






**What's next for the maker movement in libraries?**  
 Kristin Fontichiaro, U-M School of Information  
 Rochester Hills Public Library STEAMers Think Tank  
 May 2, 2019 | 3-4pm



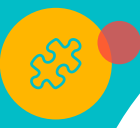

INSTITUTE of  
**Museum and Library**  
 SERVICES

The Making in Michigan Libraries project is made possible in part by the Institute of Museum and Library Services RE-05-15-0021-15.

Hello. I'm Kristin.  
 Who are you?

Today's slides:  
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## Lightning Round (50 words or less):

What is the best success you've had with maker-related activities in your library?

What is your biggest concern moving forward?

## Phases of the Maker Movement

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## Phases of the Maker Movement

2007-ish: Loose community networks; funded and participated in by individuals, primarily men. Some identity formed around "transgressing" or going against established safety routines/processes. Focus on traditionally-male activities like fabrication (digital or analog) despite narrative saying it's for all.

2008 – 2016: Obama era. Making and 3D printing will solve manufacturing. Making goes mainstream. Making aligns with business-based messages of STEM urgency.

2015ish – present: Community makerspaces increasingly falter, but universities, schools, and libraries take up the baton. In schools and libraries, the focus shifts significantly from creative, individually-driven production to packaged kits and curriculum around coding, circuits, and robotics.

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So what comes next?

Today's slides:  
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Need to position ourselves for maximum impact  
given constrained time, space, and financial  
resources

Consider, "Coding and STEM *for what?*"

Dance between novelty and in-depth skill  
development

How do we know it's working?

New avenues

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Revisiting our  
role and  
placement in  
our  
communities

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What are the needs?

Where are the overlaps/opportunities?

Who do we intend to serve?

What is our mission/role?

Who can help us get there?



**“Tell them what their  
pain point is, then tell  
them how you can  
solve it.”**

**- Dr. Chuck Severance**



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*How many patrons walked into your library saying, “You know what I wish you had? The ability to print tchotchkes on demand”?*

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How is our institution/programming related to what’s going on in the broader community?

Gain clarity about overlaps and opportunity gaps.

Who else in the community is doing this kind of work?

What kinds of local career outcomes matter?




## Environmental Scan / Card Sort

Org name | Who is served |  
Level of existing partnership | Fee

|   |   |   |
|---|---|---|
| <b>Science Museum</b><br>Preschool, Elementary<br>Hands-on exhibits, STEM classes<br>Partnered once a few years ago<br>\$10/kid per class | <b>Art Museum</b><br>Elementary, Middle School, Families<br>No partnership<br>\$10 entrance fee | <b>High School Robotics Club</b><br>HS students, mostly boys<br>No partnership<br>Free to participate |
| <b>Science Club</b><br>Elementary<br>STEM classes after-school<br>Partnered once a few years ago<br>\$50/semester                         | <b>HS Football Team</b><br>Everybody in community!<br>No partnership<br>\$3 entrance fee        | <b>HS Football Team</b><br>Everybody in community!<br>No partnership<br>\$3 entrance fee              |




