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Collective Dreaming in a Virtual World: Networked Co-creation and Ideation The First Step

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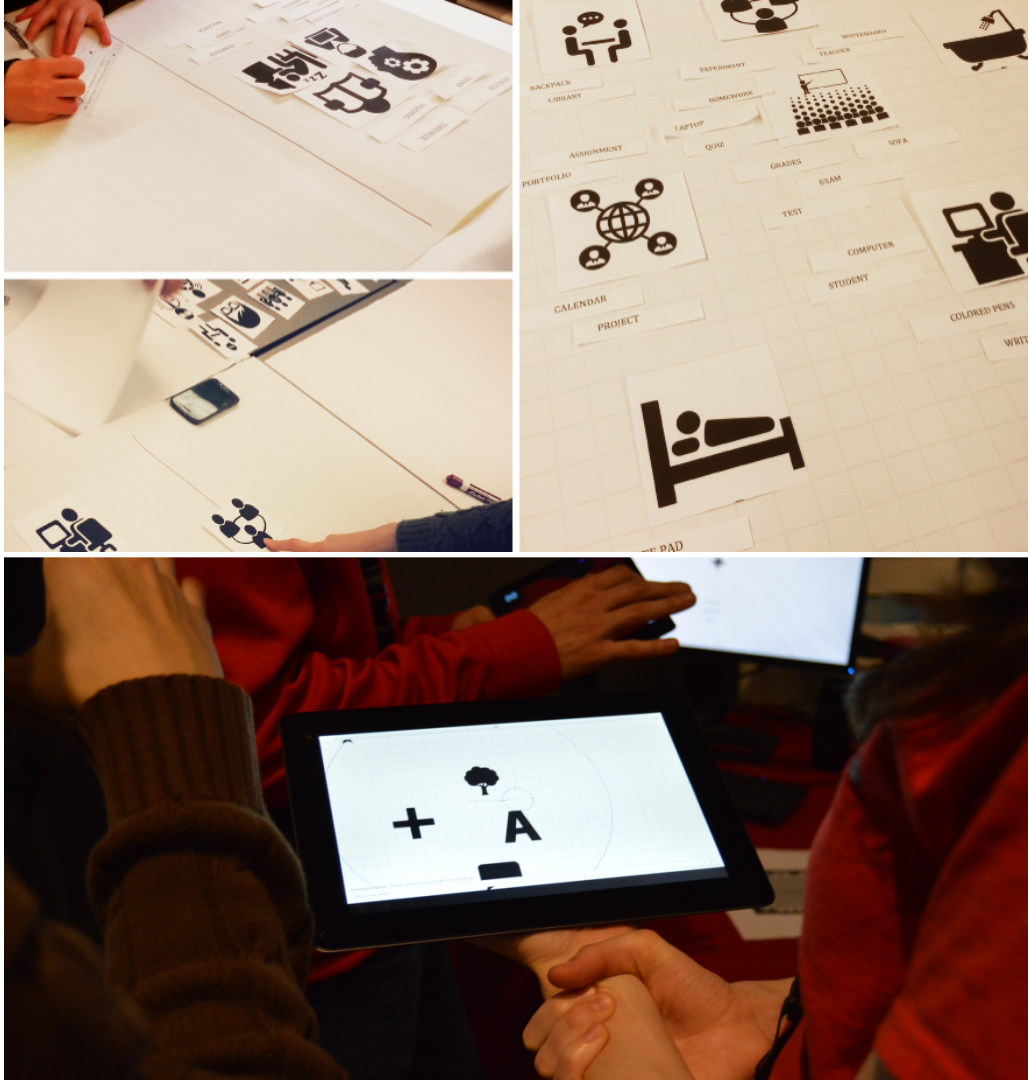
Research Objectives

Explore and **experiment** on co-creation, i.e. design *by* people, through a concept called **Collective Dreaming**.

Provide a **glimpse** of the **form** and **method of participatory design** could be taking in the **future**.

Demonstrate the **potential** of **virtual collaborative space** for creative expression in co-design process.

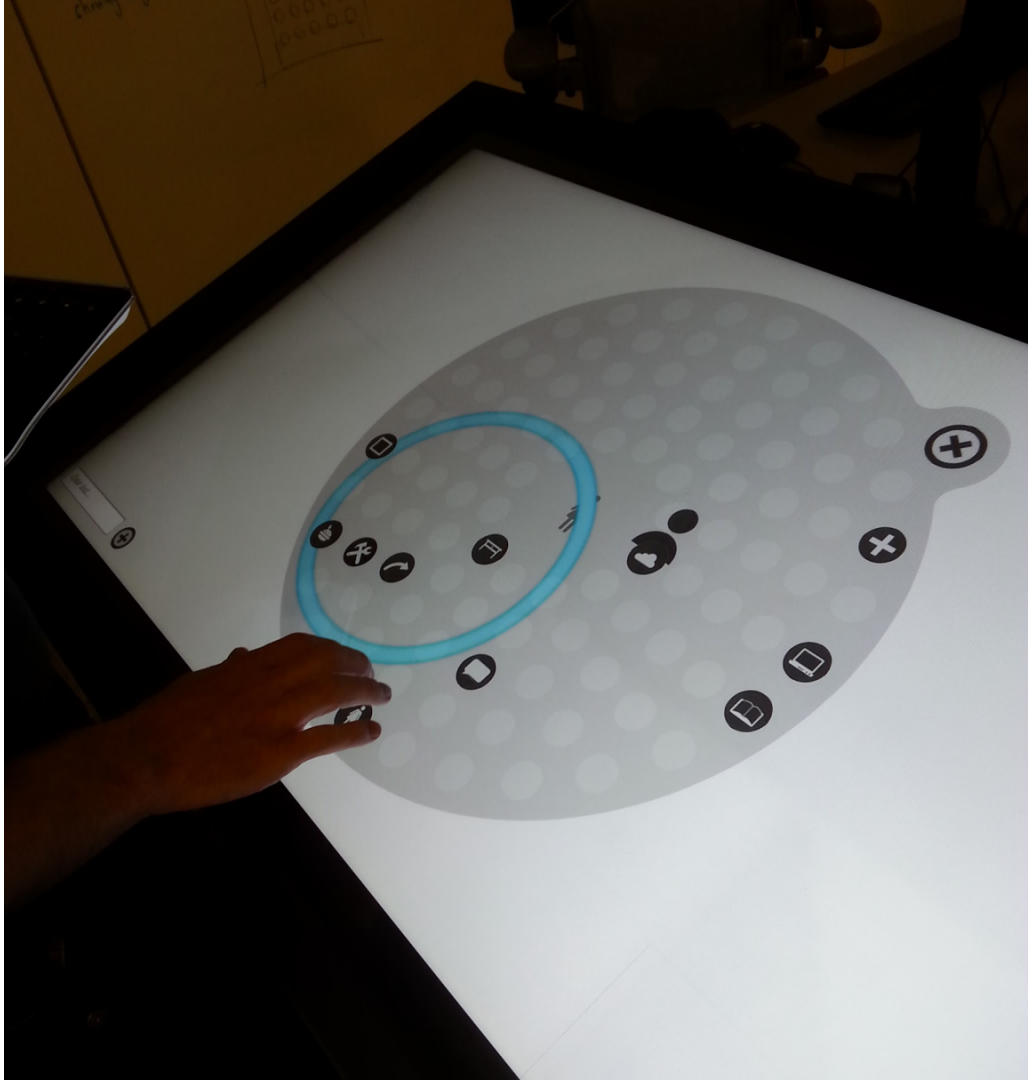
Reflect on participants' individual and group **behaviors in the virtual environment**.



