

ThoughtWorks®

ADDING A "LIKE" BUTTON TO THE PHYSICAL WORLD

QCon Voting Box Application

USER FEEDBACK IN THE PHYSICAL WORLD



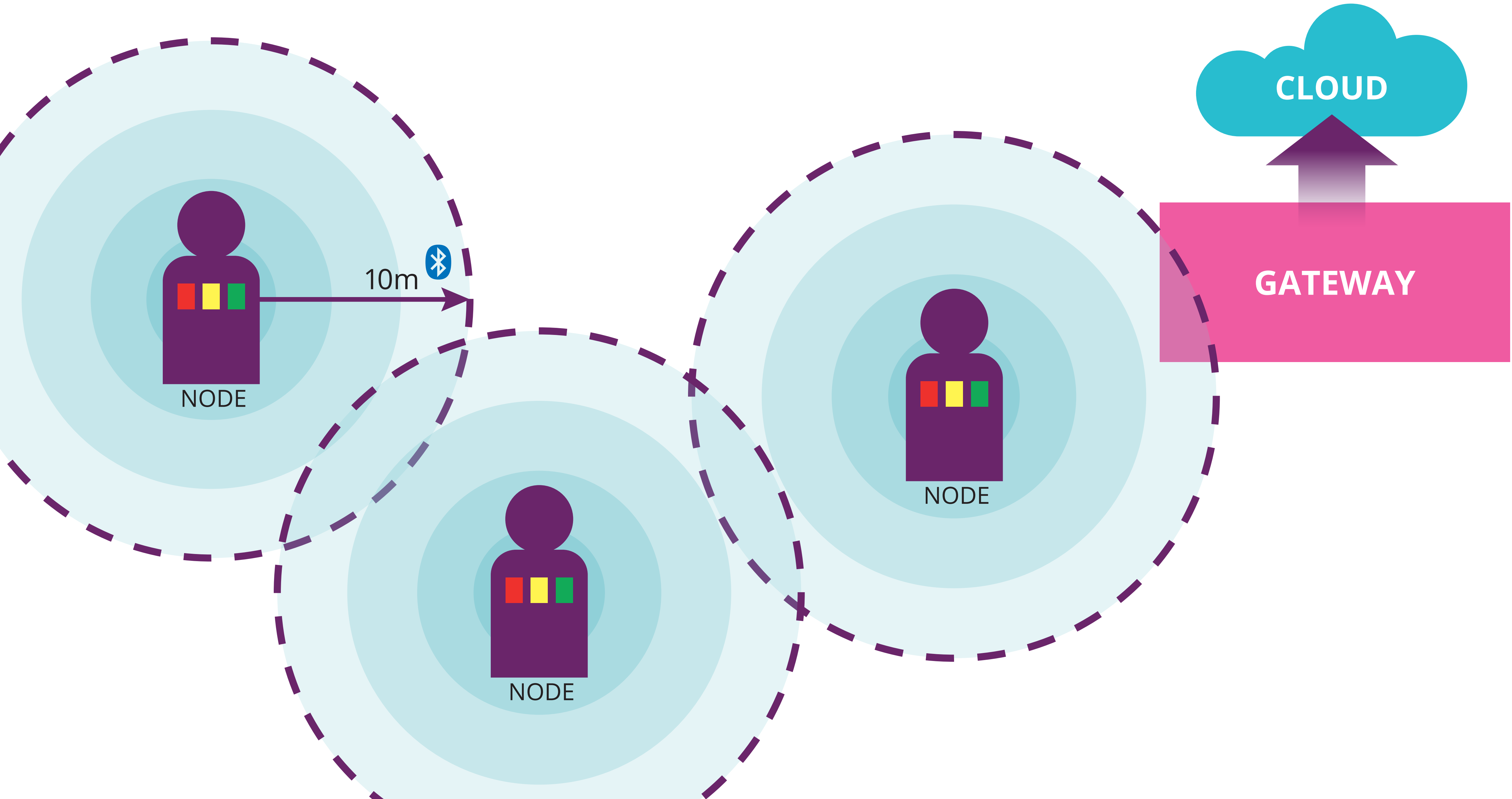
A black tray containing stacks of red, yellow, and green paper. The word "PAPER!" is overlaid in large white text across the center of the image.

PAPER!

