mozilla

CONNECTED HOME
Trash -Beauty Scenario
for the IoT
Berlin Design Sprint

25 April 2016

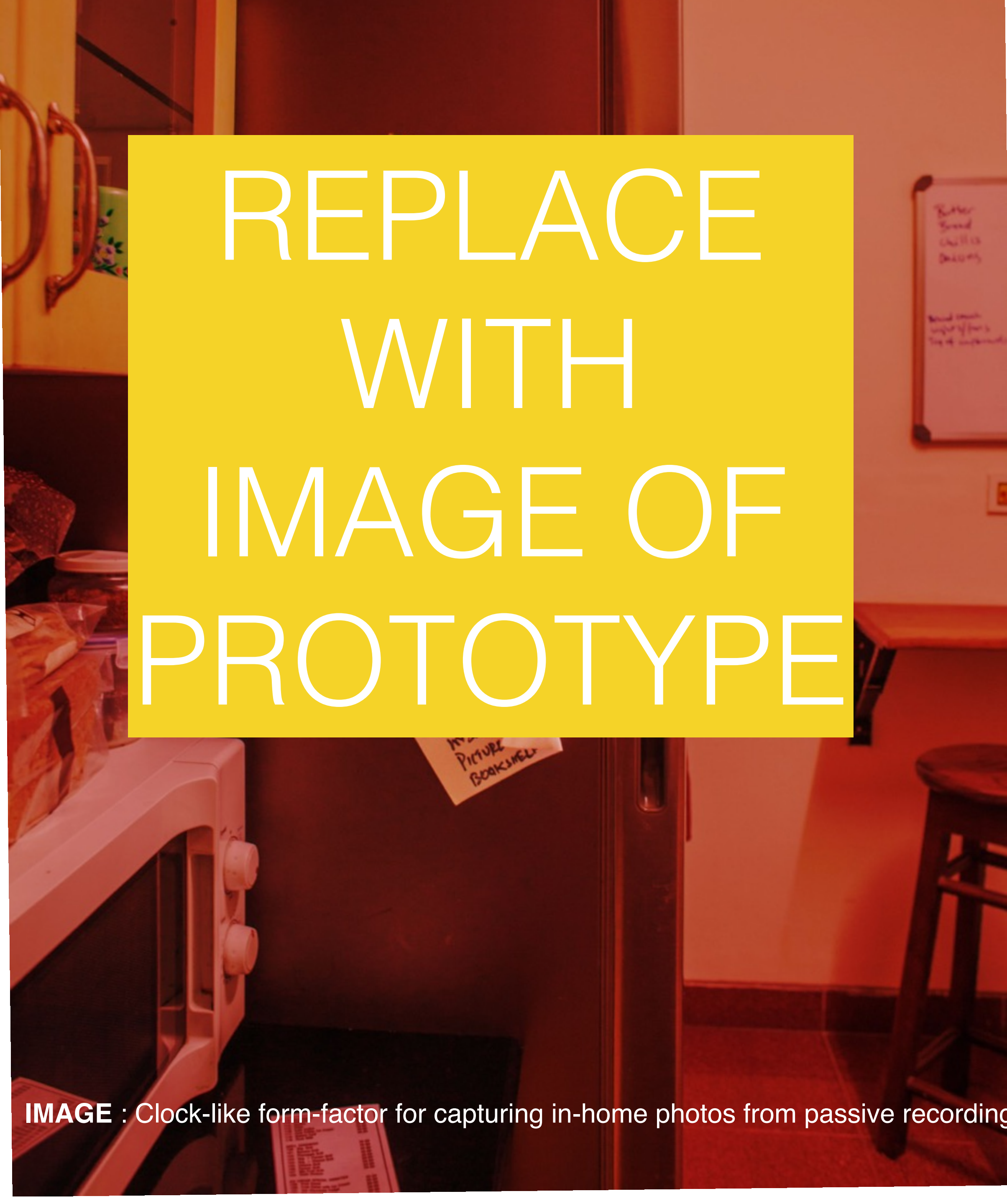# Sorting images from in-home connected cameras.