**Sort by type of organization | service population | activity type | cost**

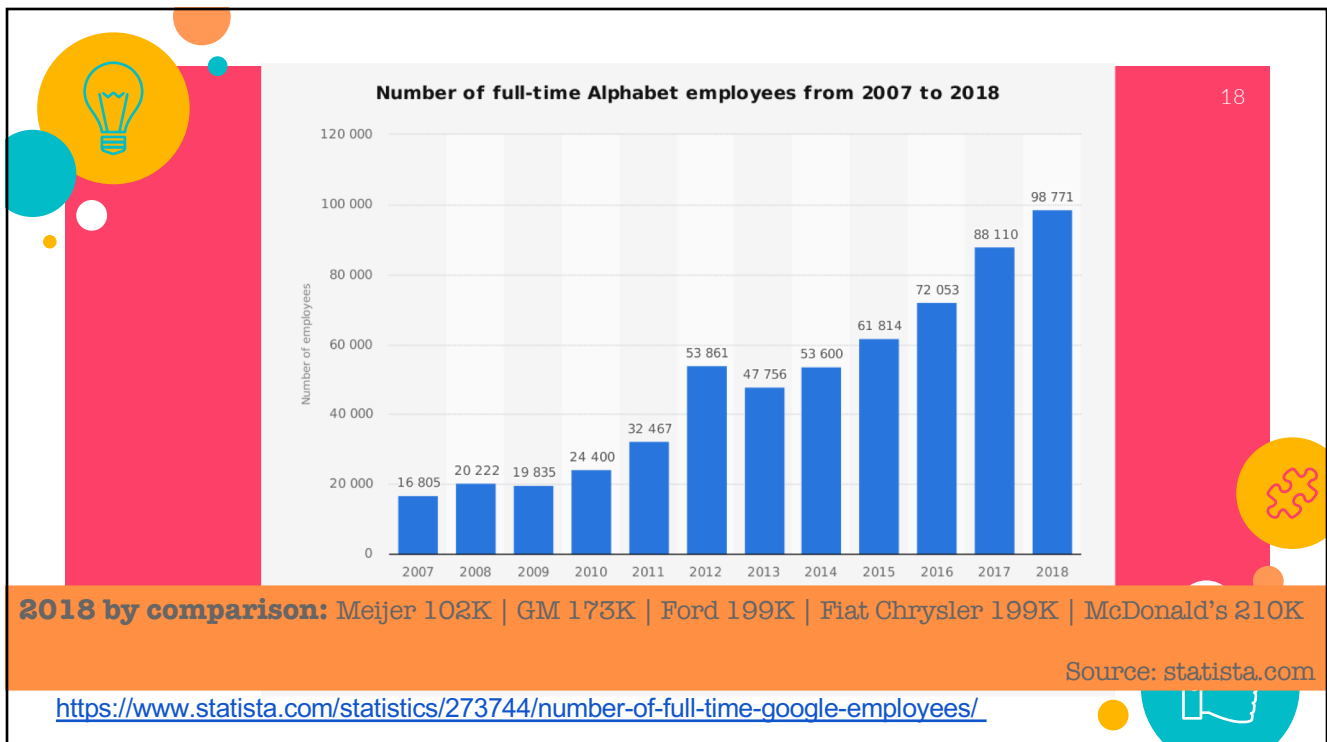
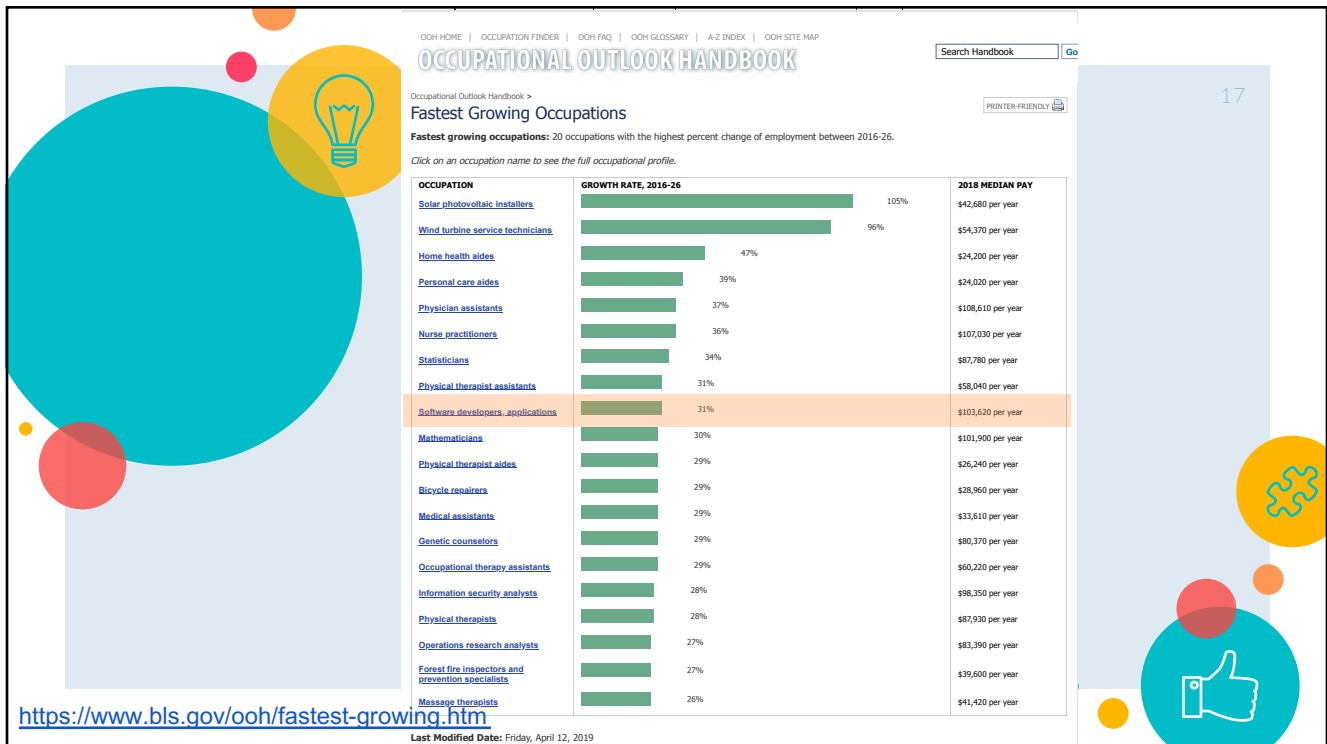