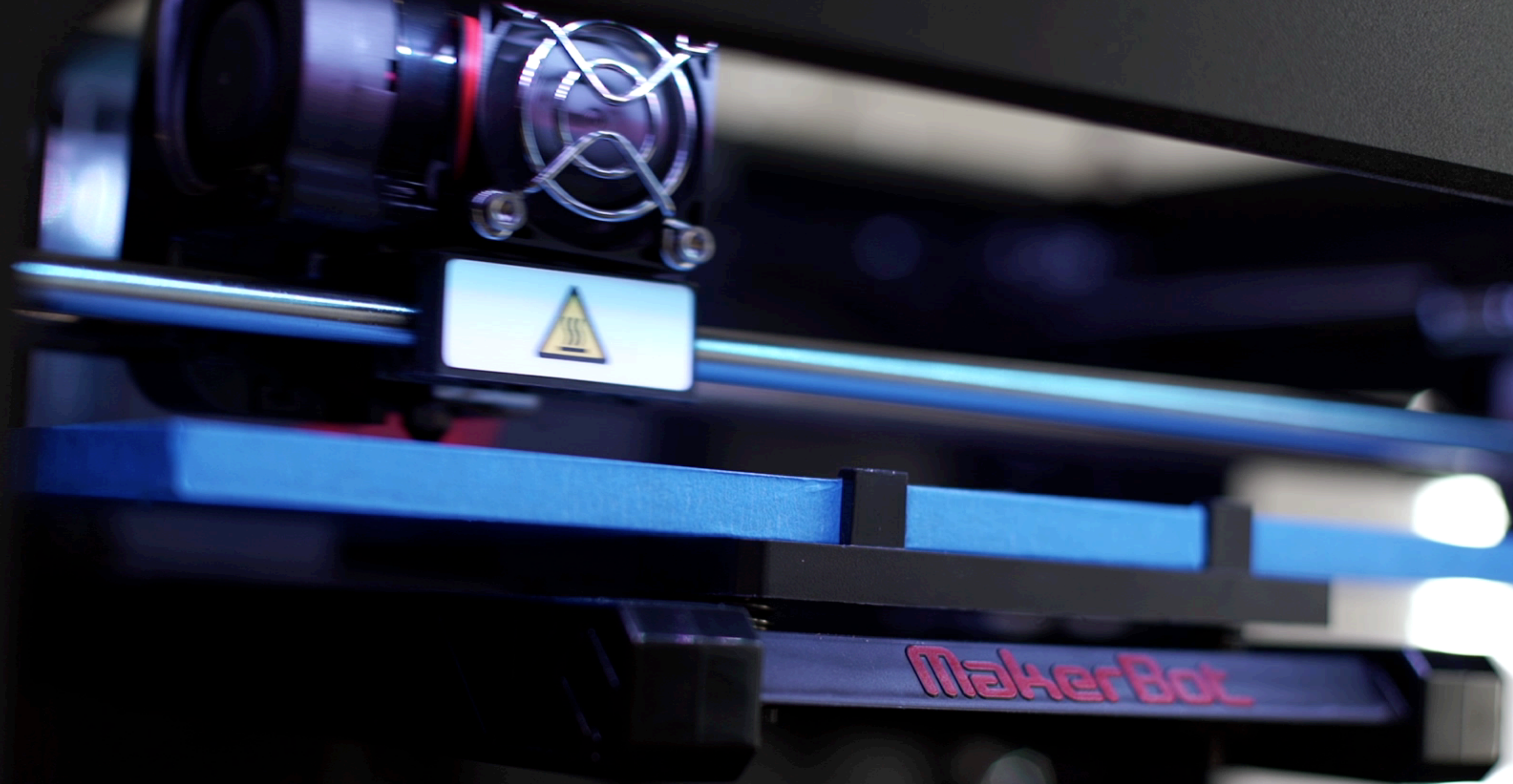
IDENTIFYING ATTENDEES



