Creating an Inclusive and Empowering Makerspace

Boise State University Albertsons Library's MakerLab
Amy Vecchione, Deana Brown & Donovan Kay

Five Elements of a Successful Makerspace

Financial model

Connections with companies

Culture of happy collisions

Student learning experiences are well crafted

Technical expertise

Create a Great Team

A Vision

The makerspace is a radically inclusive community with a clear pipeline to fabrication resources allowing students to design ideas, objects, and dreams

Status of Makerspaces

At your institution

Scattered

Unified

Not yet begun

Advanced

How do you self identify?

- I make things
- I'm a maker
- I was a maker before we called ourselves maker
- I don't know if I make things
- I don't make anything

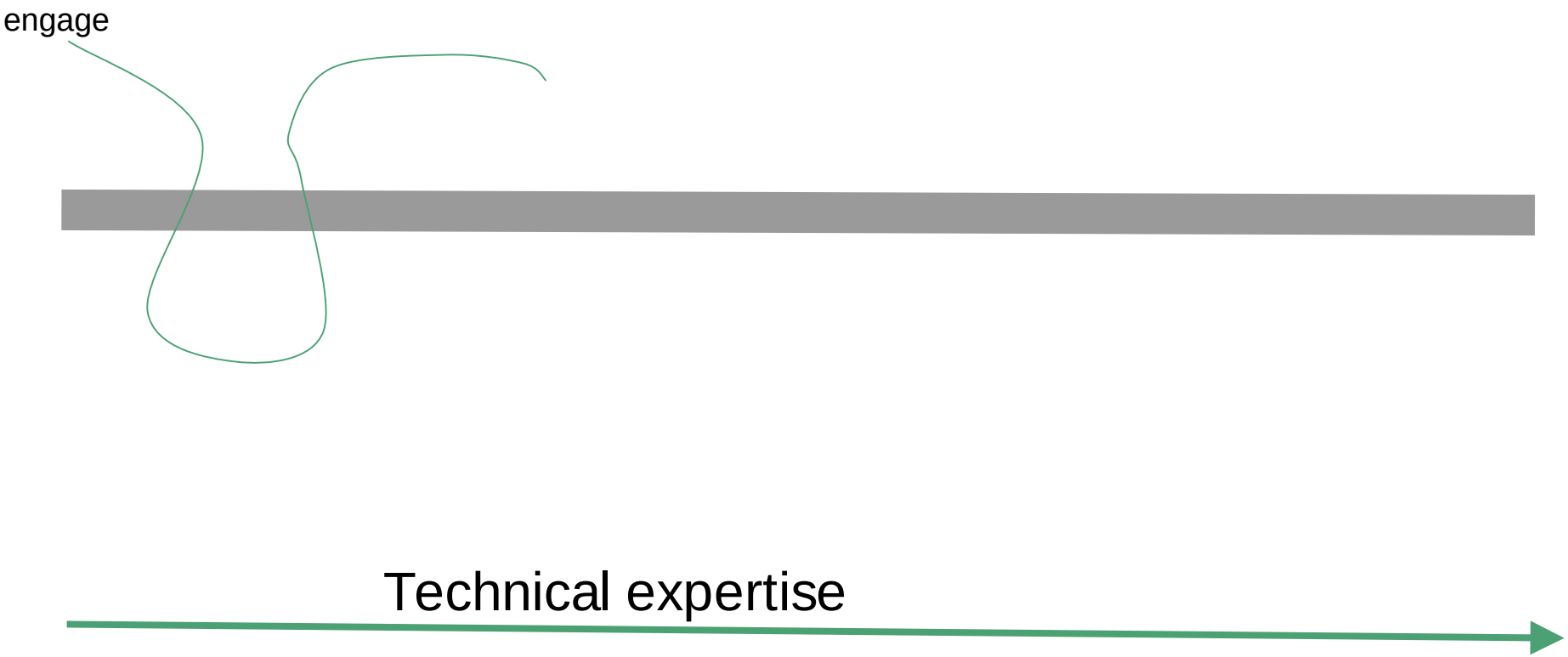
Culture

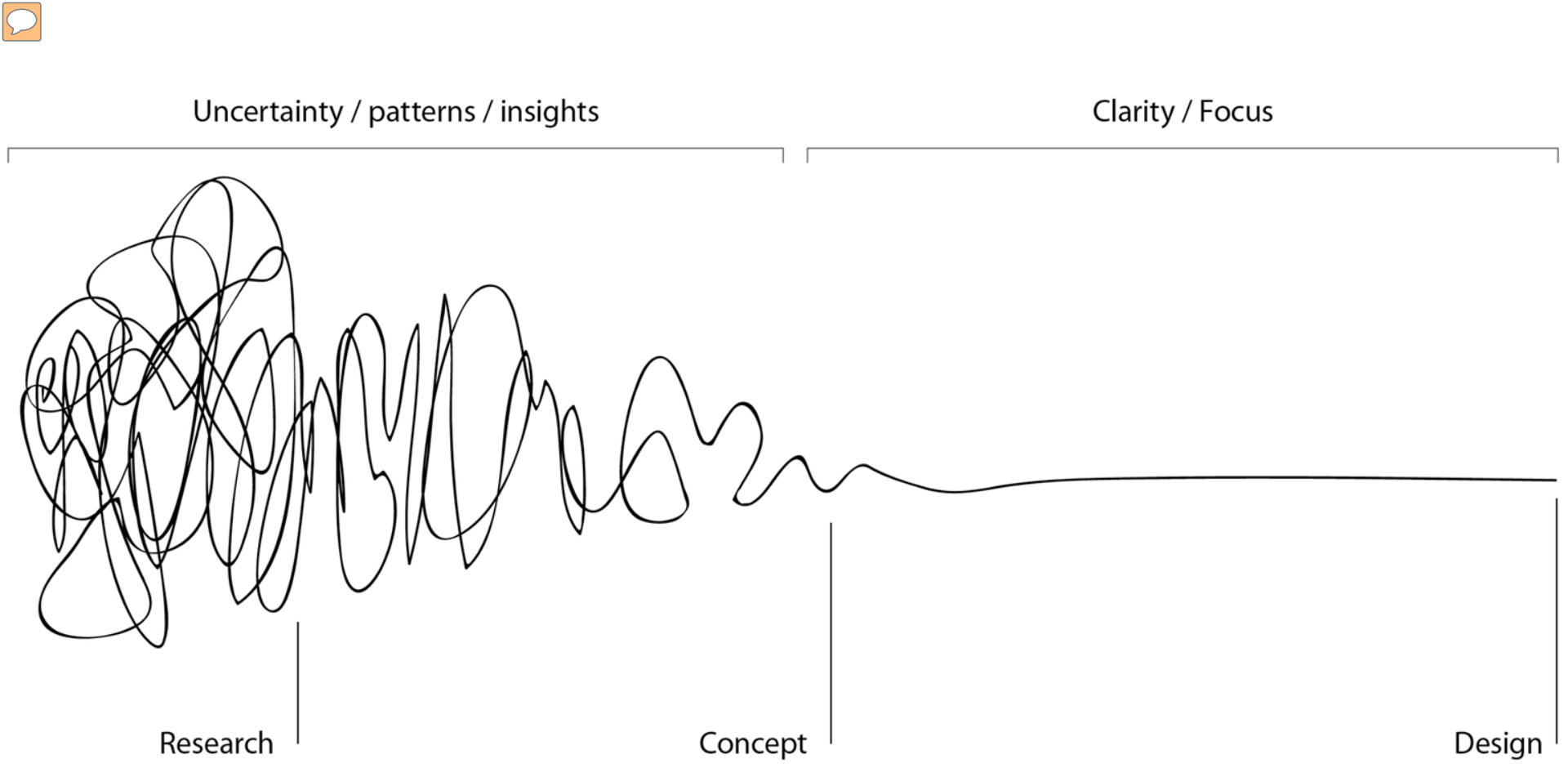
Process

1. Reach out to the right groups
2. Partner with like minded individuals
3. Craft an amazing team
4. Design and deliver crafted student learning experiences
5. Stress the informal learning in a risk free learning environment
6. Empower everyone
7. Move everyone on up the levels of engagement
8. Create a space for design thinking