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We need to ask ourselves ...

What is the library's role within the ecosystem?

Are we an on-ramp or highway?

If highway, do we have the expertise/capacity to go the distance?

If on-ramp, who is the highway?

How do we "hand off" patrons to that organization?

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Coding/STEM for  
*what?*

Today's slides:  
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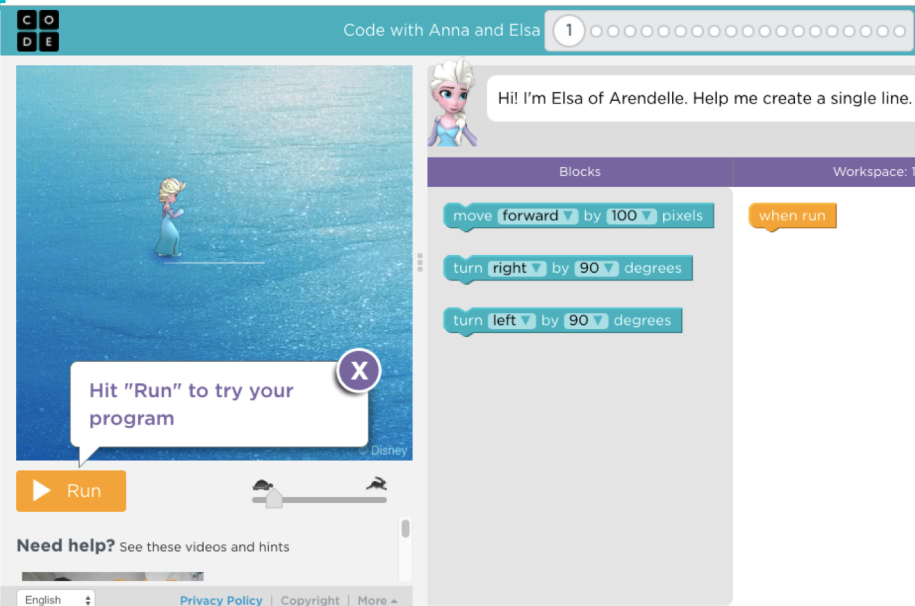
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how to *versus* why to

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We know how to connect patrons to activities, but can they transfer that knowledge to problem-solving?





