



Designing and Facilitating a Media Arts and Technology Makerspace

Jared O'Leary
BootUp PD

What's the plan?

- ▶ Media arts and technology makerspace?
- ▶ Designing and facilitating
- ▶ Discussion

How to reach the resources

- www.JaredOLEary.com
- Presentations
 - Designing and Facilitating a Media Arts and Technology Makerspace



Makerspace?

Media arts?

Media Arts and Technology Makerspace?



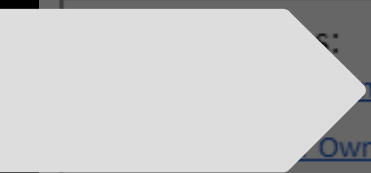
Search



Makerspace Projects

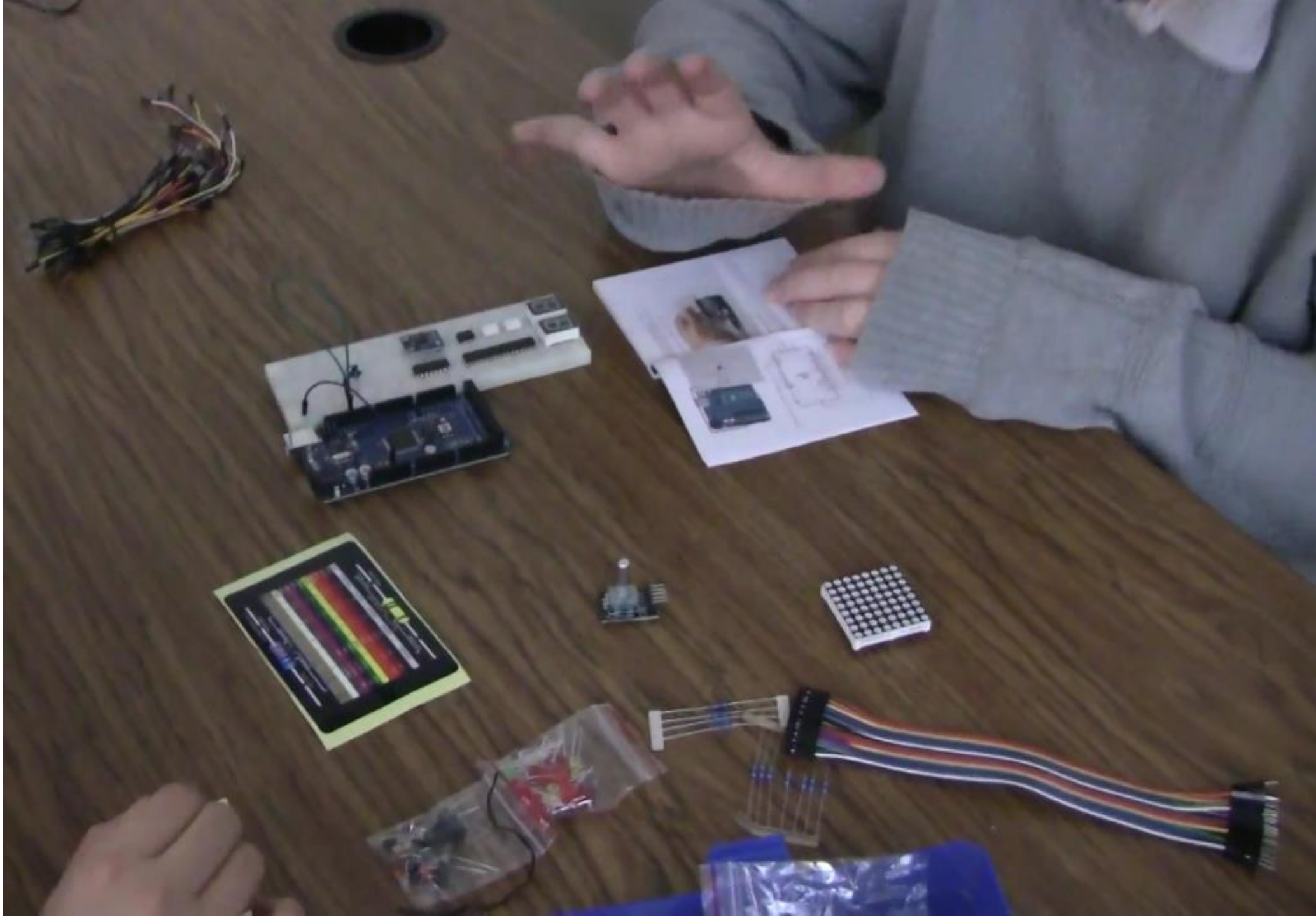
If you are on a mobile device, click here to open up the Google Doc.

Makerspace Projects

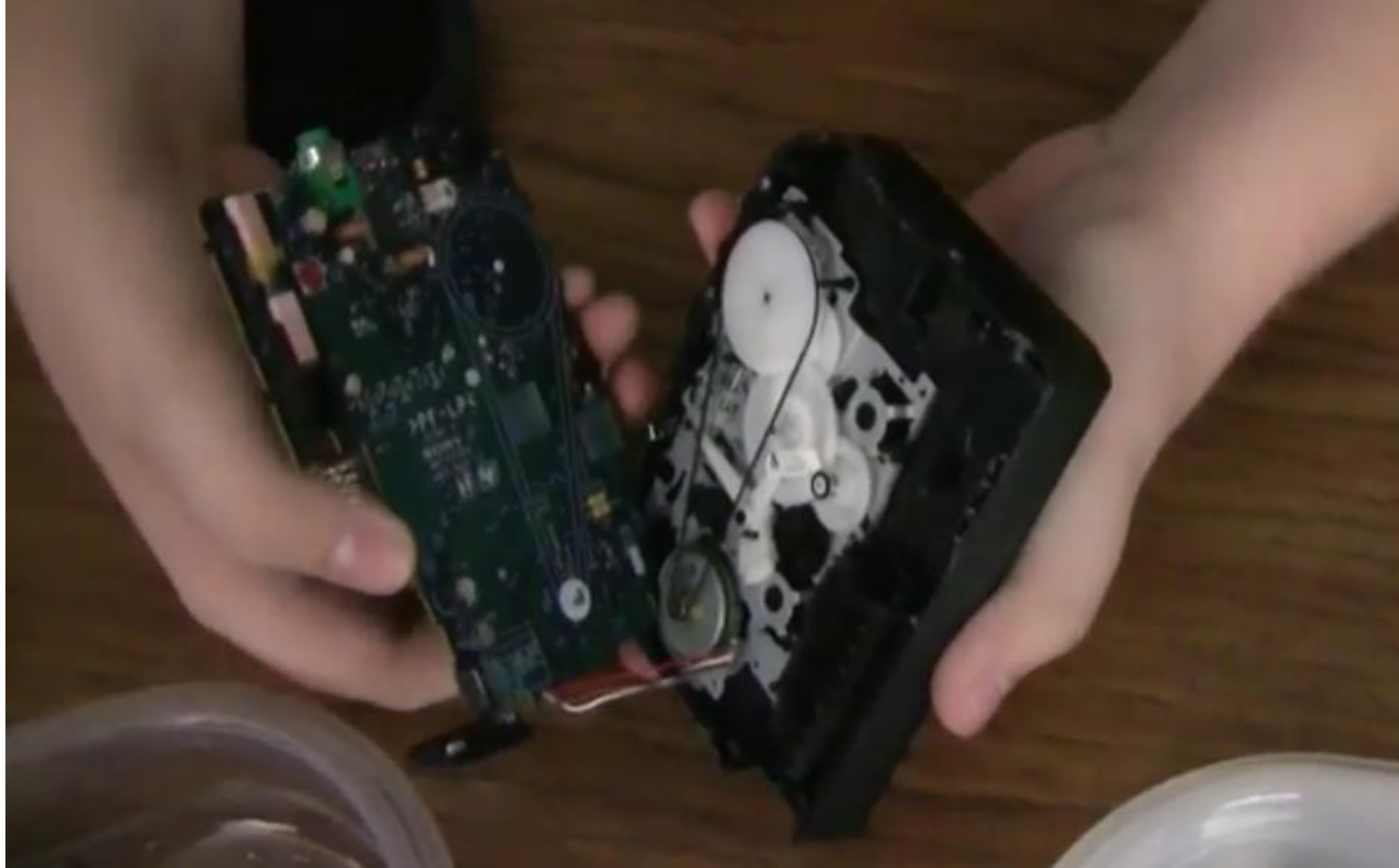


- [Working with an Arduino](#)
- [Create Your Own Music](#)
- [Create Your Own Project](#)
- [Design Your Own Interface \(MaKey MaKey\)](#)
- [Everyday Object Drum Beat](#)
- [Foley Project \(Adding your own sounds, music, and dialogue to pre-recorded media\)](#)
- [Interactive Story](#)
- [Original Piece of Music](#)

