



EPSRC

Engineering and Physical Sciences
Research Council

LANCASTER
UNIVERSITY



PROTOTYPING CLASP

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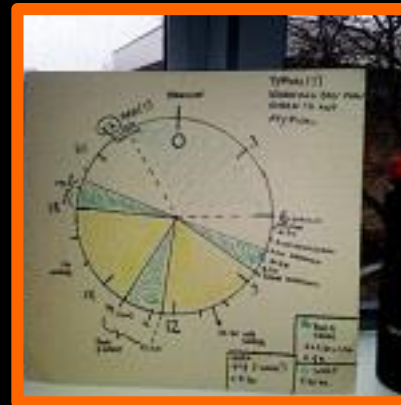
Catalyst

www.catalystproject.org/interactive




Access ASD

Can digital technology help to reduce barriers to engagement amongst adults with HFA?







A close-up photograph of a person's hand reaching towards a small, green and white spherical object on a light-colored wooden table. A smartphone lies on the table next to the object, displaying a green circle on its screen. Another smartphone is partially visible in the background.

“design must remain an
empirical, social,
interpretive & humanistic
discipline, not one that is
subservient to
engineering convenience
and technological
fantasies”

{Blackwell, A. 2010}



CONTEXT:



EPSRC

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**SOCIAL!
TECHNOLOGY!
INNOVATION!
NEW DOMAINS!
IN THE WILD!
IMPACT!
RAPID!
SUSTAINABLE!**



SPEEDPLAY!



SPEEDPLAY

- An innovation management framework which combines action research, participatory design, and agile development **{4 steps}**
- A mindset, that sees technologies as tools to understand social needs and to bring about change **{6 'principles'}**

WORKING DEFINITIONS

Action Research understand a social context & bring about change

Participatory Design *'users' as partners*

Agile *iterative software development approach*

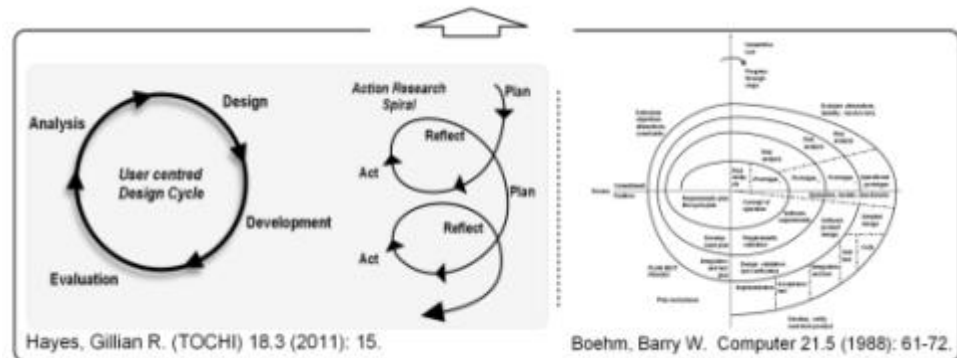
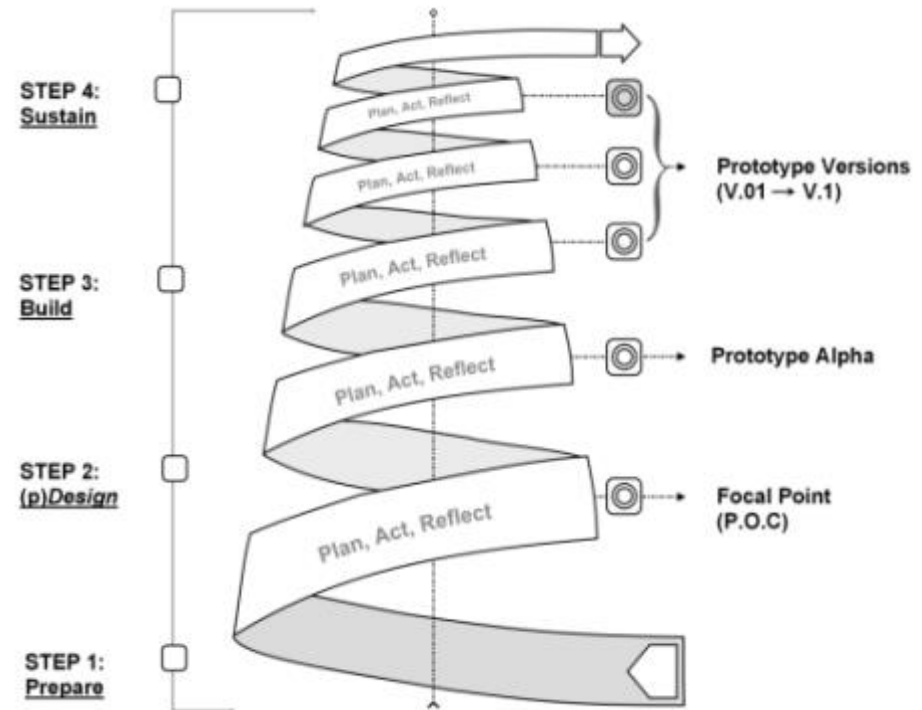
SIX PRINCIPLES