Inclusive

ALWAYS WEAR


engage
Technical expertise


Uncertainty / patterns / insights
Clarity / Focus
Research
Concept
Design

Makerspaces are
design thinking hubs

Engagement with the MakerLab

Intro Level	download file from Thingiverse, expresses interest, becomes a part of the community
Level 2	modifies a print in TinkerCad, tinkers in a workshop
Level 3	starts a project, meets with librarians

Level 4	becomes a part of the “After Hours” program, getting trained on software
Level 5	becomes a member of the Creative Technologies Association or engages in critical reflection of their projects, prototyping and troubleshooting
Level 6	works or volunteers in the MakerLab
Expert Level	offers workshops on 3D design & trains others

i s a l i f e ski l l

Amy Vecchione & Deana Brown Boise State University

Technical Skill Gap

Pilot Project

students working on their own prototypes

get trained and privileged access

reduce the queue

mentorship style relationships

building capacity

increasing skills they can apply in the workforce

Create Connections

BOISE STATE
DROPKICK
MAPLE GROVE

Using a Slack Channel

scottschmader 12:34 PM
We're turning it into a modifiable Arduino/Pi learning and demonstration station where people can create their own inputs, and outputs, and program them to do

👍 1

cool things.

iang 5:50 PM
Current Votes
1.CTaz : 1
2.CTAz : 3
3.CTAZ : 1
4. Czar Cat : ???

amyvecchione 7:14 PM
Czar cats.

amyvecchione 7:50 PM
uploaded an image: Slack for iOS Upload

😸 1

amyvecchione 7:51 PM
I should explain at some point that this relates somehow to @carlb telling me that he is the supreme overlord of 3D printers. Maybe he's the CTA czar of 3D printers.

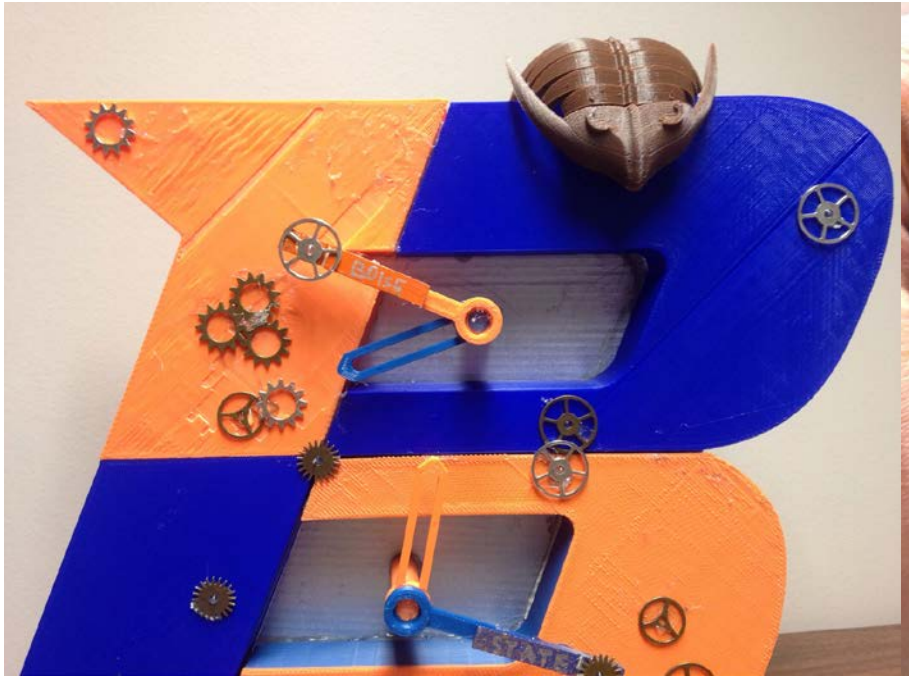
carlb 8:06 PM
If ony czar had a hard C like Carl.

amyvecchione 8:07 PM
Unrelated to CTAz: who sells lilypad Arduino locally?

scottschmader 8:07 PM
Czarl?