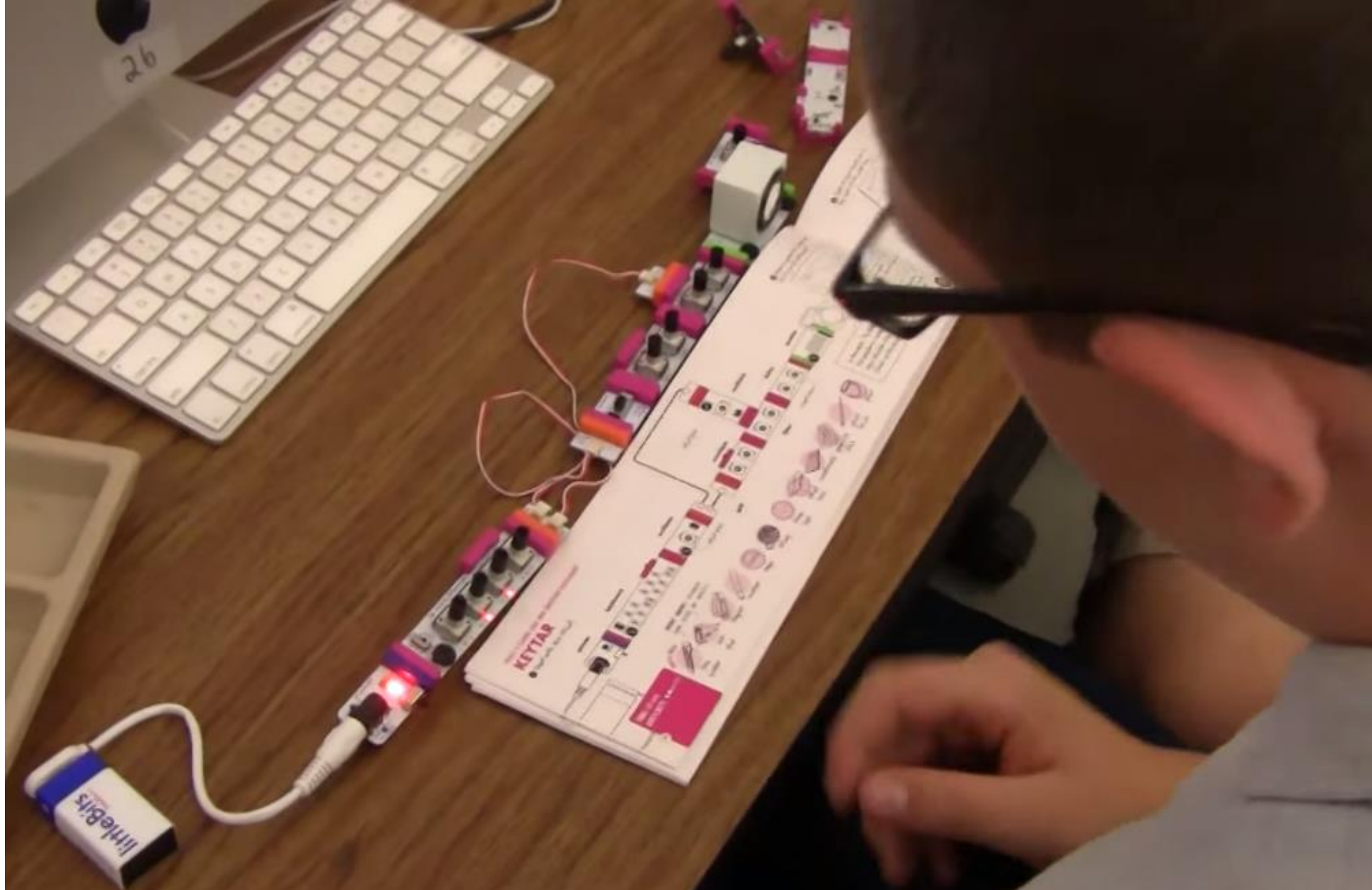
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DT Media Arts and Technology - Spring, 2015

5 months

#DT



Music from 6-8 graders in Media Arts and Technology at DT.

#DT #2015 #DT

- 1 Project Zer0 ▶ 2
- 2 Beats - 2:11:15, 8.30 AM ▶ 9
- 3 Diegos beat ▶ 6

jdoleary

👤 5 🎧 95

More from this user [View all](#)



jdoleary Making Music with Computers - Spr...

Go mobile



0:33

2:34



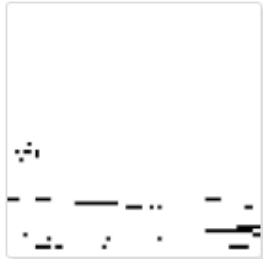
Playing from DT Media Arts and Technology ... Project Zer0



Completed Sights 75 items



boss battle by da...



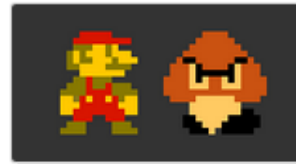
buggy game.gif



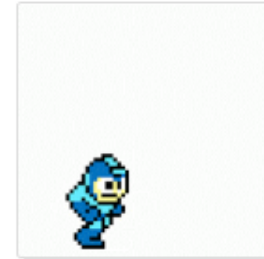
CC.png



Charley's Luigi.png



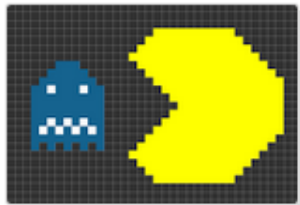
Charley's Mario ...



Charley's Mega...



Charley's O'Lear...



Charley's Pac-M...



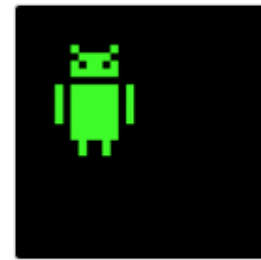
crazy .png



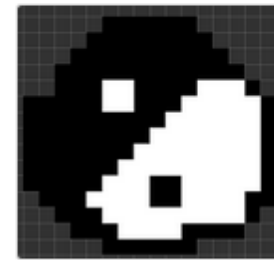
creeper.gif



crying by nathani...



daniel android.gif



daniel yin yang.....



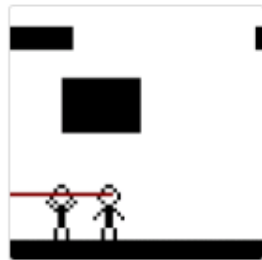
daniel pixel art of...



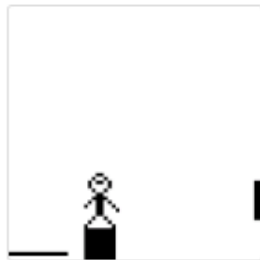
daniel pixel art.png



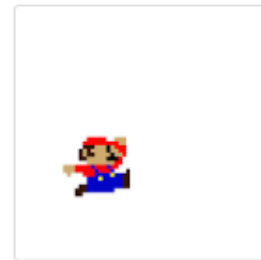
Daniel's AC.gif



daniel's game (1...



daniel's game.gif



Daniel's Mario th...

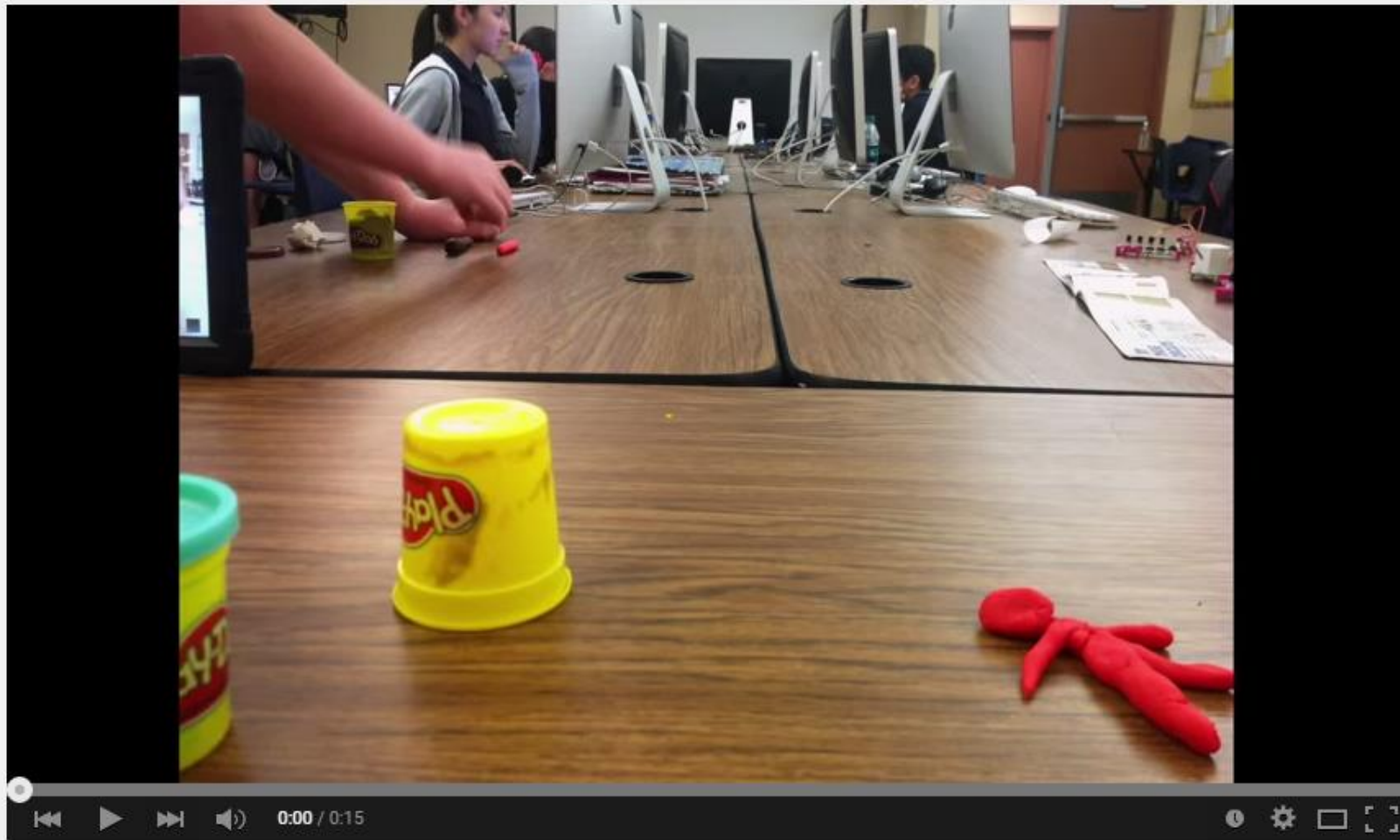


daniel's slander...



Early Morning Br...





