# W2
# TECH PERSPECTIVE
## DESIGN SPRINT DAY 1

**AALTO UWAS 2020**
Jane Vita

| WEEK 1 | | WEEK 2 | | WEEK 3 | | WEEK 4 |
|---|---|---|---|---|---|---|
| **PEOPLE** | **+** | **TECH PLATFORMS** | **+** | **SERVICE PROVIDERS** | **=** | **SERVICE** |
| **HUMAN PERSPECTIVE** | | **TECHNOLOGY PERSPECTIVE** | | **BUSINESS PERSPECTIVE** | | **FINAL PRESENTATION** |
| *What jobs are relevant to solve in people's lives that help them achieve their goals?* | | ***What are the possible roles that emerging technologies could take at this life event?*** | | *Which service providers should be involved (and integrated) to deliver an integrated solution?* | | *What does the future service look like? What could go wrong? What are the ethical implications?* |

# Design sprint

A Design Sprint is a **time-constrained, five-phase process** that uses design thinking with the aim of reducing the risk when bringing a new product, service or a feature to the market. This is a facilitated workshop-style intense process with guided exercises and a toolkit from user-centred design methods.

At GV, the Design Sprint concept developed with the aim to grow UX culture and the practice of design leadership across the organization.

The process aims to help internal teams to clearly define goals, address strategic issues using interdisciplinary, rapid prototyping, and usability testing. This design process is similar to Sprints in an Agile development cycle.

# Design sprint



https://www.thesprintbook.com/how
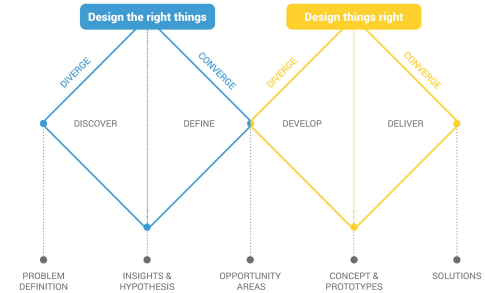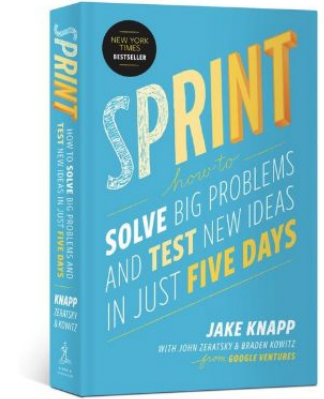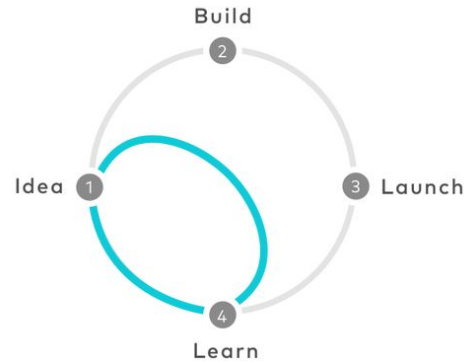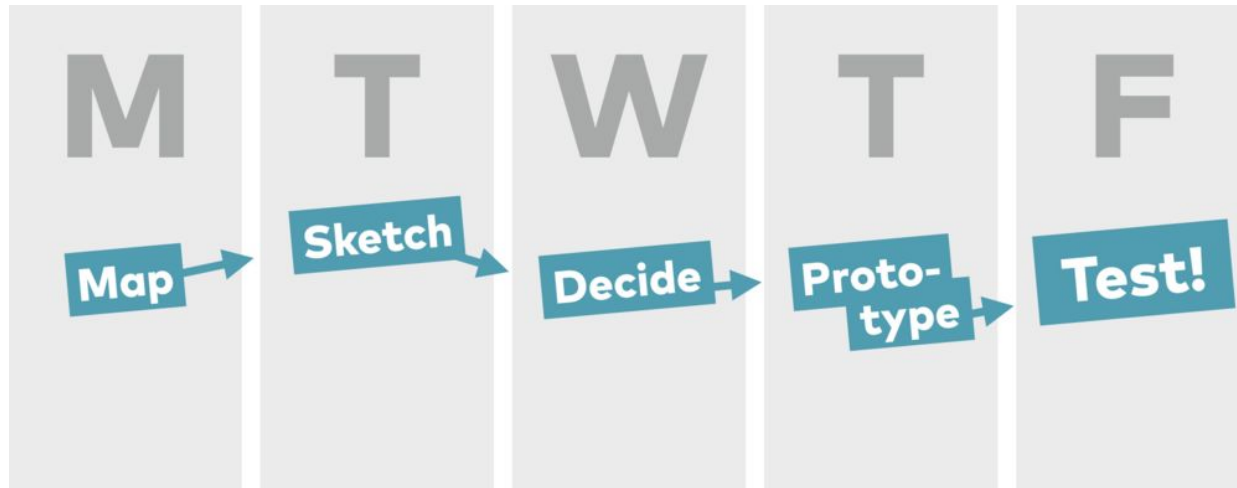
# Design sprint (adapted)

| Day 1 Tuesday | Day 1 Assignment | Day 2 Thursday | Day 2 Assignment |
|---|---|---|---|

*Based on your findings analyse JTBD by clustering and prioritising one main job to be done category or group*

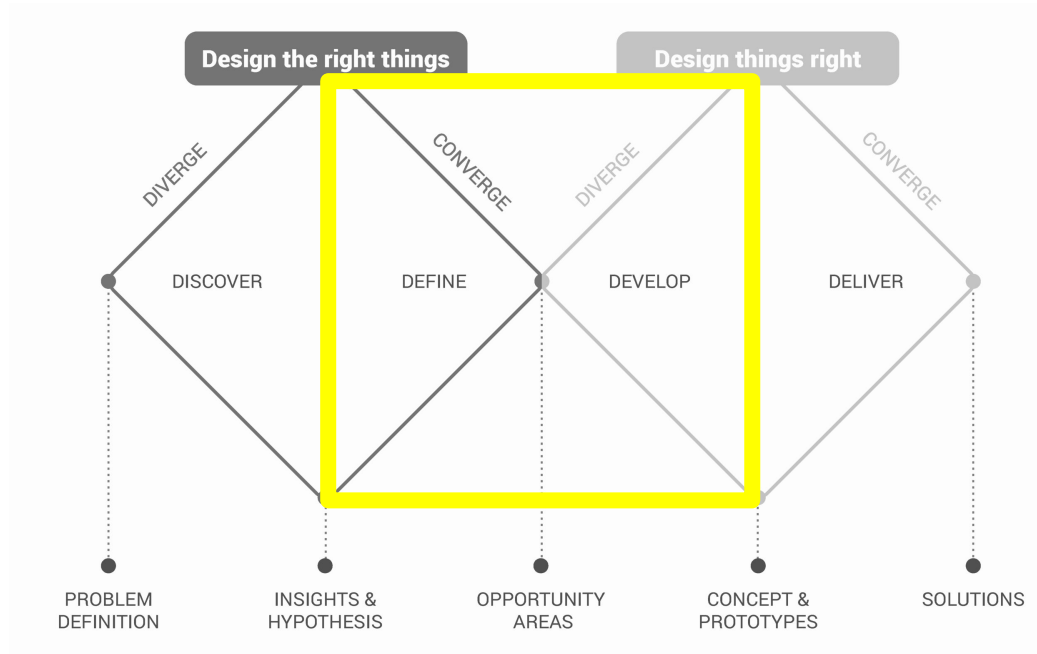*Sketch quick ideas with emerging technologies that solves the selected job to be done*