Reinforce inside jokes

Hiding Trilobites



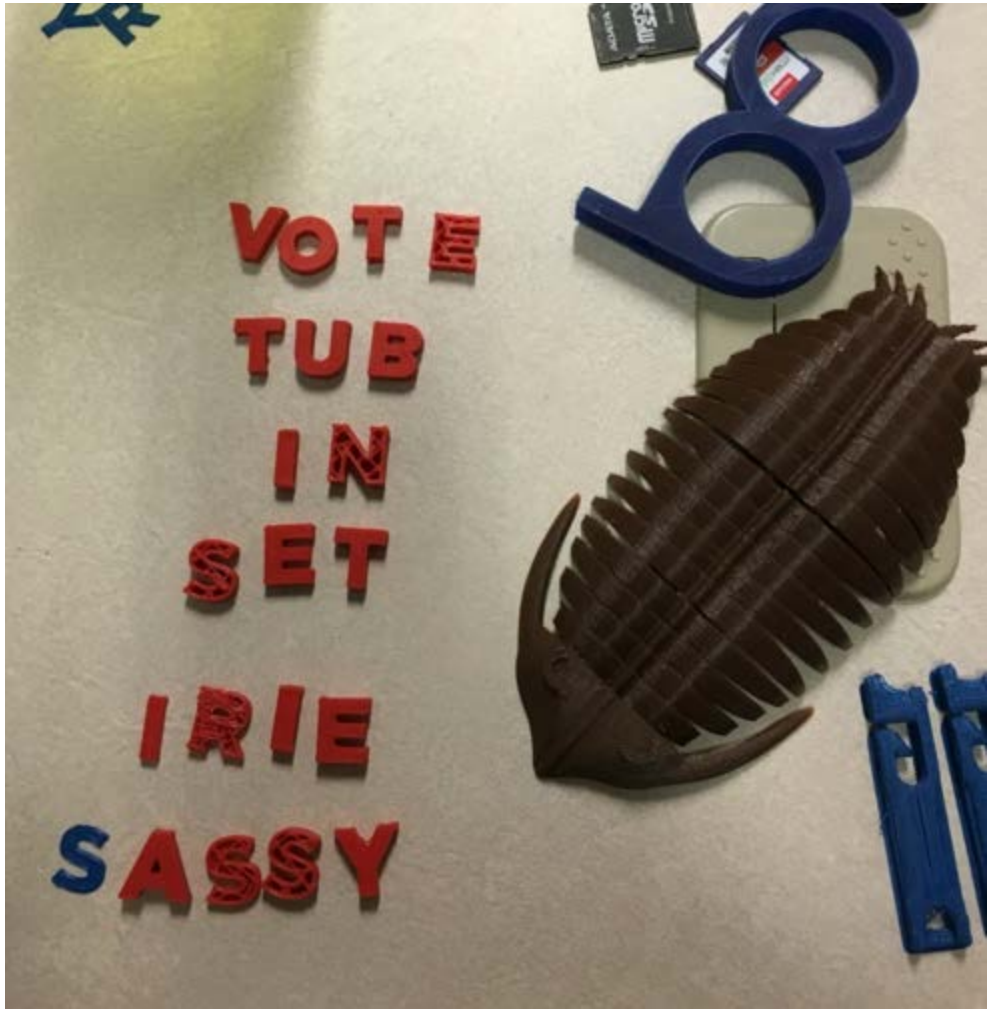
“Let’s Let Them”

Apple TV + Raspberry Pi

ICICLE

SENSITIVE
TOY BAT
USER

USE TOASTS
BE RITZY


VOTE
TUB
IN
SET
IRIE
SASSY

Sortitators

AMANDA BASCHNAGEL

Student Employee
Web and Emerging Technologies Unit
amandabaschnagel@u. boisestate.edu