Media Arts and Technology - Class Creations

by Jared O'Leary • 4/6 videos



1 Pirate Ghost Jared O'Leary

2 snake race Jared O'Leary

3 Snake Race 2 Jared O'Leary

▶ Snake Attack Jared O'Leary

5 Bullying Video Jared O'Leary

6 Our Family - Bullying video slideshow Jared O'Leary



Analytics Video Manager

Snake Attack

Jared O'Leary

Channel settings

27 views

How to Spot a Fake Nendoroid by Bloosica 31,593 views 5:11

soup injection2 by Erlend Viken Recommended for you 2:38



Media Arts and Technology - Class Creations

by Jared O'Leary • 1/6 videos



- 1 **Pirate Ghost**
Jared O'Leary
- 2 **snake race**
Jared O'Leary
- 3 **Snake Race 2**
Jared O'Leary
- 4 **Snake Attack**
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Video Manager

Pirate Ghost

Jared O'Leary
Channel settings

10 views

Bravely Default - Part 27: SS Funky Francisca | Ghost Ship and Pirate Captain
 by AbdallahSmash026
 7,684 views

Imaginext Ghost Pirate Island Capture Aquaman Robo Shark Batman and Robin
 by Just4fun290
 1,703,147 views



Scratch Project: Soccer for Life

Code Editor:

```

when green flag clicked
  go to x: 423 y: 20
  point in direction 180
  set direction to 180
  play sound :saxophone153251
  loop until pressed space
  turn 90 degrees
  loop until pressed space
  turn 90 degrees
  point in direction 0
  point towards mouse cursor
  go to x: 153 y: 23
  go to mouse pointer
  glide 1 sec to x: 152 y: 23
  change > by 10
  set x to 0
  change y by 10
  set y to 0
  if on edge, bounce
  
```

Stage: Green Speed (2.5), Blue Speed (1.8), Green Laps (5), Blue Laps (3)

COMPUTER PROGRAMMING

SOCCER FOR LIFE

Created by: [ay001](#) (Updated 3 days ago)

```

1 background (83, 62, 194);
2 // frame
3 fill(64, 41, 18);
4 rect(16, 296, 473, 245);
5 rect(16, 361, 473, 245);
6 fill(0, 0, 0);
7 rect(16, 249, 38, 43);
8 rect(351, 249, 38, 43);
9 rect(351, 385, 38, 15);
10 rect(16, 385, 38, 15);
11 // director words
12 stroke(62, 84, 166);
13 rect(135, 330, 124, 250);
14 fill(25, 0, 196);
15 ellipse(108, 350, -12, 12);
16 ellipse(182, 350, -7, 7);
17 ellipse(211, 350, -7, 7);
18 rect(135, 337, 32, 5);
19 fill(0, 0, 0);
20 rect(24, 61, 155, 203);
21 rect(186, 162, 25, 35);
22 //
23

```

Scratch interface showing the code editor and stage.

Scratch Project: Sonic PI

Code Editor:

```

1
2
3 sample :ambi_piano
4 sleep 1
5 sample :ambi_piano
6 sleep 2
7 sample :ambi_piano
8 sleep 2
9 sample :bass_hard_c
10 sleep 0.5
11 sample :loop_safari
12 sleep 4
13 sample :bass_hard_c
14 sleep 2
15 sample :bass_hard_d
16 sleep 1.5
17 sample :loop_mika
18 sleep 2
19 sample :bass_hard_c
20 sleep 2
21 sample :bass_hard_c
22 sleep 2

```

Control Panel: Run, Stop, Rec, Save, Load, Size, Align, Info, Help, Previews

Beatbox Machine - Playground

2 - Creating your interface

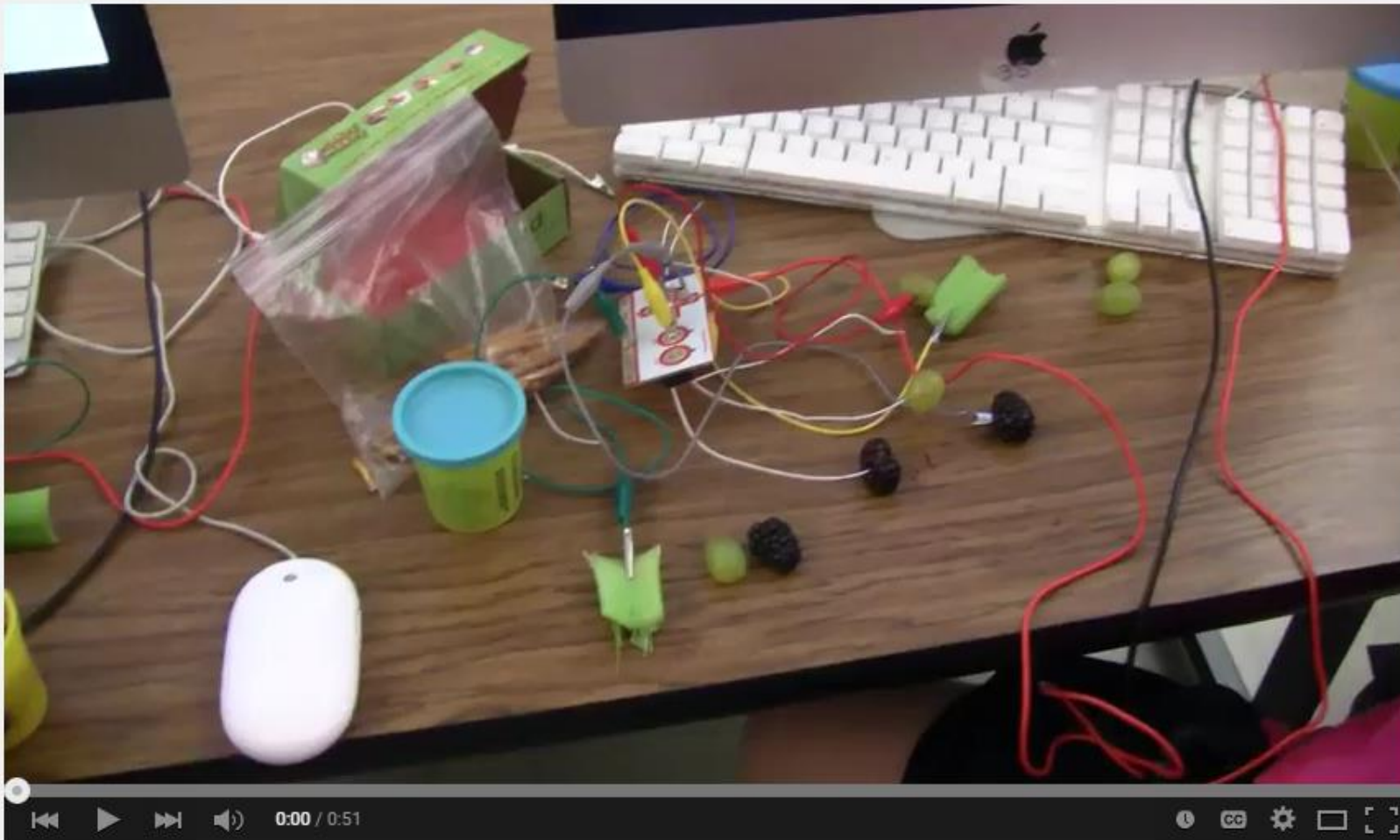
What might I learn on this page?

This is a step-by-step guide on how to create the user interface for the Beatbox Machine app.

Step 1 - Open the storyboard

Click on 'Main storyboard' in the navigation tabs on the left, then click on the device at the bottom of all of the new screens (see step two below)

Storyboard interface showing a mobile device screen.



K-8 Coding Class

by Jared O'Leary • 21/31 videos



- DT Technology - 4/7/15 - Week 3 - 6th Grade - MaKey MaKey - experimenting with conductivity
Jared O'Leary
- 22 DT Technology - 4/7/15 - Week 3 - 6th Grade - MaKey MaKey process sharing
Jared O'Leary
- 23 DT Technology - 4/7/15 - Week 3 - 6th Grade - MaKey MaKey process sharing
Jared O'Leary
- 24 DT Technology - 4/7/15 - Week 3 - 6th Grade - Facilitating debugging Scratch coding
Jared O'Leary
- 25 DT Technology - 4/7/15 - Week 3 - 6th Grade - MaKey MaKey projects
Jared O'Leary
- 26 DT Technology - 3/31/15 - Week 2 - 1st Grade - Creating a story
Jared O'Leary
- 27 DT Technology - 3/31/15 - Week 2 - 1st Grade - Class overview