*Collapse all the ideas into one concept an build an experience prototype*

*Test with your users*
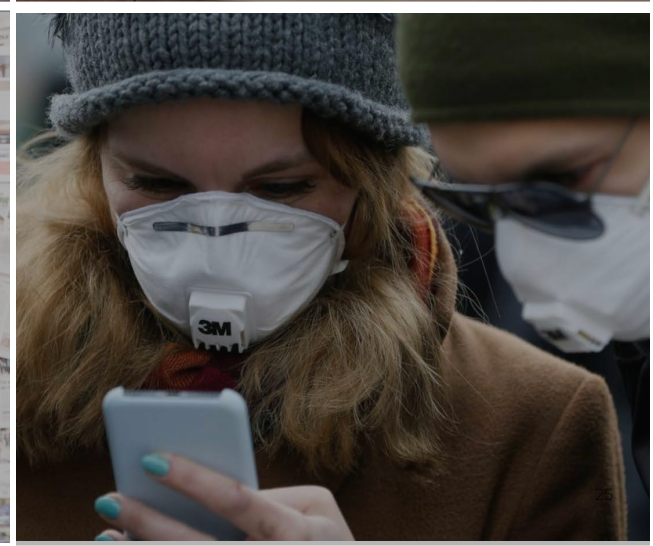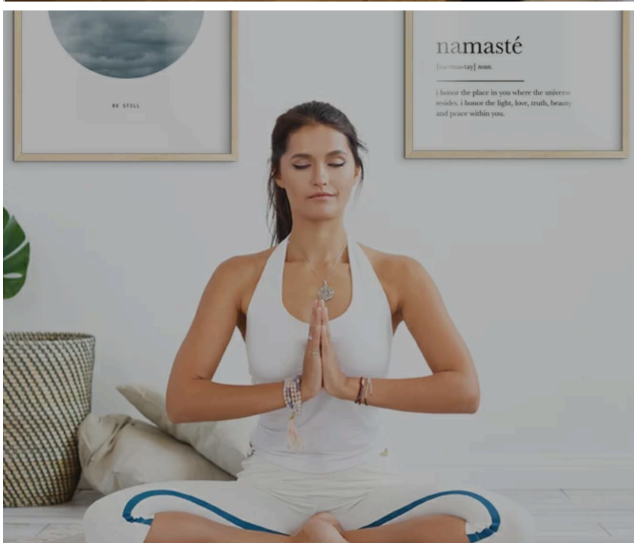
# Design sprint (adapted)

# PROJECT BRIEF

**PROJECT BRIEF**

It is not new that the current COVID19 pandemic has brought to the world several challenges. It has also exposed how vulnerable our society is to remote access and collaboration. In this course, you or your team will create a service that will embrace one or more of the following themes...
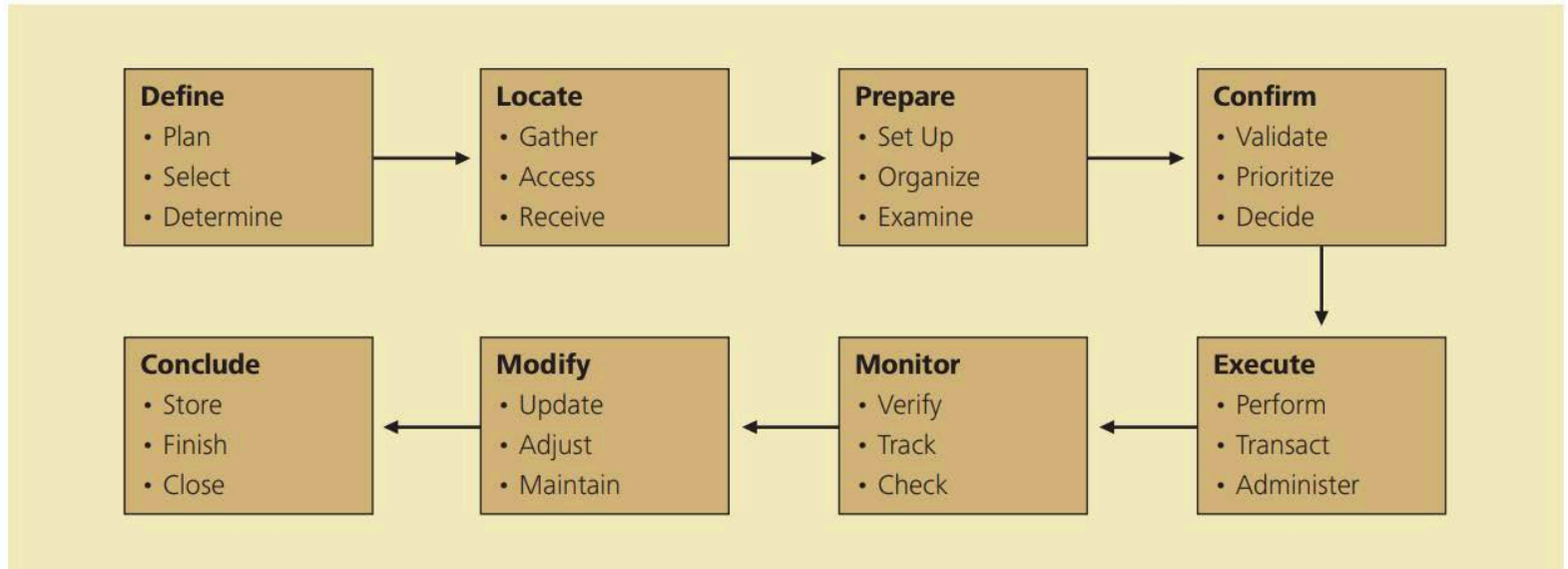
**THEMES:**