Project Goal

The **Collective Dream** is a digital, networked space for people to create individual and collective representations of their ideal experiences.

Our goal was to **design, prototype, and test a digital system** (using **Unity3D game** engine) to allow a networked **co-creation** of ideal experiences.

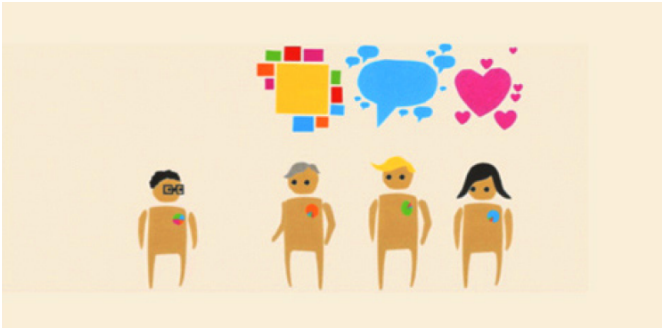


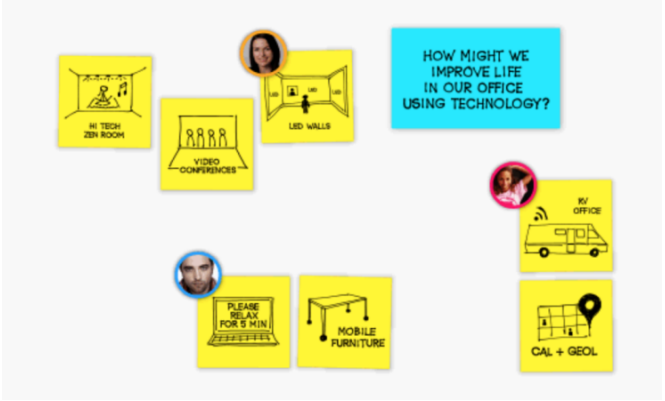
Background

The dynamics of working environments are changing and there is a lot of need for online cross-geographic and cross-cultural collaboration.

OpenIDEO
A system for idea-exchanging & collective decision-making

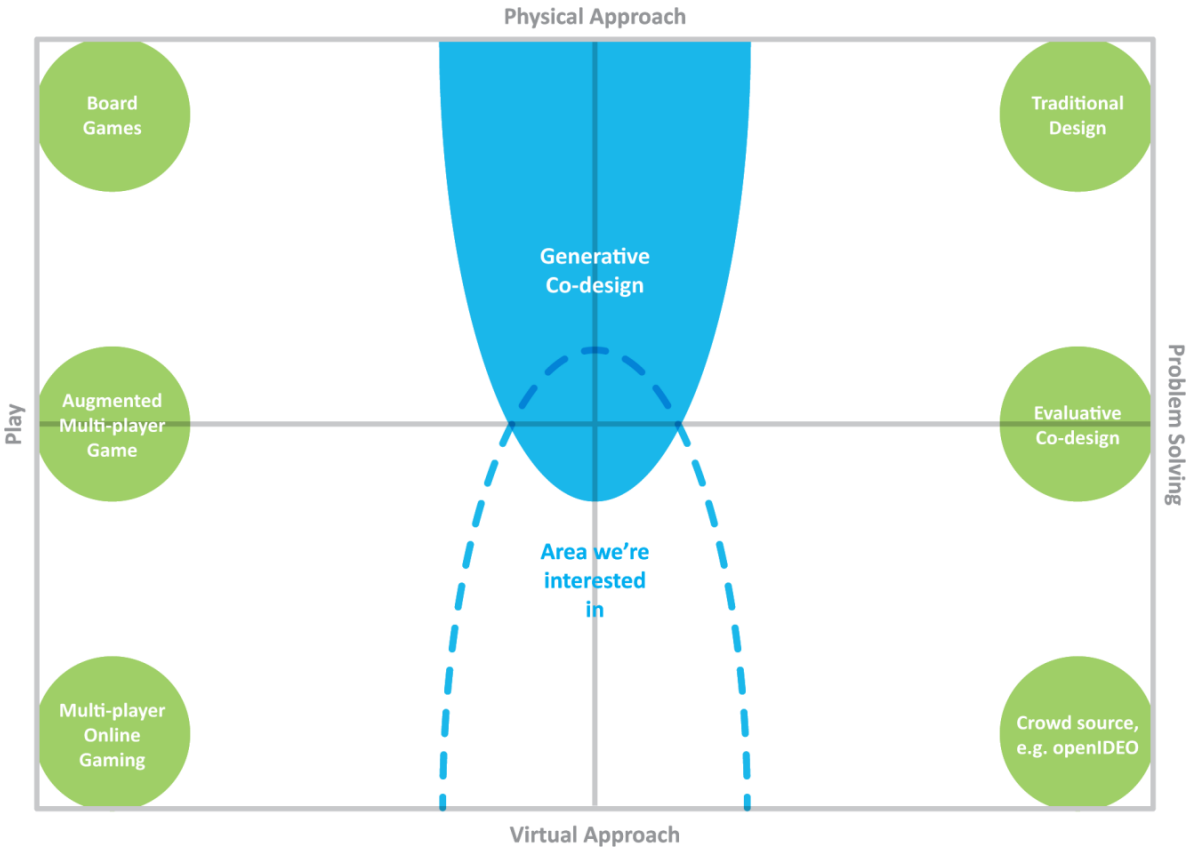
Mural
Platform for online brainstorming, synthesis & collaboration





