Teachers + Designers = Makers

The new way for teachers to get what they want

About Me

- High school science teacher
- Teach Community Ed. classes at Mahtomedi FABlab
- Worked as a front-end web programmer
- Love to make things

Teachers are Makers

We’re fanatic about creating lesson materials

- worksheets
- cutouts
- models
- classroom decorations/organization

The Setup

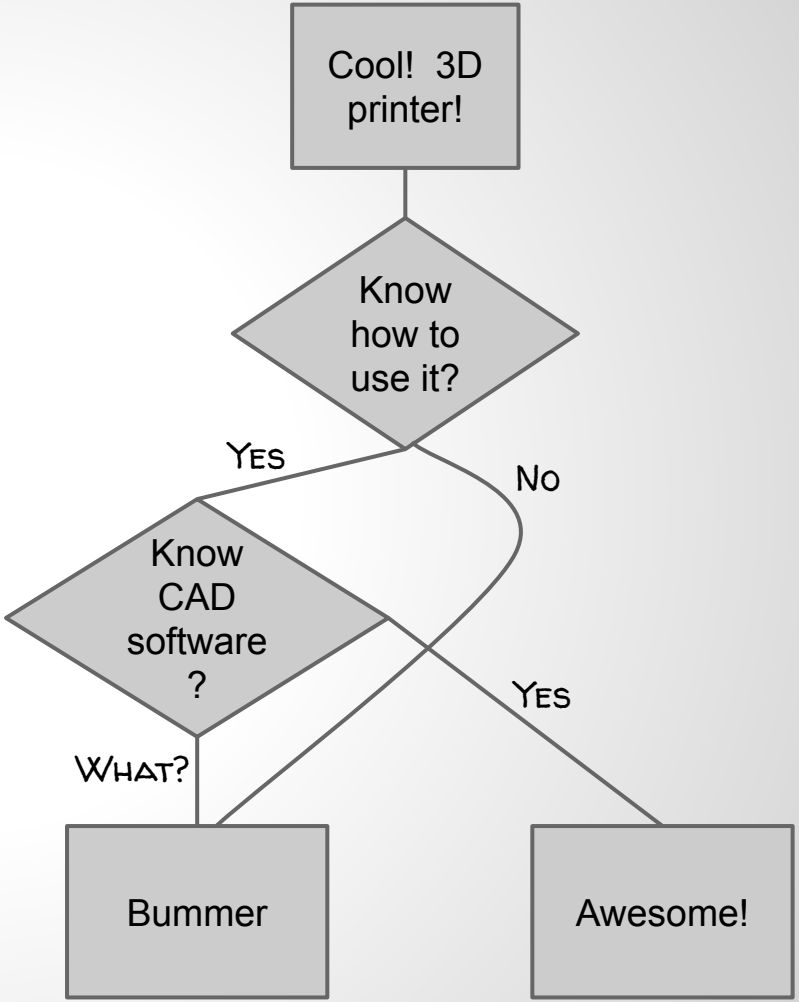
Schools are investing in 3D printers, CNC, and laser cutters