- **Equality** partners = research peers
- **Mutual help** share tasks
- **Self-direction** take primary responsibilities
- **Creativity** be *un*-disciplined with methods
- **Adaptability** be opportunistic with change
- **Responsibility** technology as part of the enquiry

Framework: 4 Iterative Steps

1. Prepare
2. Design
3. Build
4. Sustain

Each step is 'paced' by an output



BUILD TRUST/UPSKILL

'These people do not need much help but when they need it, they need it badly'

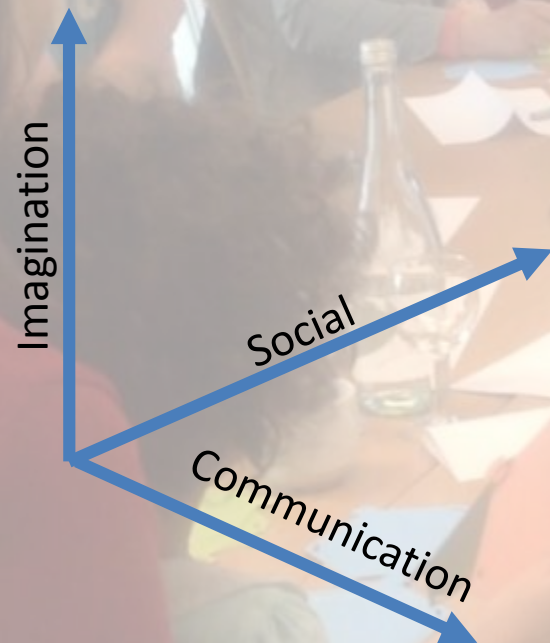
'I am not good at technology, answering a phone is an achievement...'

'I had to go to the shop to buy bread and I had to stop, I was in complete panic'

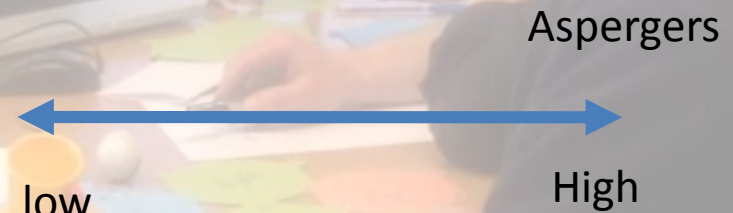
{HFA adults, Carers & Families}

A MISMATCH?

Triad of impairment (3D Vector Space)



ASD Spectrum (2D linear space)



“I would like to throw all labels away today, including Asperger’s syndrome, and move towards the dimensional approach. Labels don’t mean anything {...}” *{Lorna Wing in Firth, Uta – 1989}*

FOCAL POINT



'It is immense what we have achieved by having breakfast, a presentation and a walk'{SF}

A close-up photograph of a human hand holding a small, glowing blue sphere. The sphere has a soft, ethereal glow and is positioned in the palm. The background is dark and out of focus.