Background

The area of interest in our research falls under the Virtual Approach (marked with blue dotted lines), in which **participants interact and collaborate virtually** over a shared network space — taking certain elements of **Play**, but following the blueprint of **Generative Co-design Research** methods.



Background

We see the value in digital tools that enable remote collaboration and we look into the potential of **generative workshops** using **mass participation** for Collective Dreaming.

Collective Dreaming was inspired by an article about **designing by people** in the future:

Sanders, L., & Stappers, P. J. (2014). Three slices in time: From designing to co-designing to collective dreaming. *Interactions,* 24-33.

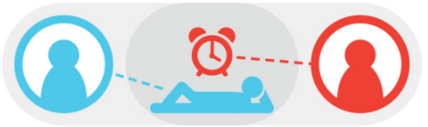
The System of Collective Dreaming

Components

Human agents & toolkits (a set of words and icons)

Interconnections

Interactions, such as communications & negotiations, among human agents using the toolkits available



Purpose

Collectively dream and **express ideal experiences**

For example, in this case study, we asked participants to imagine ideal ***learning*** experiences.

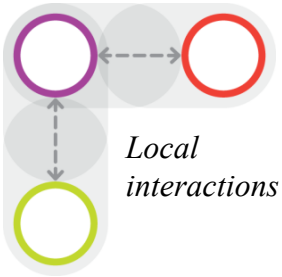
Assumptions

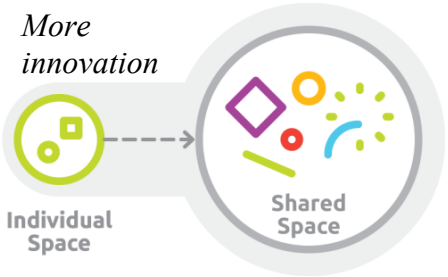
Local interactions are important in co-creation for communication and sharing experiences.

Participants will be **most innovative** when they **create together in a shared space** after creating in a personal space.

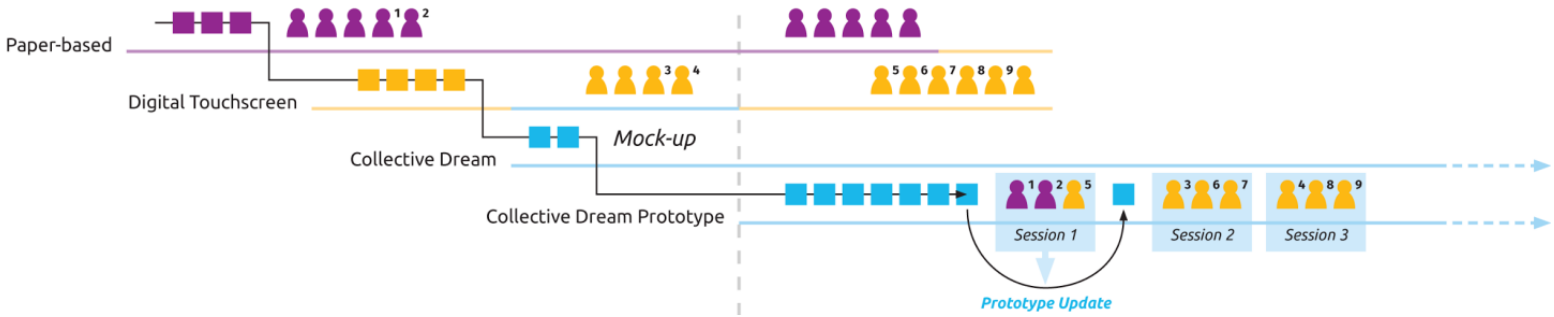
Different incomplete sets of icons would **encourage players to explore** and **make connections** with other players.

Digital toolkits (icons & words) derived from analog toolkits will **enhance some aspects of the participants' experiences** and **expand semantic expressions**.