Code with Anna and Elsa 1

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Hi! I'm Elsa of Arendelle. Help me create a single line.

Blocks Workspace: 1

move forward by 100 pixels

when run

turn right by 90 degrees

turn left by 90 degrees

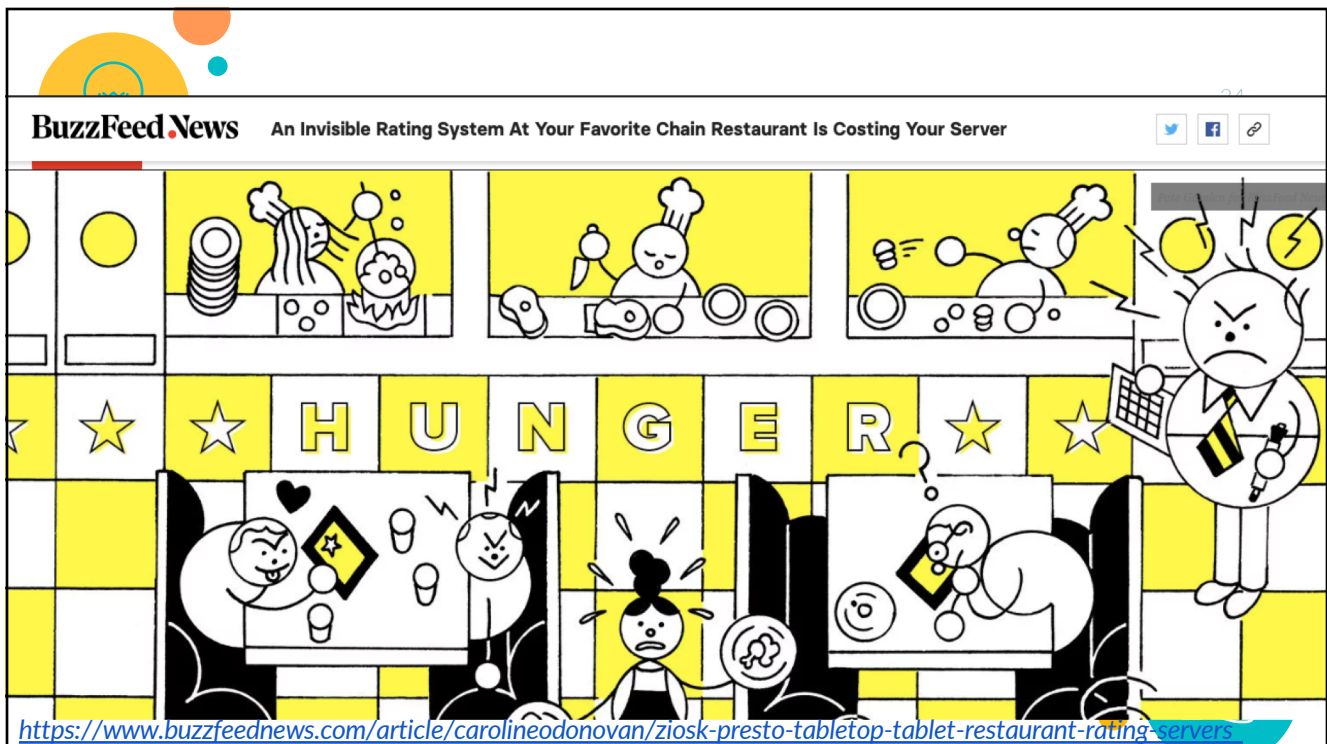
Hit "Run" to try your program

Run

Need help? See these videos and hints

English Privacy Policy Copyright More

<https://studio.code.org/s/frozen/stage/1/puzzle/1>



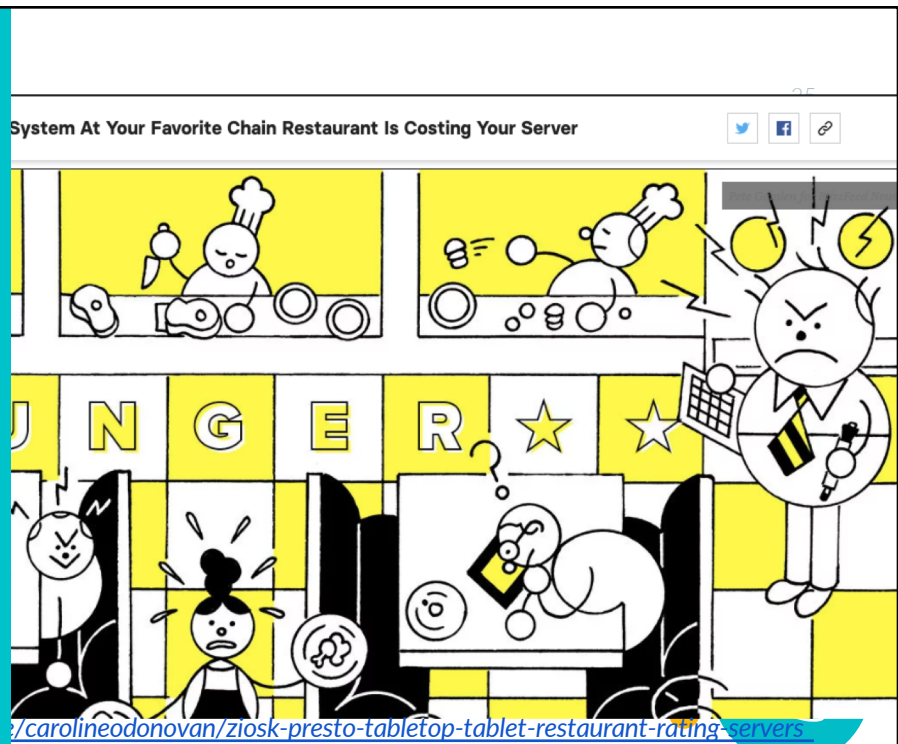
BuzzFeed News An Invisible Rating System At Your Favorite Chain Restaurant Is Costing Your Server

HUNGER

<https://www.buzzfeednews.com/article/carolineodonovan/ziosk-presto-tabletop-tablet-restaurant-rating-servers>

"Ziosk and Presto sit at the nexus of two major consumer trends: the idea that every product, service, piece of content, and interaction, whether encountered online or in real life, should be rated on a scale of one to five, and that these ratings in aggregate become an invaluable dataset, helping managers achieve growth and make money.

"It makes very literal the idea that the customer is always right, to the complete disregard of the worker," Ifeoma Ajunwa, an assistant professor at Cornell's Industrial and Labor Relations School, told BuzzFeed News."



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# Design Thinking

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**Helps build bridge  
between, “What  
tools can you use?”  
and, “What problems  
can you solve?”**

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## **Without DT**

LEGO/Strawbees/  
Tinkertoys open play

## **With DT**

Create something  
to wear on the feet

for a  
Dinosaur

Use LEGOs to create your  
prototype. Be ready to  
pitch it to the group!

# Design Thinking Game

Use engineering materials and empathy for others in creating and promoting new inventions. Adaptable for all grade levels.

**1. Decide which card deck you want to use.** The Words deck includes three types of cards: users, inventions, and an optional constraint card. The Pictures deck is wordless and only has user and invention cards -- but don't be fooled -- the images yield more complex inventions than you might think! Download the decks at <http://makinglibraries.si.umich.edu/handbook>.

