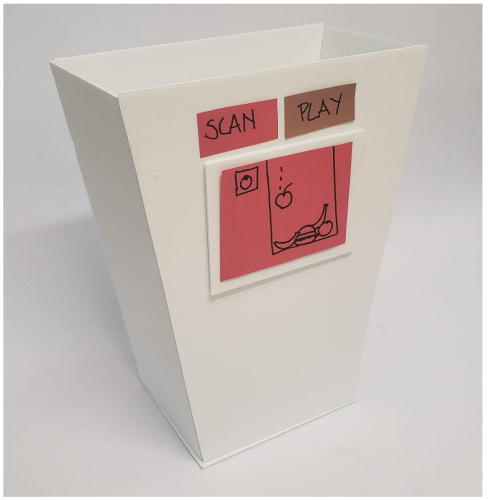

hanger
magnet
surface
screen
camera
light
reminder
base
camera + screen
flat or wheels
speaker + mic + sensors
bends down
eyes
camera switched on
emotions
color
cutout
Post-it
3M command strip
sliding rock
Privacy
pops out on motion detection
Eats
Color changer
Poops
notifies if food expiring

Rapid prototyping



- High effort
- Difficulty understanding technology

- High Cognitive Effort
- Limited User base



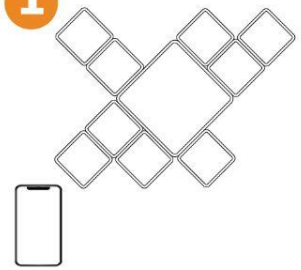
- Limited Motivation
- Gamifying may promote more waste

EIDOS

Susanne Martin
Your Stats
$58
saved
See more
Your items will expire soon
Cherries
Oranges
Pears
Strawberries
Susanne Martin
Press and Hold to Scan Receipt
Susanne Martin
Your Groceries
ADD
Bananas
Zucchini
Strawberries
Red onions
Peaches
1lt whole milk
Oranges
Apples
Onion
Susanne Martin
Your Bananas
Slide to adjust how they look right now
Did you know?
Susanne Martin
Shopping
ADD
Suggested groceries to buy
Bananas
Strawberries
Pizza
Yoghurt
Milk
Reduce amount
Avocado
Potato
Susanne Martin
Suggested recipes
Zucchini
Roasted Zucchini with Parmesan
Garlic Butter Sauteed Zucchini
Easy Baked Zucchini
Zucchini with Parmesan
Susanne Martin
Roasted Zucchini with Parmesan

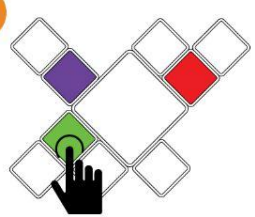
Functionality

1



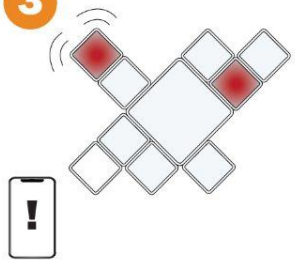
Using our app, **scan your grocery's receipt** to let EIDOS know what kind of foods you have at home.

2



EIDOS **visually reminds you** when groceries are about to expire. Tap once to hear which items are expiring, and tap twice to dismiss.

3

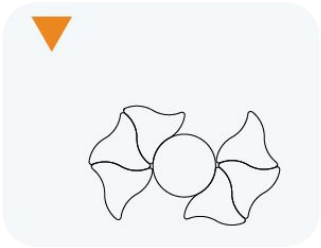


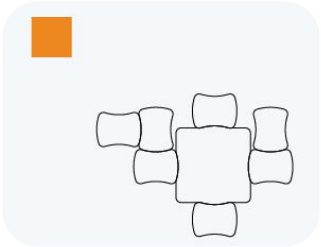
Lights begin pulsating when groceries are expiring soon. EIDOS will send **recipe suggestions to your phone.**

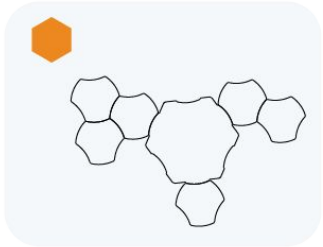
4

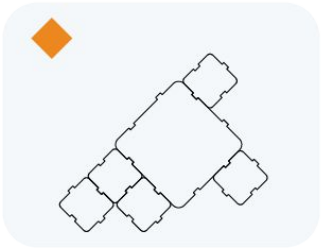
Based on your food waste habits, EIDOS will create a **suggested grocery shopping list** to buy only what you need.