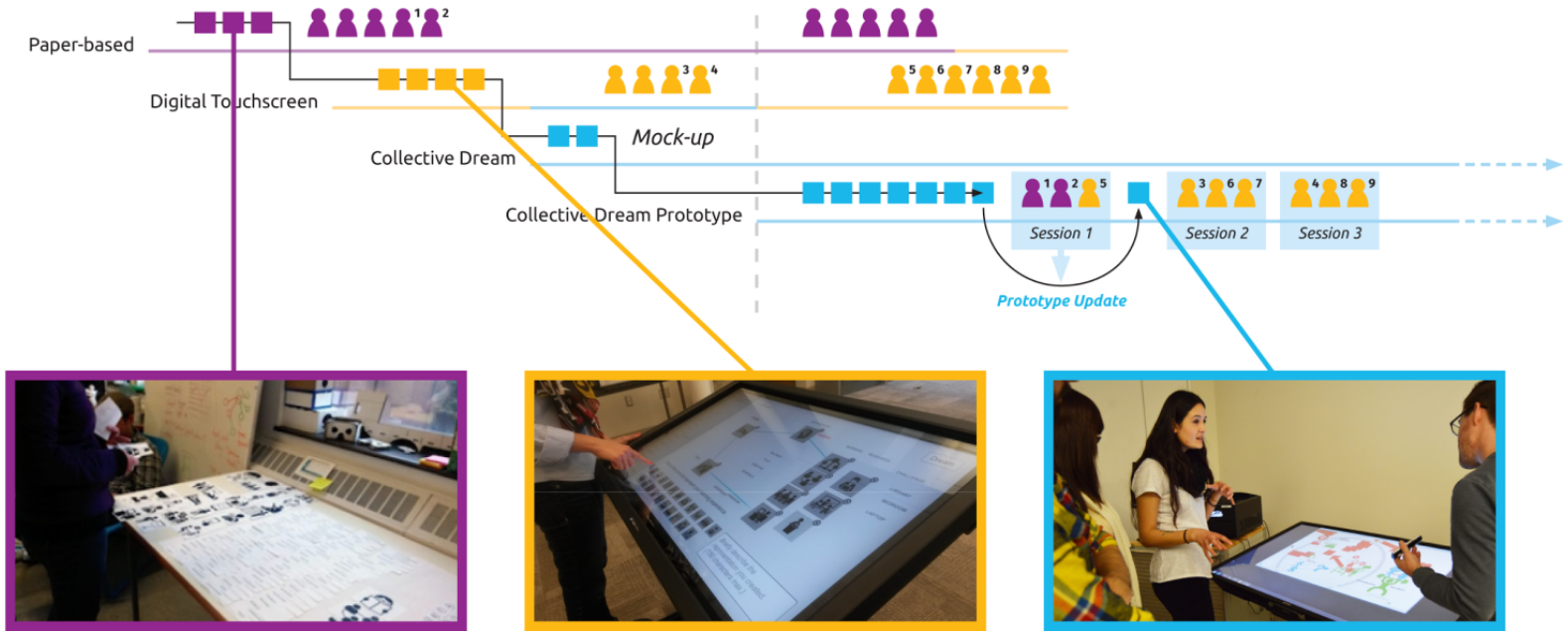
Process



An **iterative approach** was taken to develop and user test **a series of prototypes** moving from **paper**, to **simple digital prototypes**, to the final **networked digital tool**.

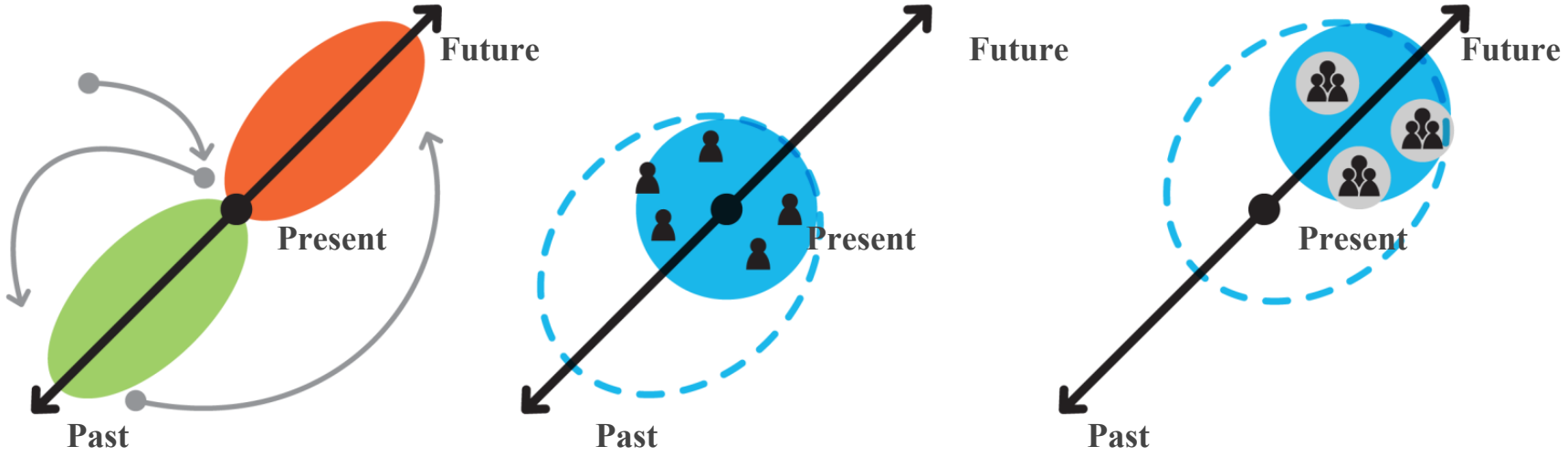
Insight and understanding was **fed back into the process** as each iteration was completed.