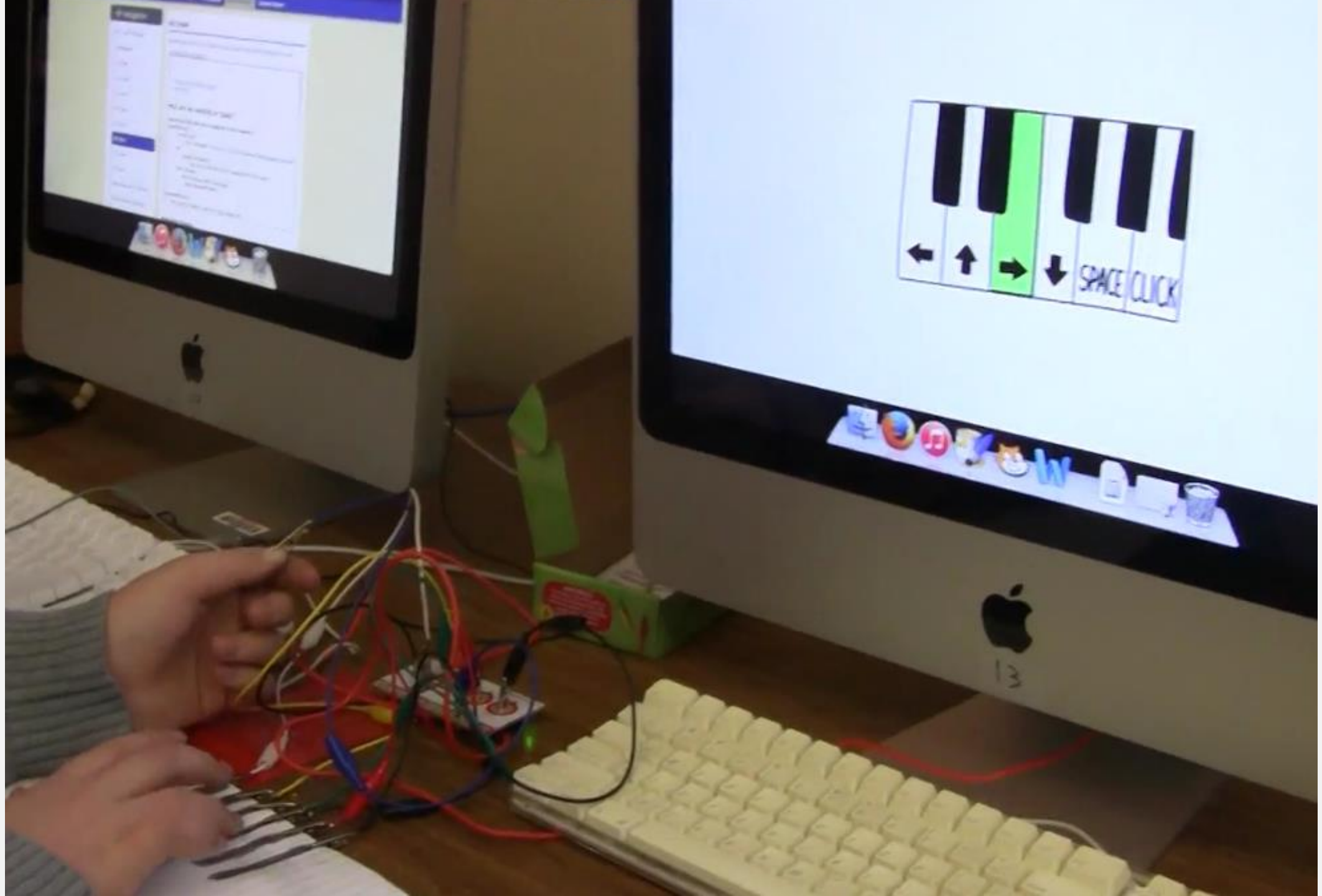
Analytics Video Manager

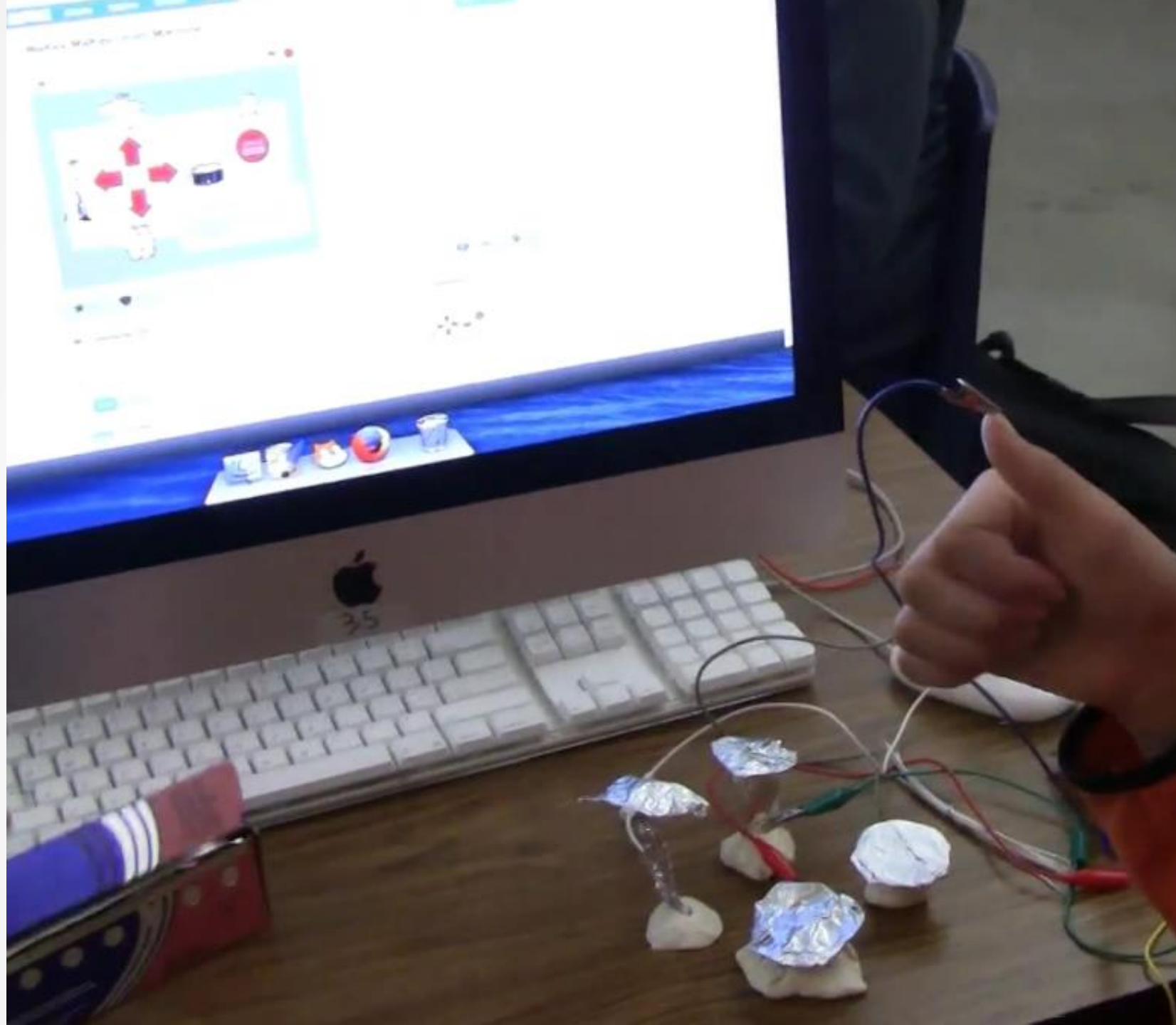
DT Technology - 4/7/15 - Week 3 - 6th Grade - MaKey MaKey - experimenti