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PROTOTYPE α

3 Components

1. Tactile Anxiety Device
2. Support Network
3. Anxiety Data Aggregator



Pottery Studio

(Autism Initiative)

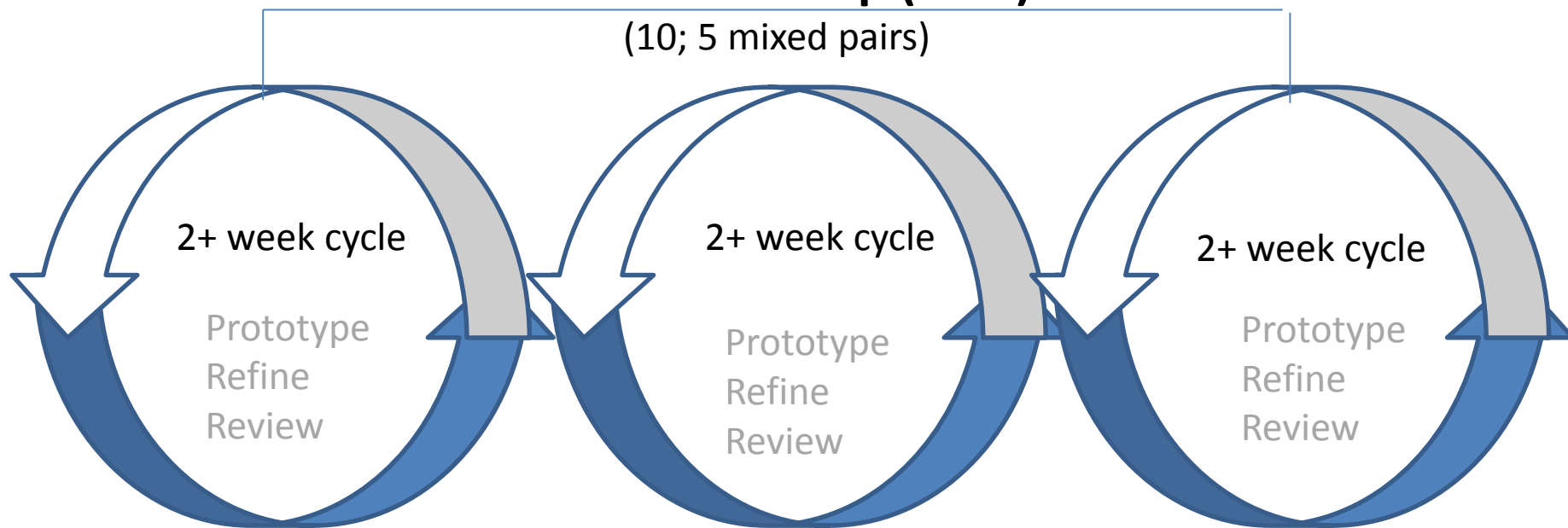


3

BUILD PHASE

Core User Group (CUG)

(10; 5 mixed pairs)