- Digital well-being
- Remote education
- Digital home activities
- Working remotely
- Veracity and quality of news

# 15.20 –15.40
# JTBD

**Figure 1. The Universal Job Map**

| **Define** | **Locate** | **Prepare** | **Confirm** |
|---|---|---|---|
| • Plan<br>• Select<br>• Determine | • Gather<br>• Access<br>• Receive | • Set Up<br>• Organize<br>• Examine | • Validate<br>• Prioritize<br>• Decide |

| **Conclude** | **Modify** | **Monitor** | **Execute** |
|---|---|---|---|
| • Store<br>• Finish<br>• Close | • Update<br>• Adjust<br>• Maintain | • Verify<br>• Track<br>• Check | • Perform<br>• Transact<br>• Administer |

# 15.40 – 16.00
# Prioritise

# Prioritise JTBD

**Figure 4. The Opportunity Landscape Model**
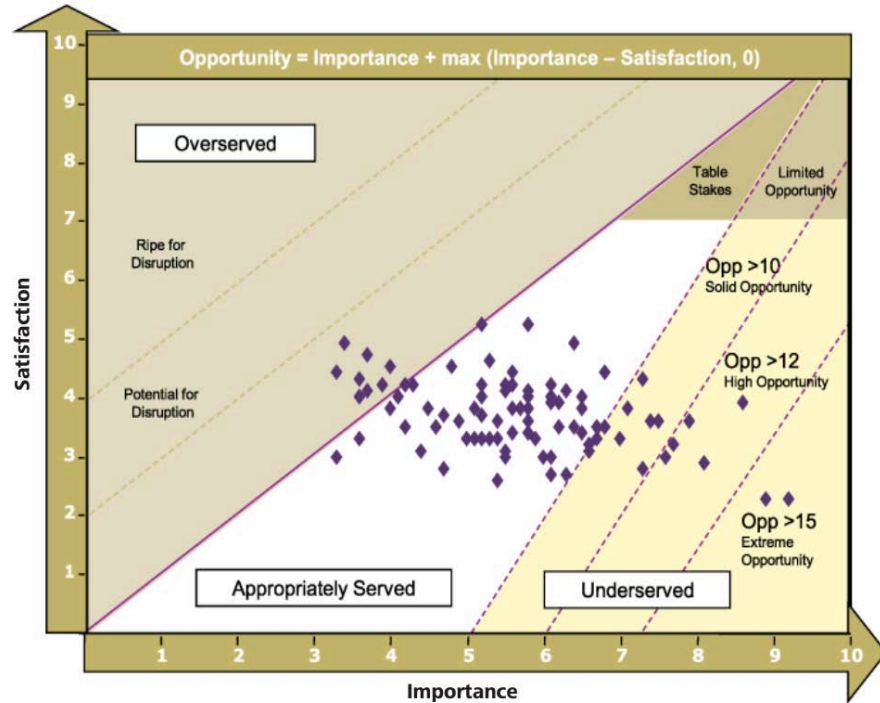


Source: Adapted from Outcome Driven Innovation
(ODI) method developed by Tony Ulwick (2000):

# 10 min Break

# 16.40 – 17.00
# Define the design challenge

# How might we?

# Active Listening: Two things you need to do

**1** **Be curious & inquisitive**

**2** **Take notes in the form of "How Might We" questions**

# What is "How might we?"

- **Short questions to help launch brainstorms**

- **Act as seeds for ideation**

- **Support the notion that there are no bad ideas**

- **Support the notion that we are all in this together**

# What makes a good "How might we?"

- **Broad enough that there are a wide range of possible solutions**

- **Narrow enough to be helpful and guide people towards ideas**

# Examples

**Too Broad**

**Too Narrow**

**Just Right**

*How might we…* Redesign public transportation?

*How might we…* swipe credit cards when boarding a bus to pay for transit fares?

*How might we…* Make it more convenient for people to use public transportation?

**Doesn't provide constructive boundaries**

**Very limited creative freedom - really has only 1 solution**

**Allows for creativity and encourages exploration**

# Here's how to do it:

- **Write "HMW" on the top of your sticky note**

- **Listen**

- **Convert interesting things you hear or things that pop into your head into a question**

- **Write that question on the sticky**

- **Build a pile of "How Might We's"**

*HMW*

# Contents

# 6 Tech enablers
# influencing the future of living

Major technology-led shifts may challenge organizations that didn't yet embrace how rapidly technology evolves. And, to survive, they not only need to follow its pace but also effectively collect, process and deploy data to deliver a better and more integrated experience to customers.

Technology is also transforming the way we all live in the world. In some places, cheap devices are powering and connecting homes long left off the grid. In others, newly automated and networked machines are reinventing convenience. Cities are becoming smarter and smarter.

Next slides will present a collection of technologies that are influencing and will influence even more the way we live.
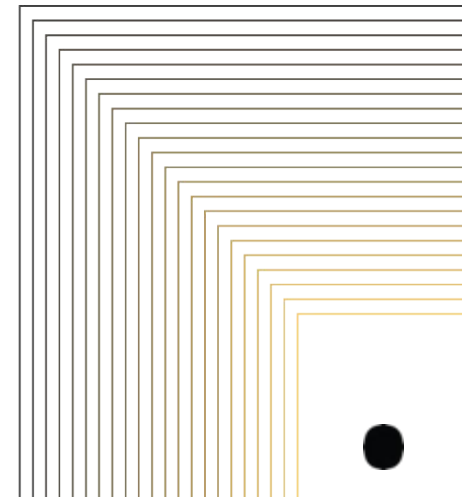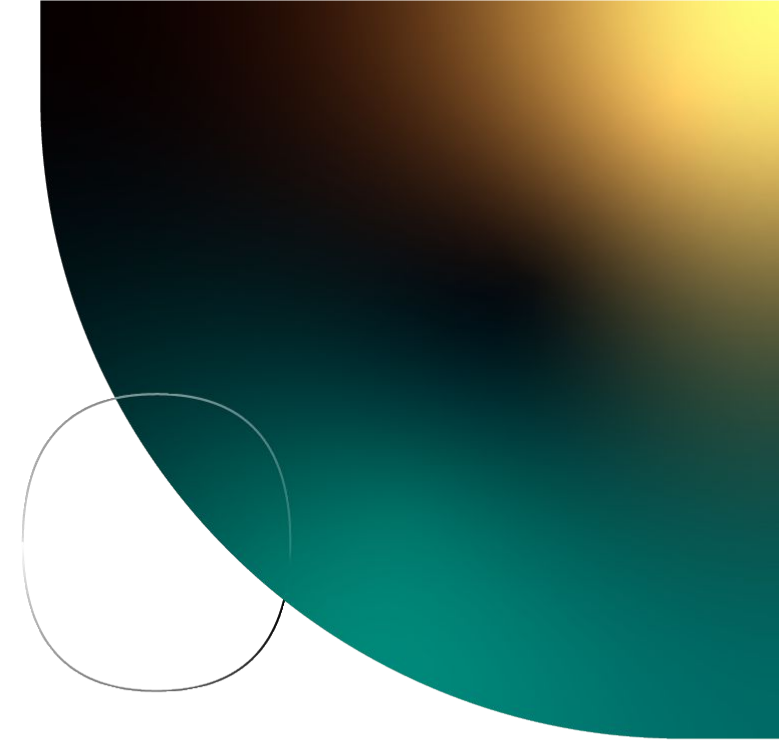
#LivingFutures