1. STEM is huge right now
2. FABlabs and Makerspaces are the new Industrial Tech

The Problem

Cutting edge technology

Lack of time/skill to fully utilize the tools



Teachers ≠ Industrial Designers

Don’t have the

- Knowledge
- Time
- Skills

Teachers ≠ Industrial Designers

Teacher's Ideas

\+

Designer's Skill

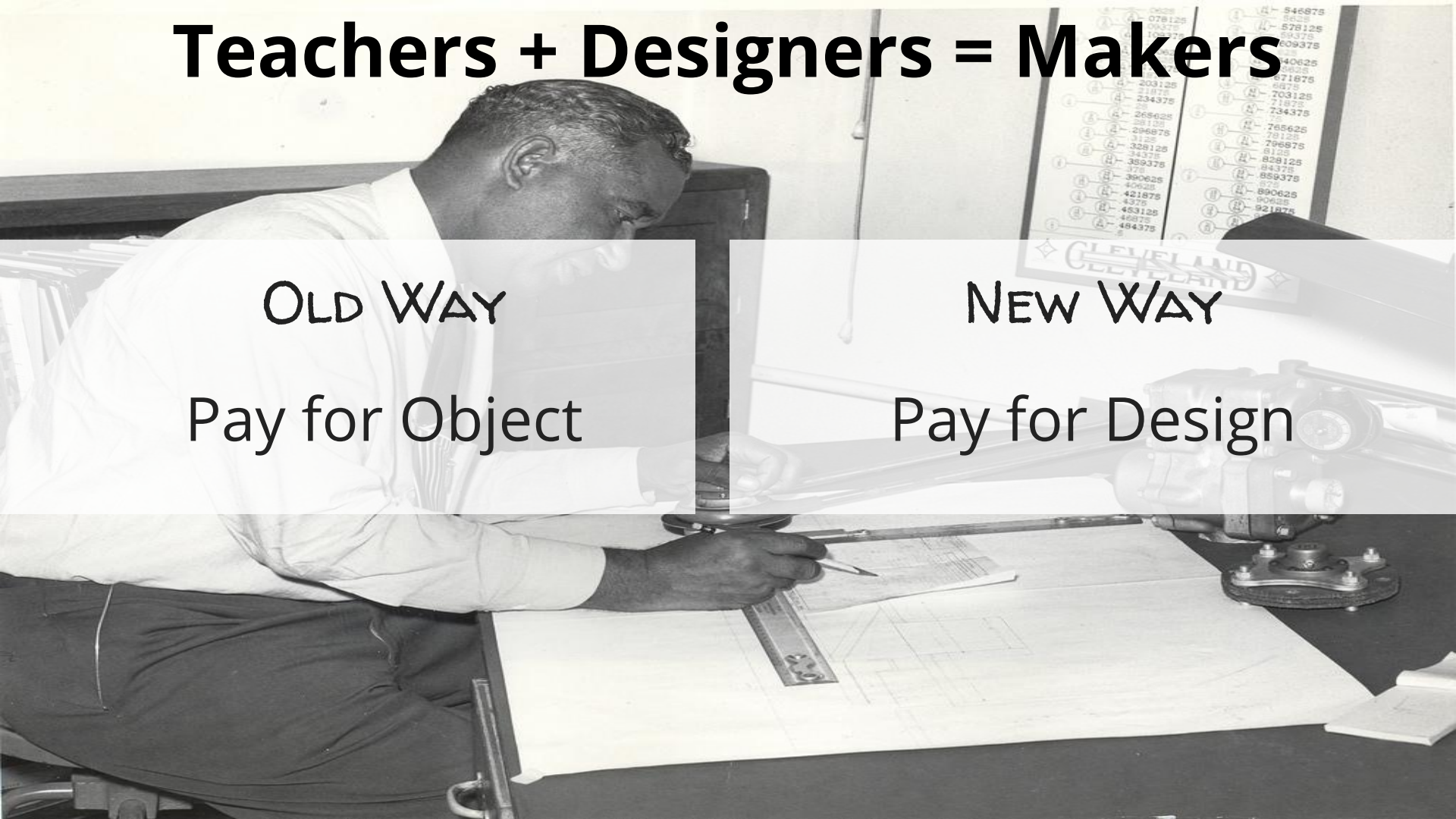
= Perfect Product

At it’s core

Website that connects teachers with designers to create custom education equipment