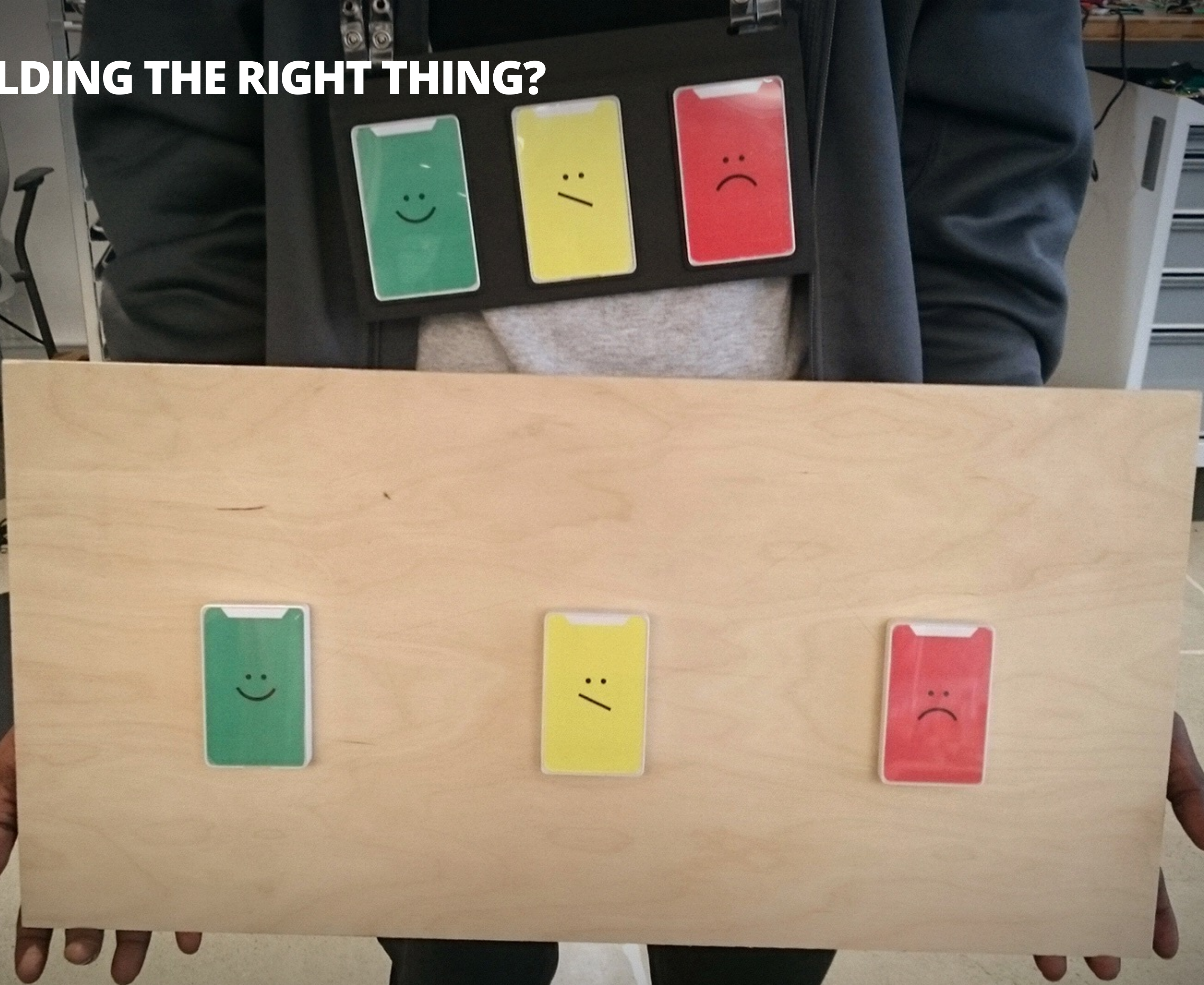
TECHNICAL AND OPERATIONAL CHALLENGES



AGILE IN A PHYSICAL WORLD