6 Sessions
with CUG
pairs {v 1}

23 May (APB)
Autism Partnership Board
- Show & Tell {v 2.0}
- Team meeting

28 May
CUG 1 x workshop :
v.2.0 demo & feedback

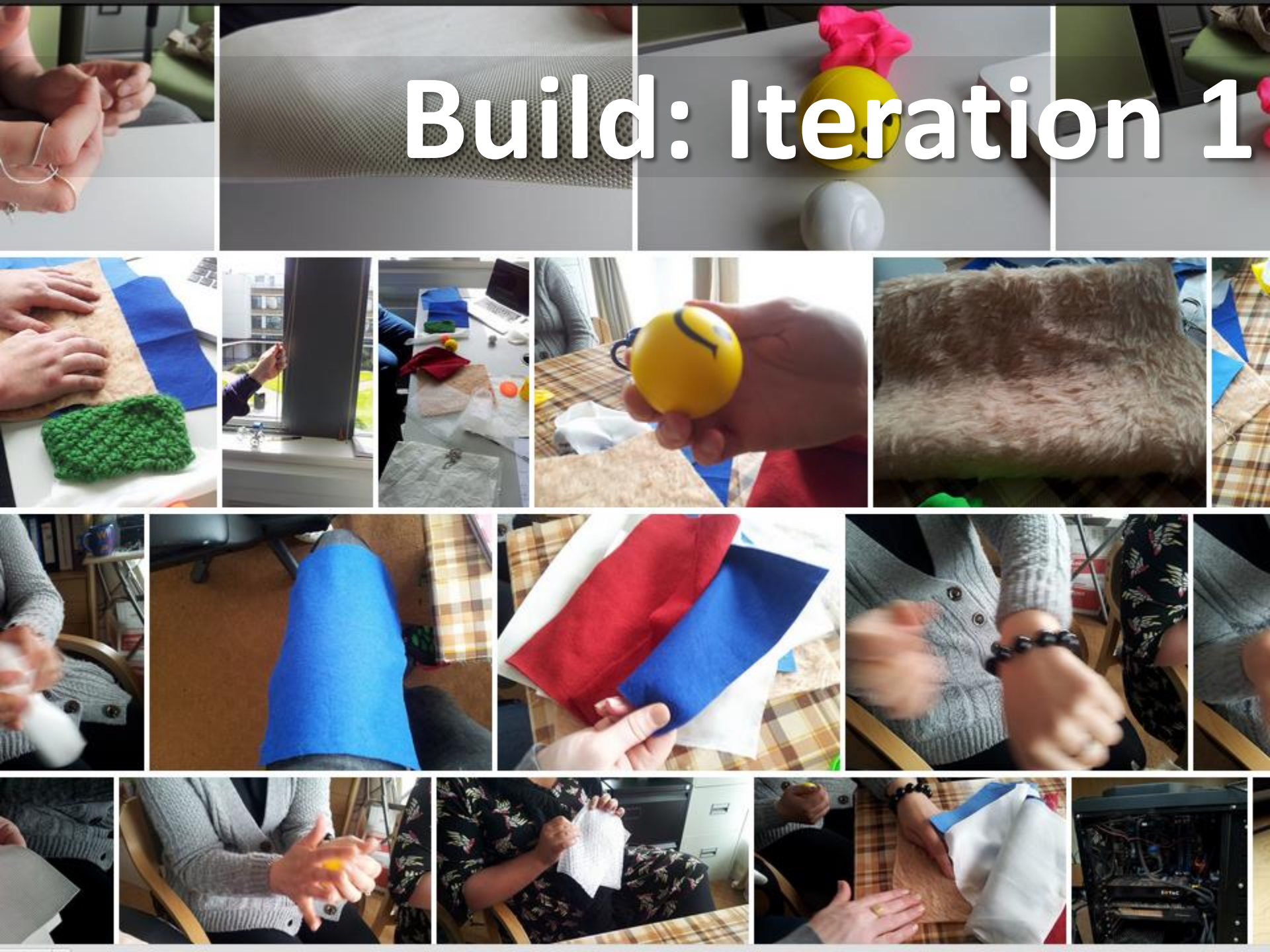
w/c 17 June
CUG 1 x workshop
v.3.0 demo & feedback