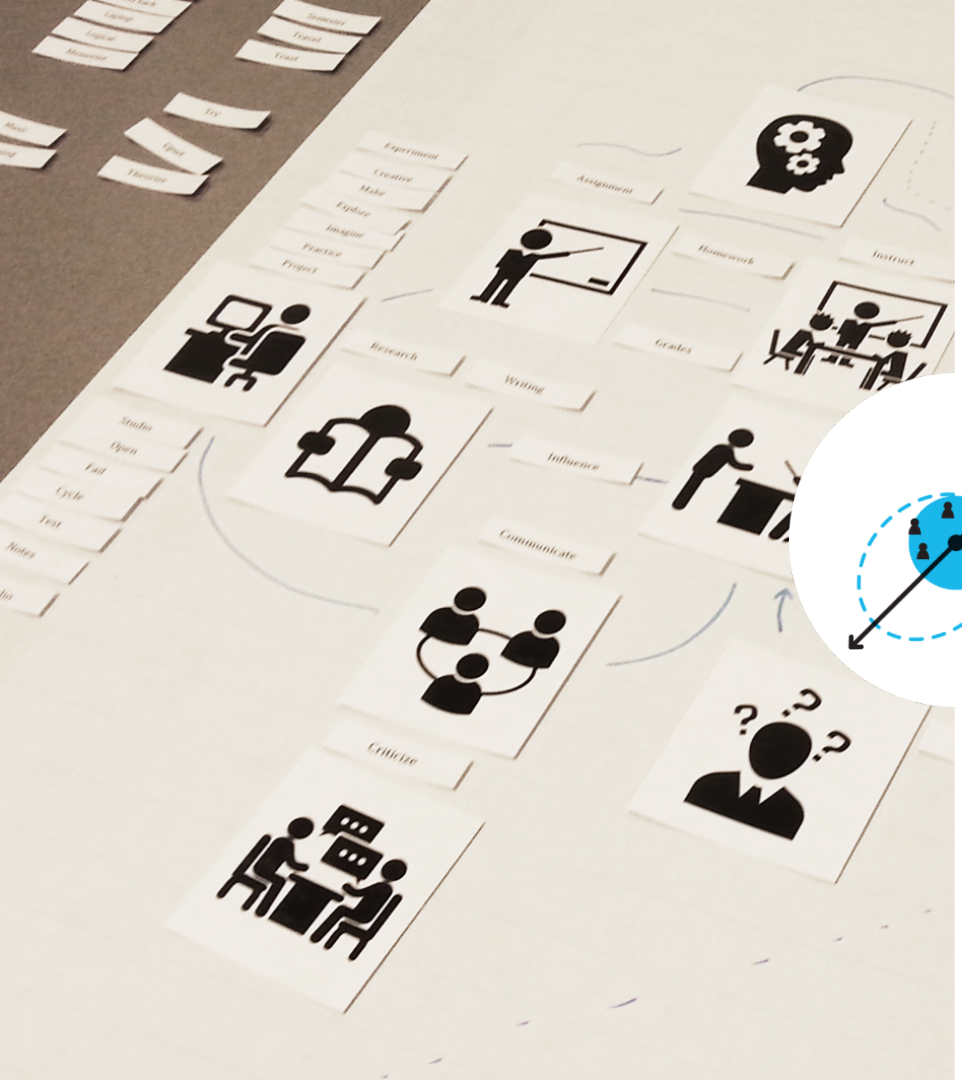
Process

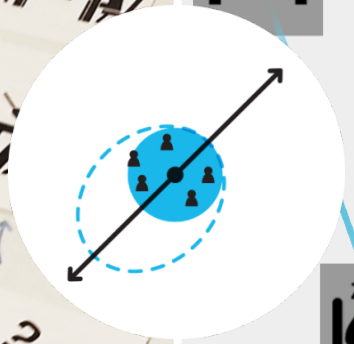

Paper-based
Digital Touchscreen
Collective Dream
Mock-up
Collective Dream Prototype
Session 1
Session 2
Session 3
Prototype Update

Process

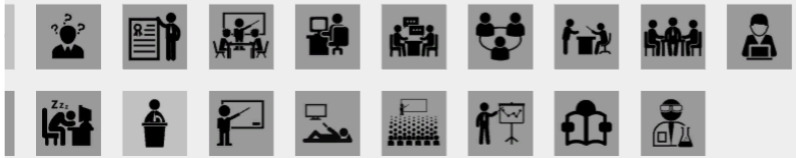
Pathway of Expression







he icons that represent your learning experience.



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Research Sessions

The sessions in general followed this sequence:
[Work on own personal space] → [Work on shared space] → [Present work]

In the same lab, the participants worked via networked computers. However, they **weren't allowed to verbally communicate** with one another to **simulate remote locations**.

ANALYZE
LOGICAL
ASSIGNMENT
MEMORIZE
BALANCE
MIDNIGHT
CHALLENGE
MORNING
COMMUNICATE
NIGHT
CRITICIZE
OPEN
DEBATE
OPTIMISM
DISSATISFIED
OUTGOING
DREAM
PASSION
ENCOURAGE
PESSIMISM
ENTERTAIN
PRACTICE
ENTHUSIASM
PROGRAM
EVENING
PROJECT
EXAMINE
QUIET
EXCITED
QUIT
EXPLORE
REMEMBER
FAILURE
RESEARCH
FORGET
RESPECT
GUIDE
RESOURCEFUL
IMAGINE
SATISFACTION
INFLUENCE
SEARCH
INSPIRE
SEMESTER
INSTRUCT
STRESSED
INTROVERT
THEORIZE
LAID BACK
WORRIED

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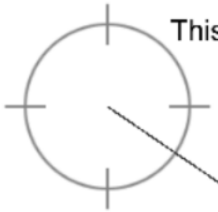


OUTGOING

Running as Server. Clients should connect to IP: 140.254.181.83

This is a chat function

X

For educational use only

Outcome

From the three generative co-design sessions we conducted, some behavioral patterns emerged.

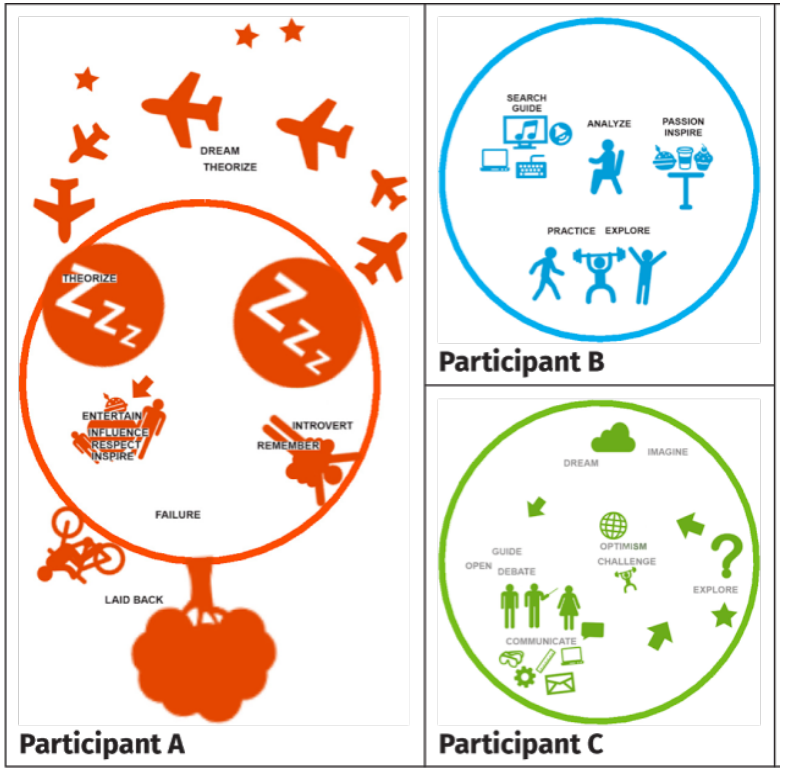
An **incomplete inventory** of icons nudged the participants to **explore** and **engage** with other participants. In the beginning, this was often just to **collect** the icons and **return** back to their home worlds to continue building.