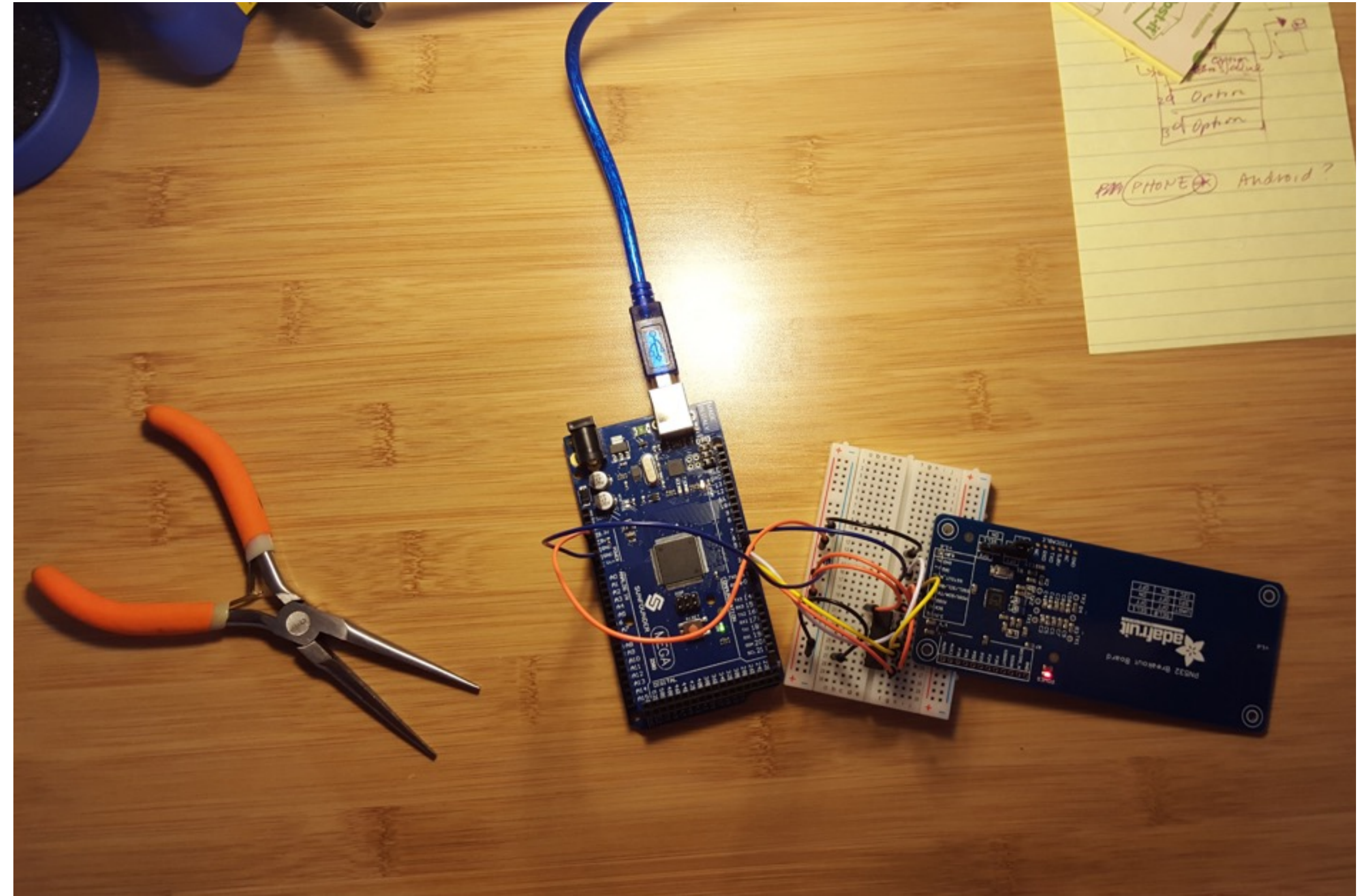


ARE WE BUILDING THE RIGHT THING?



