

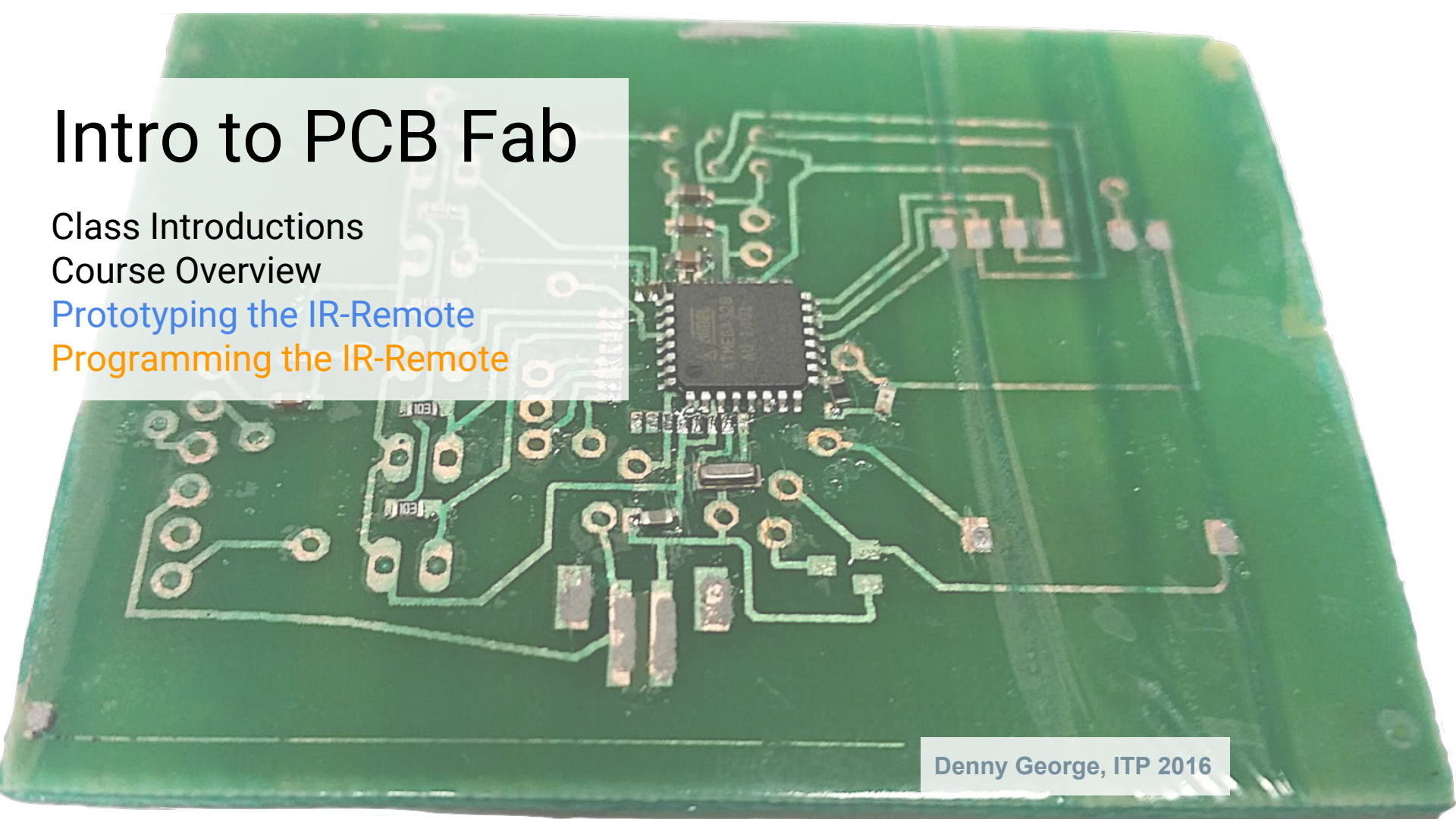
# Intro to PCB Fab

Class Introductions

Course Overview

Prototyping the IR-Remote

Programming the IR-Remote



Denny George, ITP 2016

# Andy Sigler

[andysigler.com](http://andysigler.com)