thingiverse + freelance designers

Teachers + Designers = Makers



Old Way

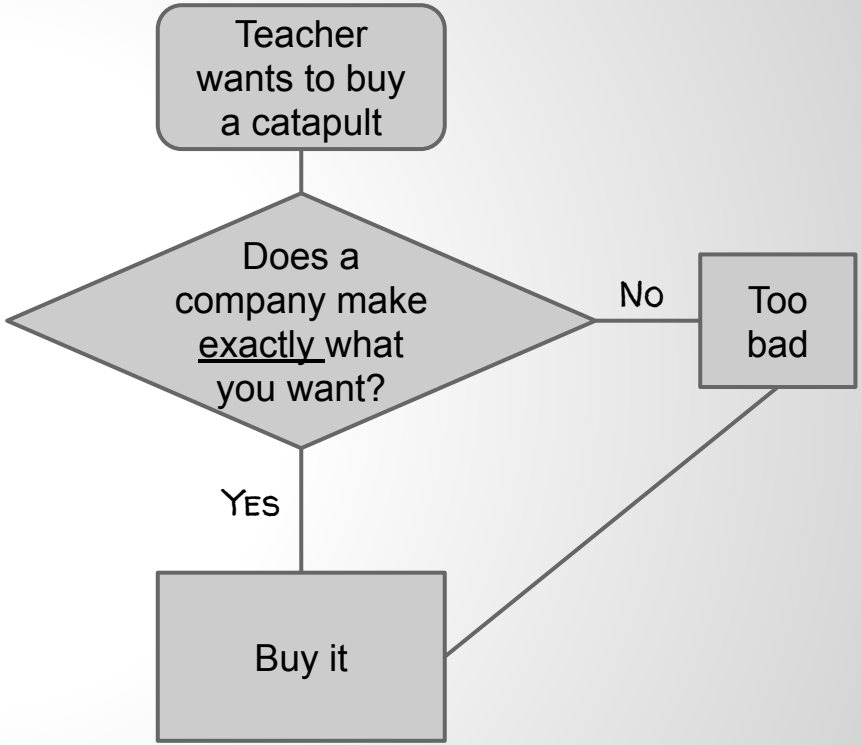
Pay for Object

New Way

Pay for Design

Current Way

Schools pay company for existing product



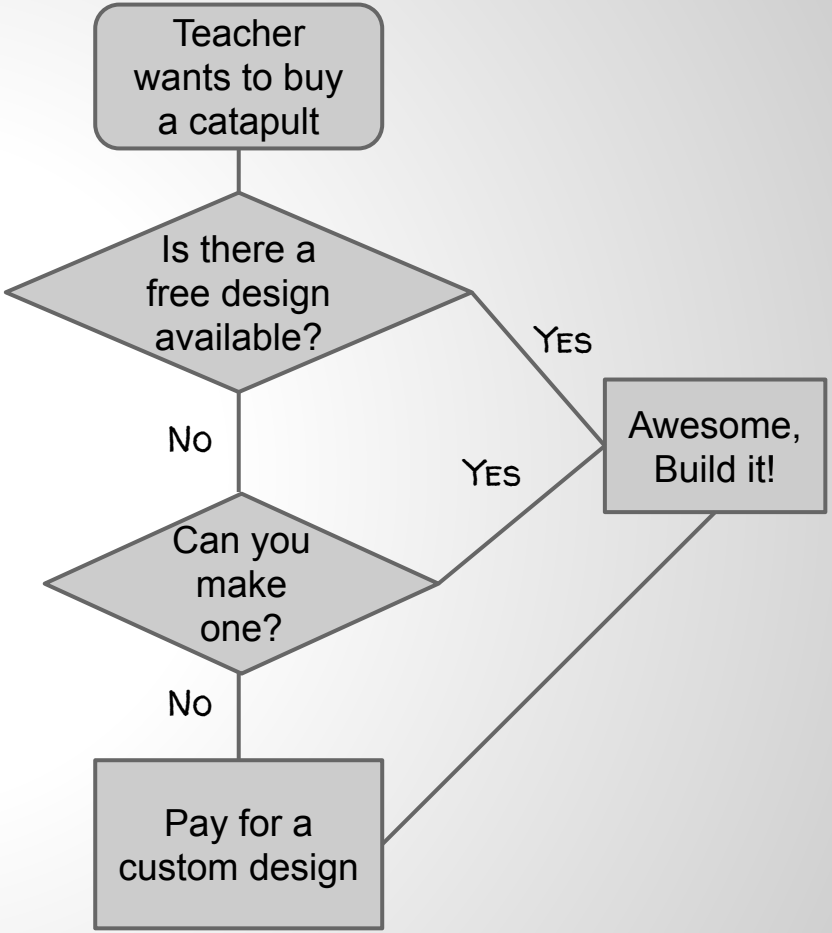
Maker Way

Teachers pay for custom designs

Fabricate locally

classroom, shop

Class, local company



Pros

Teachers get exactly what they want