CATALYST
SEMINAR: v.4.0.
Show&Tell +
online survey

7 May

3 July

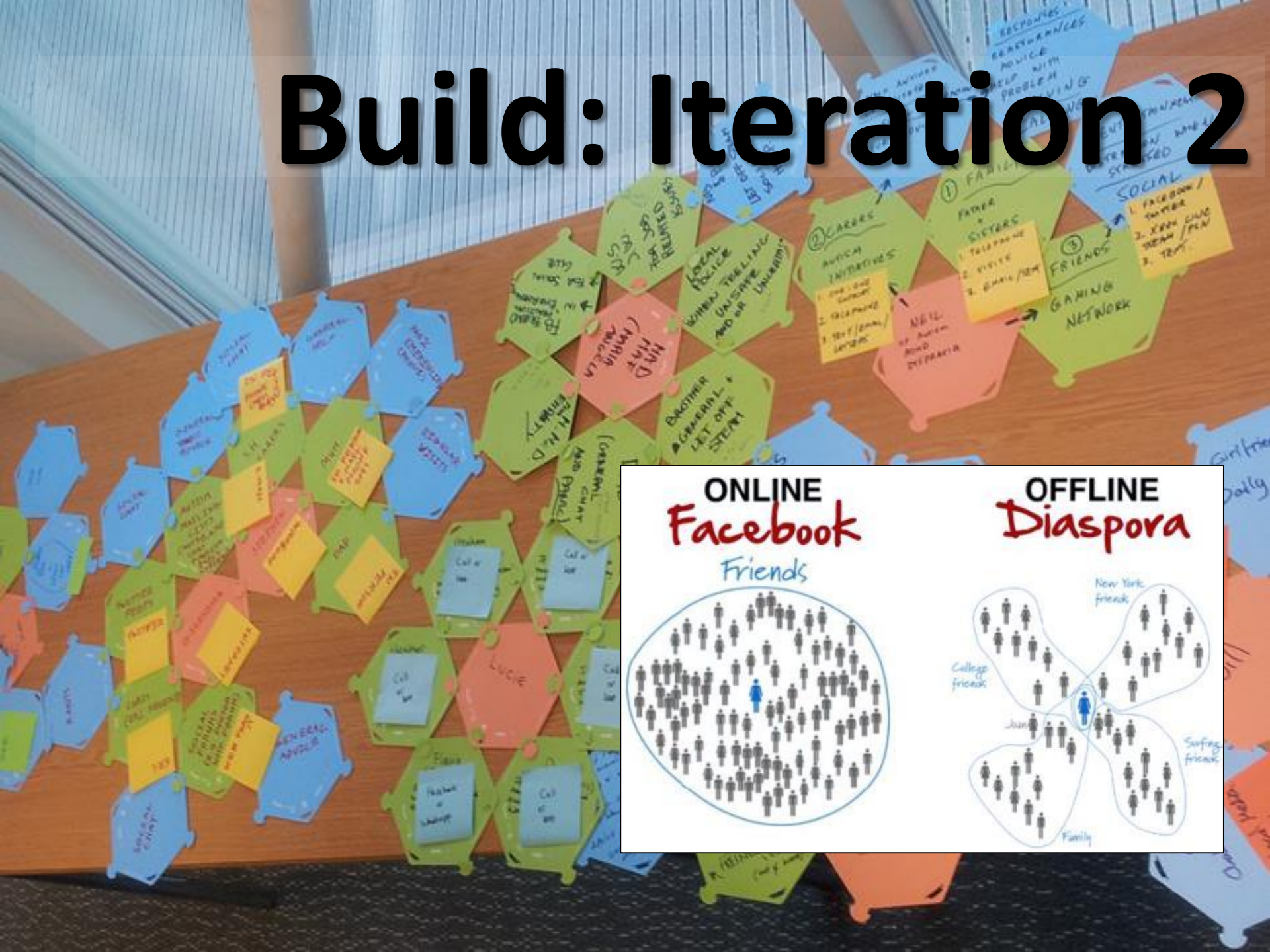
Build: Iteration 1

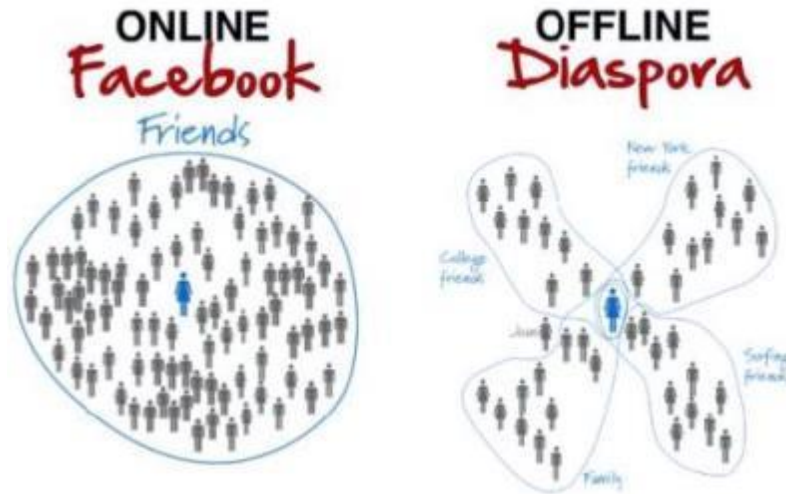




HACK THE BLOBO!