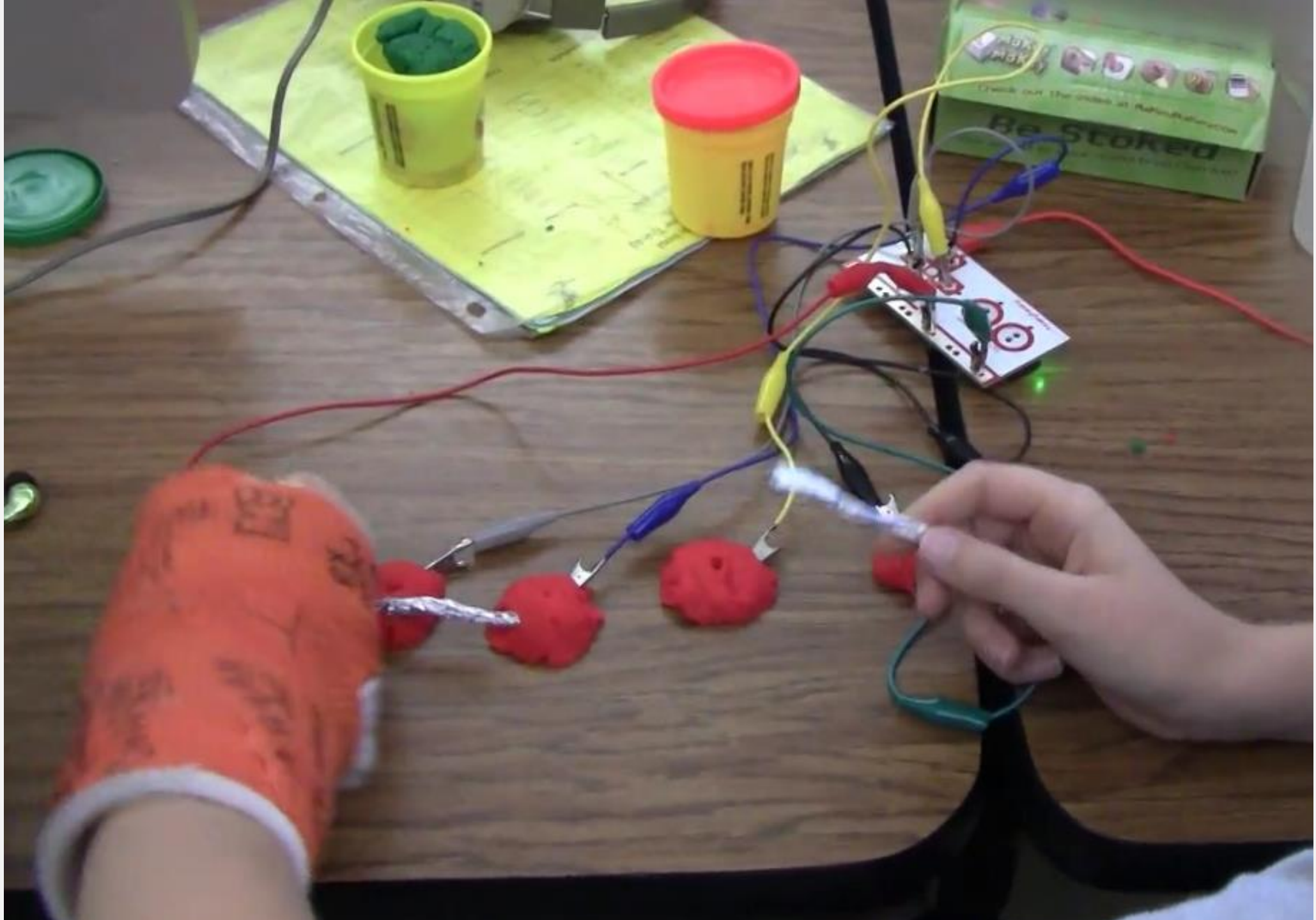
Jared O'Leary
Channel settings

7 views

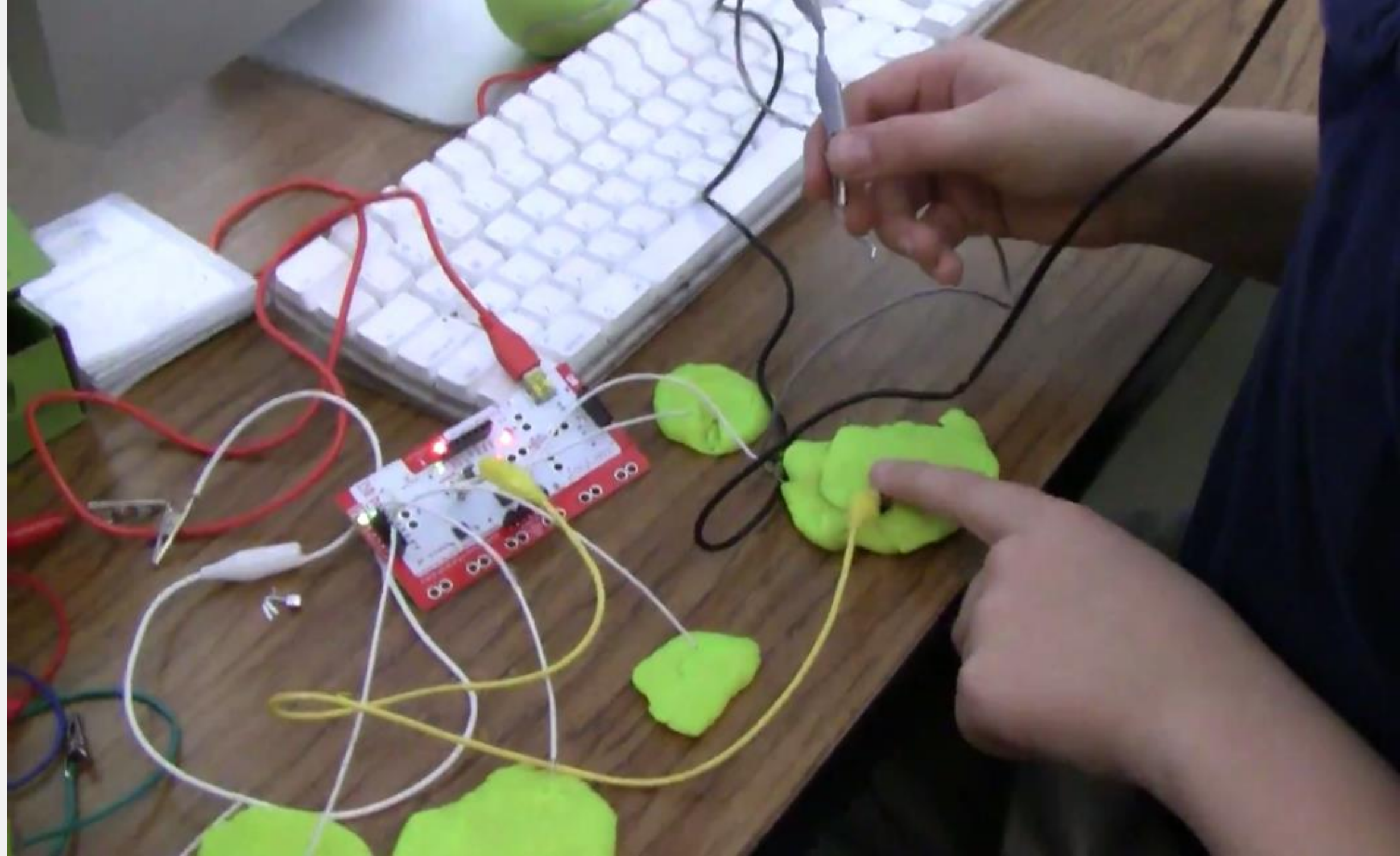
- Mr Hoverboard Teaser
 by Ryan Craven
 Recommended for you
 2:03
- soup - we share the same breath pt 2 (live at storåsfestivalen 2010)
 by Erlend Viken
 Recommended for you
 5:00

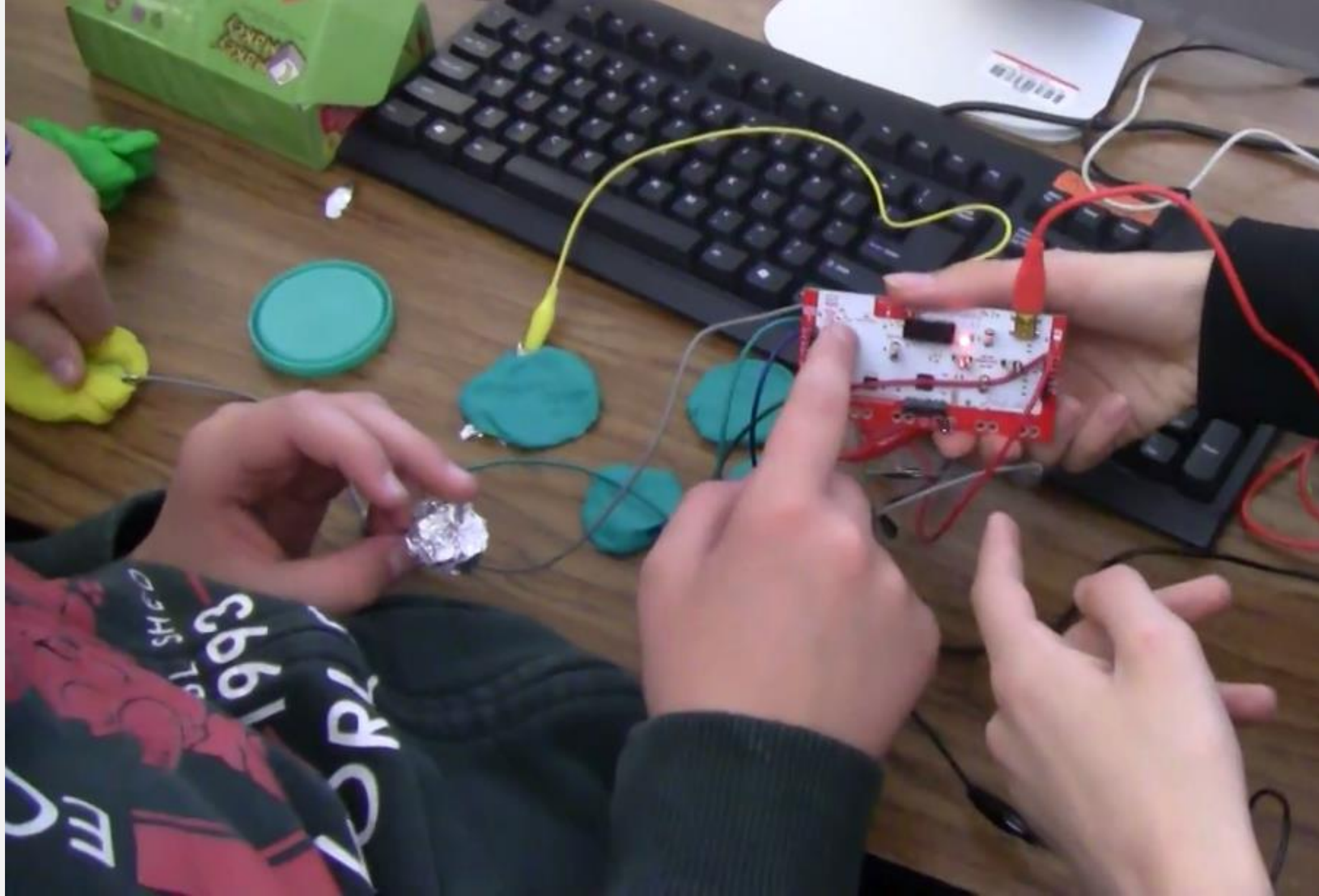


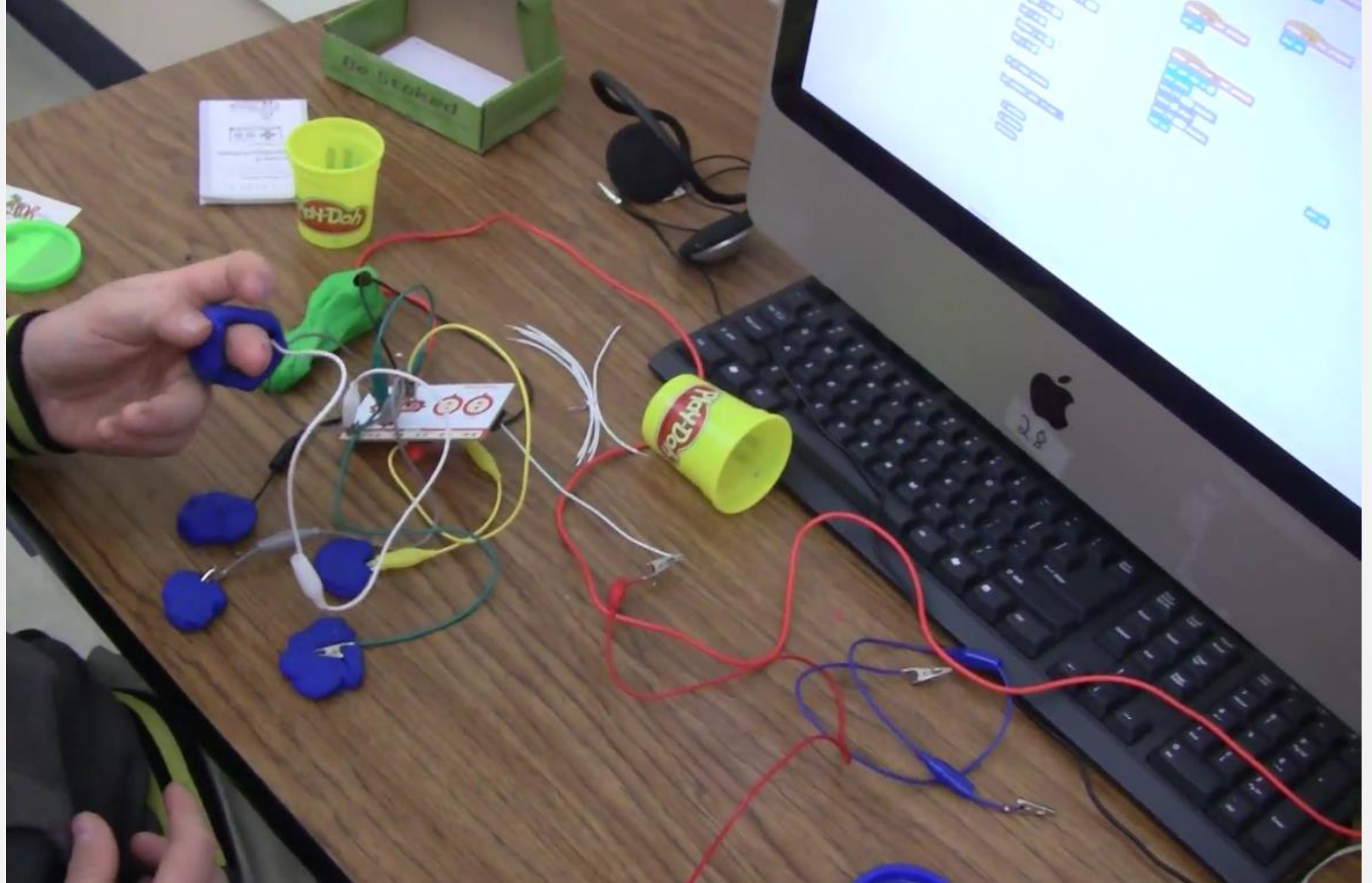














Media Arts and Technology Makerspace - Process Vid...