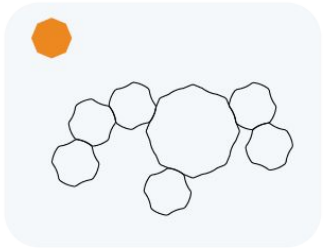
Ambient lighting tiles



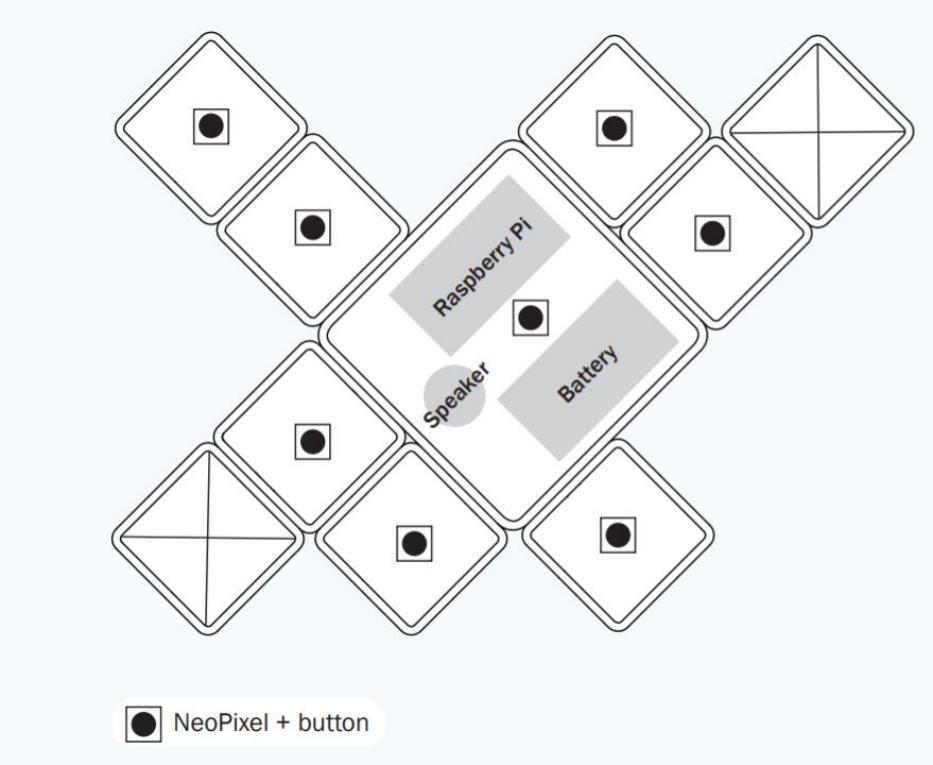


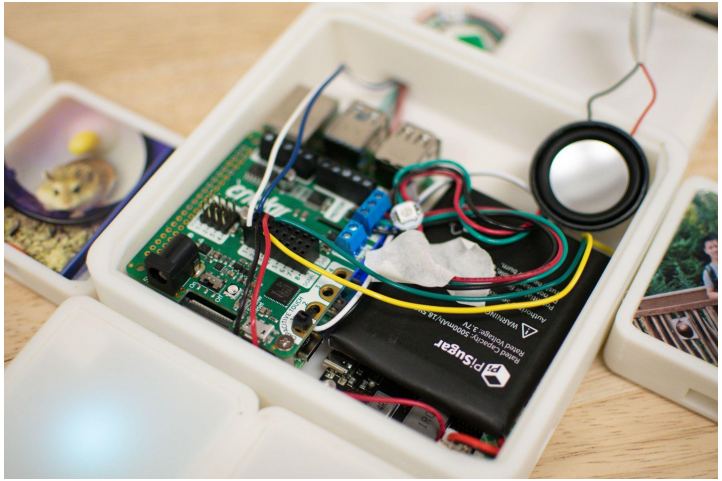


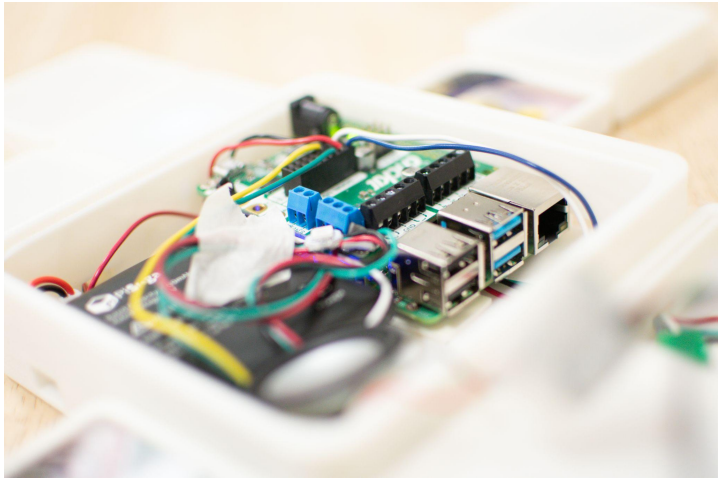




Ambient lighting tiles

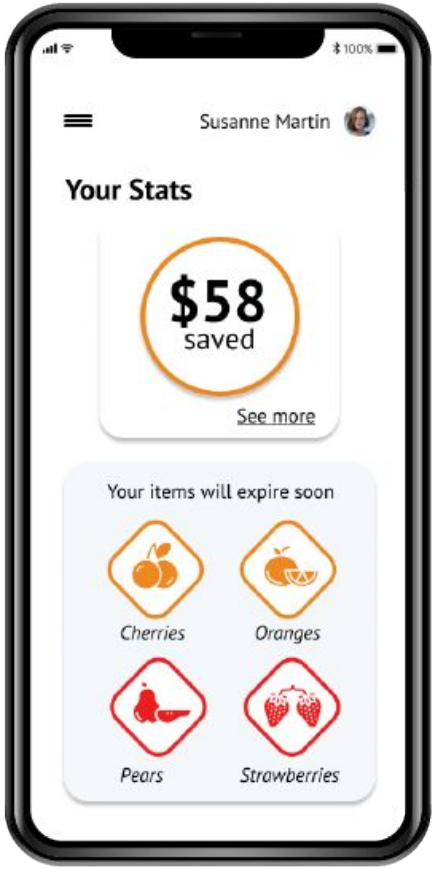




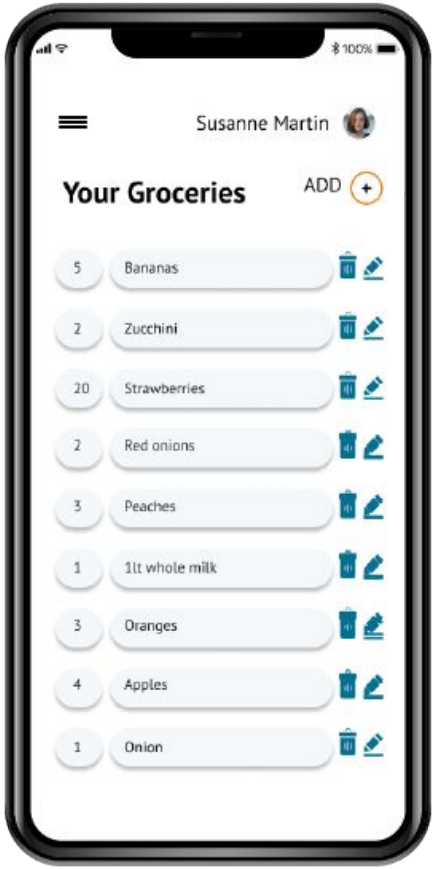


Mobile app

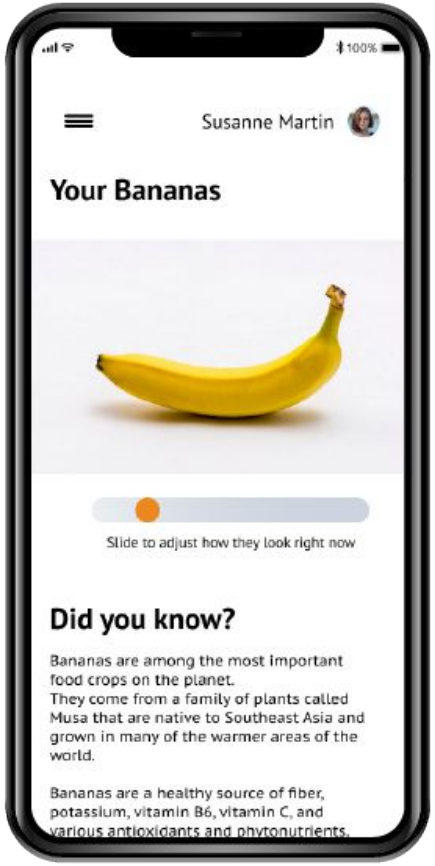
EIDOS
What is your main motivation to reduce food waste?
Save Money
Environment
Society

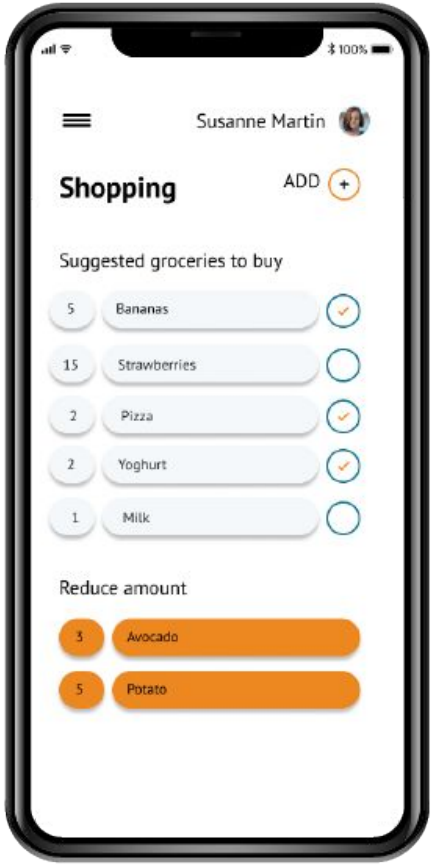

Susanne Martin
Your Stats
$58 saved
See more
Your items will expire soon
Cherries
Oranges
Pears
Strawberries

Susanne Martin
Press and Hold to Scan Receipt


Susanne Martin
Your Groceries
ADD
5 Bananas
2 Zucchini
20 Strawberries
2 Red onions
3 Peaches
1 1lt whole milk
3 Oranges
4 Apples
1 Onion

Mobile app


Susanne Martin
Your Bananas
Slide to adjust how they look right now
Did you know?
Bananas are among the most important food crops on the planet.
They come from a family of plants called Musa that are native to Southeast Asia and grown in many of the warmer areas of the world.
Bananas are a healthy source of fiber, potassium, vitamin B6, vitamin C, and various antioxidants and phytonutrients.


Susanne Martin
Shopping
ADD
Suggested groceries to buy
5 Bananas
15 Strawberries
2 Pizza
2 Yoghurt
1 Milk
Reduce amount
3 Avocado
5 Potato

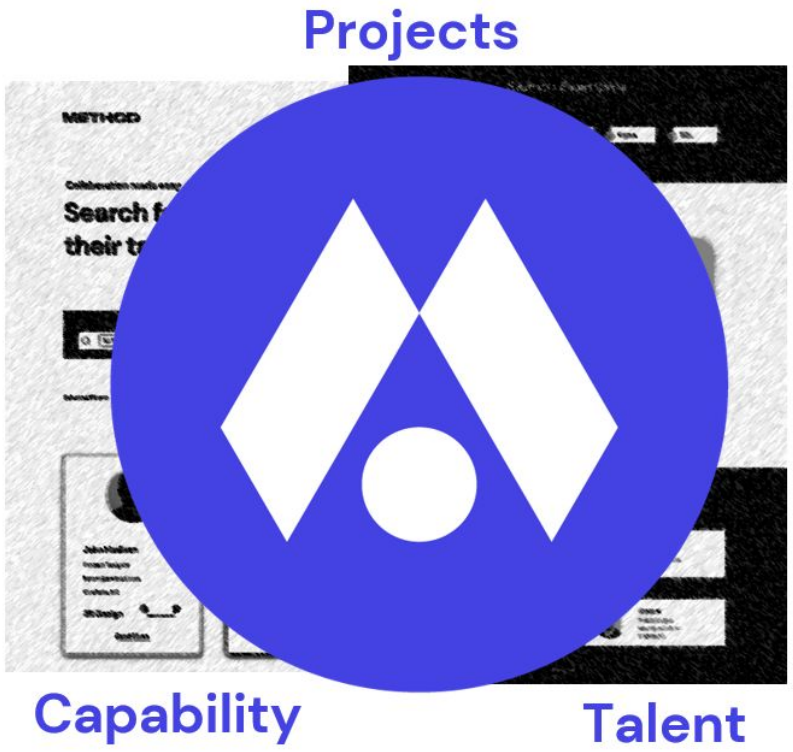
Susanne Martin
Suggested recipes
Zucchini
Roasted Zucchini with Parmesan
Garlic Butter Sauteed Zucchini
Easy Baked Zucchini
Zucchini with Parmesan

Susanne Martin
Roasted Zucchini with Parmesan
1. Boldly crank your oven to 450°F.
2. Dress your sliced zucchini rounds with olive oil, salt, pepper and garlic powder.
3. Arrange the rounds on a baking sheet, taking care not to overlap them.
4. Grate parmesan cheese generously over the rounds.
5. Roast! About five minutes, and then finish the rounds off with a quick broil to ensure the cheese gets nice and crisp-bubbly.
6. Dive in! Enjoy these as a side dish, snack, pasta stand-in—the possibilities are endless.