VALUE PROPOSITION

Better Treasure:
Higher quality photos thanks to ambient capture.

Better Trash:
Improved data removal experience providing empowerment and user control of data.

USER NEED

Family photos are valuable, but busy families can't always document the birth and childhood of their children – especially the second child.

IMAGE : Clock-like form-factor for capturing in-home photos from passive recording.

UNMET USER NEED

The camera of the future as a family documentation tool.

Small Video of Swati talking about her hard drive photo backups, and why its so important for her.
http://bit.ly/official-achiver

"I like that there are all these templates to write things in. Its so much nicer than just photos. I finished my daughters and am yet to finish my sons! I have been too busy, i will have to make up some dates and write ups." - SWATI

Small video of Swati talking about her son Nakul's birth book.
http://bit.ly/the-birth-book

TRASH BEAUTY | HARDWARE

Hanging camera + sensors

DESCRIPTION:

Wall mounted camera [smart phone in the first
prototype] with a physical interface.
Physical filers control image capture.
3-4 filters that trigger camera behaviors
Sent to LAN server that takes picture i

Proximity

REPLACE WITH IMAGE OF PROTOTYPE

TRASH BEAUTY | SOFTWARE

Website for interacting with camera.
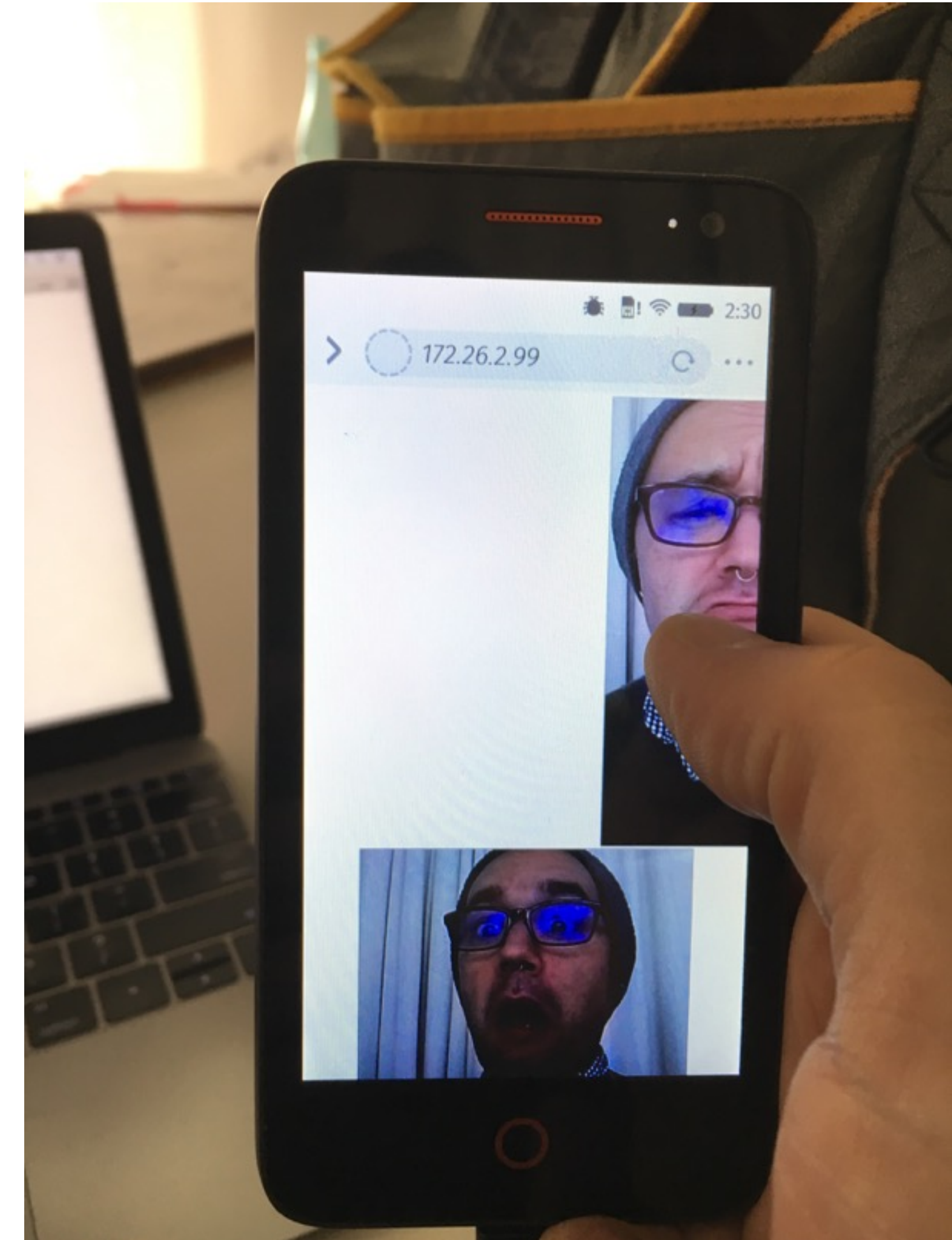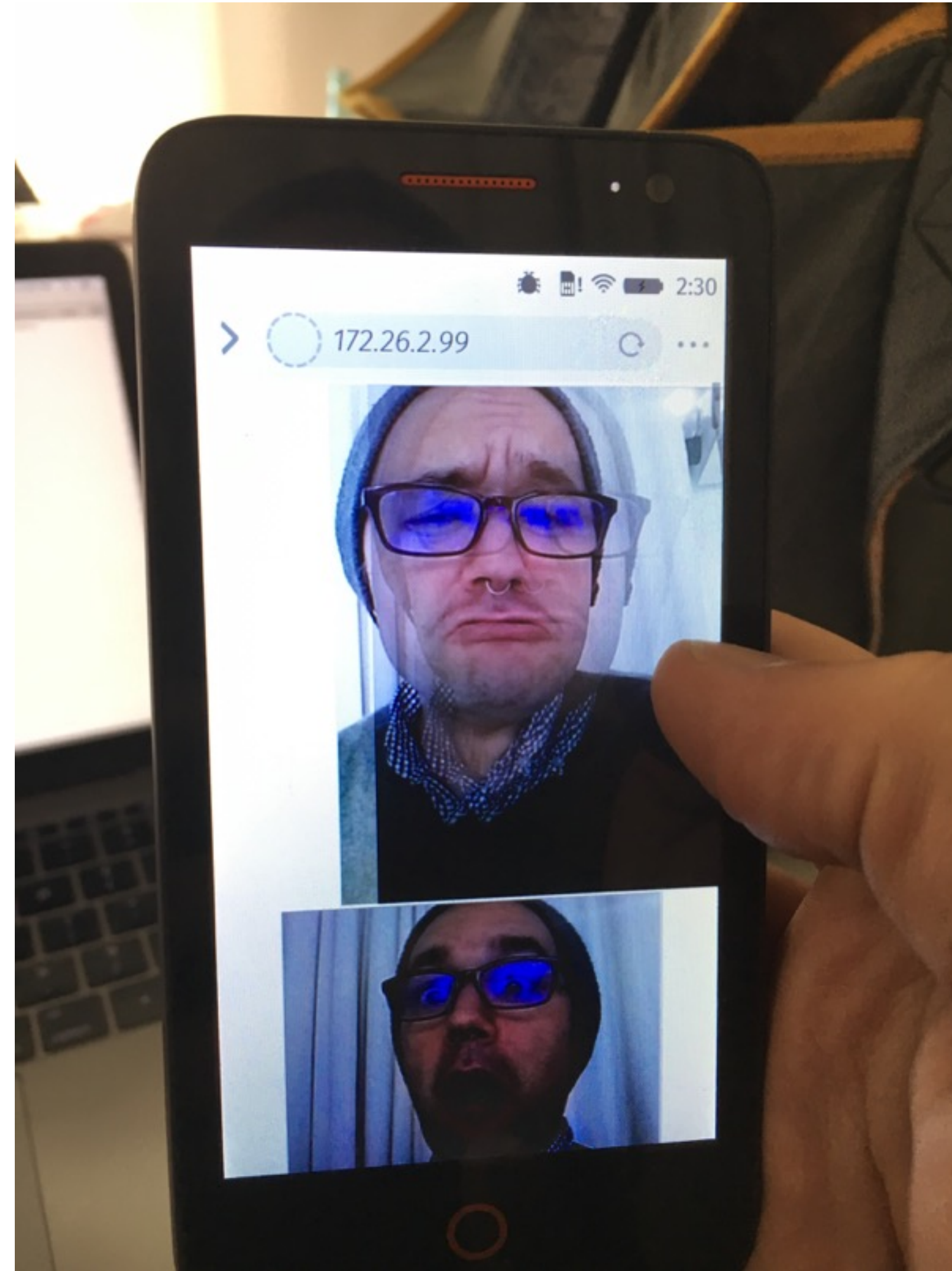
DESCRIPTION:

Webpage available on mobile and desktop for reviewing captured images.

Easy connection to the system to trigger taking a photo according to preferences.
   Hardware filters and software settings.

Hero interaction is swiping to sort images into "treasures" to keep and "trash" to remove.

Compelling swipe interaction trains algorithms and + supports building preferences that empower end-user control.

(Left) Reviewing good and bad images selected by an algorithm.
(Right) Training the algorithm by swiping to delete or save images.

TRASH BEAUTY | SOFTWARE

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Easy connect to system and trigger taking a photo.

People should easily connect to system to do some sorting.

Training platform + preference sharing.

Manage multiple permissions.

(Left) Reviewing good and bad images selected by an algorithm.
(Right) Training the algorithm by swiping to delete or save images.

SCENARIO 1 | PASSIVE CAPTURE EXPERIENCE FLOW

Everyday recording of family members.

A family hangs a camera in the living room and sets a physical filter:
_ Privacy mode: no capture
_ Shy mode: trigger capture with movement/ proximity
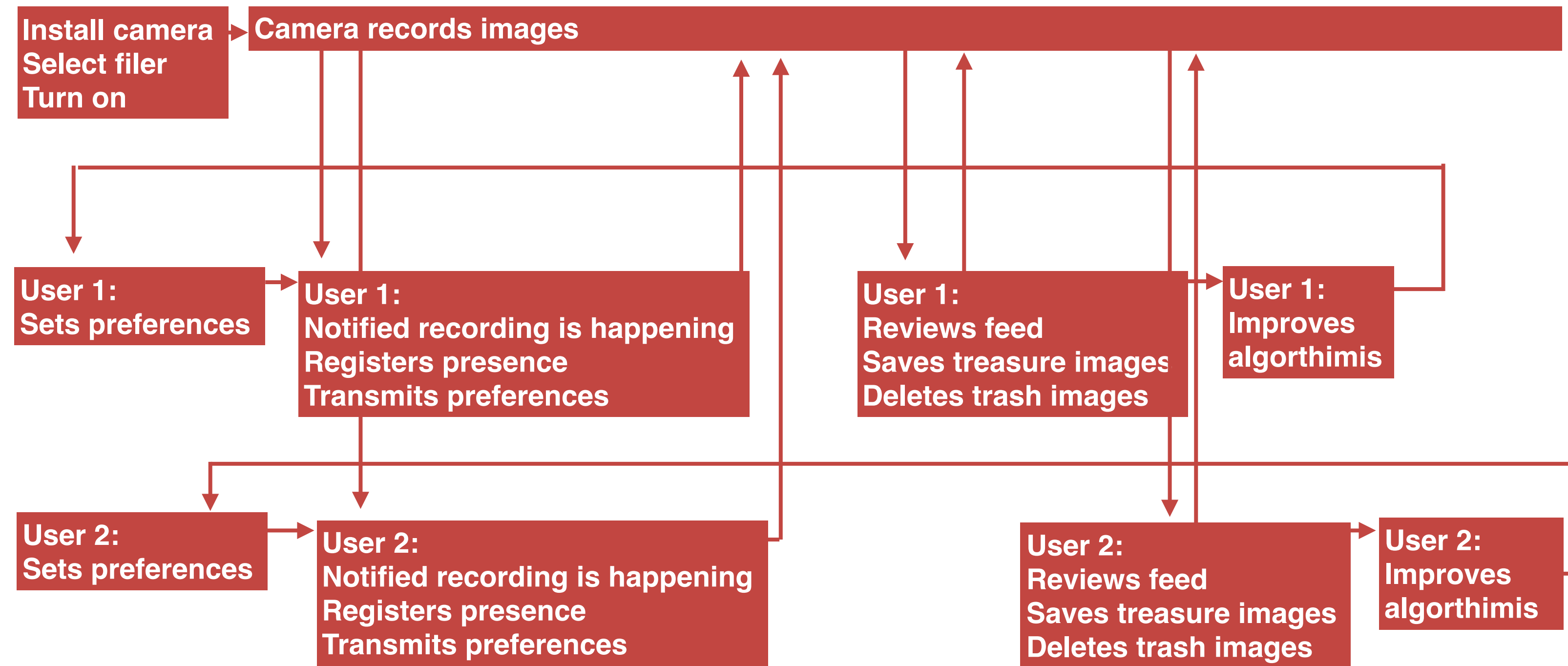_Party mode: continuous capture