Build: Iteration 2





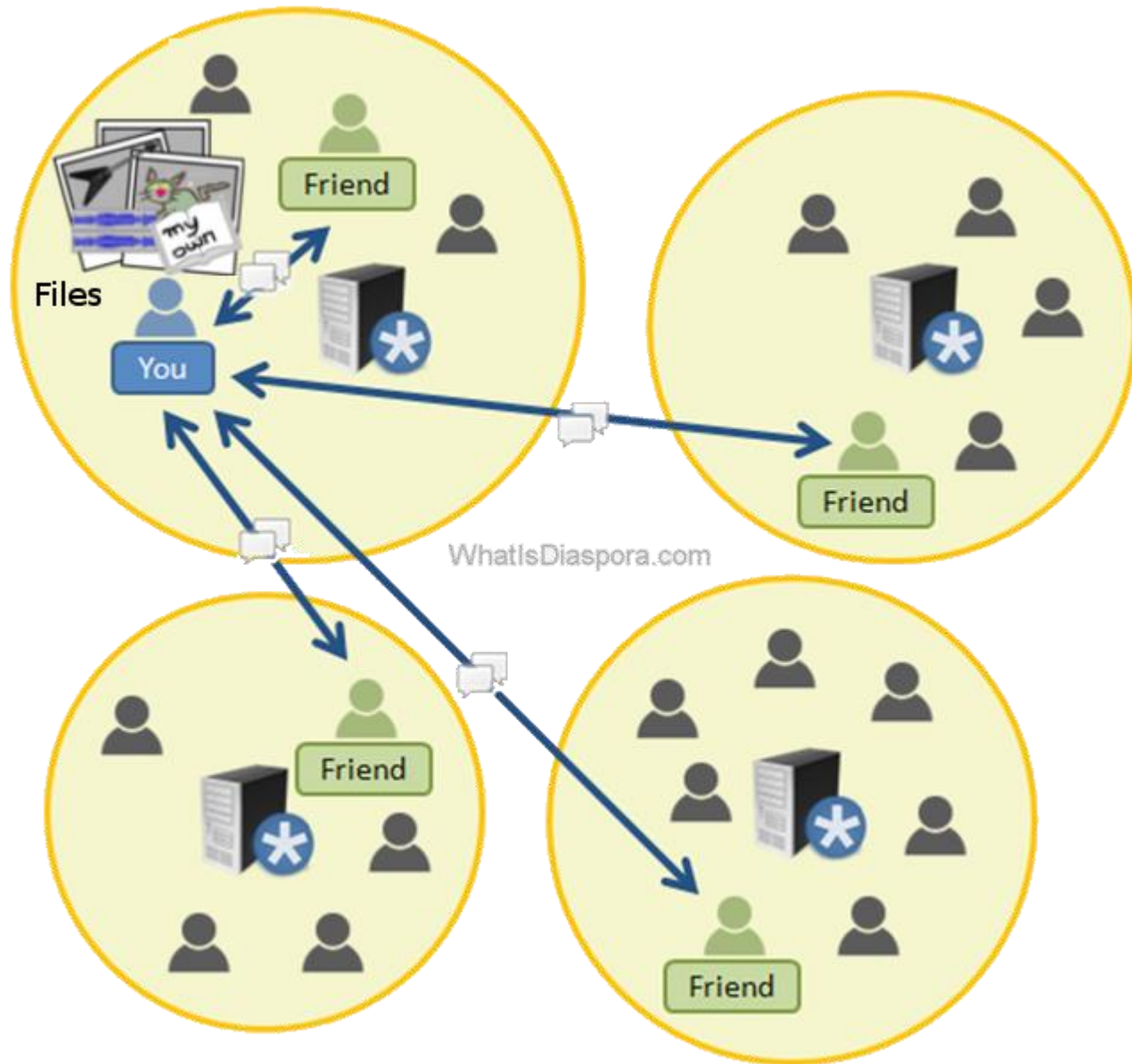
diaspora /dī-'as-p(ə-)rə, dē-/

origin: Greek, διασπορά – “a scattering [of seeds]”

1. the privacy aware, personally controlled,
do-it-all distributed open source social
network