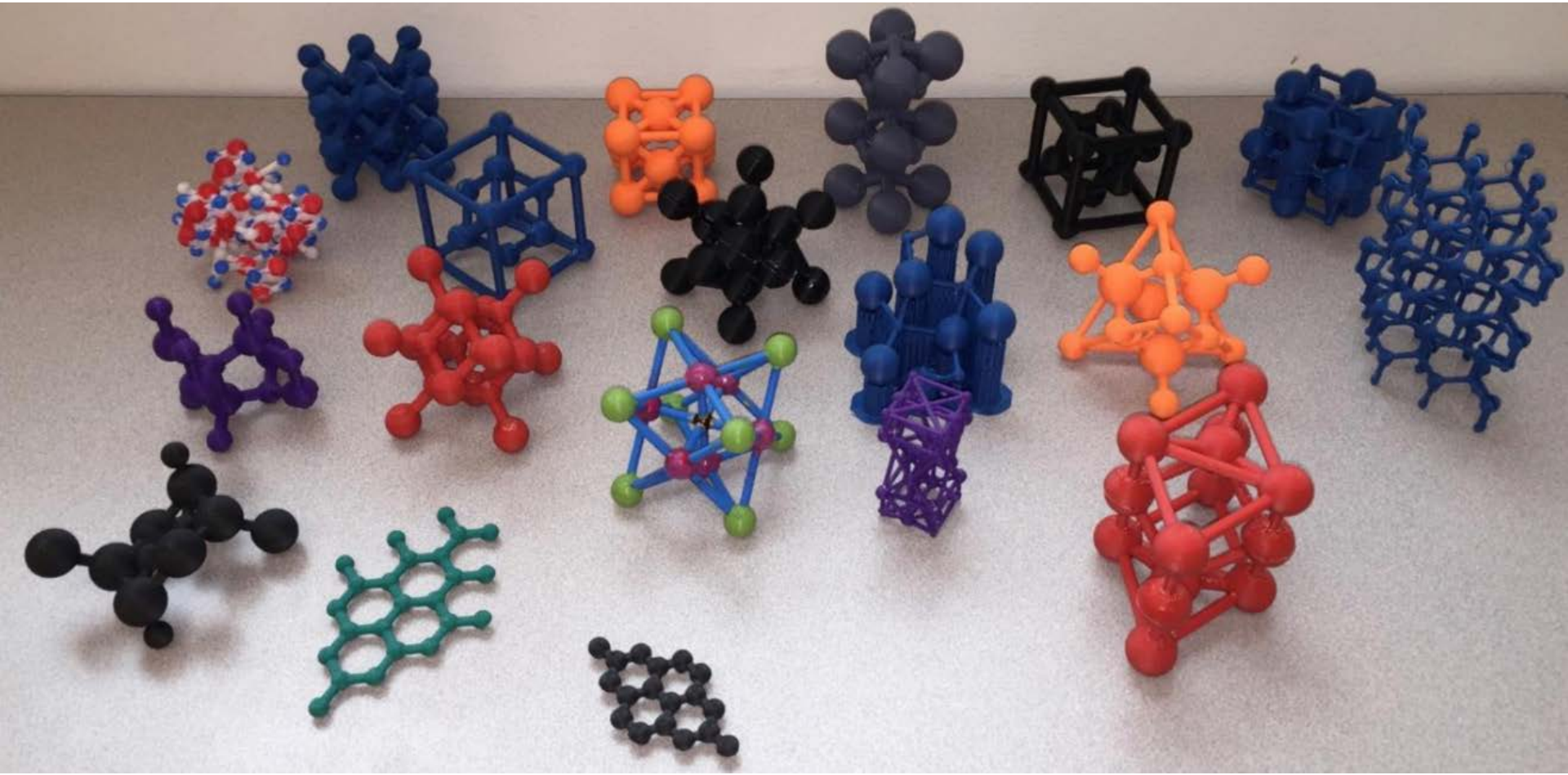
I can help you with...