Often less expensive

Fast

Easy to modify

Utilize/Justify purchase of equipment

Pros for Students

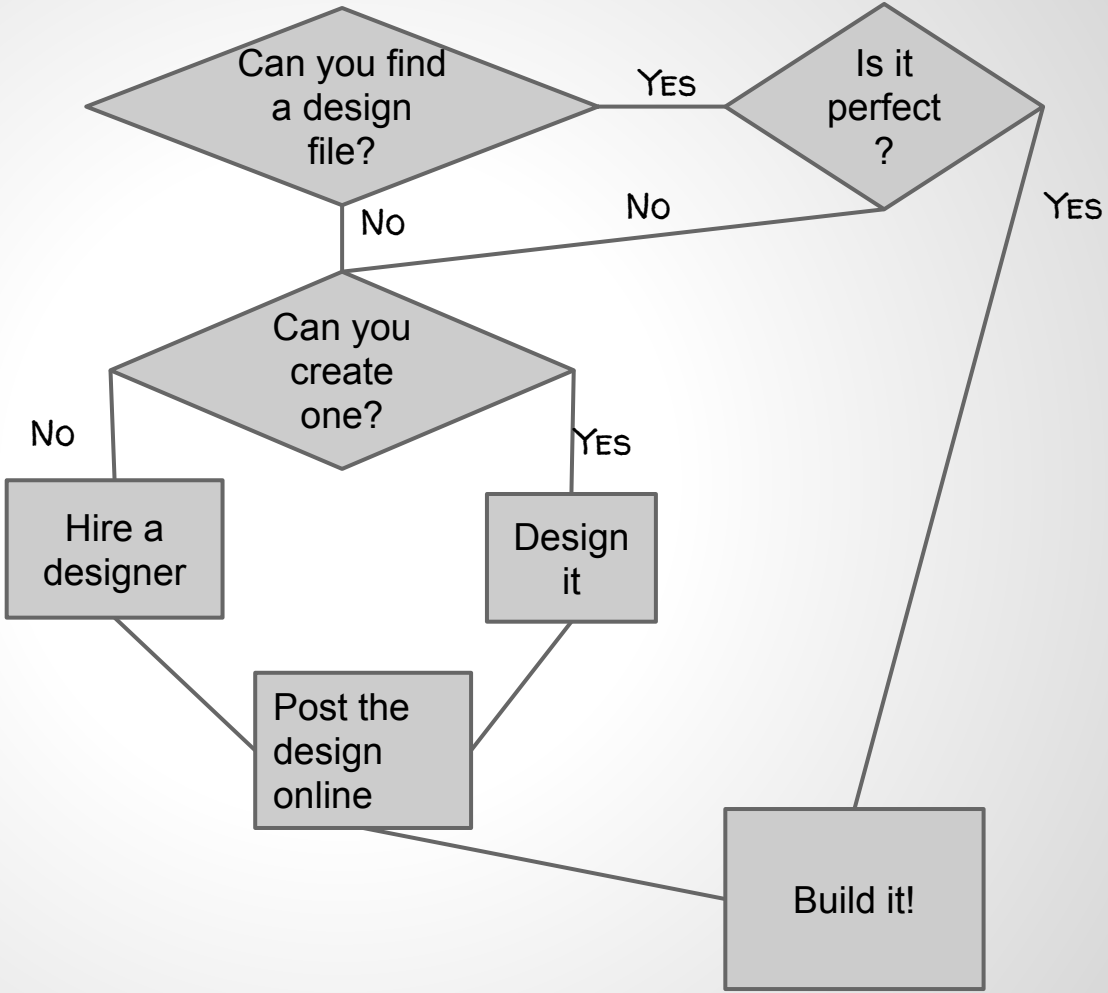
Make their school equipment better

Creates a Maker atmosphere

Demonstrates STEM

Science Technology Engineering Math

The process


Can you find a design file?
Yes
Is it perfect ?
Yes
No
No
Can you create one?
No
Yes
Hire a designer
Design it
Post the design online
Build it!