SIMONS INSTITUTE

Capability Search Experience

Building the search experience to connect skills and talent with consulting projects

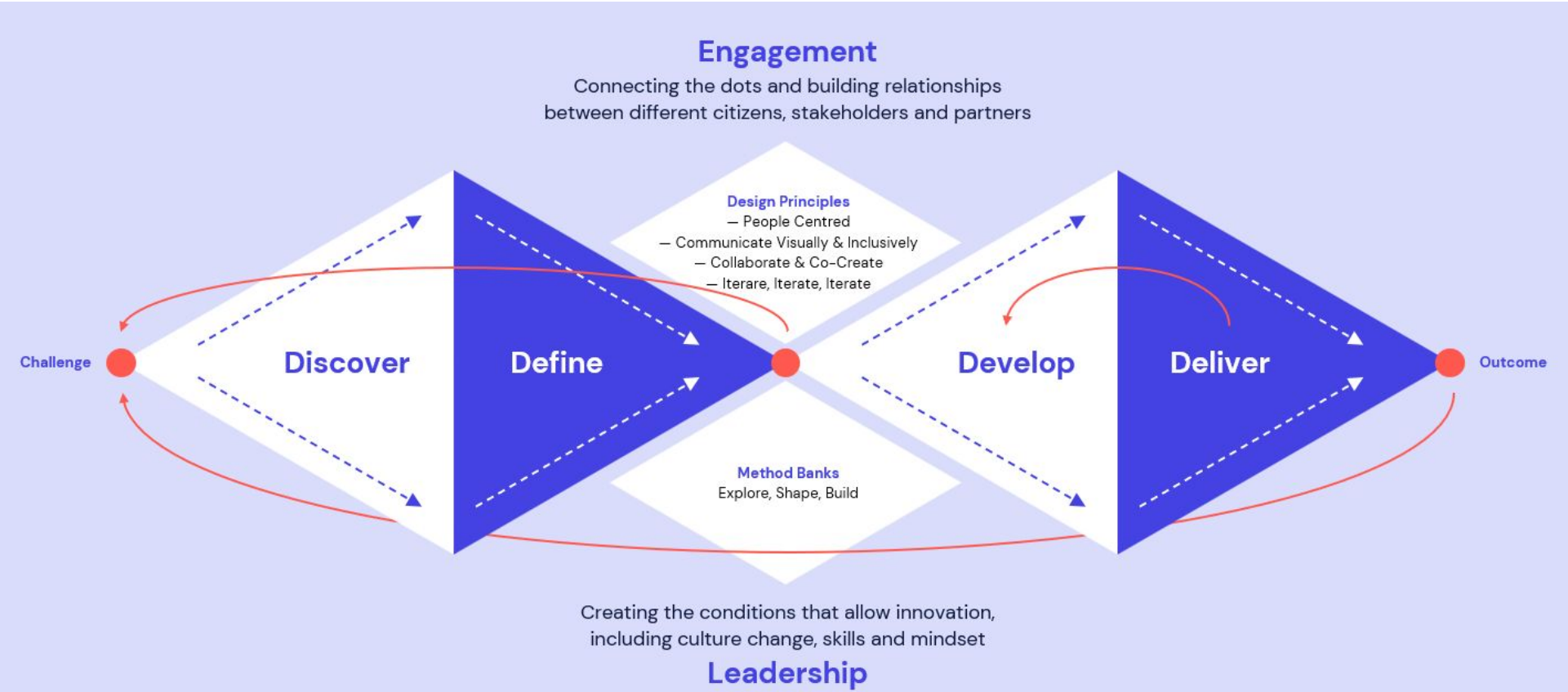


Problem

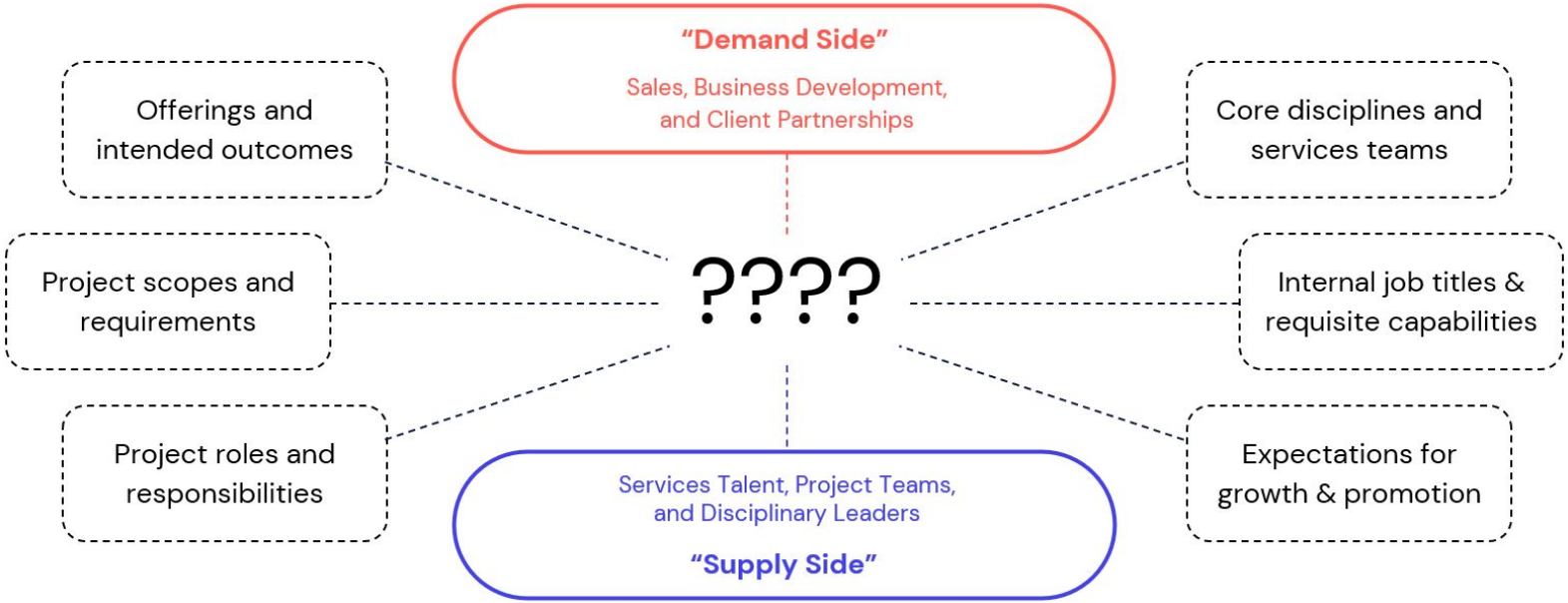
Method is seeing a phase of fast growth adding a lot of projects and employees who are mostly remote.

How can the company support the **individual identity of employees** and leverage their **unique capabilities** in the work?

Double diamond process



Business Need and Stakeholder Personas



Broke down the business requirement into a semantic challenge and lack of relational understanding between the 'supply' and 'demand' sides.

Google Design Sprint

1 MAP

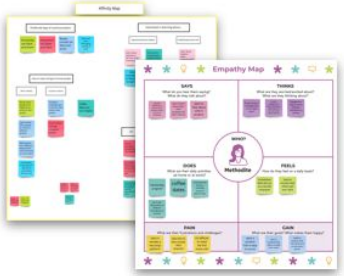
2 SKETCH

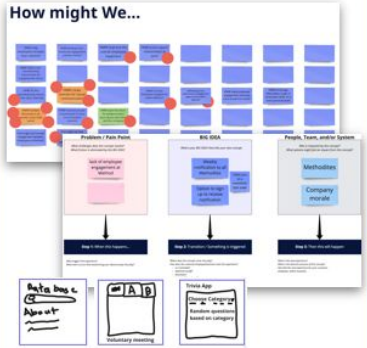
3 DECIDE

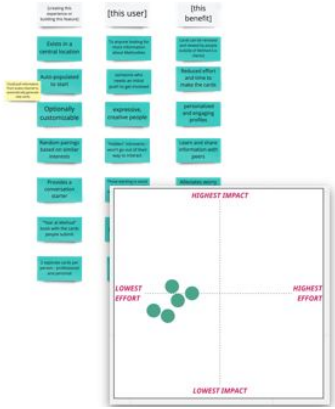
4 PROTOTYPE

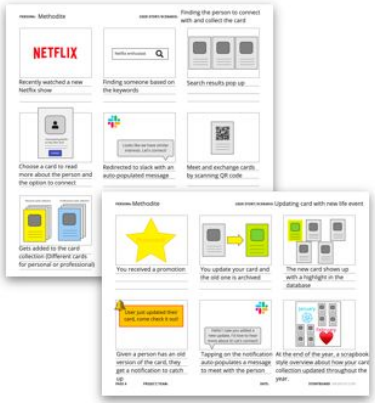
5 TEST

7 user interviews
Survey with 30+ respondents









Business Need and Stakeholder Personas

METHOD EMPLOYEE, want to connect with other employees to know more and learn about their skillset and past experiences

Behavior (Characteristics)

- ➔ Mostly connect via Slack and Zoom
- ➔ Gets to know most people through projects or in-company events
- ➔ Eager to connect and chat with more Methodites

Pain points

- ➔ Tons of slack channels are overwhelming
- ➔ Remote work has less social interaction outside of work and responsibilities
- ➔ Not personalized enough and lot of 'noise'

Business Need and Stakeholder Personas

SALES TEAM wants to find people and build a team best suited for a particular offering or service

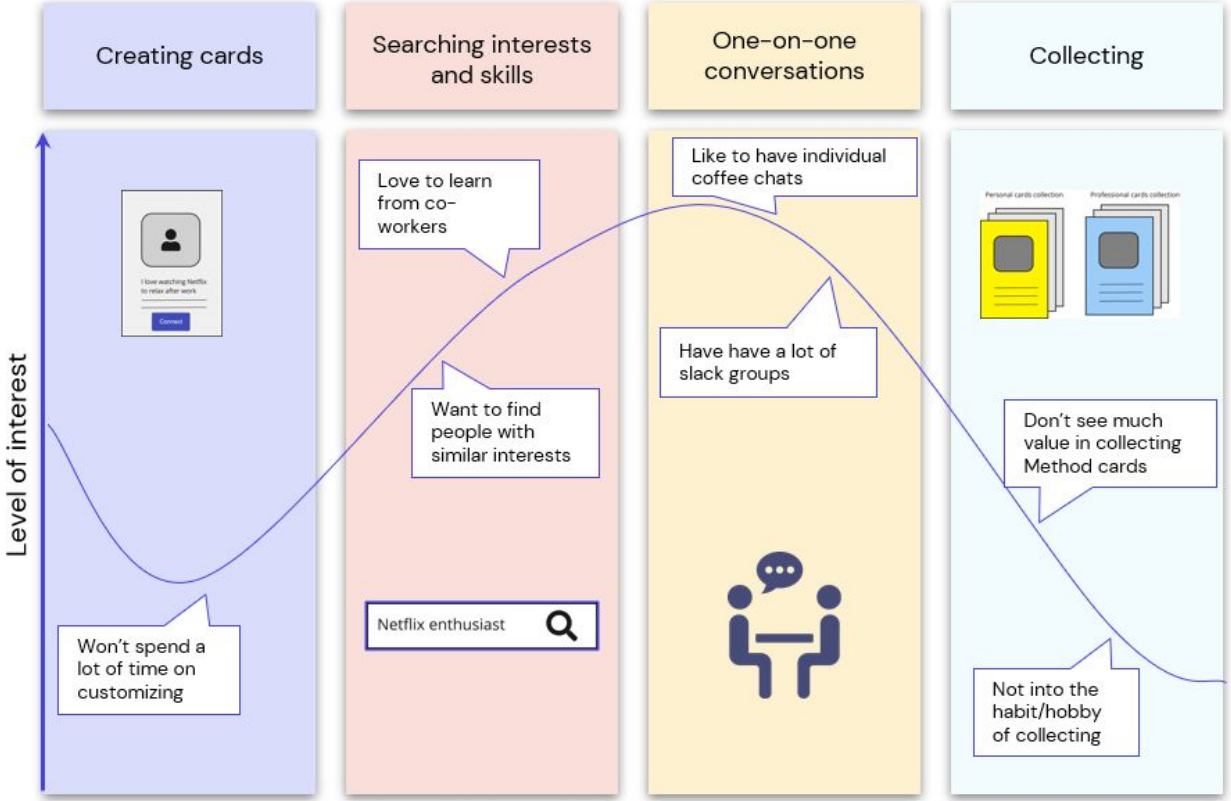
Behavior (Characteristics)