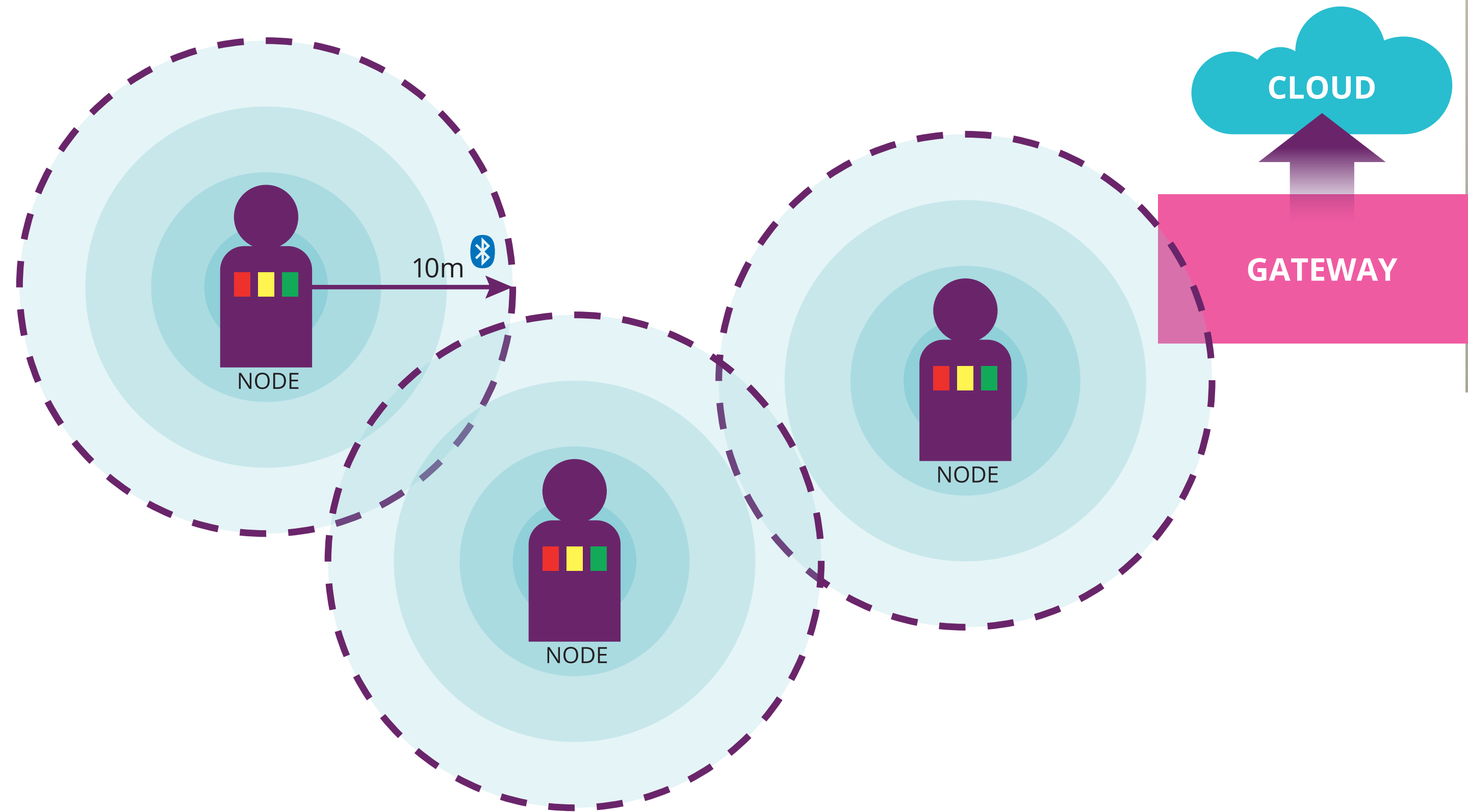
CREATING AN EXPLORATORY PLATFORM

- Using 3D printing
- Hardware Prototyping systems
- Platform



THE PLATFORM

- Battery Powered
- Blue Tooth Mesh



EACH 'VOTING OPTION' A SEPARATE NODE