Later in the session, true collaboration in the shared space occurred in all cases.

Outcome

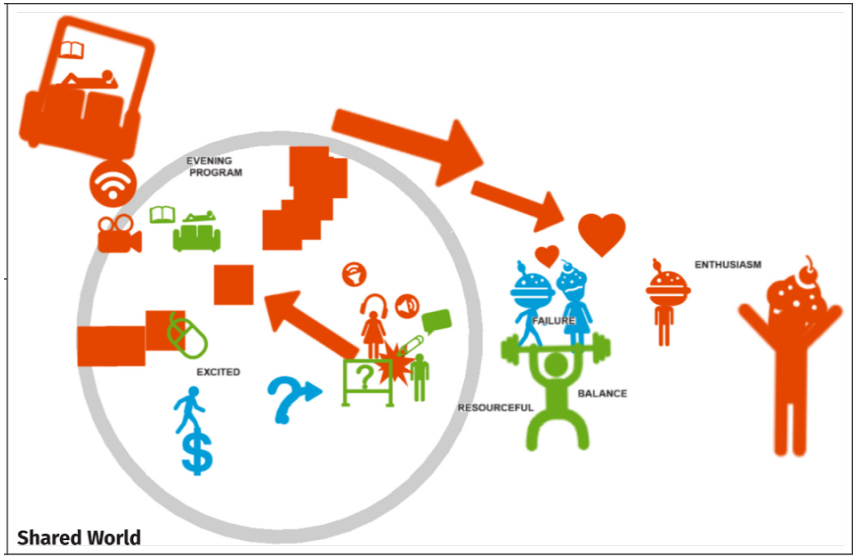
The **open system** and materials supported both **playful expressions** and **focused ideation**, with participants able to **create new and unique meanings** using the inventory of shapes and words.

The participants' actions also varied from being **intentional (slow thinking)** to sometimes **improvisational (fast thinking)** in their personal worlds.



Outcome

However, **in the shared worlds** all the participants were **highly improvisational** and **spontaneous**.



"It's just much more fun, ... in real time [to] be communicating with people, instead of an artifact that people could look at, but this is, ***we're here right now doing this thing."***

Outcome

An unexpected behavior, ‘**shape signalling’**, emerged in response to an *inefficient* chatting feature (difficulty in typing and failure in communicating).

This kind of “self-corrective” or “adaptive” behavior is possible because:

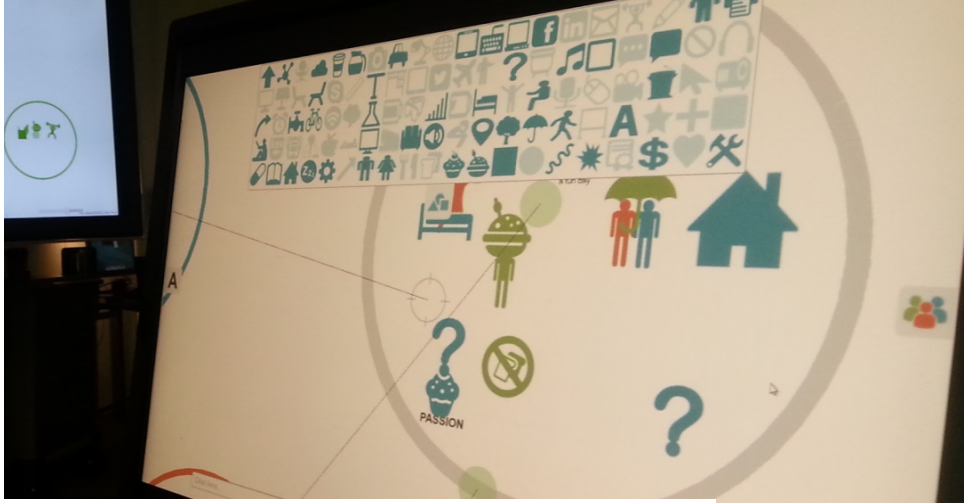
1. The system is **open** (non-rigid)
2. The interaction is **local**
3. The human agents are able to recognize the flaw in the system and to negotiate (**signal & response**) with each other and **adapt** to the flaw in the system.

Reflections

Toolkits

Taken from the blueprint of maketools, **the digital toolkit** functioned just as **effectively** as **paper toolkits**.

However, the digital toolkit had added benefits such as **resizing of icons** and **infinite spawning of the icons**. Thus, semantic expressions (meanings) were expanded.



Separate from the case study, these images were taken from the open house exhibition at ACCAD.