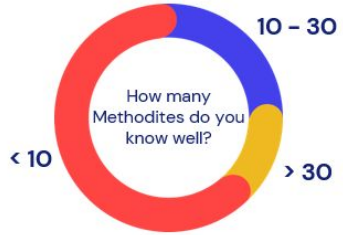
- Maps what Method sells to what skills and talents the company could use
- Have to rapidly align talent with project needs

Pain points

- Existing tools dumb, require business-standardized data
- Currently, knowing one's department is not enough to understand their capabilities

Insights





What do Methodites want to know about other employees?

Define

Building the search experience to find Methodites based on their skills, interests and experience

Develop

Experience
Having done it in the past

Level & Speciality
Relative to peers

Confidence
Comfort to do it (again)

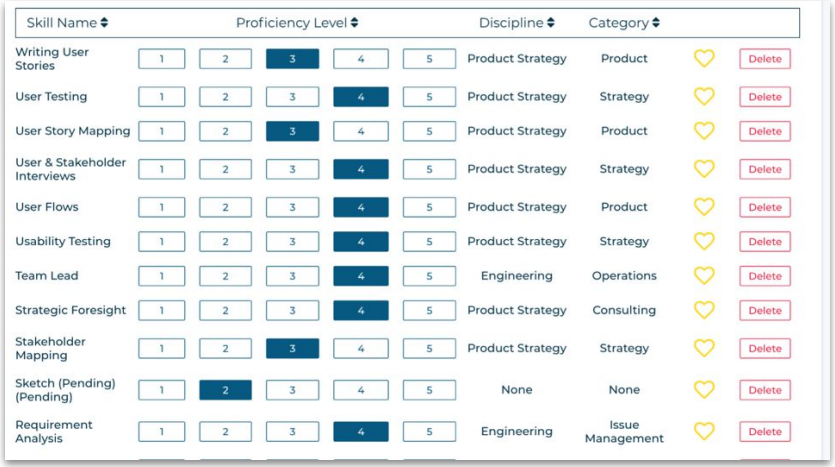
Availability
Having time or bandwidth

Interest & Desire
Emotional availability

A **capability** is the **ability** and **capacity** to perform and achieve specific **actions** and **outcomes**.

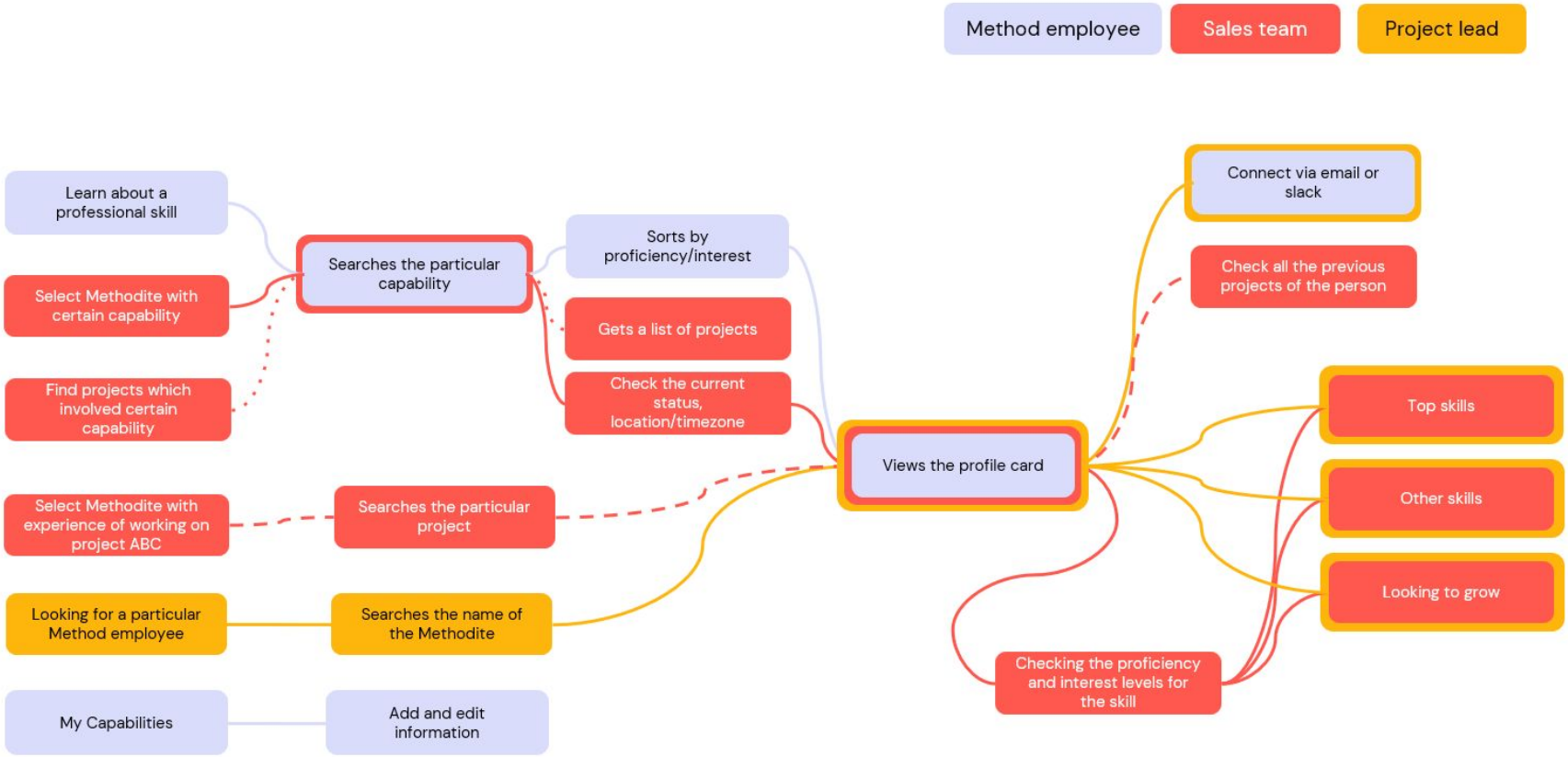
Activities
The work to deliver results

Results
Observable or measurable

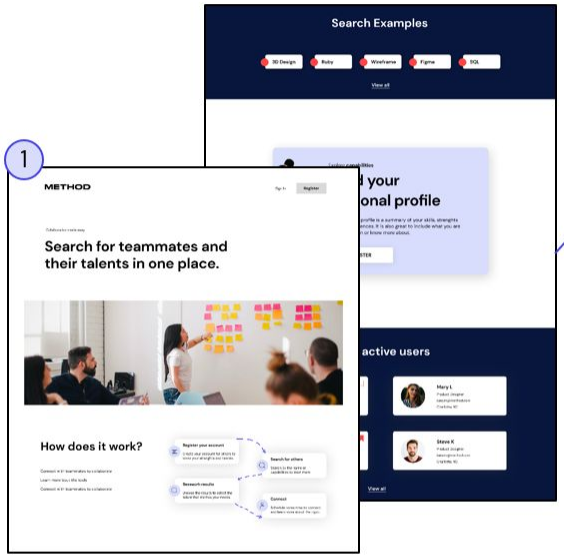


Skill Name	Proficiency Level					Discipline	Category		
Writing User Stories	1	2	**3**	4	5	Product Strategy	Product	♡	Delete
User Testing	1	2	3	**4**	5	Product Strategy	Strategy	♡	Delete
User Story Mapping	1	2	**3**	4	5	Product Strategy	Product	♡	Delete
User & Stakeholder Interviews	1	2	3	**4**	5	Product Strategy	Strategy	♡	Delete
User Flows	1	2	3	**4**	5	Product Strategy	Product	♡	Delete
Usability Testing	1	2	3	**4**	5	Product Strategy	Strategy	♡	Delete
Team Lead	1	2	3	**4**	5	Engineering	Operations	♡	Delete
Strategic Foresight	1	2	3	**4**	5	Product Strategy	Consulting	♡	Delete
Stakeholder Mapping	1	2	**3**	4	5	Product Strategy	Strategy	♡	Delete
Sketch (Pending) (Pending)	1	**2**	3	4	5	None	None	♡	Delete
Requirement Analysis	1	2	3	**4**	5	Engineering	Issue Management	♡	Delete