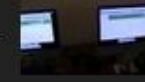
by Jared O'Leary • 1/35 videos



DT Media Arts and Technology - 5/13/15 - Overview demonstrating project variety

Jared O'Leary

2



DT Media Arts and Technology - 5/6/15 - Overview demonstrating project variety

Jared O'Leary

3



DT Media Arts and Technology - 5/6/15 - Problem-solving Arduino code

Jared O'Leary

4



DT Media Arts and Technology - 4/29/15 - GarageBand process sharing

Jared O'Leary

5



DT Media Arts and Technology - 4/29/15 - Scratch drawing process sharing

Jared O'Leary

6



DT Media Arts and Technology - 4/29/15 - Arduino process sharing

Jared O'Leary

7



DT Media Arts and Technology - 4/29/15 - Pixel animation process sharing



Analytics Video Manager

DT Media Arts and Technology - 5/13/15 - Overview demonstrating project



Jared O'Leary

Channel settings

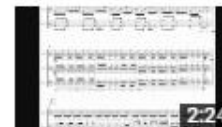
3 views



Self Balancing, 2-Wheel, Smart Electric Scooter, "Mini-Segway", "Hoverboard"

by Ben Schmanke

Recommended for you



Flaccenting arranged by Jared O'Leary

by Jared O'Leary

332 views



Jared O'Leary

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Media Arts and Technology Makerspace - Process Videos

🔒 | by Jared O'Leary • 35 videos • 193 views • Updated 6 days ago

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◀ Share

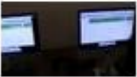
+ Save

- 1



DT Media Arts and Technology - 5/13/15 - Overview demonstrating project variety
by Jared O'Leary

1:10
- 2




DT Media Arts and Technology - 5/6/15 - Overview demonstrating project variety
by Jared O'Leary

1:27
- 3



DT Media Arts and Technology - 5/6/15 - Problem-solving Arduino code
by Jared O'Leary

1:08
- 4



DT Media Arts and Technology - 4/29/15 - GarageBand process sharing

1:36



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Media Arts and Technology - Class Creations

by Jared O'Leary • 6 videos • 41 views • Last updated on Jun 8, 2015

A playlist of class creations from the media arts and technology elective I facilitate.

▶ Play all

< Share

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- 1 **Pirate Ghost**
by Jared O'Leary 0:30
- 2 **snake race**
by Jared O'Leary 0:11
- 3 **Snake Race 2**
by Jared O'Leary 0:11
- 4 **Snake Attack** 0:16

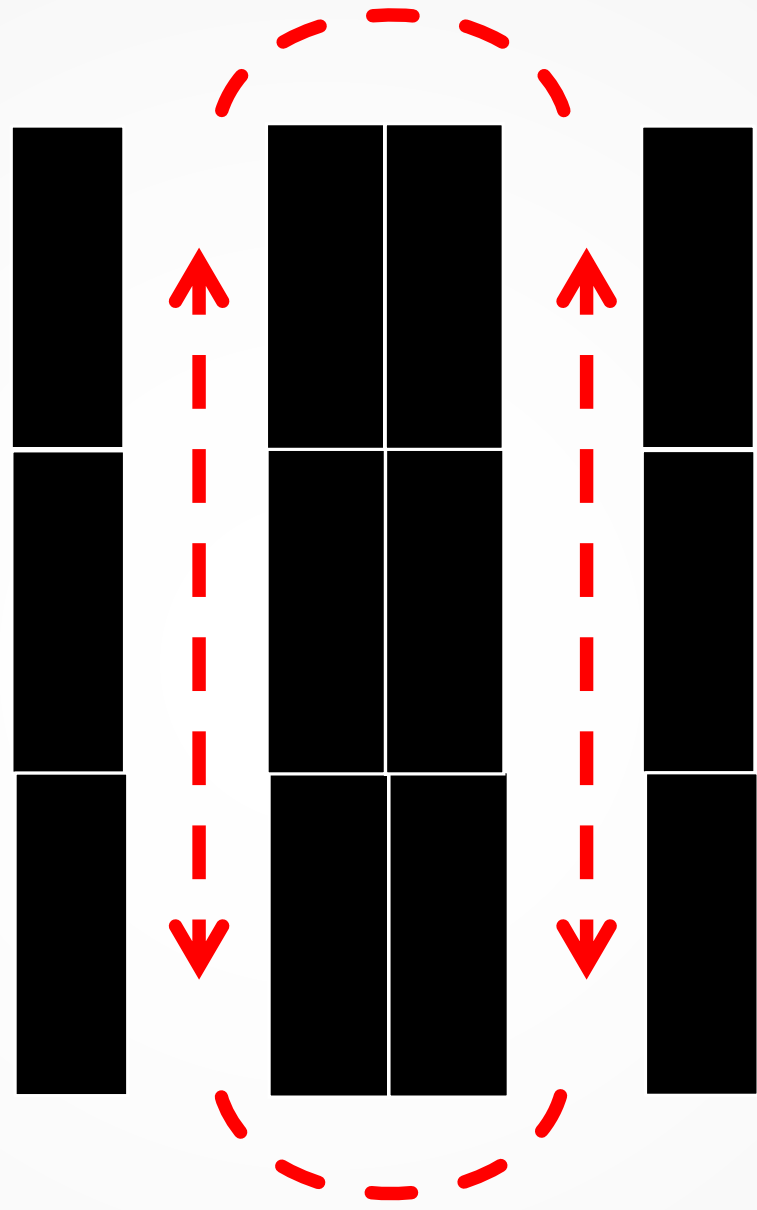
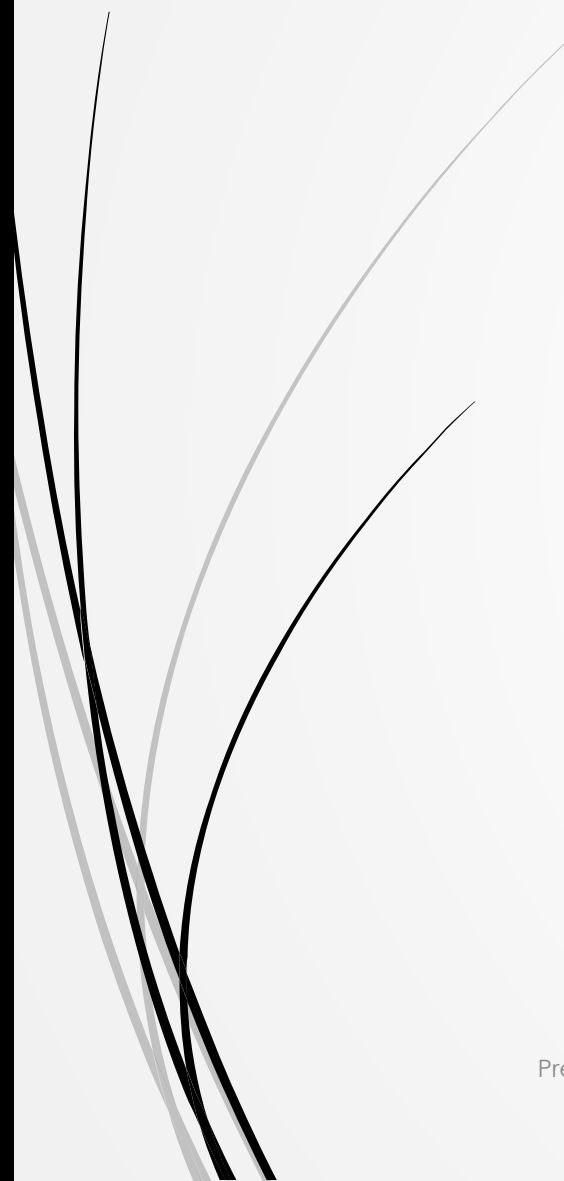
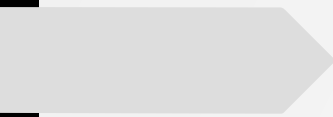
Designing and facilitating



Guiding through questions video

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Room setups video

Presentation by Jared O'Leary and uses Creative Commons licensing Attribution-NonCommercial-ShareAlike (BY-NC-SA)





AvondaleInnovates.com Inspiring Innovation in Motion

Mobile STEAM Lab



Resources that encourage replication?



Resources that encourage exploration?



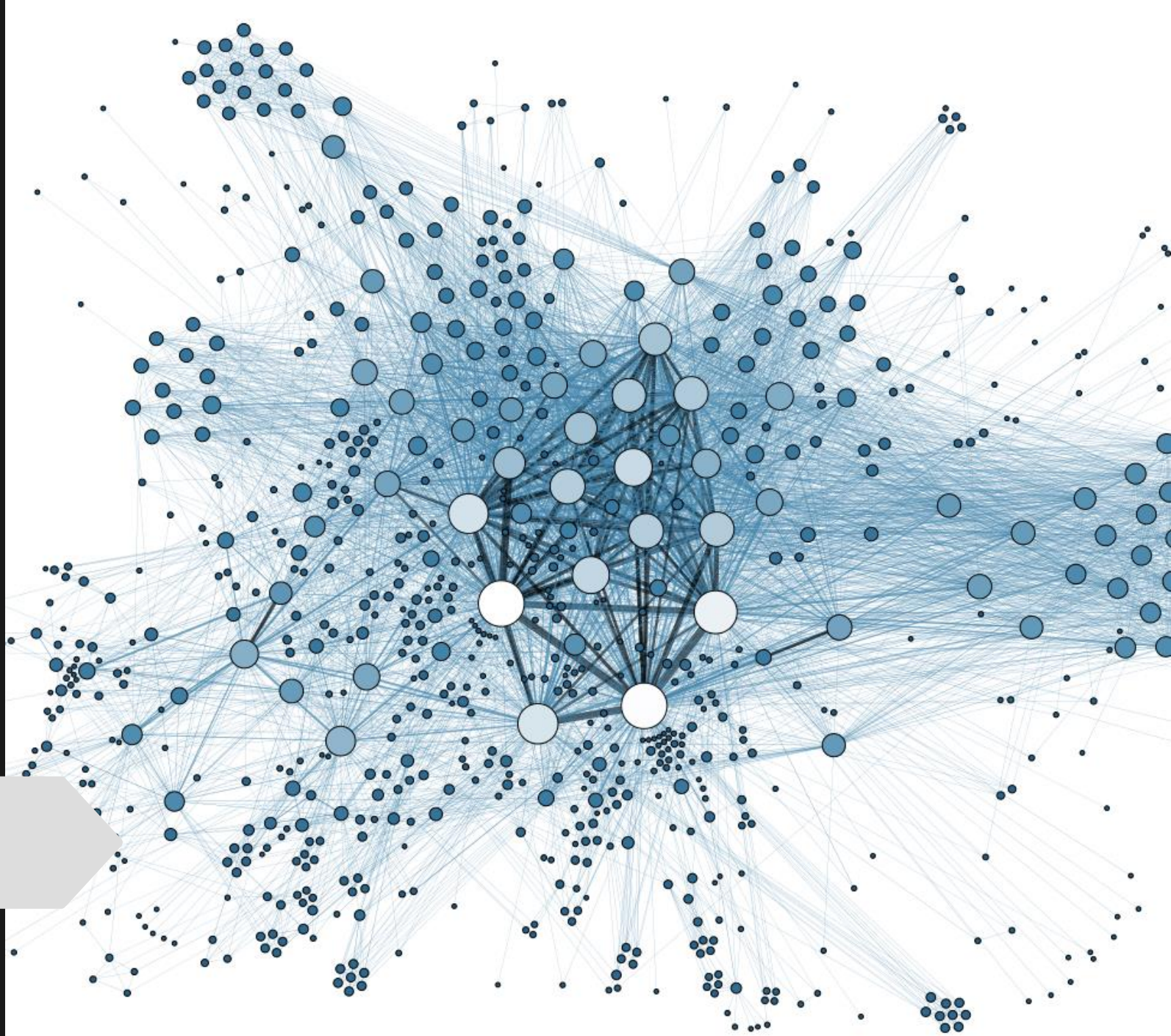
Sequential Design

Step 1

Step 2

Step 3

Rhizomatic Design



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Rhizomatic Resources

An Amazing Maze Game

Coder Resources

Project Sequence

(complete each step before moving to the next)