**2. Decide which tools you want students to use for prototyping.** Here are some commonly-used tools: sketches, paper models, cardboard and Makedo screws, LEGO, Tinkertoys, junk boxes, Strawbees, or MadewithChrome.com. If students are unfamiliar with how the tools are used, schedule some time for them to explore the tool and its features prior to playing the game.

**3. Decide how you want to organize play.** For example, you can give an entire class the same challenge and have them work individually or in small groups to complete the challenge. Alternatively, you can give each student or group its own challenge. Give each designer or team one yellow and one orange card. Yellow cards represent the type of invention to create (and are deliberately vague to maximize diversity in inventions); orange cards represent the target user.

**4. Give brainstorming time.** Give each player/group time to think about the characteristics and probable needs of the user and what features the invention would need to have to be compatible with the user. If you feel students need more challenge, introduce the red (constraint) card, which adds an element of tension for students to resolve with their design.



Download a words- or picture-based deck, plus these instructions: <https://makinglibraries.si.umich.edu/handbook> (scroll down)

## With DT



Use LEGOs to create your prototype. Be ready to pitch it to the group!



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## Depth or breadth?

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Libraries traditionally prioritize breadth over depth in an effort to support many users.

But ... if our goal extends beyond **discovery** and into **impactful skill development**, we have a wicked question to consider!



Novelty vs. skill development


Which is easier to get a crowd to attend?

- One-time activity where we'll 3D scan your body and 3D print an action figure for you
  - 8 week bootcamp to learn Java
- 



Novelty vs. skill  
development

Which is easier to get a crowd to attend?

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### Corollary questions:

Which is more fun to plan? More affordable?

More photogenic for the annual report/board meeting?


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# Impact takes time




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# Impact takes time

that neither you nor patrons  
may have.



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# Impact takes time

that neither you nor patrons  
may have. Who has that time?





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How do we know  
it's working?  
(the A-word)

Today's slides:  
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Assessment

## Turn and talk

How do you determine whether or not an event has been successful? Attendance? Materials usage? Return visits? Learning? Sense of community?

Does every library employee know how the library determines success?

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Assessment

**In today's data-driven world, we need to figure out how we are impacting our patrons.**

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Assessment

- PLA's Project Outcome?
- Exit slips?
- Informal conversations *that are documented where library decision-makers can see it?*
- What else?

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## Research Foundation for the State University of New York, The

**Log Number:** [LG-96-18-0185-18](#)

**Fiscal Year:** 2018

**Award:** \$346,043.00

**Recipient Type:** Library

**Program:**

National Leadership Grants for Libraries

**Program Categories:**

Community Anchors - Research

**City:** Amherst

**State:** NY

University of Buffalo will lead a research-practice collaboration in partnership with the University of Wisconsin-Madison, Buffalo and Erie County Public Library, and Madison Public Library. The project will engage researchers and library staff in the study and co-design of assessments of learning in makerspaces. The project responds to librarians' need to better assess facilitated learning in their spaces, patrons' desire for constructive formative and summative feedback, and a need for guidance on how best to act on assessment data for all. Ultimately, the project will result in the development of adaptable assessment tools that will support librarians' development of assessment literacies for promoting lifelong learning for inquiry-based, hands-on learning experiences.