- Simplified creation of different form factors for user testing and exploration
- Flexibility for re-use in future applications...



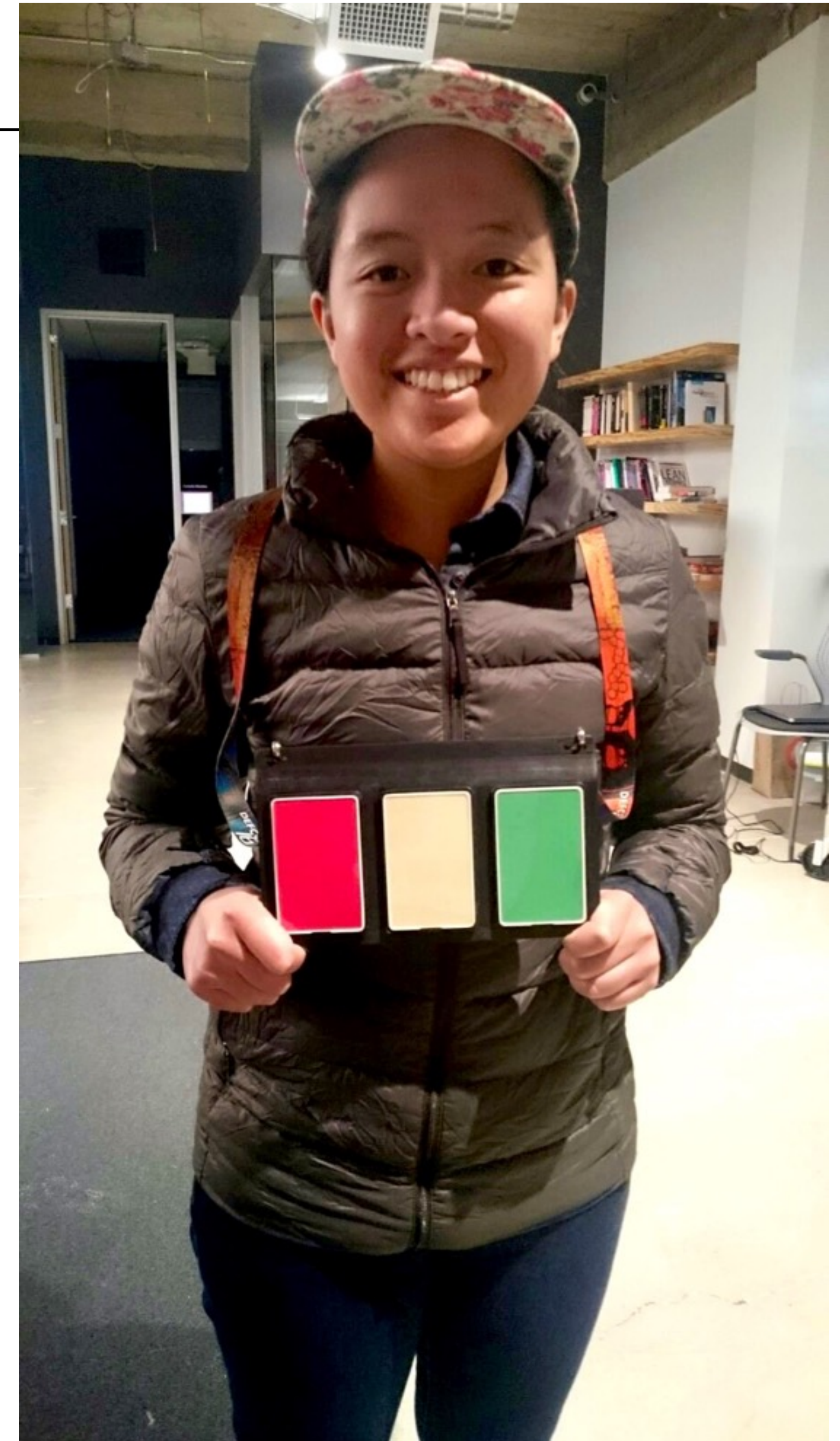
LIVE USER TESTING!