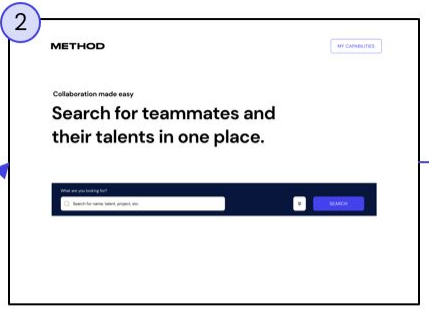
Design blueprint



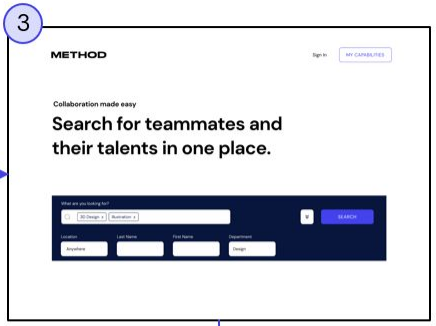
Prototyping



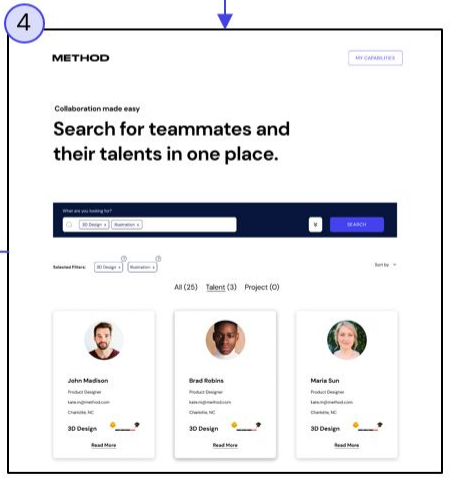
Landing page with instructions that directs to sign in



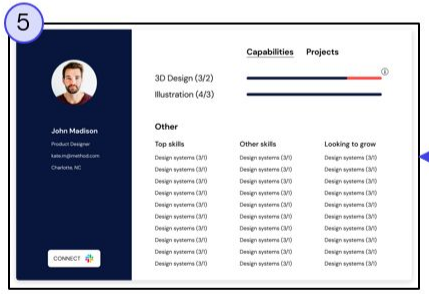
Search home page



Searching capabilities



Search results



Dynamic profile card

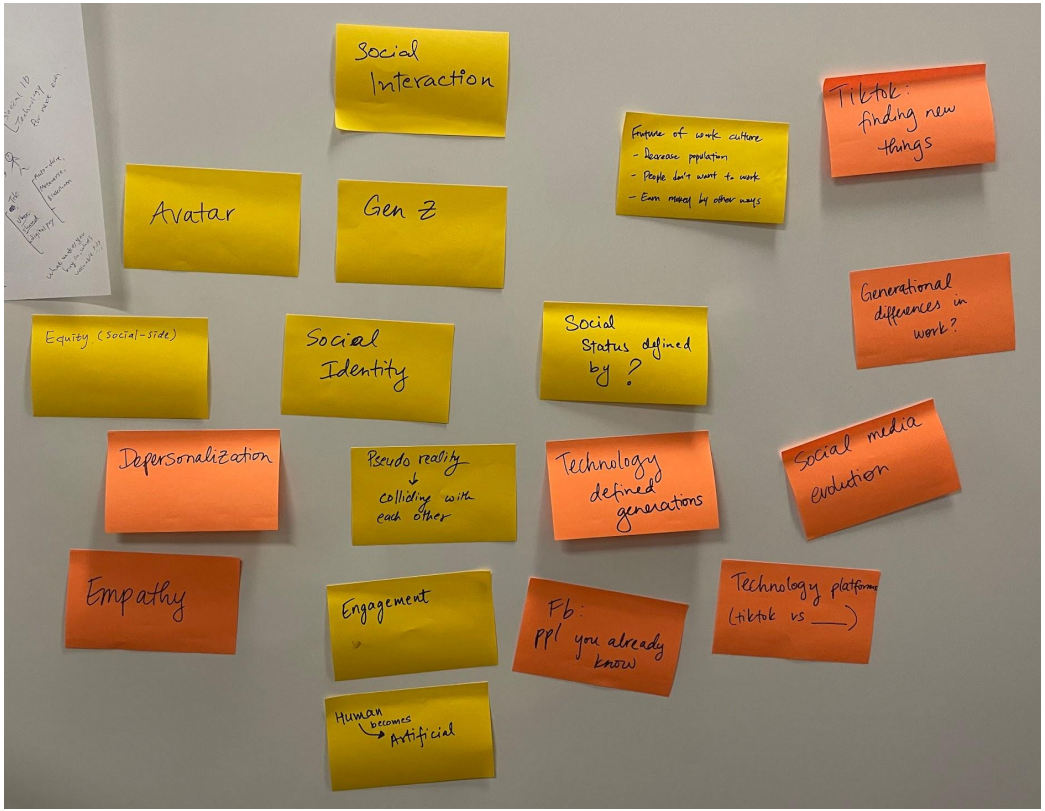
Smart Patch

Strategic foresight to analyze the future of work and design a speculative product

Domain finding

How do we design a product for 20 years from now (2042)?

What is the **future of work**?



The Utopian Workplace

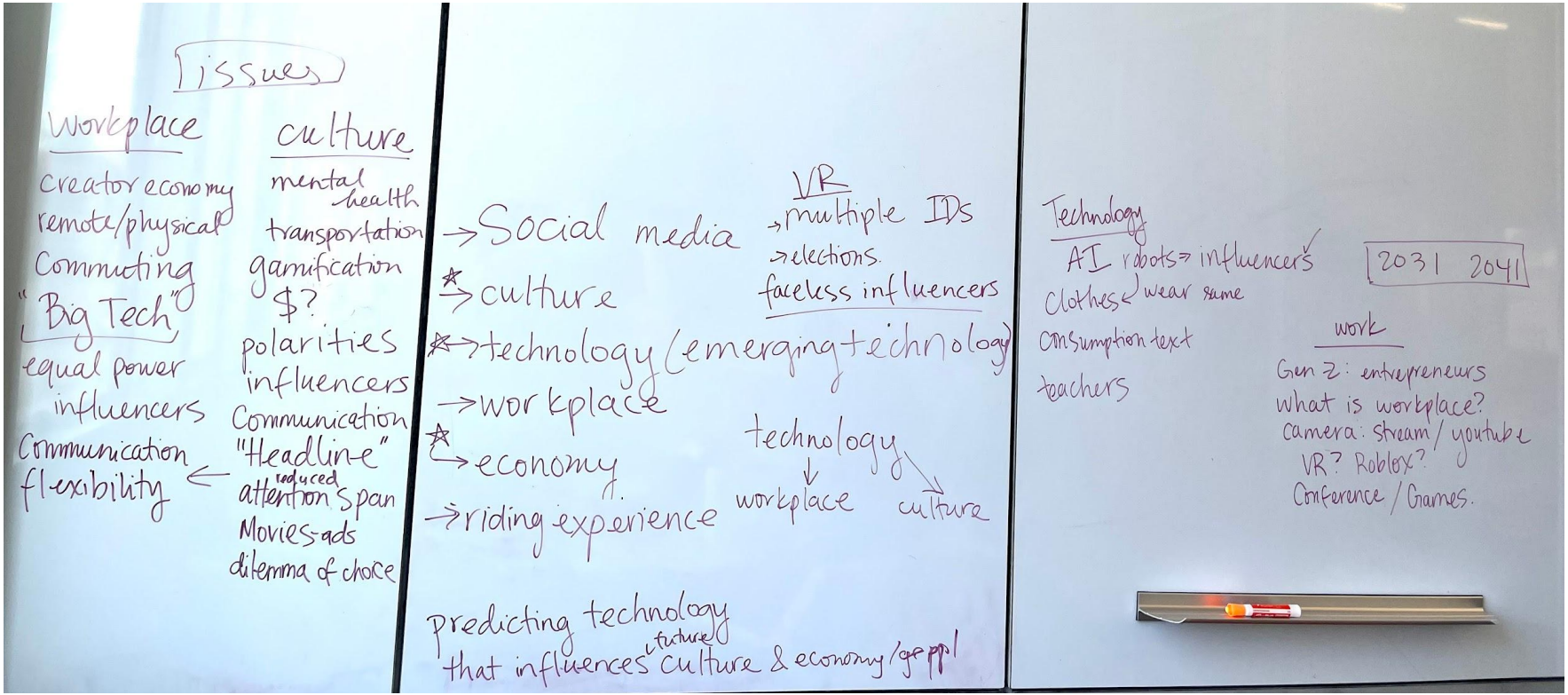
"I want the easiest job in the world that pays me a lot"

"I want time for myself and want to work from anywhere I want"