[opentrons.com](http://opentrons.com)

[tomorrow-lab.com](http://tomorrow-lab.com)

[homemadehardware.com](http://homemadehardware.com)

ITP portfolio

current job

previous job

previous class

Denny George, ITP 2016



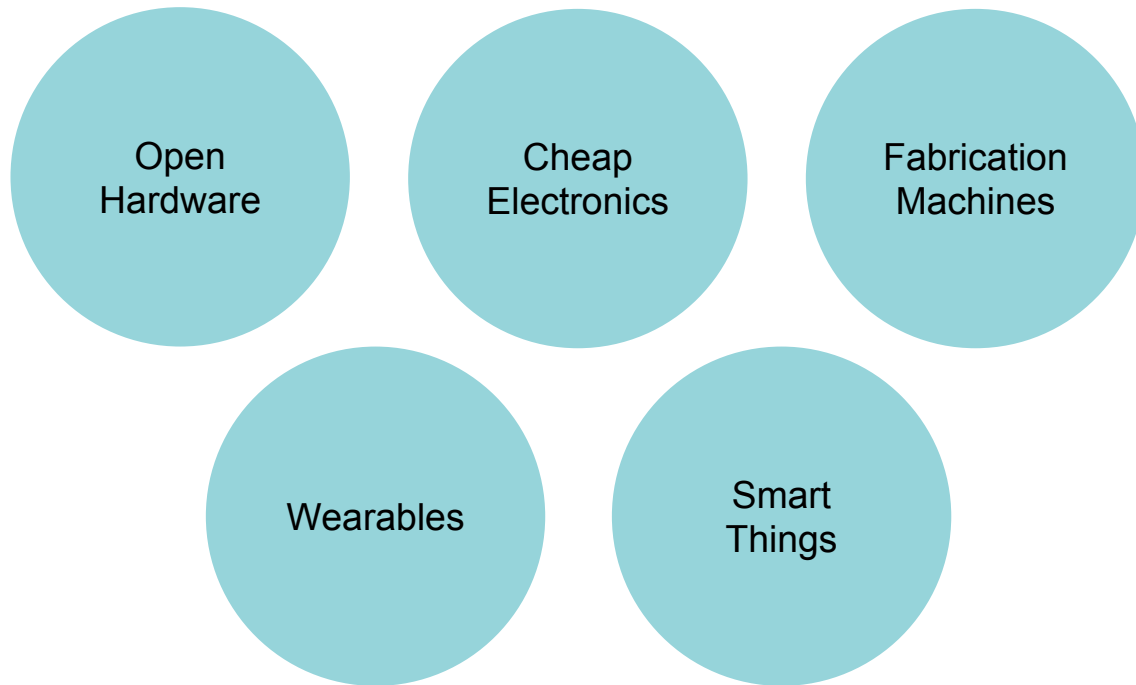
# Students

Name ... and call me ...

How many PCBs you've made (a number)

What you want to make (1-5 words)