This family has their camera set in "shy mode" to passively captures daily activities.

Multiple people are photographed, but their individual preferences for how their data is captured and used are communicated to the system. Two members of the family use their phones with different configurations to communicate their preferences and get notifications.

Each person gets a custom curated list of suggested images to save selected by an algorithm that could manage preferences such as:
_ Time: No photos before 8:00am
_ Wardrobe: No photos in a towel/undressed
_ Mood: No photos today

The interaction of sorting photos into treasure/ trash is compelling, and encourages people to invest time in training the algorithms curating their feed.

Install camera
Select filer
Turn on

Camera records images

User 1:
Sets preferences

User 1:
Notified recording is happening
Registers presence
Transmits preferences

User 1:
Reviews feed
Saves treasure images
Deletes trash images

User 1:
Improves algorthimis

User 2:
Sets preferences

User 2:
Notified recording is happening
Registers presence
Transmits preferences

User 2:
Reviews feed
Saves treasure images
Deletes trash images

User 2:
Improves algorthimis

HARDWARE CONSIDERATIONS

// IoT devices are made by many hardware manufacturers
// Wall-mounted cameras may have other parts of the ecosystem, such as geofenced beacons to indicate a zone of data capture, or servers located in other jurisdictions with other rules.
// Many people will be paired to many devices
// Different devices could include different phones with different hardware, OS, applications, wifi networks and cellular networks

SCENARIO 2 | ACTIVE CAPTURE

Special occasion party photography of guests

The family wants photos of a birthday party, including photos of their guests.

The camera is in party mode continuously capturing

One of the guests has strong privacy-preserving preferences, and does not carry a cellphone. Instead, they use a wearable to jam or transmit a preference limiting the capture of their image.

The family members' camera feed is modified to account for the preferences of guests.

The guest who preferred no photographs is not included in any of the curated suggestions going to any other users,

The "no photography" guest is able to confirm a "delete receipt" that their data will not be captured/used.

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KEY INTERACTIONS

// Reviewing photos to get
    Better treasure: higher quality photos
    Better trash: confidence your deleted images are deleted for others

// Compelling swiping interaction motivates interaction with the algorithm

// People are empowered to take control of their data by understand how their behaviour changes their preferences.

SECURITY & PRIVACY CONCERNS

// Identity management

// Verification/login

// Encrypting notifications and transmitting settings

// Supporting DIY home network maintenance by amateurs with low security skills

// Toolkits to help developers avoid data leaks

// Communicating network health/security

// Communicating privacy settings

UX CHALLENGES

// NOTIFICATIONS
How do IoT devices alert people to what data of theirs is captured and how it will be used?

// SETTINGS/PREFERENCES
How do people people communicate to devices and people with access to the data collected what uses of their data they consent to?

// ENGAGING WITH ALGORITHIMS
How can compelling interaction empower people to take control of their data, understand how their behaviour changes their preferences, and build a culture of participatory data literacy?

//DELETING AND OPTING OUT
How can people delete their data and have confidence that it is deleted for others?
How can account closure help people opt out of participating?