# Robot bodies, nurses and butlers

*70% of business leaders would welcome people partnering with machines/robots to surpass our human limitations -*
**Institute for the Future, 2020**

# Robot bodies, nurses and butlers

Chores, chores, chores; boring and unfortunately necessary. Robots are already saving us from some these tasks - robot vacuum cleaners and smart home appliances are just a few. Larger, more skilful robots are springing up too. And our living future is full packed with these useful robots; helping around the home as butlers, chefs or general dogsbodies.

Robots will become our partners – enhancing our skills and extending our abilities. They will share newfound knowledge to their social robot network to crowdsource innovations and accelerate progress, in real-time.
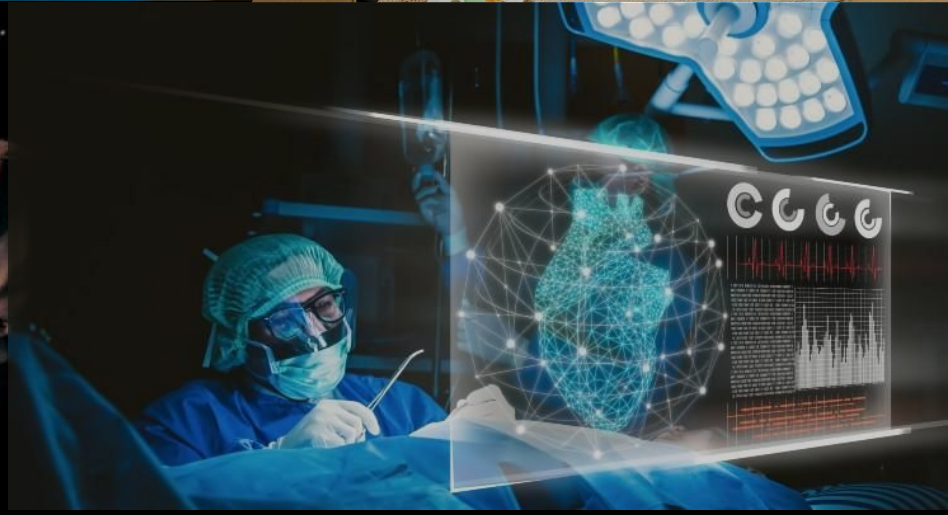
Recently, robots have strengthened healthcare services during the COVID19 pandemic, i.e. **TMiRob's disinfection robot** has been used in hospitals in China; robots that are embedded with artificial intelligence as well as virtual doctors.

#LivingFutures

# Gesture based computing

*Increasing demand for contact-free sensing as well as hygiene issues are some of the factors responsible for the growth of gesture recognition and touchless sensing market.*
**MarketsandMarkets, 2020**

# Gesture based computing

Who didn't few inspired by the Minority Report scenes of Tom Cruise moving screens in a transparent wall with his fingers without touching it? The gesture-based interfaces concept has been around for a while. And it's reasonable to see a future where mouse and keyboard no longer restrict us and instead rely on voice and action to manipulate data in a virtual space.

Emerging display technologies, such as flexible screens, wearable VR devices and holograms in combination with gestural and haptic interfaces, will enable compelling media experiences, that can and will stimulate all our senses.

Besides, COVID-19 has dramatically impacted how consumers view them touchscreen devices in airports, shopping centres and other public spaces, and devices such as **UltraLeap** are becoming the touchless solution for many of them.

# High-rise farms and Smart Cities

*"62% of consumers want companies to take a public and passionate stance on social, cultural, environmental and political issues."*
*Accenture, 2020*
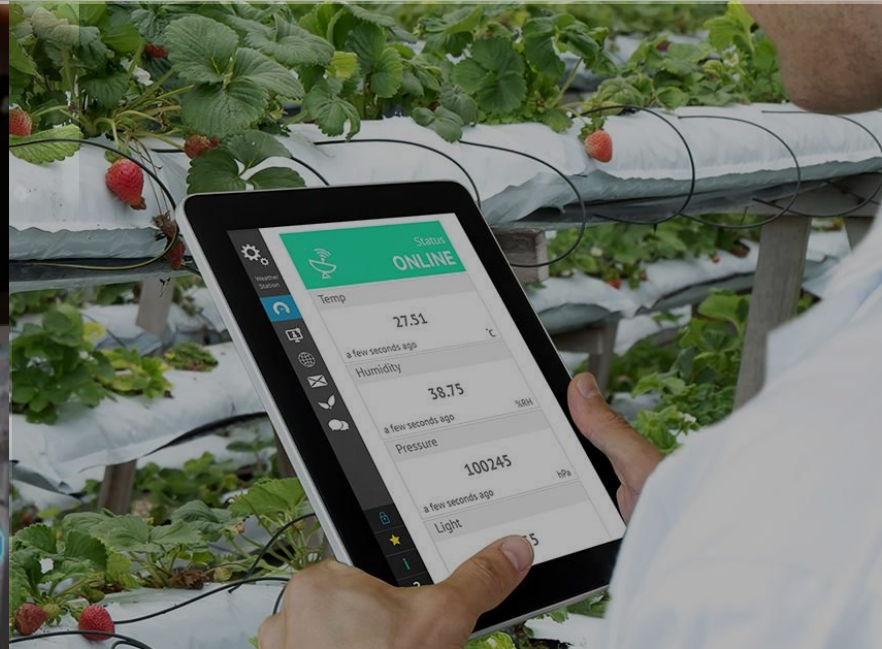
# High-rise farms and Smart Cities