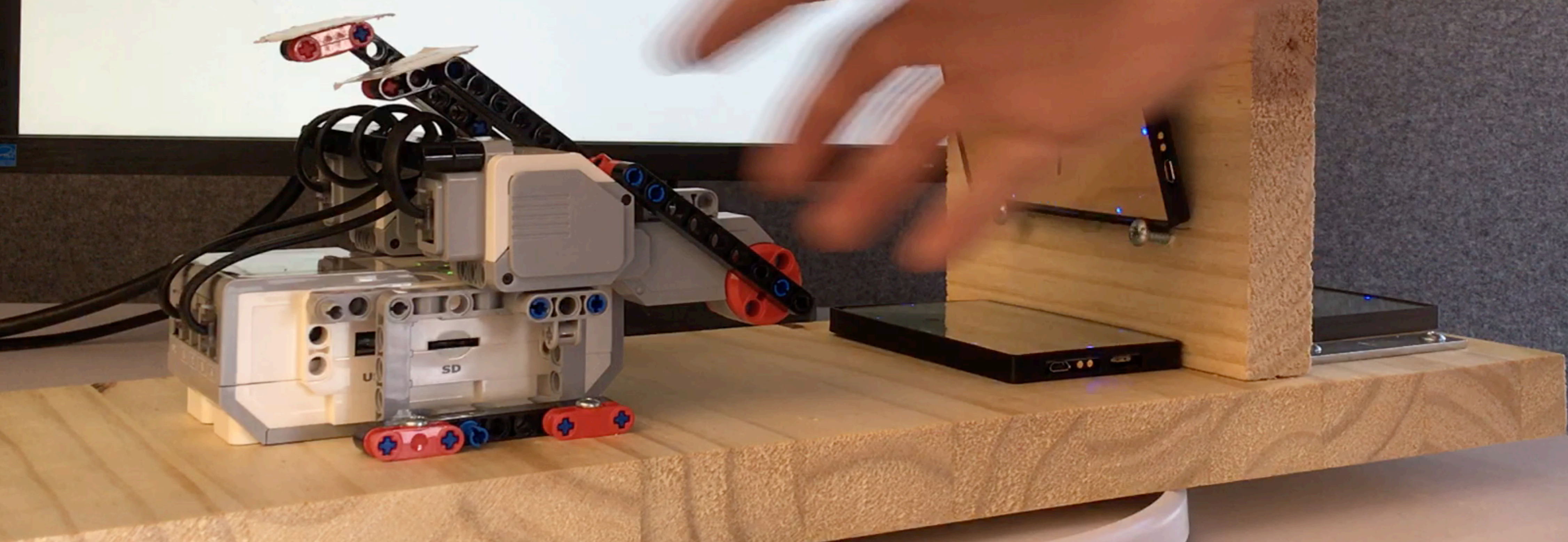
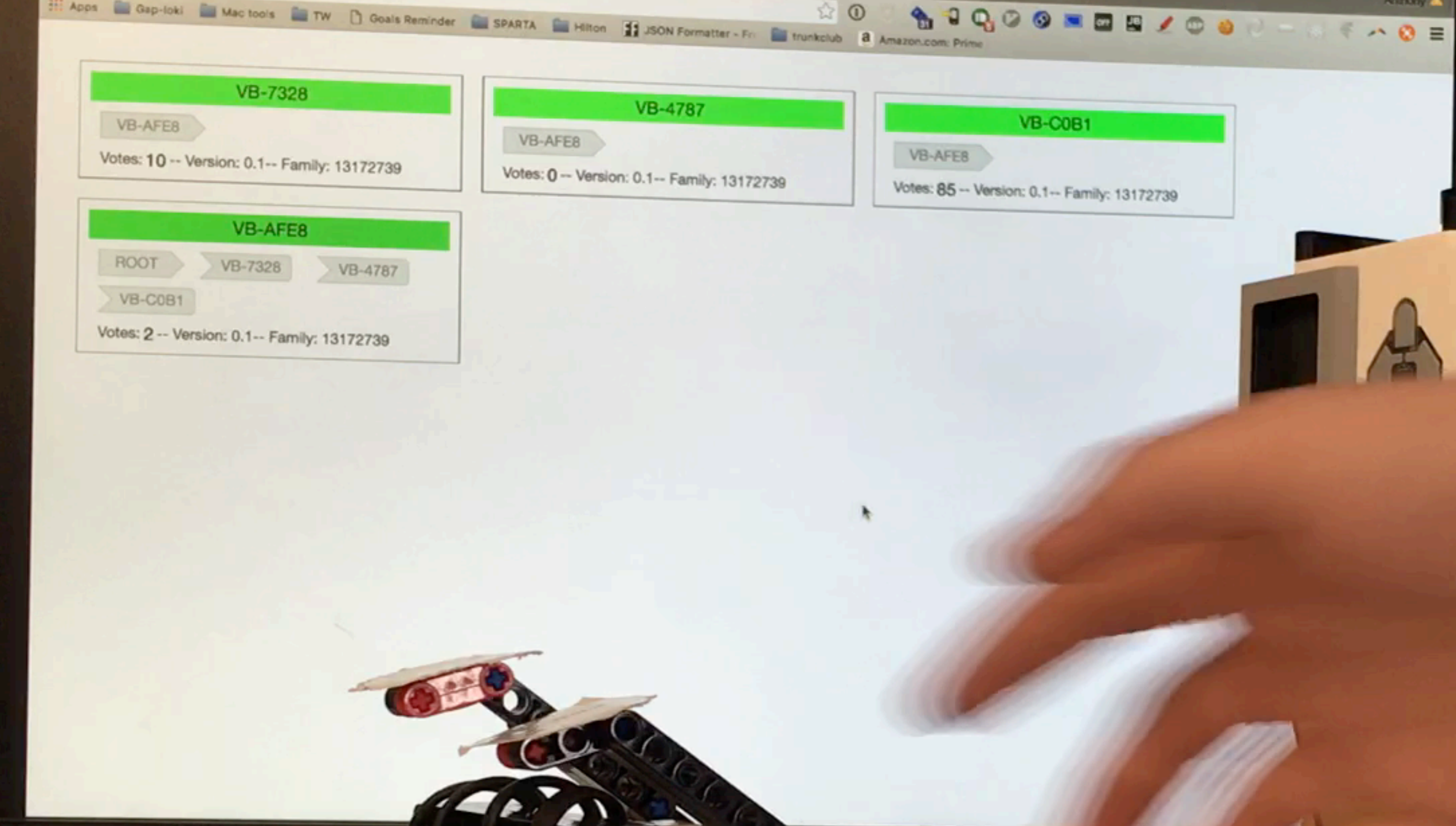
QCon SF - Nov 2015