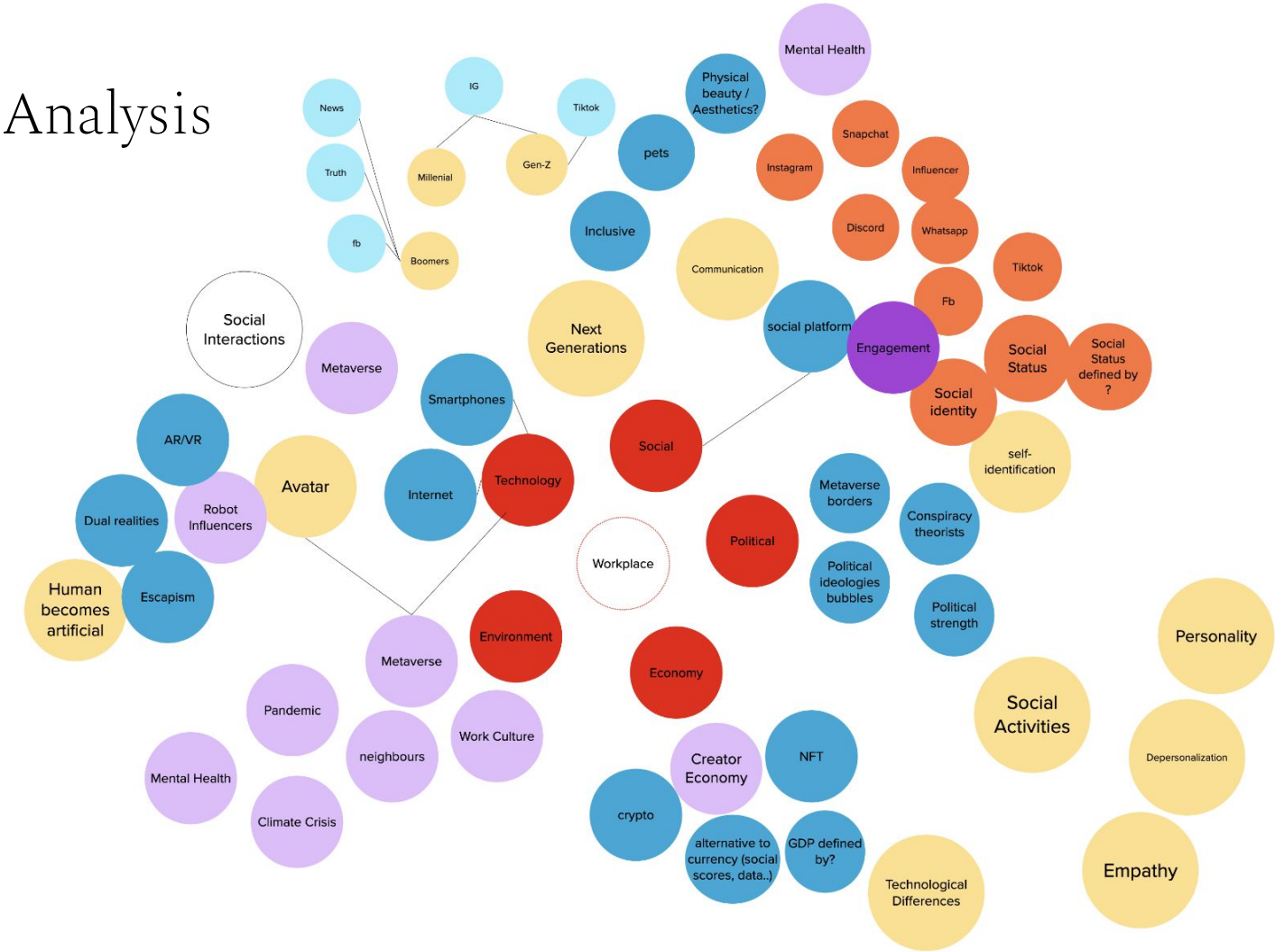
"I want to be treated with respect, empathy and no discrimination"

"Work for a cause I'm really passionate about and do not burnout"

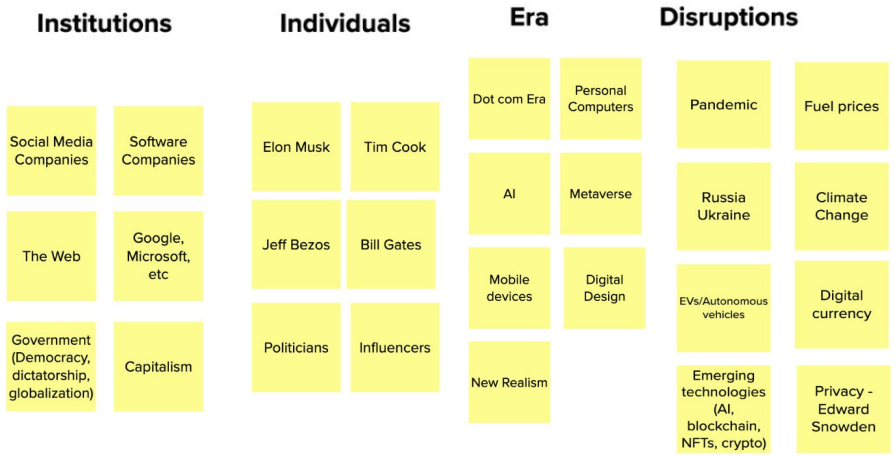
Workplace and Culture

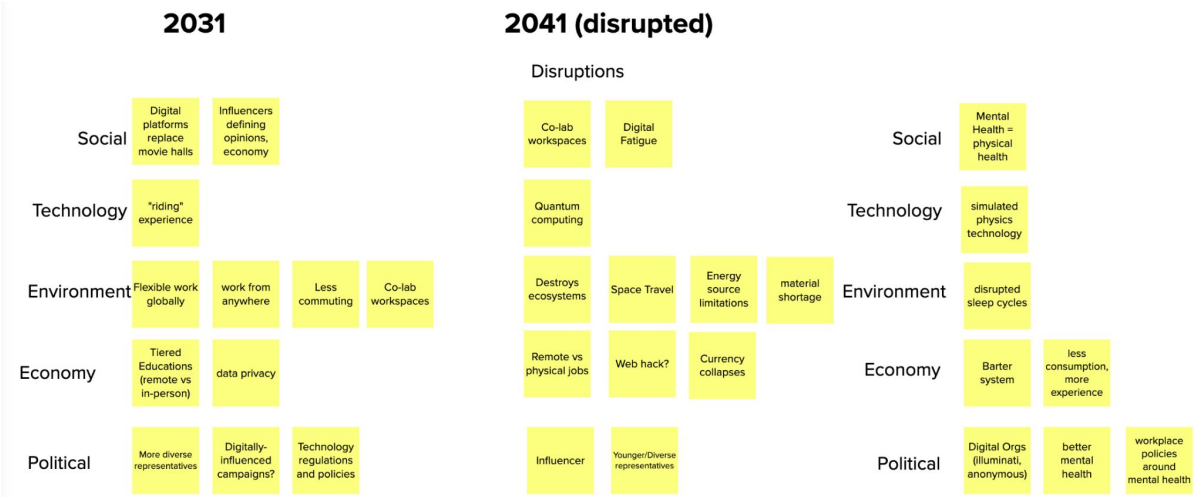


STEEP Analysis

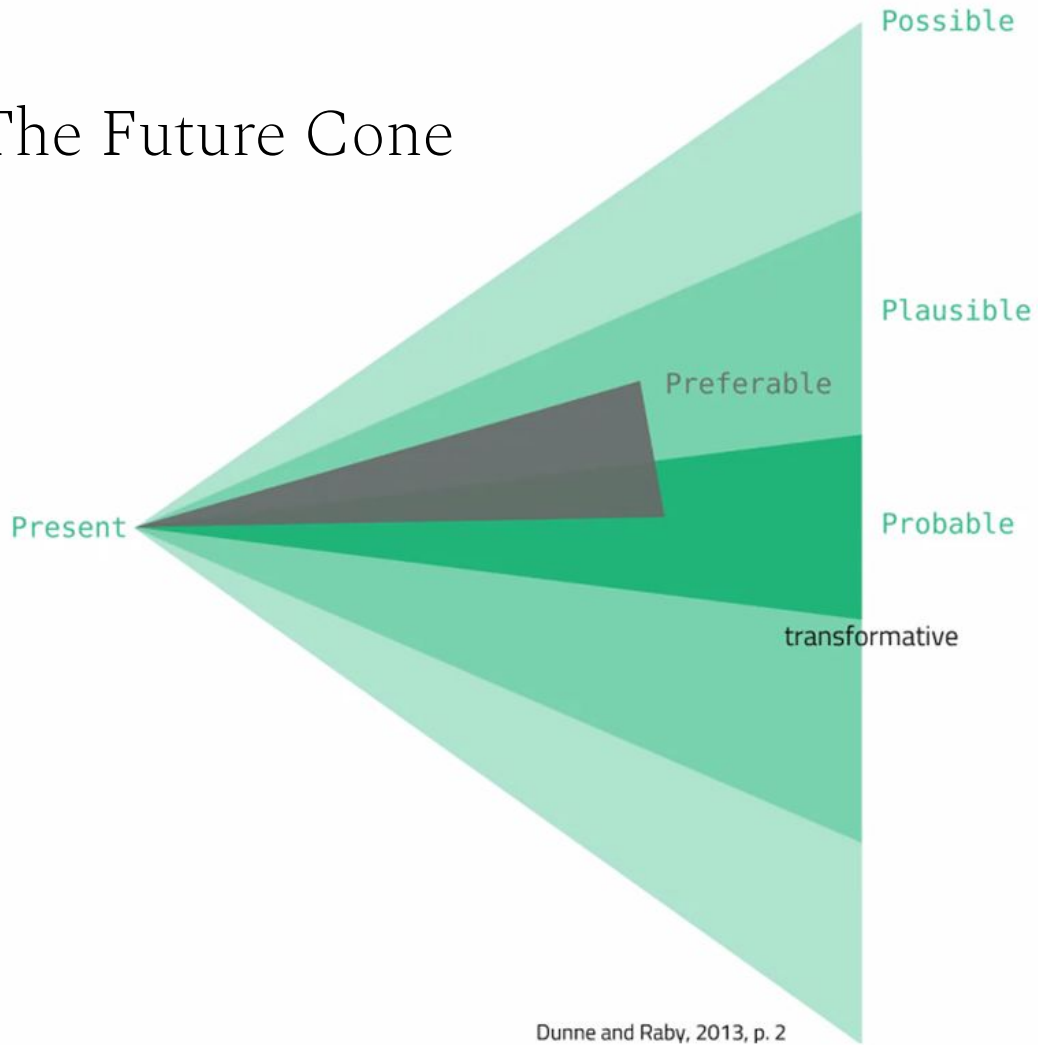


Drivers of the Workplace





The Future Cone

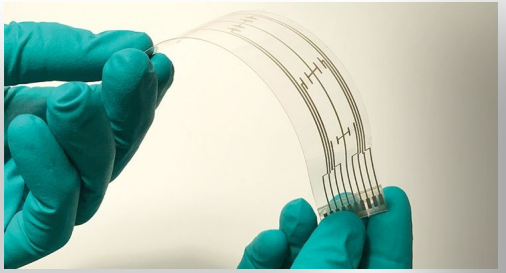


Dunne and Raby, 2013, p. 2

The Projected Future

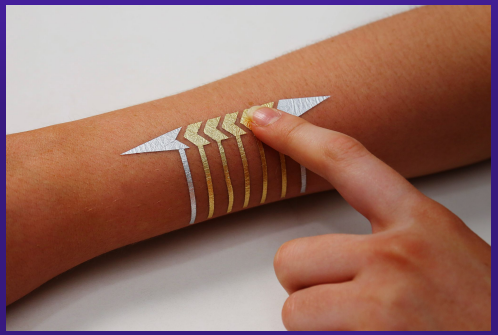
- ➔ No fixed office - **portability and condensed** devices
- ➔ AR glasses are universally used tools
- ➔ Emphasis on **mental health** and **work life balance**
- ➔ Shift in attitude towards work
- ➔ **Self expression** more widely accepted in professional spaces