**Proposals:** [Full Proposal LG-96-18-0185-18](#)  
[Preliminary Proposal LG-96-18-0185-18](#)

<https://www.ims.gov/grants/awarded-grants>

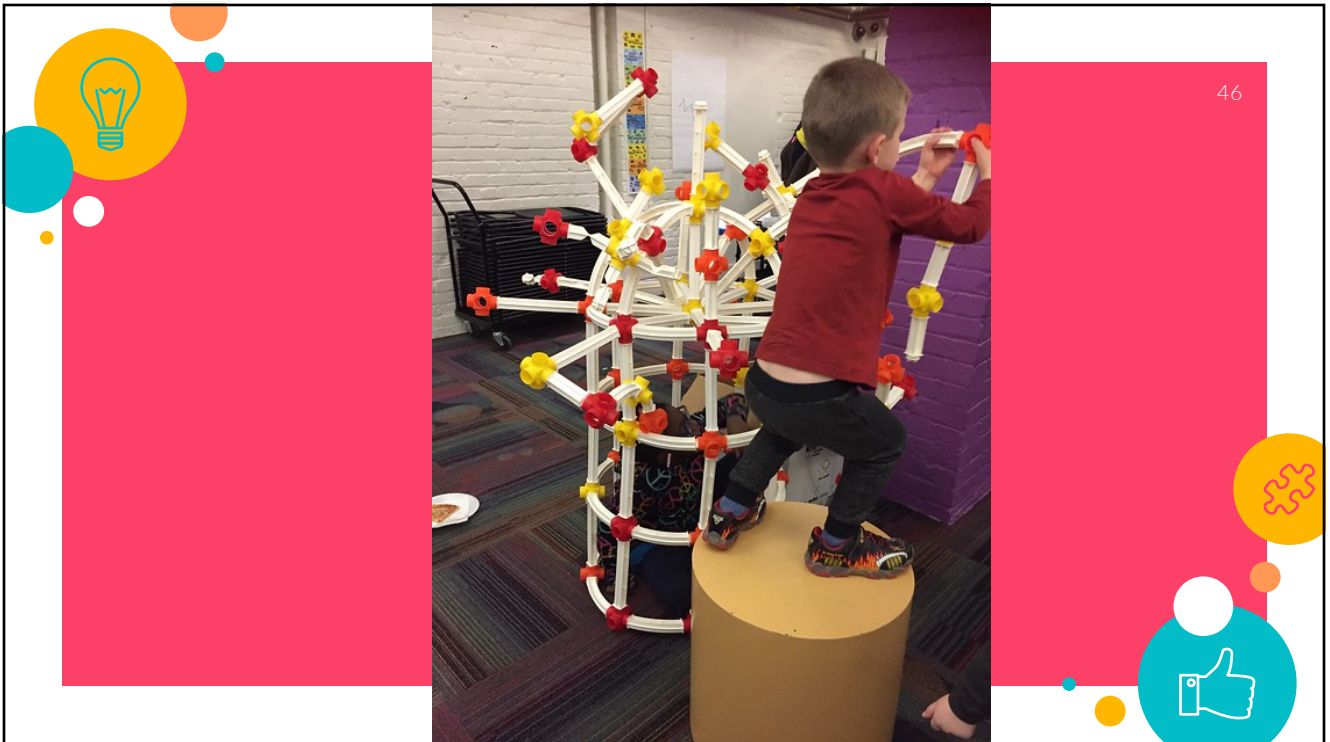
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New audiences/  
new angles

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Youth:  
Making as play | Making for play |  
Making as community





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## Teens: Making as entrepreneurship

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### Entrepreneurship

Creating items to sell at local farmer's markets / craft fairs (h/t: buttonmaker)

Starting online businesses: Etsy prints/photos, Society 6, Café Press, Amazon Handmade, Amazon t-shirts, etc.

Library as place for connections, community, moral support, amplification

See: Etsy Craft Entrepreneurship program

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**Seniors:**  
Making to relieve loneliness / solve  
problems related to downsizing

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**Kayla Carucci**, doctoral student +