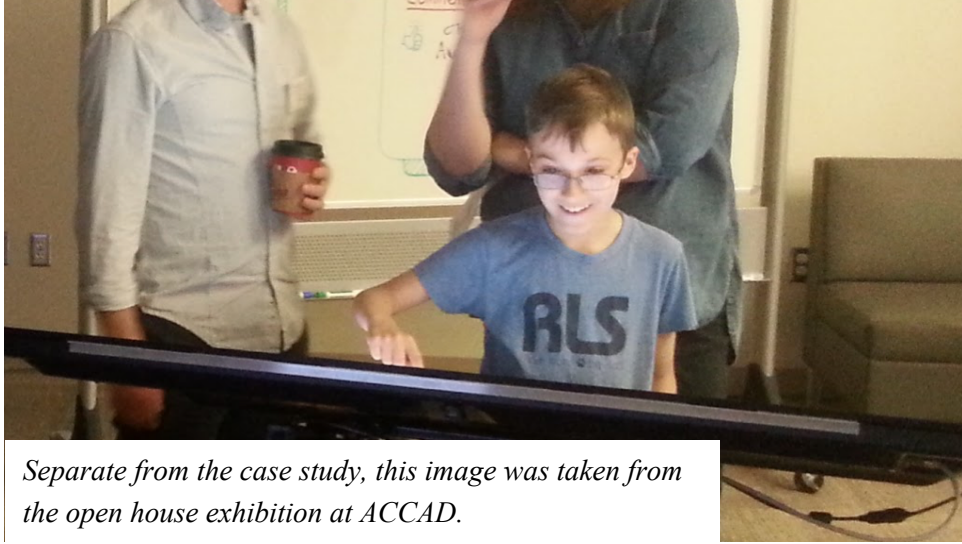
Reflections

Playfulness

Interaction between the participants was also very playful in all three sessions. This was especially true when generating ideas in the shared world (indicated by participants' constant ***giggliness***).

Immediacy of Interactions

Even though, the co-creation took place in a virtual space, the participants really enjoyed the live interactive feedback from the other participants.



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*"It's just **much more fun**,... **in real time** [to] be communicating with people, instead of an artifact that people could look at, but this is, **we're here right now doing this thing**."*

Reflections

Breaking Down the Barriers

We found that **open system** and **playfulness** created **freedom of expression for the participants**, and the potential for **outspokenness** became evident as we conducted the research.

*"An **open**, **free**, **sandbox** kind of experience, where you're just allowed **to do whatever you want** to ... I mean you have this explicit goal about ideal learning experience, but then **when we got to move into our shared space it was just playful**."*

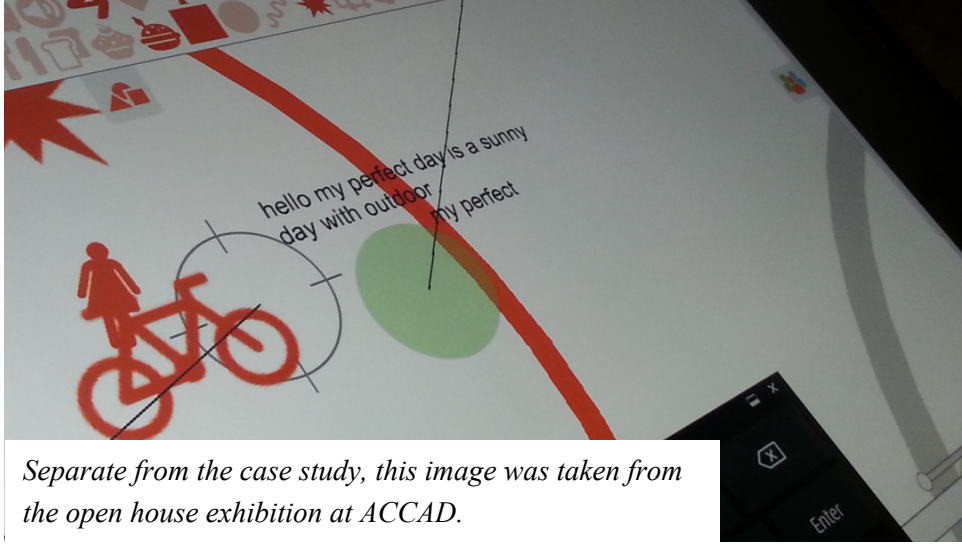
Reflections

Limitations

Because the Collective Dreaming is still in the prototype phase, from technical perspective, not only were the **interface** and **interactivity** clunky, but there were **bugs** in the system as well.

Certain aspects of **tactility** of materials and direct **human-to-human interactions** may be lost over the virtual network space.

Socioeconomically, the digital tool will be confined to those who has **access** to it.



Separate from the case study, this image was taken from the open house exhibition at ACCAD.

Next Steps

Practical applications

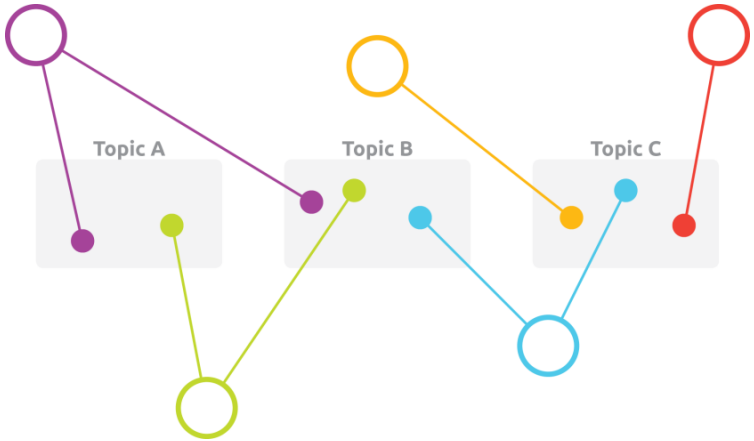
This can be applied to other projects that are exploring future situations of use, provided that the collective dream prototype is equipped to use **modular toolkits** (e.g., different sets of icons for different topics, etc.)