Technology



Flexible Sensors

Lighter tech
Transportable



Wearables

Portable
Intuitive

Augmented Reality

Sleeker
Less devices

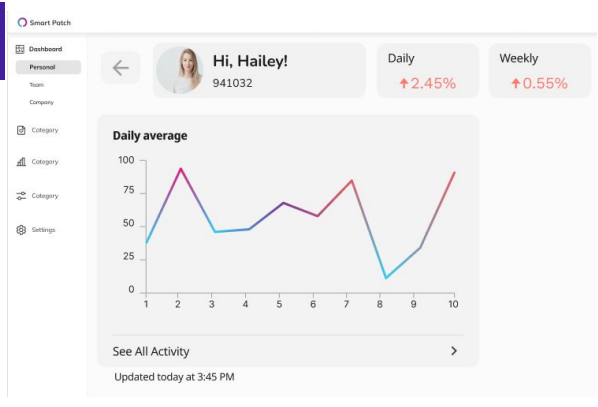
Smart Patch

Light as air wearable
(AR compatible)

Features:
Virtual Workspace
Notifications
Satellite Internet
Tracks Mental Health
Personalization

AR workscreens

1



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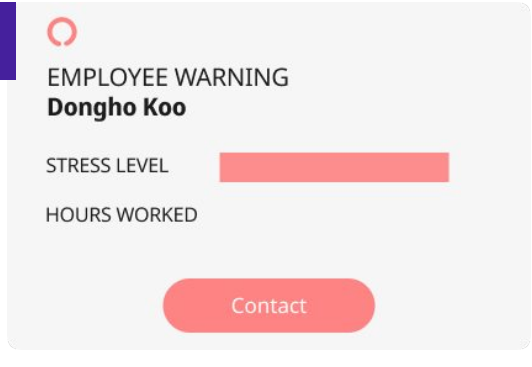

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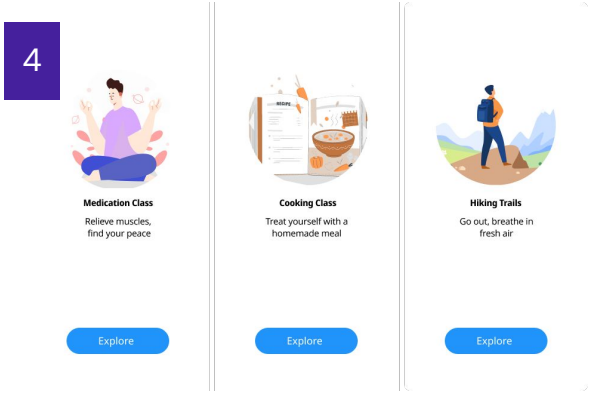
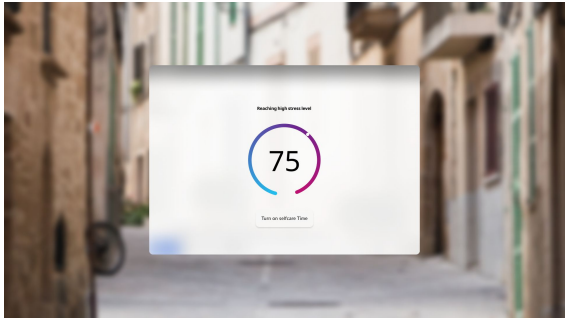
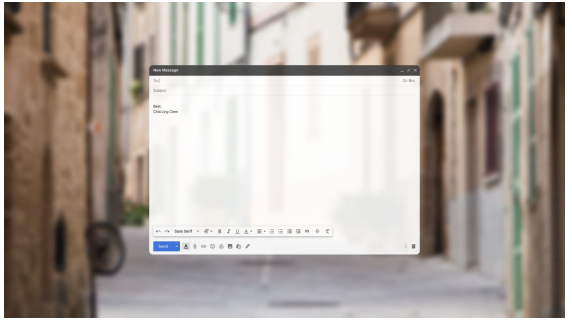
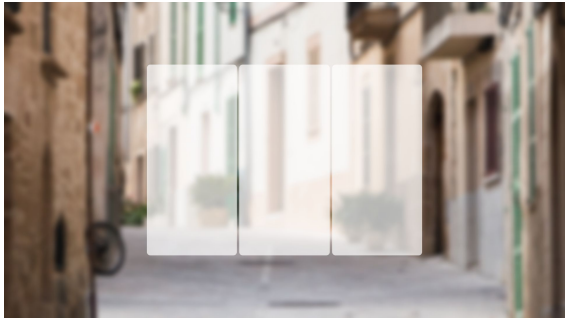
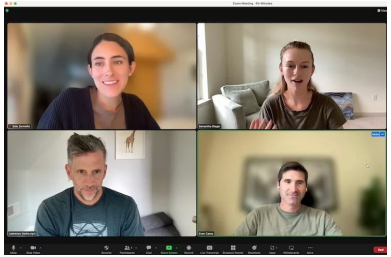


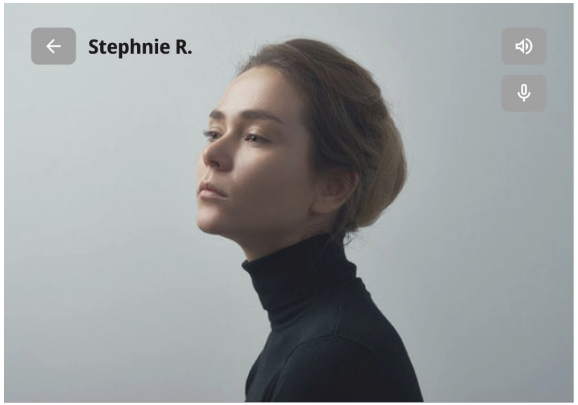






AR calls





Holographic notifications

now

UPCOMING MEETING

Please join this meeting now.

now

HIGH STRESS LEVEL

Please dismiss from work now and take some self care time.

now

HIGH STRESS LEVEL

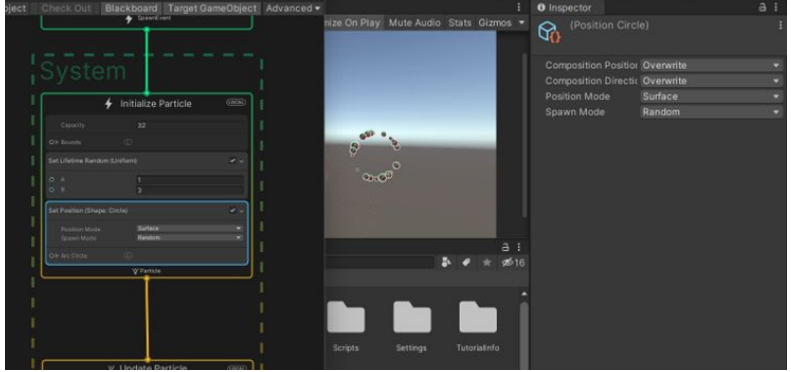
Please dismiss from work now and take some self care time.

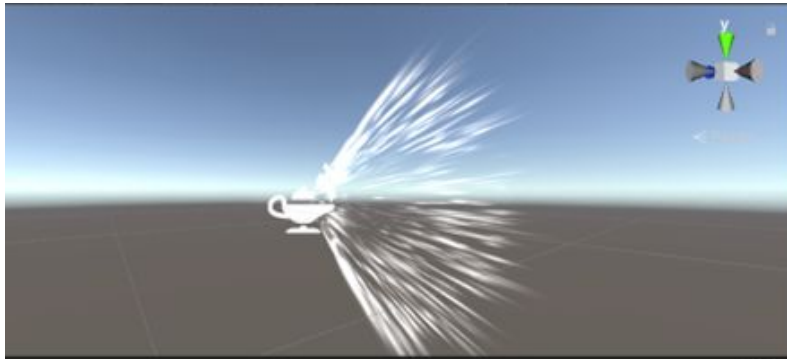
Desirable States

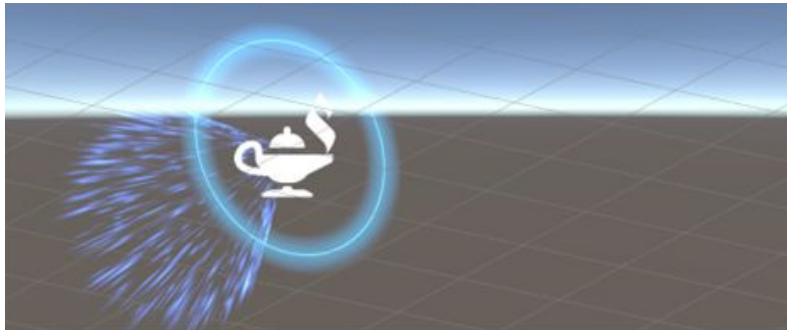
Powering mental fitness through personalized and self-managed interventions