- Small number of sessions
- Identify any overall issues with service design
- Details of ID and technical infrastructure issues

Lessons learnt...

- NFC tags were randomly placed in badges...
 - Increased friction as the 'golden spot' was sought
- Feedback of a successful vote
 - More LEDS needed!
 - Need a buzzer!
- Badge stuffing
 - NFC tag obscured by business cards





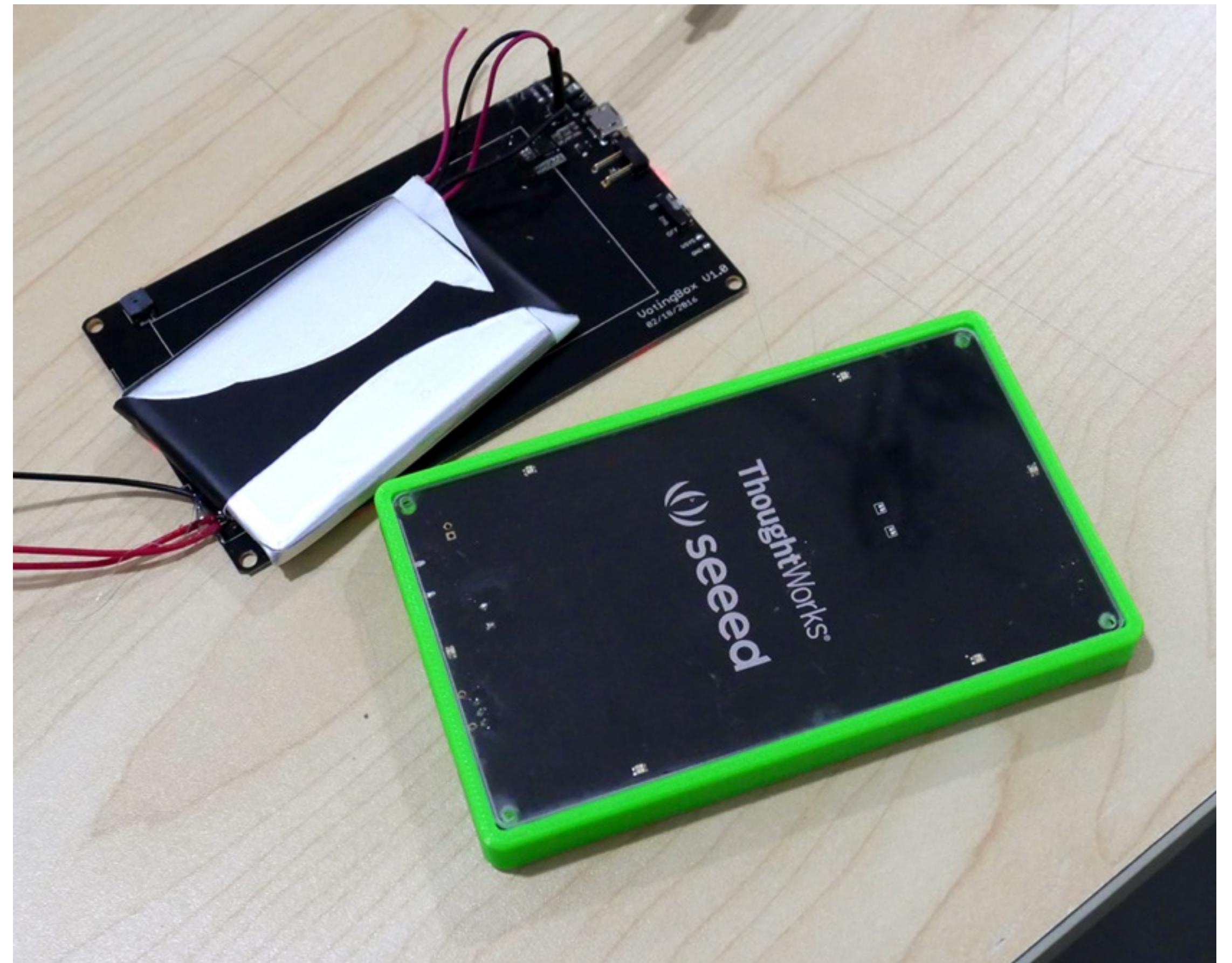
PRODUCTIONIZATION

Integrate novel testing solutions into the CI process

- Software builds can be automatically loaded into a test bed of devices
- Test scripts using 'robots' can be fired to validate the new firmware
- Hardware and ID Platform stable
 - Software continues to evolve

New 'Board Spin' in Shenzhen

- Typically plan for three or four spins
 - Initial candidate
 - Fix issues plus minor enhancements
 - Final production candidate
 - Radio and certification fixes - as required



HARDWARE REALLY IS A SOFTWARE PROBLEM

Using standard hardware modules to create functional prototypes, the hard hardware bits can be isolated and left to specialists

Majority of a solutions features are expressed in software running on the modules

Creating a lego like environment where we can mix and match

Except there is nasty reality of custom hardware where choosing the right ODM helps alleviate that... but requires constant management.

THANK YOU

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