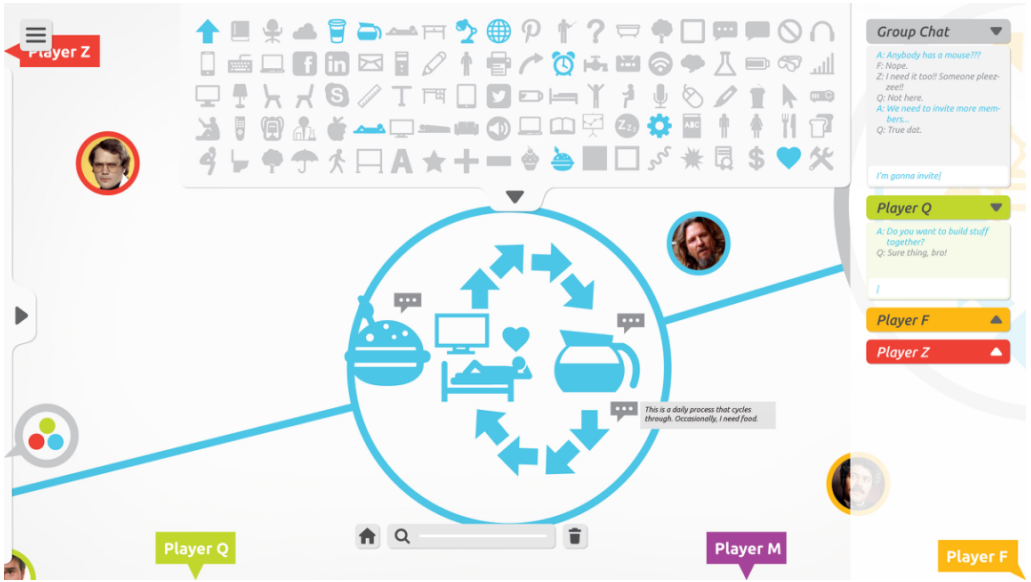
Could be used within an organization to explore future experiences of people in different parts of the world.

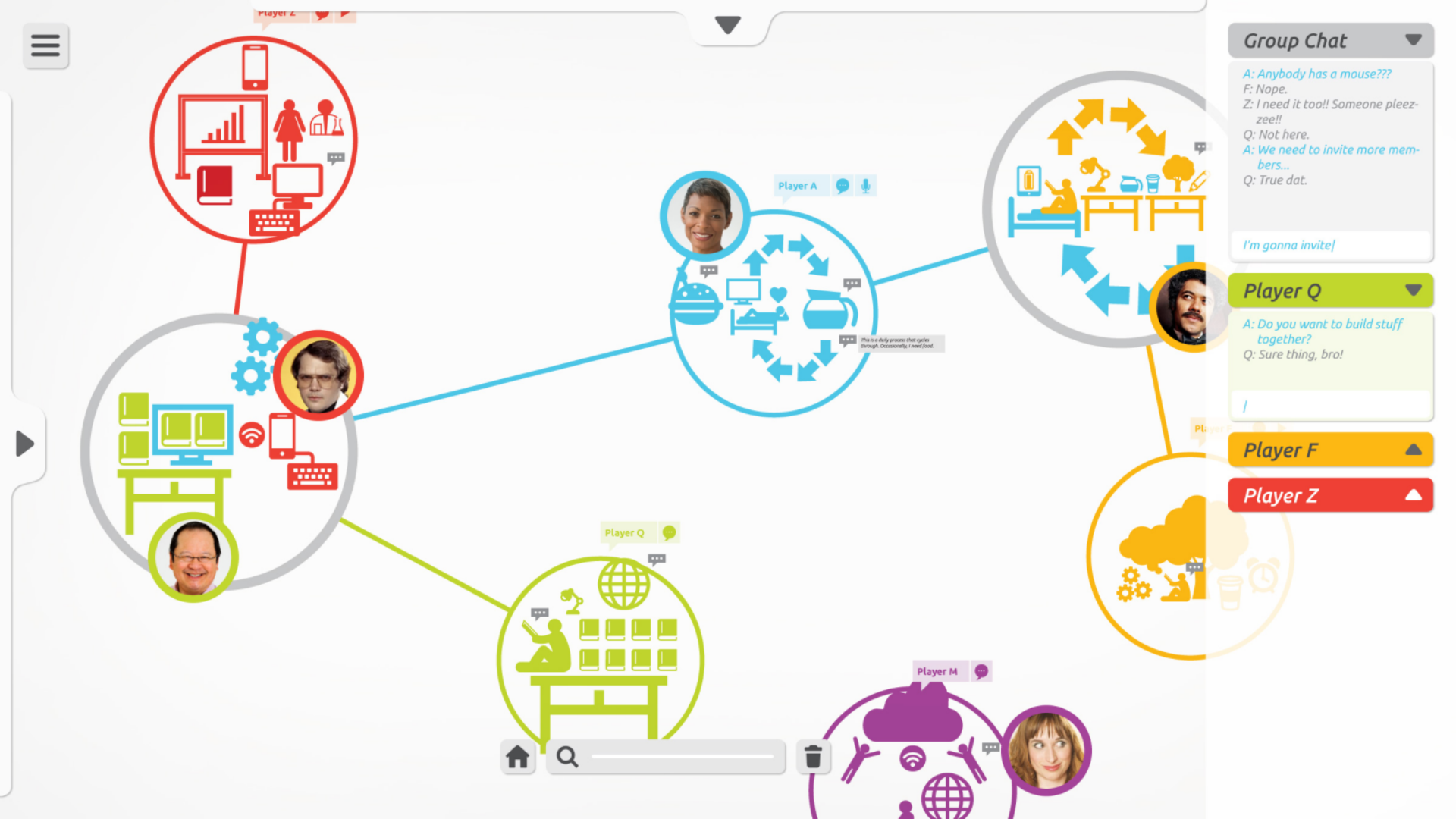
Next Steps

Web-based Platform Prototype

Potential for multiple topics running at the same time.






Player A
Player Q
Player M
Group Chat
A: Anybody has a mouse???
F: Nope.
Z: I need it too!! Someone pleez-zee!!
Q: Not here.
A: We need to invite more members...
Q: True dat.
I'm gonna invite|
Player Q
A: Do you want to build stuff together?
Q: Sure thing, bro!
|
Player F
Player Z

Next Steps

Remote Test Case Study (with Web-based prototype)

1. Test in local institutions remotely
To measure the **web capacity**.
There is an interest to test this in healthcare sector.

2. Scale it up
Test in **different regions** of the US and **different parts of the world**.
Increase the number of participants.

3. Improvement & implementation
Explore what **other kinds of toolkits** are needed to enhance the open dialogue and co-creation experience.
Explore the **transition** from **generative co-creation** to **implementation of ideas**.

Future Research

Explore how to create full-scale, kinetic, 3D generative design toolkits to support collective, embodied cognition and creativity.

Thank You!