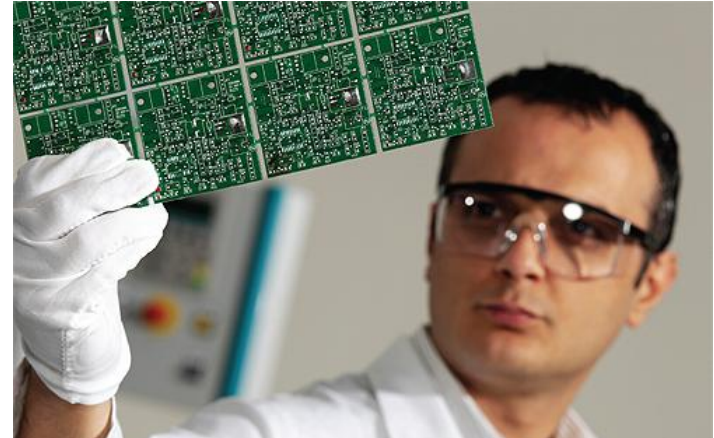
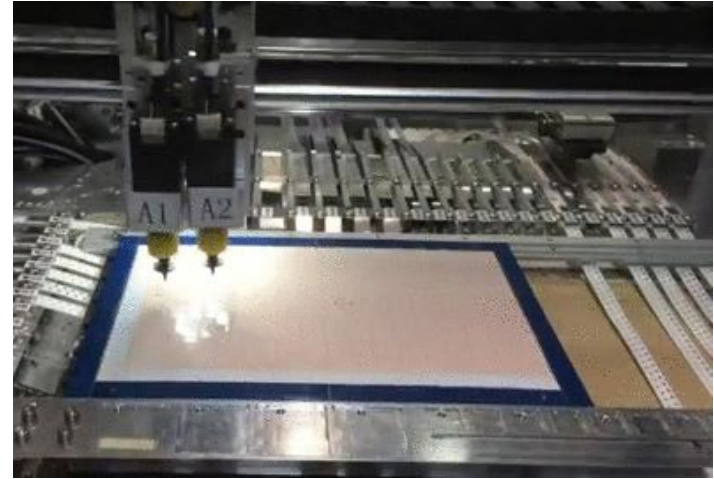
# What are we doing here?



# Ordering PCBs

is cool, but they ...

- are expensive \$
- take a long time
- need coordination

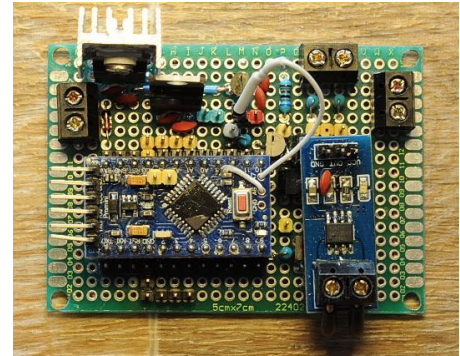
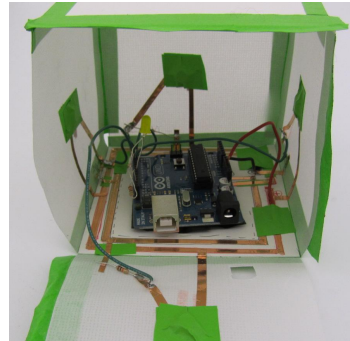
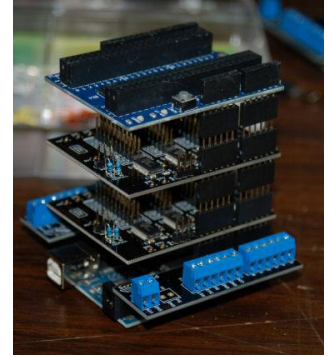
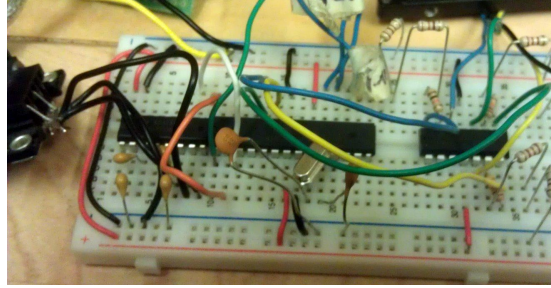




# Prototyping Tools

are amazing, but they're ...