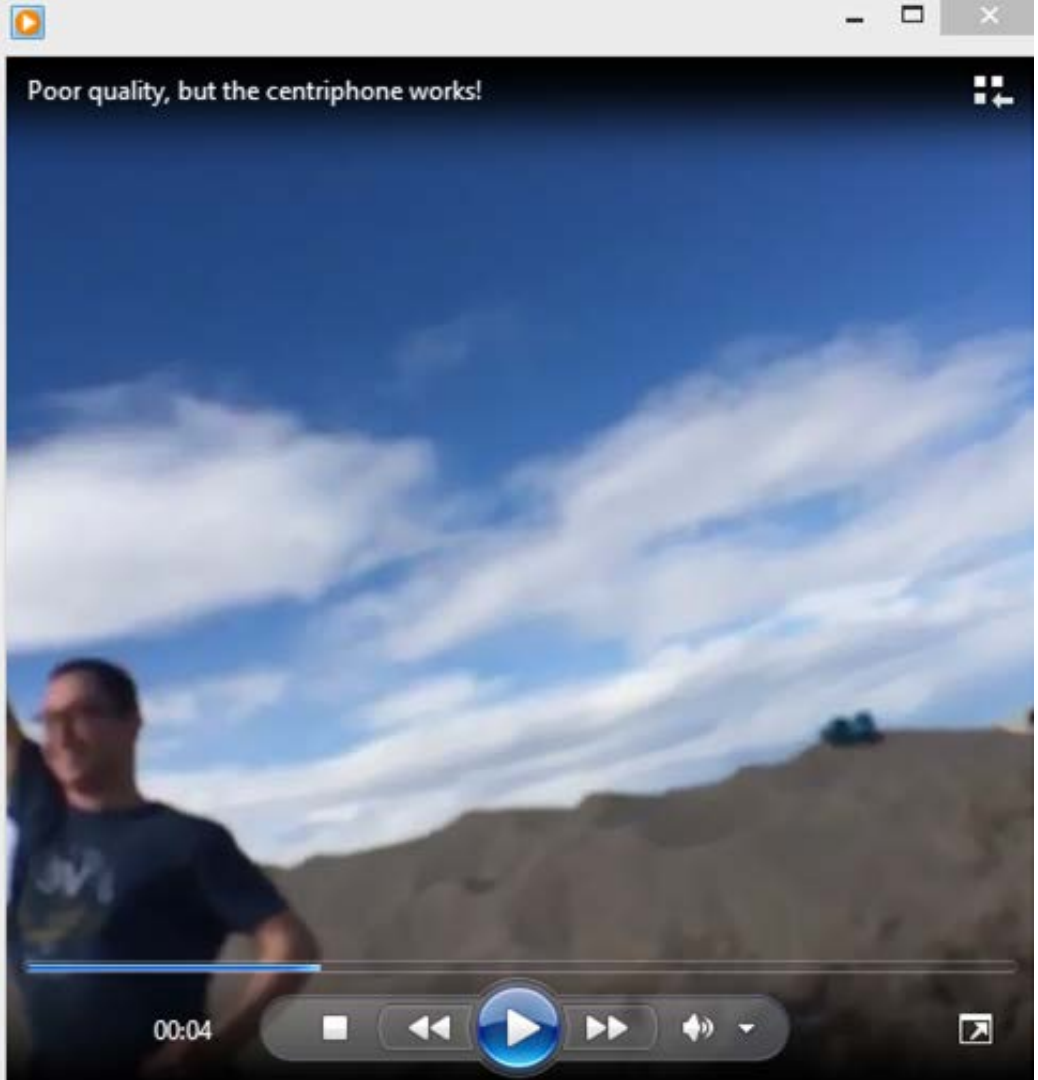
User Experience
3D Printing
Video
Photoshop
Green Screen
Vinyl Cutting

Some Final Projects

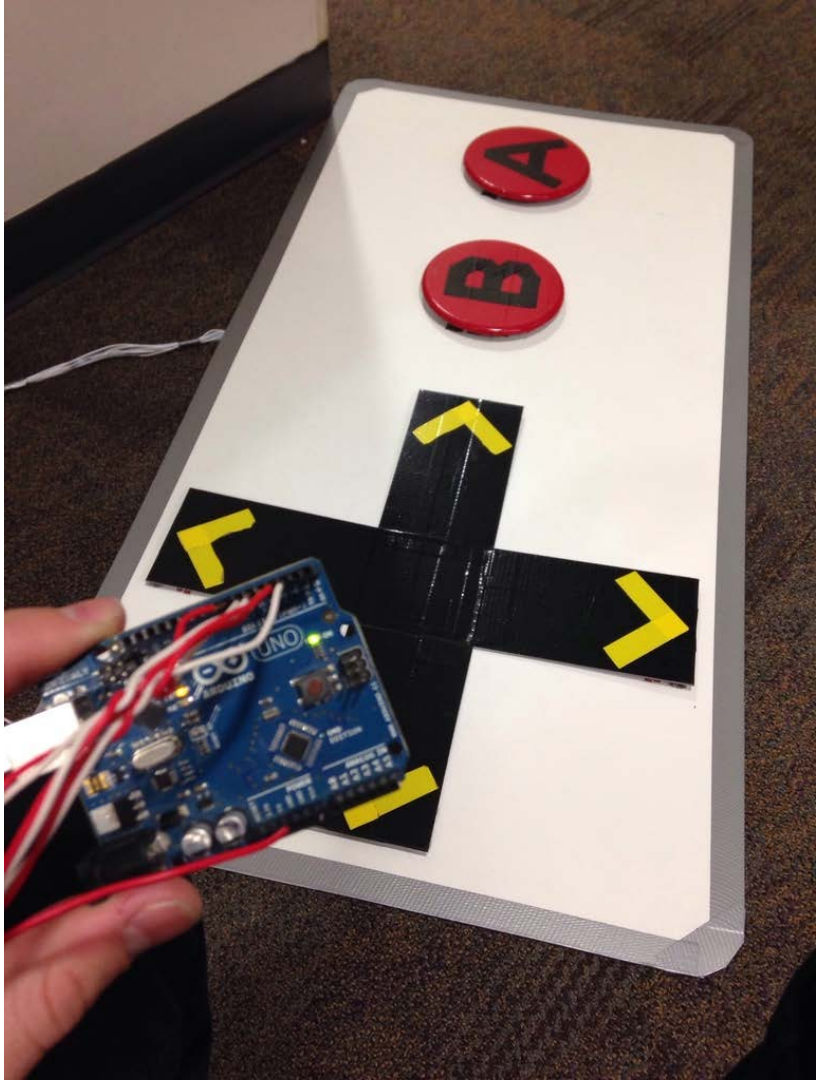
publication was made
possible by NIH
Grant # P20 RR016454
from the INBRE Program of
the National Center for
Research Resources