Cities, such as Amsterdam, Toronto and London, are developing their **networked infrastructure** of smart objects, self-reporting systems and **AI-powered analytics**. These technologies are also playing a growing role in small and organic farming systems and enabling farmlands in unusual places; making the concept of high-rise farms in the middle of the cities not so distant from the reality.
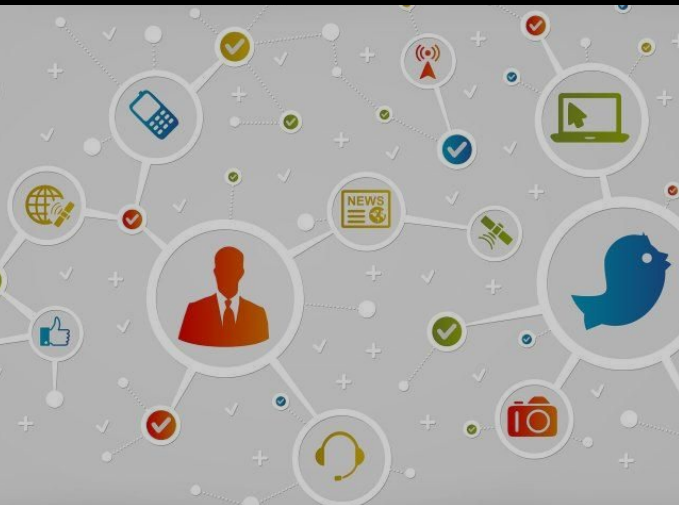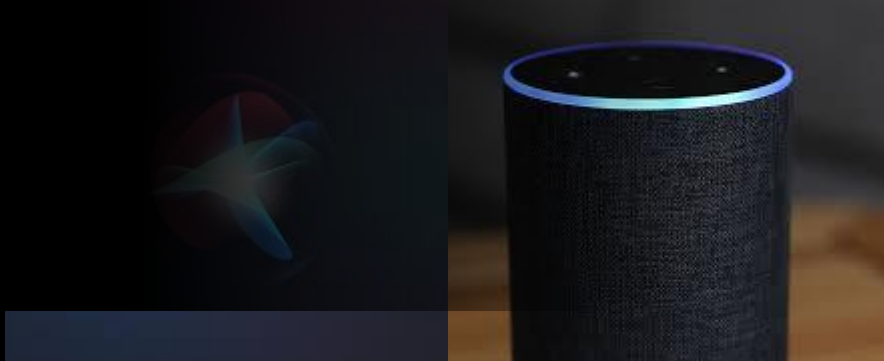
More and more farms are taking up city skylines with rooftop gardens and greenhouses. Old warehouses are hosting hydroponic and aeroponic farms. **LED lighting** is filtered to emit only those portions of the light spectrum necessary to produce energy-efficient photosynthesis, and climate-controlled environments can sustain multiple growing seasons and eliminate the need for pesticides.

#LivingFutures

# Data lakes, AI and integrated CX

*"Just looking at AI, 85% of chief executive officers surveyed globally say AI will significantly affect the way they do business in the next five years."*
**World Economic Forum, 2020**

# Data lakes, AI and integrated CX

Low-latency, high-bandwidth wireless networks are improving processing times and bringing **AI** to countless connected devices. Machine learning algorithms can recognize patterns in an extensive amount of data (so-called **data lakes**) setting and leveraging insights to determine what to do next while improving with each repetition of a task. AI- and computer vision-enabled recognition of objects, areas, heat, faces. Real-time natural language processing establishes assistants in our homes and workplaces.

**Facebook, Instagram, Google, Amazon**, and numerous companies, are empowering algorithms to deliver highly personalized and addicting content. And, not so far from today, each of us will have an operating system for living that will anticipate our needs and proactively support day-to-day activities to free up our time.

Another example is **Rubicon**'s cloud-based, big-data platform that connects waste producers with a network of independent waste haulers which enables higher diversion rates from landfill, creative reuse of waste material, optimised truck routes and the detailed analysis of waste data.
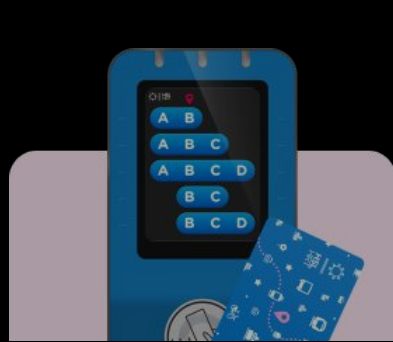
# Pervasive Sensors and Internet of Things (IoT)

*"If half of homes globally transitioned to using smart thermostats by 2050, it is estimated that 2.6 gigatons of carbon dioxide emissions would be eliminated, roughly equal to 8% of global CO2 emission in 2019."*
**Paul Hawken, 2017**

Paul Hawken, "Drawdown

# Pervasive Sensors and Internet of Things (IoT)

With 5G becoming a reality, fast connection speeds without overcrowding will open up a wealth of possibilities for "connected devices", everything from home appliances to cars and gadgets we've yet to even invent.

Computation and new energy sources enable the distribution of smaller devices, sensors—from ubiquitous cameras to wearable computers to environmental sensors. They will inform us about our homes, cities, bodies, and the way we live.