1. [Sign in and create a new project](#)
2. [Create levels](#)
 - a. Additional resources:
 - i. Video: [Image editor: Bitmap mode](#) (5:16)
 - ii. Video: [Image editor: Vector mode](#) (5:00)
3. [Create player controls](#)
4. [Create a restart function](#)
5. [Detect the walls](#)
6. [Create a goooooooooo!!!!!!!](#)
7. **Have some friends play test your game and give you feedback**
 - a. Make some adjustments based on the feedback
8. [Add in comments](#)

Project Extensions

(pick and choose extensions that sound interesting)

1. [Create a roguelike challenge](#)
2. [Add variables \(Advanced\)](#)
3. [Clean up your code with functions](#)
4. [Share your project](#)
5. [Create a thumbnail](#)
6. [Learn even more Scratch tips](#)
7. [Learn how to use a micro:bit with Scratch](#)

Debugging Exercises

(practice your debugging skills by solving these bugs)

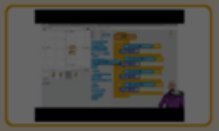
1. [Why don't we switch to the next level when we touch the goal \(the green rectangle\)?](#)
2. [Why does Scratch Cat move to the right instead of the left when we press the left arrow?](#)
3. [Why do we stay on level 1 even when we reach the goal?](#)
4. ***micro:bit required*** [Why doesn't the Player sprite move when I tilt the micro:bit?](#)
5. [Even more debugging exercises](#)

Example Project and Files

(use these resources to see the original project, learn how to remix the project, or to challenge yourself)

1. **Project:** [Example project](#)
2. **Video:** [Project Preview](#) (1:36)
3. **Video:** [Remixing a project](#) (2:42)
4. **Video:** [How to reverse engineer a project](#) (2:29)

BootUp
Scratch Tips
Create Your Own



Option 1 - Look where you're going

Option 2 - Face the same direction

What is 'and'?

Option 3 - More responsive controls

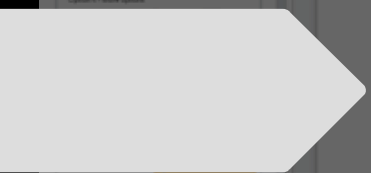
Option 4 - More options

Use the tutorial button for more ideas and tips

The screenshot shows a Scratch video guide. The main content is a Scratch script for a character's movement. The script starts with a 'when clicked' event, followed by a 'forever' loop. Inside the loop, there are four 'if' blocks, each with an 'or' condition for key presses and a corresponding 'change x by' or 'change y by' block. The keys are up arrow/w, down arrow/s, left arrow/a, and right arrow/d. The video player interface at the bottom shows a play button, a progress bar at 3:12 / 3:49, and other controls. A small video inset in the bottom right corner shows the presenter, a man with a microphone.

```
when clicked clicked
forever
  if key up arrow pressed? or key w pressed? then
    change y by 5
  if key down arrow pressed? or key s pressed? then
    change y by -5
  if key left arrow pressed? or key a pressed? then
    change x by -5
  if key right arrow pressed? or key d pressed? then
    change x by 5
```

Video Guides



Slow the sprite down

1. We can divide the tilt angles by a number to slow the sprite down
2. Test the code again with different numbers to find a good speed
3. What other player controls could you add?
 - a. What other events could you use?

```
define Movement
if [tilted front ?] then
  change y by [tilt angle front / 20]
if [tilted back ?] then
  change y by [tilt angle front / 20]
if [tilted right ?] then
  change x by [tilt angle right / 20]
if [tilted left ?] then
  change x by [tilt angle right / 20]
```

Visual Guides

Toward Equitable Learning Through Rhizomatic Design

September 7, 2018

Read This First

Rather than lecturing about rhizomatic design and learning, I'd like to model the approach by exploring the topic rhizomatically. Feel free to explore the resources below, search for and share your own resources related to this topic, or engage in a discussion on the topic with myself or the people around you. The idea behind this short session is to dip your toes into the topic while simultaneously providing enough resources to dive deeper after the session is over. If this approach is too distant from your own epistemological understanding of formalized education, I encourage you to question in what ways the curricula and pedagogies you are familiar with might be modified to encourage equitable learning for a multitude of axiologies (values) or ontologies (ways of being) by creating a space for interests to guide learning. **Note:** not all of the resources below borrow terminology from Deleuze and Guattari; however, interest-driven, non-linear, and self-directed learning are all relevant to the topic of moving toward equitable learning through curricula design and pedagogy that might be described as rhizomatic.

[Presentation slides](#)

There is a .pdf file of the slideshow used for this presentation. All media (videos, audio clips, websites, etc.) that were included are now images with active links; meaning, you can click on the image and it will send you to the original source material.

Rhizomatic Design

Relevant Lectures And Discussions



Publications

[Publications RSS](#)

2019

Reconceptualizing "Music Making:"
Music Technology and Freedom in the
Age of Neoliberalism

Applications of Affinity Space
Characteristics in Music Education

2018

A Corpus-assisted Discourse Analysis
of Music-related Practices Discussed
within Chipmusic.org

2017

From Coding Puzzles to Interest-
Driven Projects

2016

Relevant Lectures And Discussions

☰ 1/8 Embracing Uncertainty - Rhizomatic learning



“When you finally come to grips you can't solve today's problems using present methods, you take the lead to venture to the Complex Domain. As leader, you initiate a search and rally followers to find a new solution that will change the paradigm.”

Change Management or Change Leadership?
Gary Wong, Cognitive Edge Network 2010



Relevant Presentations

- [Assessing Coding Projects](#)

- This session discusses how to seamlessly integrate formative, summative, and ipsative assessment practices within K-12 coding projects and lessons. We will explore each of the three approaches and I will provide both formal and informal examples of how each type of assessment might occur within a project or lesson.

- [Facilitating Multiple Programming Languages in One Space](#)

- This lightning talk describes considerations for facilitating multiple programming languages in one space. I provide video examples of what it looks like when young coders select from four different programming languages to create projects of interest. Following an overview of what coders created in the classes I designed and facilitated, I discuss considerations for simultaneously facilitating multiple languages; this discussion includes quick suggestions for selecting and creating resources, questioning techniques, peer-to-peer mentoring, room setup, and more.

- [Interest-driven Coding and Learning \(ADE\)](#)

- The video in this link is a mock version of a three minute showcase on interest-driven coding and learning I presented at the 2017 Apple Distinguished Educators (ADE) US Academy.

- [Interest-driven Coding Projects \(Scratch@MIT\)](#)

- This ignite talk describes considerations for designing interest-driven coding projects with Scratch. I provide examples of what an interest-driven coding class looks like and how projects are designed for a variety of experience levels and interests within a

Relevant Publications

- **Publications by other educators and scholars**

- [Rhizomatic Education: Community as Curriculum - Dave Cormier](#)

- Introductory paragraph: "The increasingly transitory nature of what is lauded as current or accurate in new and developing fields, as well as the pace of change in Western culture more broadly, has made it difficult for society in general and education in particular to define what counts as knowledge. The existing educational model with its expert-centered pedagogical planning and publishing cycle is too static and prescribed to accommodate the kind of fluid, transitory conception of knowledge that is necessary to understand the simplest of Web-based concepts. The ephemeral nature of the Web and the rate at which cutting-edge knowledge about it and on it becomes obsolete disrupts the painstaking process by which knowledge has traditionally been codified. Traditional curricular domains are based on long-accepted knowledge, and the "experts" in those domains are easily identified by comparing their assertions with the canon of accepted thought (Banks 1993); newer concepts, whether in technology, physics, or modern culture, are not easily compared against any canon. This lack of a center of measurement for what is "true" or "right" makes the identification of key pieces of knowledge in any of these fields a precarious task. In less-traditional curricular domains then, knowledge creators are not accurately epitomized as traditional, formal, verified experts; rather, knowledge in these areas is created by a broad collection of knowers sharing in the construction and ongoing evolution of a given field. Knowledge becomes a negotiation (Farrell 2001)."