Embed *Values* in System Features

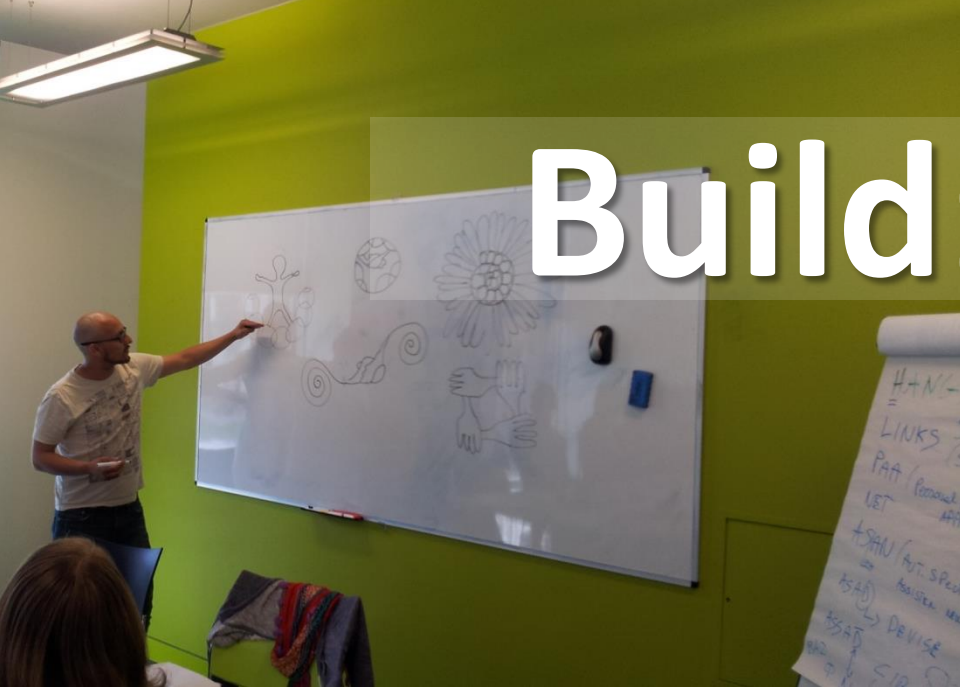




Diaspora Pods



Build: Iteration 3



CLASP: Requirements

#	Requirement	Description
1	Reliability	The technology must cope with connection problems and lack of coverage
2	Usability	It is easy to use
3	Consistency	The technology behaves the same way every time is used
4	Personalisation	I can modify the system to suit my own personal needs
5	Clarity	The interaction with the device is clear and unambiguous
6	Data Ownership	I own my personal data. Third parties cannot access my data without my explicit consent
7	Privacy	Full and clear control on who sees my post