IoT is also supporting **circular economy**; making products easier to maintain and repair. By adding intelligence to a product or device, asset that can signal anomalies and problems, determine when it needs to be repaired, and schedule its own maintenance.
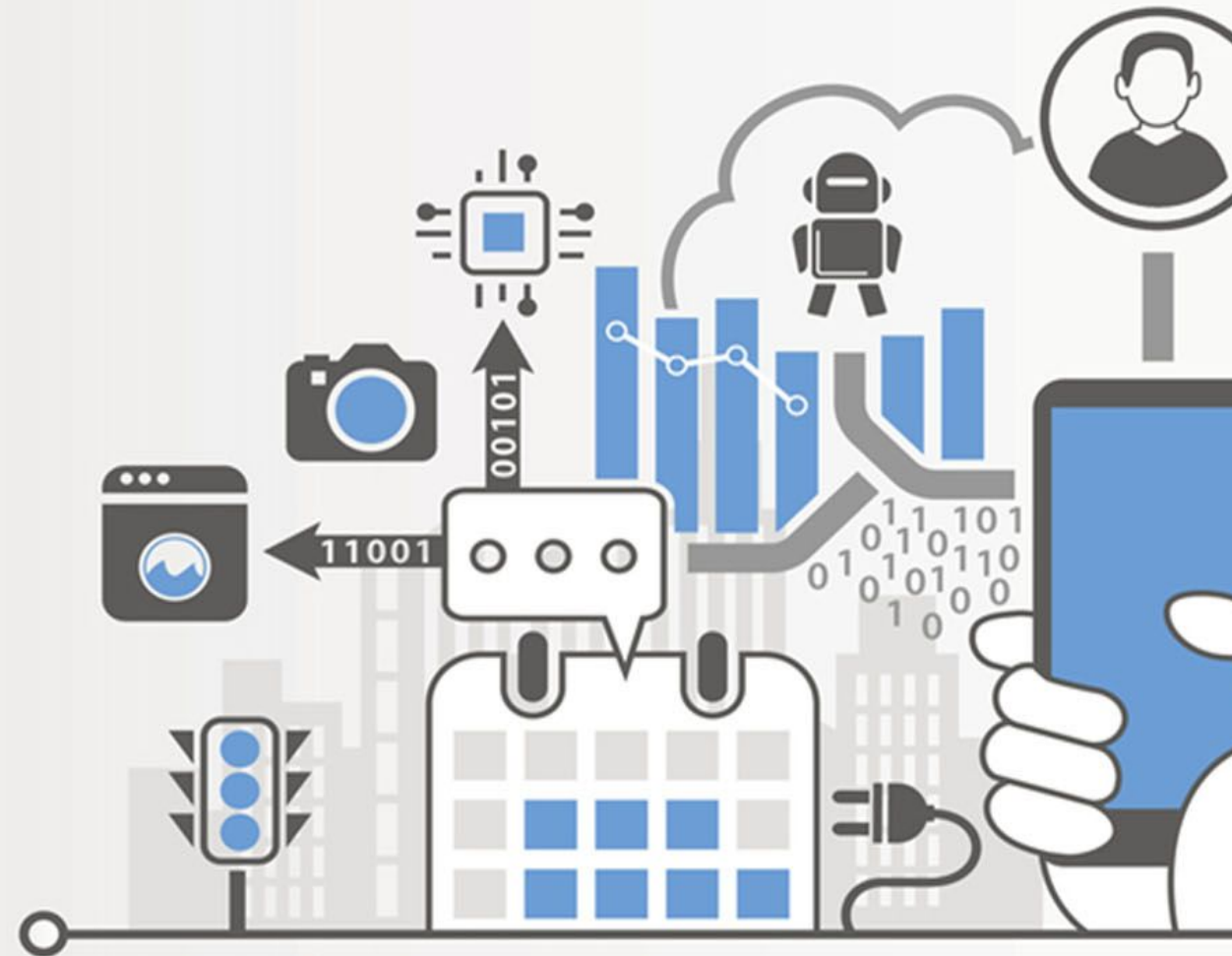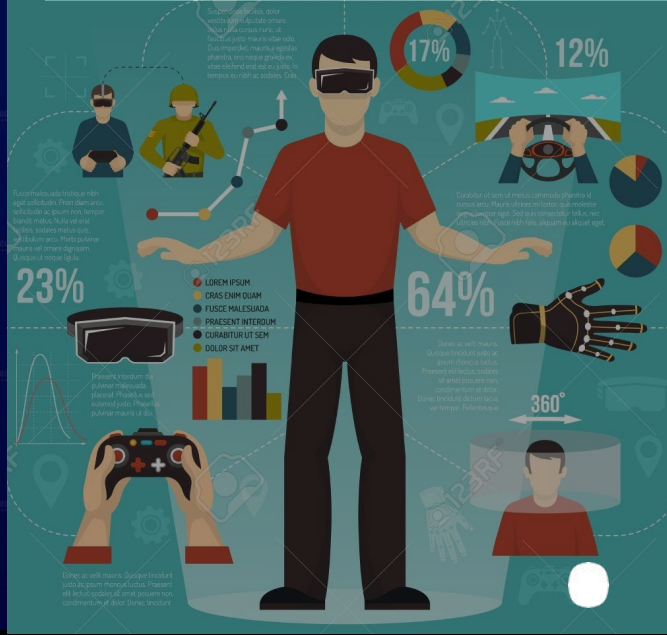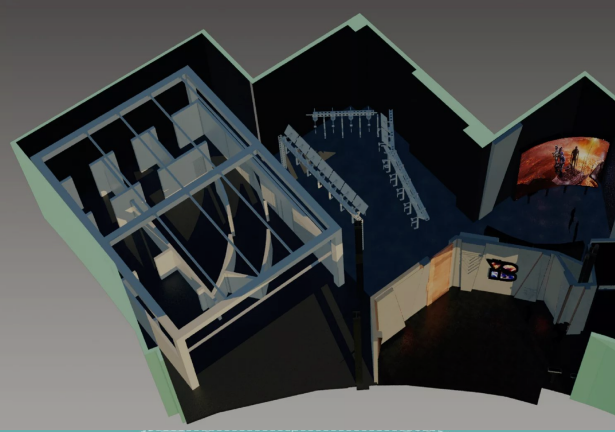
#LivingFutures

# Extended Reality (XR) and Immersive Media

*With many of us now at home during a global pandemic, AR is a tool that can help us transform our immediate surroundings into learning, work and entertainment spaces.*
***World Economic Forum, 2020***

# Extended Reality (XR) and Immersive Media

Augmented Reality (AR), has shown incredible potential in the form of various apps that can overlay information around you. Companies, such as **IKEA**, are benefiting from the technology to support their customers to imagine and play with their future living spaces by placing furniture around the rooms. Different from Virtual reality (VR) because it overlays information rather than put you in a virtual world. A VR experience can transport you to a new reality when combined with great storytelling, and rooms that are incredibly visually replaced by using trackers, so-called Mixed Reality (MR), where you could even walk and interact with physical artefacts.

A recent push in the application of immersive technology is around remote work; companies are experimenting with using both augmented reality and virtual reality devices in the workplace. They can be used in a variety of ways, including visual representations of blueprints, virtual scale models of products in development or for simple things like virtual team meetings.