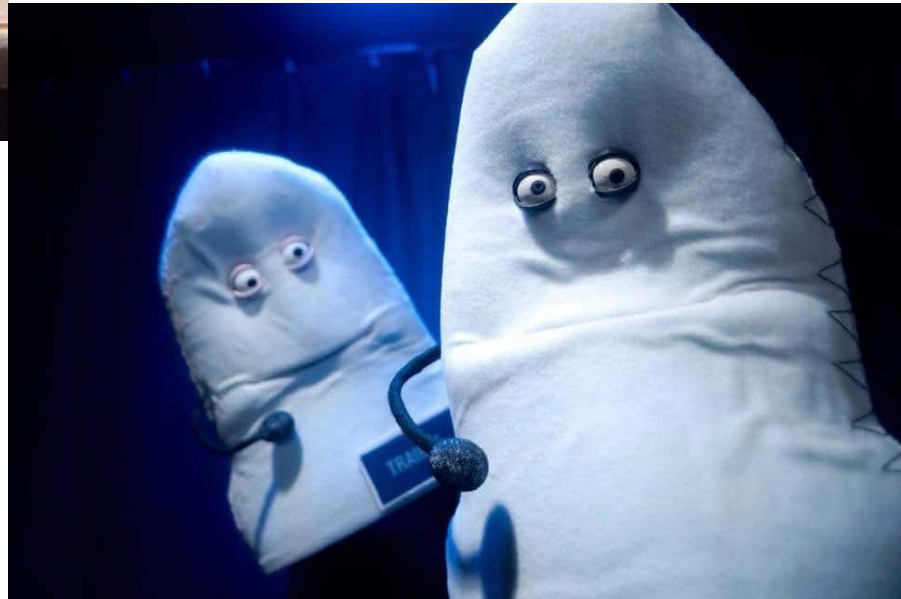
HOLLI
STER




Poor quality, but the centriphone works!
00:04

A
B


A
B
UNO



BE
AUR

Results from Georgia Tech

1. Provide students with free access to hands-on, state-of-the-art prototyping technologies 4.69

2. Serve as a cultural hub and meeting ground
4.05

3. Bolster design within curricula including: introductory design courses, design courses 4.28

4. Bolster design in extracurricular activities, organizations, and teams
4.37

5. Encourage collaboration between diverse teams of students from all years and majors 4.30

6. Welcome all types of projects, personal and professional
4.40

7. Excite students for careers involving creativity, design, innovation, and invention
4.52

8. Enable students to tackle open-ended, real world challenges

Five Elements of a Successful Makerspace

Financial model

Connections with companies

Culture of happy collisions

Student learning experiences are well crafted

Technical expertise

Questions

Contact Info

amyvecchione@boisestate.edu
@librarythinking

deanabrown@boisestate.edu