- [Rhizomatic Learning - Wikipedia](#)

- Introductory paragraph: "Rhizomatic learning is a variety of pedagogical practices informed by the work of Gilles Deleuze

Toward Equitable Learning Through Rhizomatic Design

September 7, 2018

Read This First



Rather than lecturing about rhizomatic design and learning, I'd like to model the approach by exploring the topic rhizomatically. Feel free to explore the resources below, search for and share your own resources related to this topic, or engage in a discussion on the topic with myself or the people around you. The idea behind this short session is to dip your toes into the topic while simultaneously providing enough resources to dive deeper after the session is over. If this approach is too distant from your own epistemological understanding of formalized education, I encourage you to question in what ways the curricula and pedagogies you are familiar with might be modified to encourage equitable learning for a multitude of axiologies (values) or ontologies (ways of being) by creating a space for interests to guide learning. **Note:** not all of the resources below borrow terminology from Deleuze and Guattari; however, interest-driven, non-linear, and self-



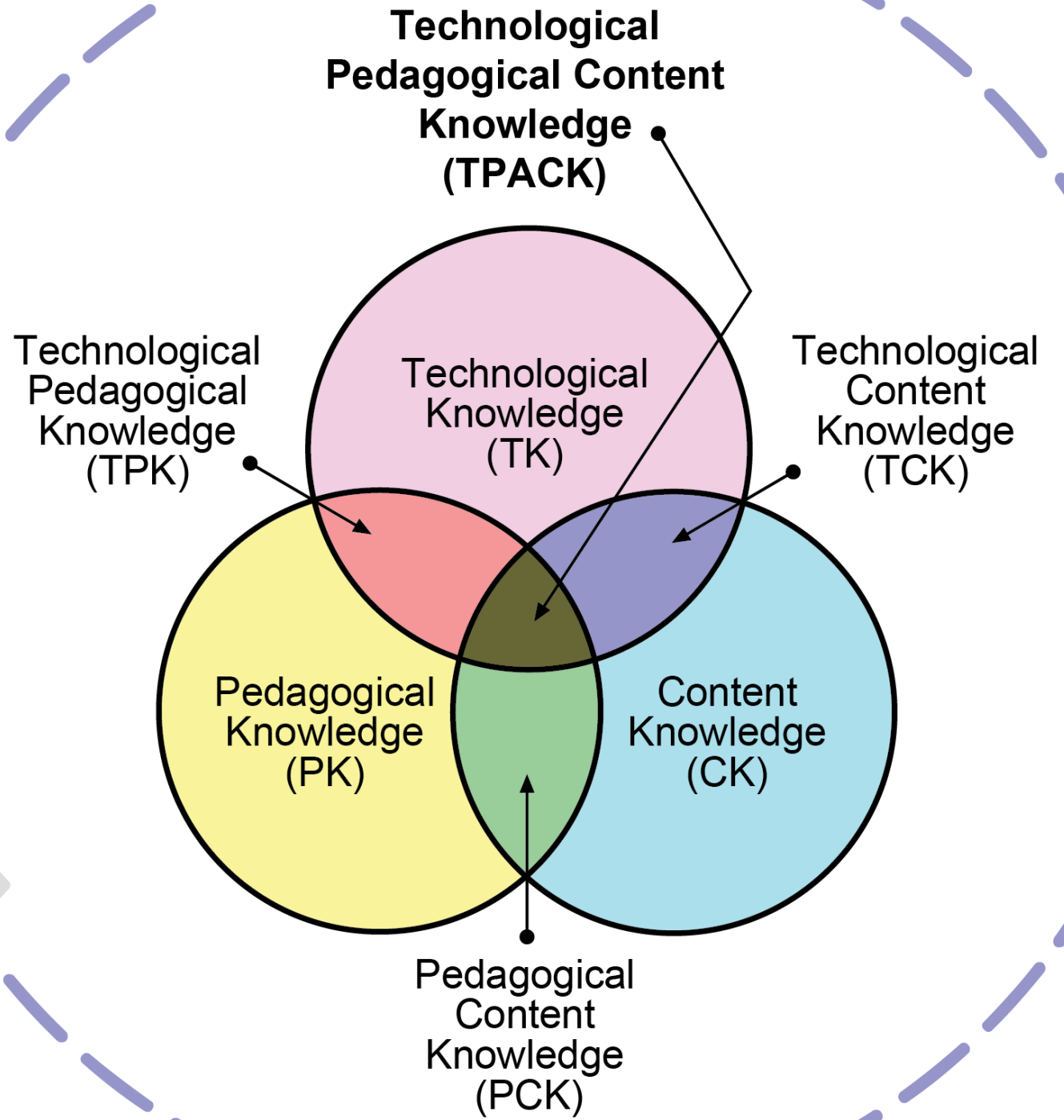
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(case sensitive)

Outline	Assessment Original	<ol style="list-style-type: none"> are aligned with state content standards; have clear measurement criteria; measure student performance in more than three ways (e.g., in the form of a project, experiment, presentation, essay, short answer, or multiple choice test); require extended written tasks; are portfolio based with clear illustrations of student progress toward state content standards and; include descriptions of how assessment results will be used to inform future instruction. 	<ol style="list-style-type: none"> are aligned with state content standards; have measurement criteria; measure student performance in more than two ways (e.g., in the form of a project, experiment, presentation, essay, short answer, or multiple choice test); require written tasks and; include performance checks throughout the school year. 	<ol style="list-style-type: none"> are rarely aligned with state content standards; have ambiguous measurement criteria; measure student performance in less than two ways (e.g., in the form of a project, experiment, presentation, essay, short answer, or multiple choice test) and; include performance checks, although the purpose of these checks is not clear.
Instructional Plans	Assessment Crosswalk	<p>Assessment Plans:</p> <ol style="list-style-type: none"> are aligned with the governing board adopted coding curriculum have clear measurement criteria based on each student's individual needs assess in more than three ways (e.g., puzzles, challenges, projects, in/formal discussions, project comments/instructions, coding algorithms, tests, observation, etc.) Require extended tasks/projects through a written coding language (block or text) Are portfolio/project based with clear illustrations of student progress toward distinct coding standards Include descriptions of how assessment results will be used to inform future puzzles, projects, or instruction 	<p>Assessment Plans:</p> <ol style="list-style-type: none"> are aligned with the governing board adopted coding curriculum have measurement criteria assess in more than two ways (e.g., puzzles, challenges, projects, in/formal discussions, project comments/instructions, coding algorithms, tests, observation, etc.) Require demonstrations of learning through a coding language (block or text) include assessment of learning throughout the school year 	<p>Assessment Plans:</p> <ol style="list-style-type: none"> are rarely aligned with the governing board adopted coding curriculum have ambiguous measurement criteria; assess in less than two ways (e.g., puzzles, challenges, projects, in/formal discussions, project comments/instructions, coding algorithms, tests, observation, etc.) assess for learning; however, the purpose of these assessments is unclear
Managing Student Behavior		<p>Crosswalk explanation</p> <p><i>How might assessment differ?</i></p> <p>The main difference in assessments is not related to what assessments are used for, but what assessments look like. Assessment of computational thinking can take place through assessments as learning, assessments for learning, or assessments of learning; as well as in in/formal contexts. One can assess by having students writing in comments or instructions for the projects/code, asking students at the end of class to share with a neighbor how something in their project/code works and having their neighbor ask follow-up questions, having the teacher/facilitator walk around and informally assess how everyone is doing by looking at their algorithms, engaging in informal discussions in small or large groups, taking a multiple choice quiz on a concept related to computational thinking, assessing progress with puzzles/projects, and many more. Informal assessments occur throughout class time; however, formal assessments might only occur once per quarter (for instance, turning in a quarterly project). All assessments should in some way incorporate coding language either in the form of blocks or algorithms, written or typed text, coding blocks, body movements (such as reading an algorithm that tells you how to move), and more. In addition, written out exit tickets might be decontextualized from coding practices.</p>		

Teacher evaluation "crosswalk"

Discussion

TPACK



ISTE Standards

1 Learner

Educators continually improve their practice by learning from and with others and exploring practices that leverage technology to improve student learning. Educators:

2 Leader

Educators seek out opportunities for leadership to support student empowerment and success in teaching and learning. Educators:

3 Citizen

Educators inspire students to positively contribute to and responsibly participate in the digital world.

4 Collaborator

Educators dedicate time to collaborate with both colleagues and students to improve practice, share resources and ideas, and solve problems. Educators:

5 Designer

Educators design authentic, learner-driven activities and environments that recognize and accommodate individual learner variability. Educators:

6 Facilitator

Educators facilitate learning with technology to support student achievement of the ISTE Standards. Educators:

7 Analyst

Educators understand and use data to drive their instruction and support students in achieving their learning goals. Educators:

EXPLORE THE EDUCATOR STANDARDS

1 Learner

Educators continually improve their practice by learning from and with others and exploring proven and promising practices that leverage technology to improve student learning. Educators:

+

2 Leader

Educators seek out opportunities for leadership to support student empowerment and success and to improve teaching and learning. Educators:

+

3 Citizen

Educators inspire students to positively contribute to and responsibly participate in the digital world. Educators:

+

4 Collaborator

Educators dedicate time to collaborate with both colleagues and students to improve practice, discover and share resources and ideas, and solve problems. Educators:

+

5 Designer

Educators design authentic, learner-driven activities and environments that recognize and accommodate learner variability. Educators:

+

6 Facilitator

Educators facilitate learning with technology to support student achievement of the ISTE Standards for Students. Educators:

+

7 Analyst

Educators understand and use data to drive their instruction and support students in achieving their learning goals. Educators:

+

EXPLORE THE STUDENT STANDARDS

1	Empowered Learner	Students leverage technology to take an active role in choosing, achieving and demonstrating competency in their learning goals, informed by the learning sciences.	+
2	Digital Citizen	Students recognize the rights, responsibilities and opportunities of living, learning and working in an interconnected digital world, and they act and model in ways that are safe, legal and ethical.	+
3	Knowledge Constructor	Students critically curate a variety of resources using digital tools to construct knowledge, produce creative artifacts and make meaningful learning experiences for themselves and others.	+
4	Innovative Designer	Students use a variety of technologies within a design process to identify and solve problems by creating new, useful or imaginative solutions.	+
5	Computational Thinker	Students develop and employ strategies for understanding and solving problems in ways that leverage the power of technological methods to develop and test solutions.	+
6	Creative Communicator	Students communicate clearly and express themselves creatively for a variety of purposes using the platforms, tools, styles, formats and digital media appropriate to their goals.	+
7	Global Collaborator	Students use digital tools to broaden their perspectives and enrich their learning by collaborating with others and working effectively in teams locally and globally.	+



Session Evaluation

Please take a moment to evaluate this session. Your valuable feedback helps make the overall program stronger and ensures we're meeting your learning needs. Evaluations are also used by the conference program committee to provide feedback to presenters and inform future presentations.

To provide feedback and rate the quality of this session, please use the ISTE19 app or locate the session online using the program search at isteconference.org.

Thank you!

Upcoming session I'm presenting

- **Monday, June 24th**
 - **Project-based Learning with Scratch**
 - *4:00-5:00 pm in location 118B*
 - *Registration code: **BYOD243***

Q&A

- ▶ www.JaredOLEary.com

- ▶ Presentations

- ▶ Designing and Facilitating a Media Arts and Technology Makerspace