Further, new display technologies like flexible screens and breakthroughs in holograms will combine with gestural and haptic interfaces to enable unprecedented media experiences that stimulate all our senses.
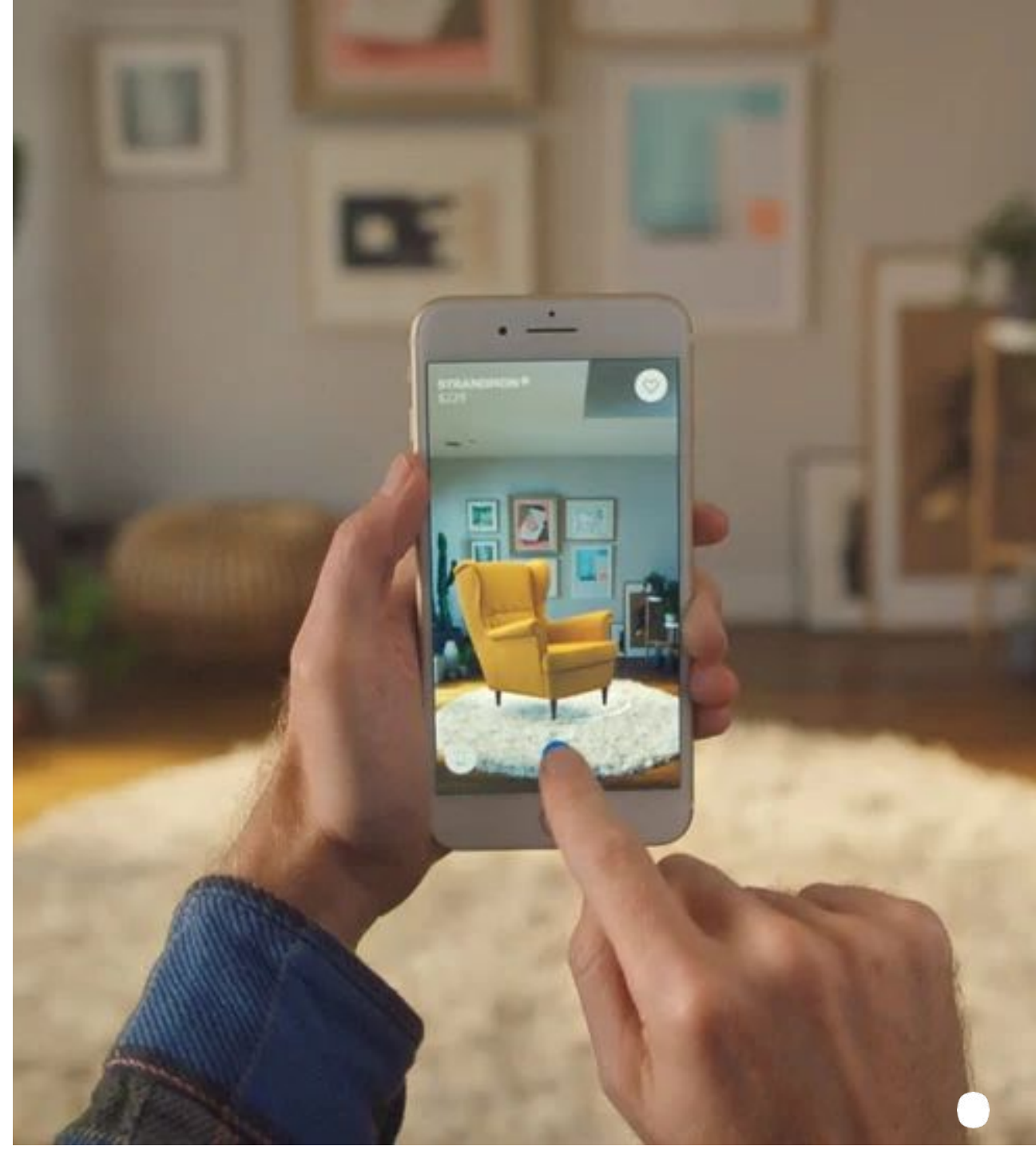
# Value Creation

## How might AI/IoT/AR/VR/MR… (originally called HMWs)

| Contribute… | Facilitate… | Predict… | Solve… |

## To bring value and play a role in achieving the (theme's) goal.

**10 min individual**
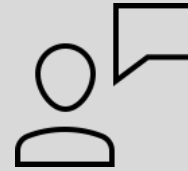
HMAI

1. One by one share your HMWs with the team

2. When someone is presenting and you have similar HMWs, shout it loud and stick the post-it on the table/wall —affinity diagram
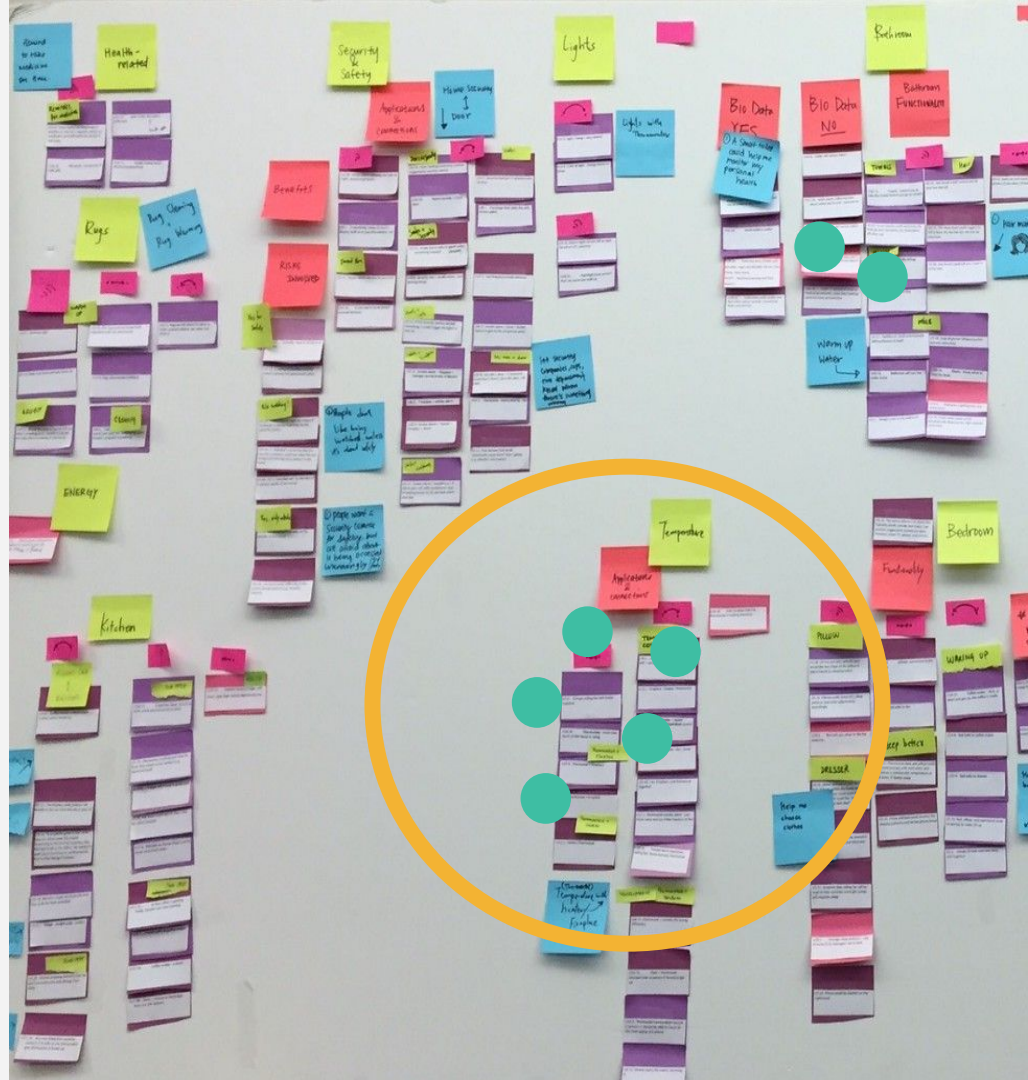*(At the end give a title for the grouped notes)*