Open Source

All designs licensed under creative commons

CC = Cheaper Designs

- Likely to find an existing design
- Modify it yourself
- Cheaper to hire a designer

Propel Innovation

Modify existing microscope phone adapter

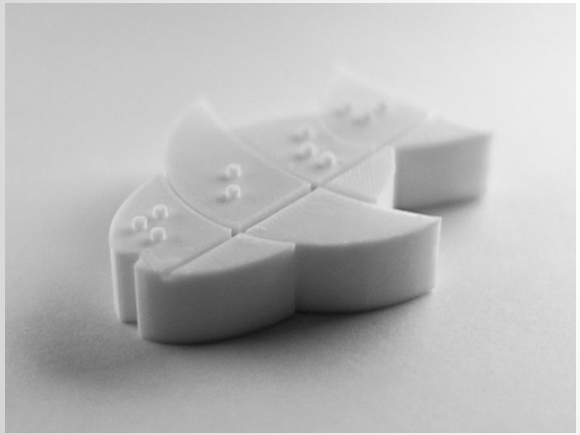
Keep current with student phones

thing:59344

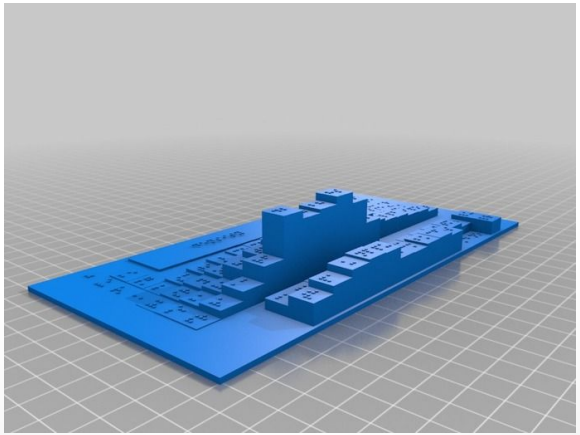
Special Education

Extremely expensive, niche market items

Become inexpensive and flexible



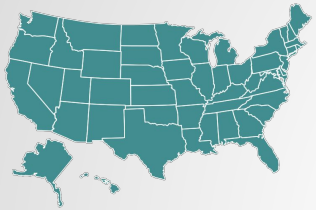
Fittle Fish
thing:127089



Braille Periodic Table
thing:59275

Pen Cap Puller
thing:34490

Geography

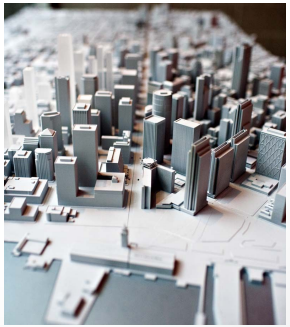


Jim finds a CC vector map of United States
Etches onto Whiteboard

Posts File and lesson on website

Gina follows tutorial and turns map into a puzzle. Includes pictures of mascots for lesson on geography and mascot origin (real lesson)

Eric hires a designer to turn the puzzle into a 3D model with elevations of large cities for inquiry lesson on urban sprawl



Kim hires local shop to cut the map puzzle out of HUGE foam pieces for her 1st grade floor.

Production

Teacher DIY
Student volunteers
Community Volunteers
Local small businesses

Distributed Production

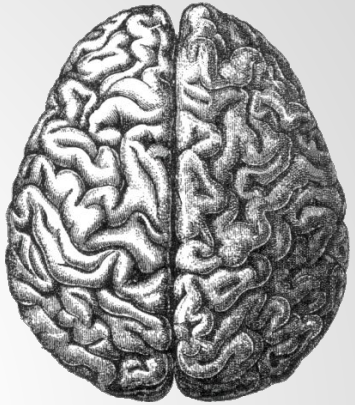
Utilize existing fabrication services

Ponoko

Revenue Sources

- 5% of transactions
- Creation/selling of original kits
  - sparkfun, adafruit, etc.
- Grants
- Partnerships

Changing Minds



Convince administrators that open source is good

Change view of “ownership”

Convey value of custom design over mass produced

Surrounding Features

- Curate designs for teachers
- Tutorials for teachers
- Connect lessons with objects