**Joy Cichiewicz**, Ypsi Michigan Ave branch manager +

**Me**, who spends a lot of time with the elderly when not doing  
maker stuff with kids



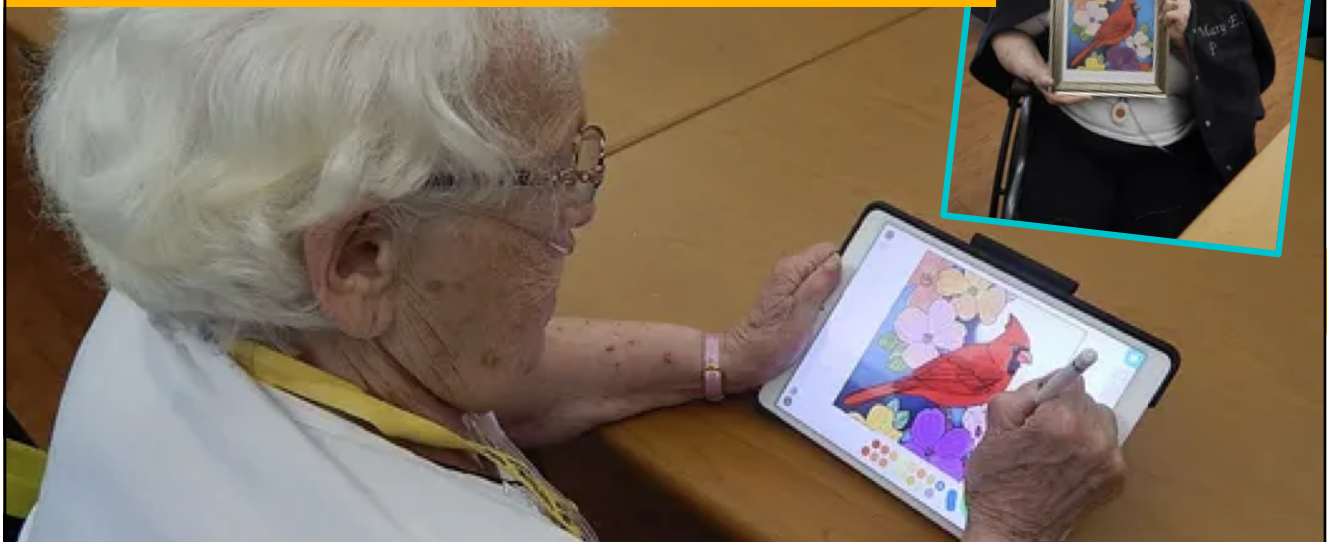
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*I used to do oil painting. I took classes and participated in competitions. Now I color with crayons. That's OK, I guess.*

*(paraphrase from a resident in an area Alzheimer's care facility)*

"I could do this all day, I really enjoy it ... I'm learning so many things, like candle making and how to paint on an iPad using a stylus. We even digitally embroidered my name on a sweater so I wouldn't misplace it again." – Mary

"I have arthritis and can't write or do much with my hands, but I can design something on the 3D printer and watch it print ...I can finally do crafts again." - Sabina



## SENIOR SUMMER CAMP

### Senior Summer Maker Camp (ADULTS 55+)

Thursdays, 10:30-12, June 6 – Aug 8

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Bring back the memories of summer camp! Every week you'll be introduced to old ... and new technology... Every week we'll provide supplies and equipment from previous weeks, too. As the summer progresses you'll have access to large variety of making fun! Coffee and snacks provided. Sponsored by the University of Michigan School of Information, funded by the Institute for Museum and Library Services.

|      |  |
|------|--|
| 6/6  | Cardmaking using die cutting machines, 3D printing intro   |
| 6/13 | Photography with phones and iPads                          |
| 6/20 | Book making  |
| 6/27 | Hand and machine embroidery                                |
| 7/4  | No program   |
| 7/11 | Jewelry making, leather painting, button and magnet making |
| 7/18 | Digital painting   |
| 7/25 | Cork and leather burning                                   |
| 8/1  | Glass mosaics  |
| 8/8  | Summer Camp wrap up and exhibition                         |

(text by Joy Cichiewicz, Ypsilanti District Library Michigan Ave. branch)

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### Big Ideas

- Recalibrate based on gaps & overlaps
- Consider your role: on-ramp or highway?
- Seek strategic partners to maximize impact
- Consider new growth areas
- Consider assessment

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[bit.ly/fontblog](http://bit.ly/fontblog)

[@activelearning](https://twitter.com/activelearning)

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