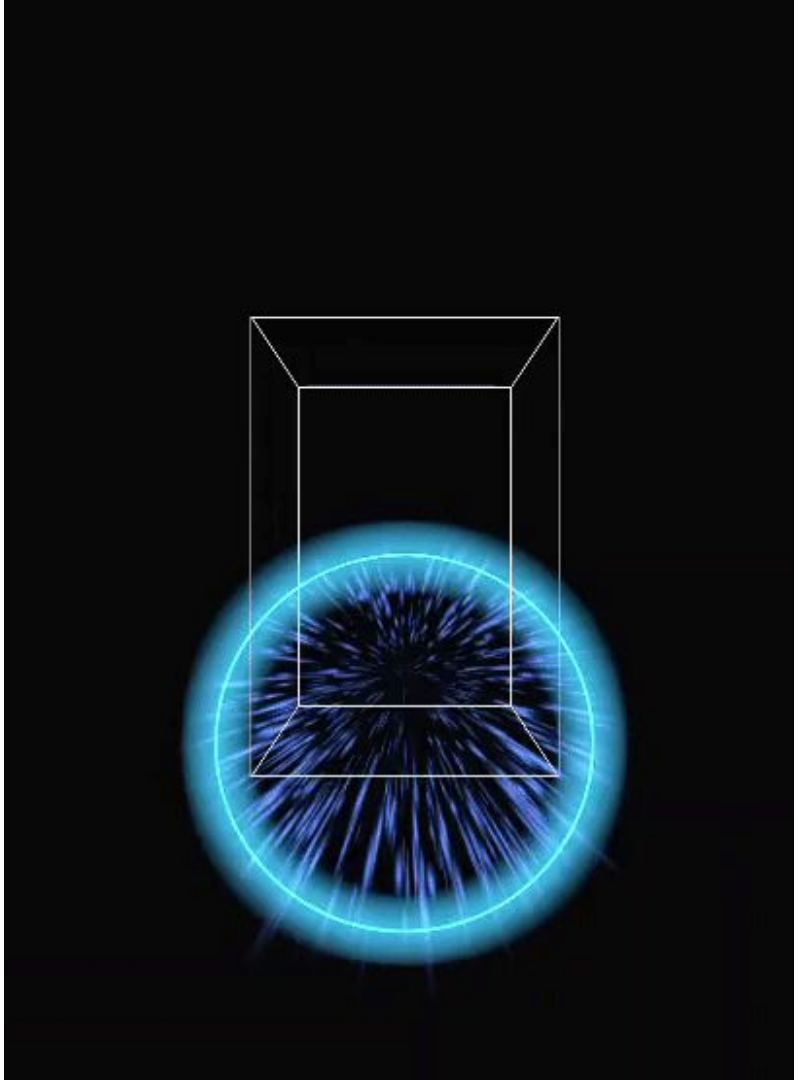
Problem

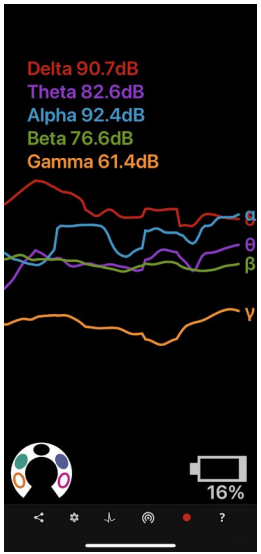
How do we build personalized experiences for individuals to track and act on mental fitness metrics and help them get into desirable mental states?


Check Out
Blackboard
Target GameObject
Advanced
System
Initialize Particle
Capacity
32
Mute Audio
Stats
Gizmos
Inspector
(Position Circle)
Composition Position
Overwrite
Composition Directi
Overwrite
Position Mode
Surface
Spawn Mode
Random
Scripts
Settings
TutorialInfo








Delta 90.7dB
Theta 82.6dB
Alpha 92.4dB
Beta 76.6dB
Gamma 61.4dB
16%

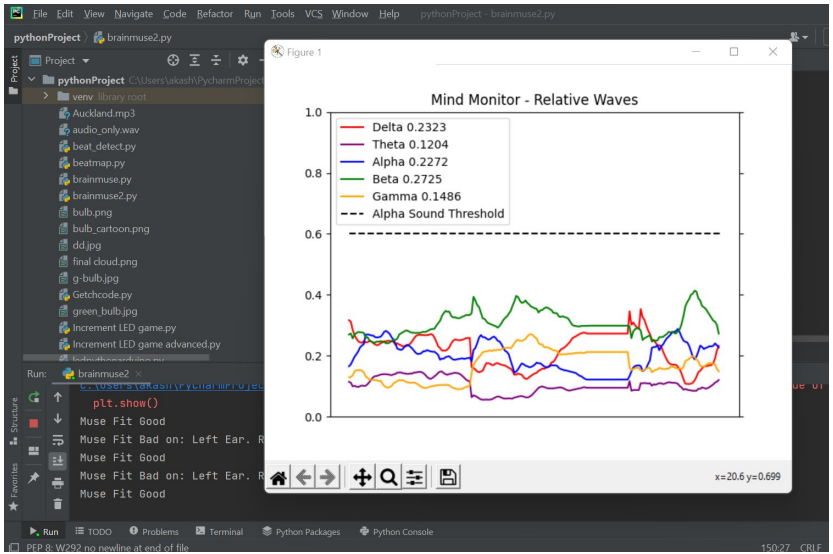
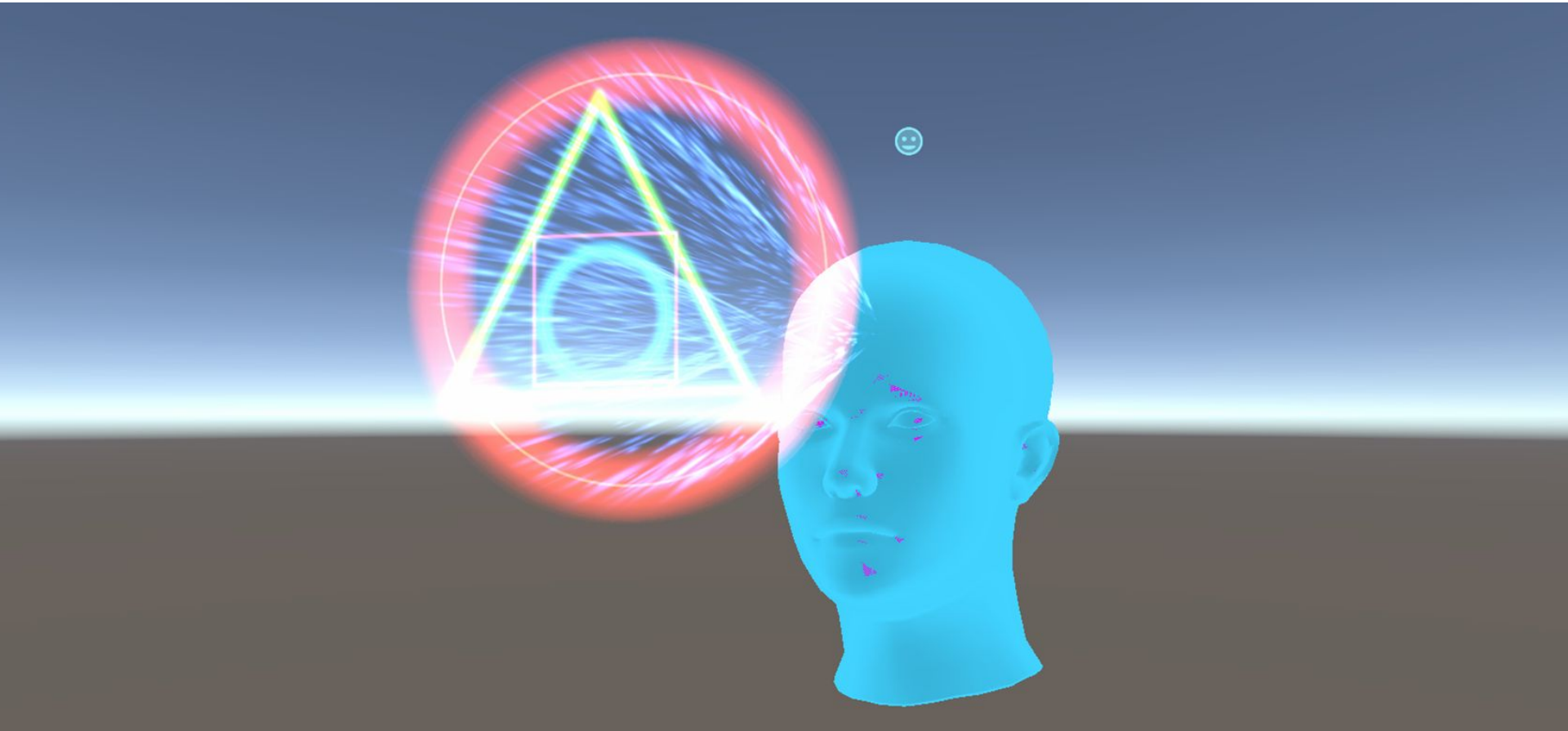


Figure 1
Mind Monitor - Relative Waves
Delta 0.2323
Theta 0.1204
Alpha 0.2272
Beta 0.2725
Gamma 0.1486
Alpha Sound Threshold
1.0
0.8
0.6
0.4
0.2
0.0
x=20.6 y=0.699
plt.show()
Muse Fit Good
Muse Fit Bad on: Left Ear.
Muse Fit Good
Muse Fit Bad on: Left Ear.
Muse Fit Good

AR mental fitness exercise