🕐 **3 Min / individual**

🕐 **10 Min / Group**

# Where we are going to focus?

Distribute
your votes

Max: 10 min.

# Our theme is...

⏱ **Max: 3 min/each team**

# Assignment

# Assignments

## Deadline Thursday 24.09

- **Ideation session**

  The team will meet and conduct an ideation session. This session aims at producing a vast number of quick and wild ideas based on your reframed challenged (HMW). The team can choose the technique they want to use. Ideas must be visualized in low-fi sketches. Bring all visualised ideas on Thursday **24th** we will continue to work on them during class.

- **Find and print one parallel research example**

  Individually, find one existing example of a service that connects to some of the ideas that you have been exploring with your team. Prepare to share with the group in class! We will use it as inspiration.

# Crazy 8's
# Ideation technique

# Crazy 8's

Based on the HMW from Day 1 quickly generate 8 ideas that **address the job to be done** by visualising them on a quick sketch.

You need two A4 per person and 1 sharpie per person. Take one A4 piece of paper and fold it twice into four rectangles. Do the same with the other A4.

You have just twenty minutes to fill each rectangle with an idea sketch that addresses your HMW (2.5 mins per quadrant). Set the timer to 2.5 min. to help you complete each quadrant on time.

Tips: Keep sketches visual, as bold and simple as you can. Give them a title.
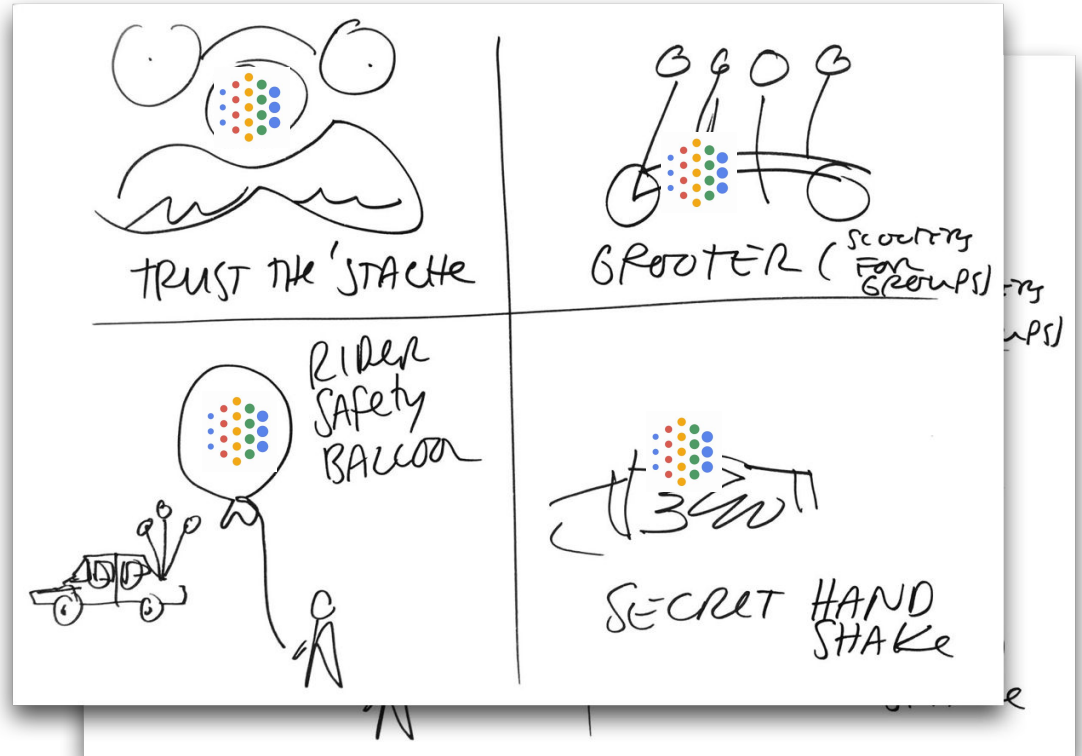
# Brainstorming rules

**Encourage wild ideas.**
Even if an idea doesn't seem realistic, it may spark a great idea for someone else.

**Stay focused on The topic.**
To get more out of your session, keep your brainstorm question in sight.

**Be visual.**
Draw your ideas, as opposed to just writing them down. Stick figures and simple sketches can say more than many words.

**Go for quantity.**
Set an outrageous goal —  then surpass it. The best way to find one good idea is to come up with lots of ideas.

**Build on the ideas of others.**
Think "and" rather than "but."

**Defer judgement.**
There are no bad ideas at this point. There will be plenty of time to narrow them down later.

**One conversation at a time.**
All ideas need to be heard, so that they may be built upon.

**NO TALKING UNTIL YOU HAVE SOMETHING TO SHOW**
This is not yet the time for discussions – only speak when you have drawn an idea.