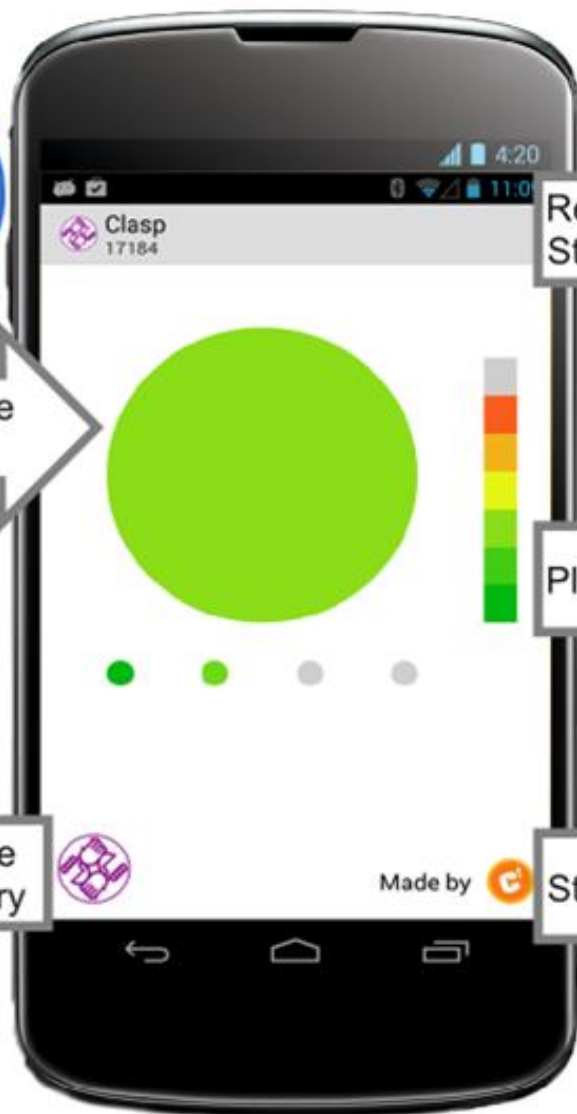
Wireless Anxiety Device



Usage Data

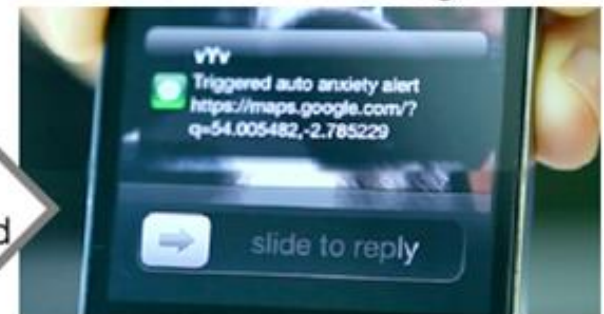
History		
Long Squeeze - CUG Diaspora		
21-08-2013 11:09:04		
Long Squeeze - CUG Diaspora		
21-08-2013 11:07:21		
Long Squeeze - CUG Diaspora		
20-08-2013 16:02:27		
Long Squeeze - CUG Diaspora		
20-08-2013 16:00:14		
Long Squeeze - CUG Diaspora		
20-08-2013 16:00:00		
Long Squeeze - CUG Diaspora		
20-08-2013 14:57:04		

Usage History

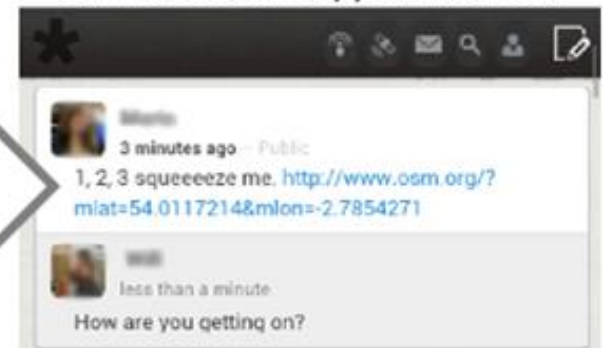


Really Stressed

SMS Text Message



Online Social Support Network



Playing

Diversion / Distraction



Stressed

SUMMER STUDY

The background image shows a desk setup. On the left, a smartphone is lying flat, displaying a blue screen. A black pen is positioned diagonally across the phone. To the right of the phone is a yellow notepad with a spiral binding. In the foreground, a calendar with a grid of red and green dots is visible. The overall scene is dimly lit, with a focus on the objects on the desk.

3-weeks
6 participants (2x3)
Qualitative feedback
Anxiety self-logging
Usage automated logging

LESSONS LEARNED

“Everybody is unique”

Haptic Device

- Variety of devices; Embedded.

Anxiety Management

- Custom anxiety triggers; access to interaction history

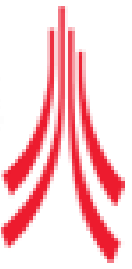
Support Network

- Trust, consistency, ~~ambiguity~~, ownership





Barnacle



m.ferrario@lancaster.ac.uk

w.a.simm@lancaster.ac.uk

@malangela

@willsimm

<http://www.youtube.com/catalystcitizens>

www.catalystproject.org.uk

Lancaster University, UK

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A photograph of a coastal scene. In the foreground, there's a rocky shoreline with waves crashing against the rocks. The water is a dark, muted blue-grey. In the middle ground, there's a flat, grassy area that looks like a beach or a coastal plain. In the background, the ocean stretches to the horizon under a cloudy sky. A vibrant rainbow is visible in the sky, arching from the horizon towards the top right. The overall tone is somewhat somber due to the grey sky, but the rainbow adds a touch of hope or optimism.

**Designing
the 'Experts' out!**