- fragile
- bigger than necessary
- something to hide
- expensive to duplicate

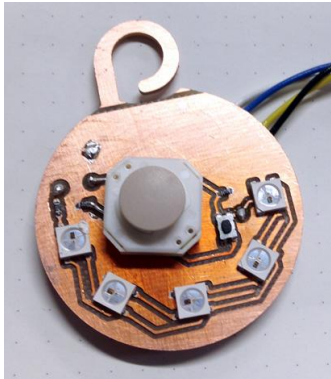


# Rapid Circuit Boards

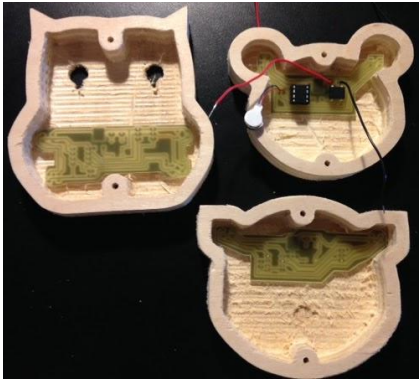
at ITP allows us to ...

- make hardware cheaply
- iterate on form
- discover circuit aesthetics
- prepare for scaling up

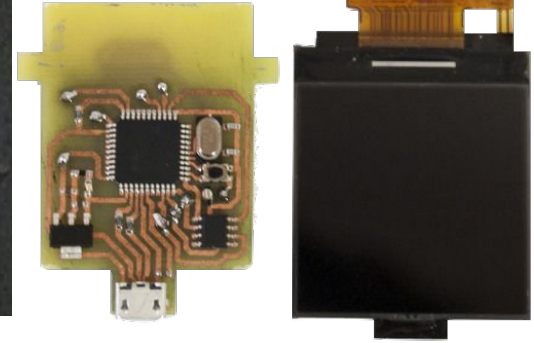
*Teresa Lamb*



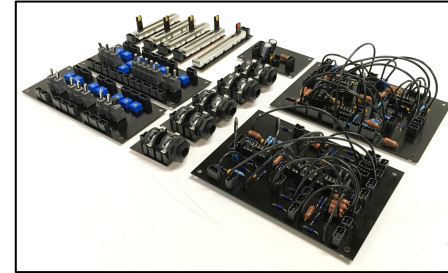
*Shaun Axani*



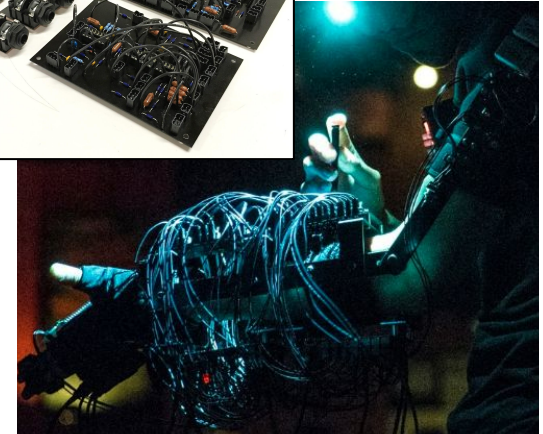
*Matthew Kaney*



*Lutfiadi Rahmanto*



*Yingjie Bei*

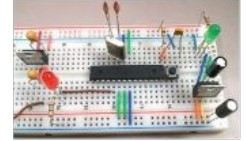
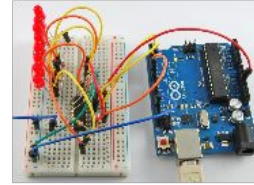


# This Class

## Design

1

Prototype



2

BOM

3

Schematic

4

Layout & Shape



5

Design Copper

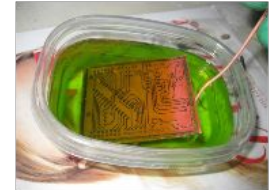
6

Drill & Mill



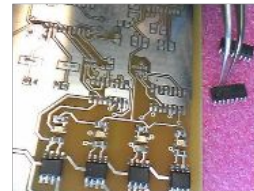
7

Remove Copper



8

Mask, Labels,  
Stencil



9

Populate &  
Reflow



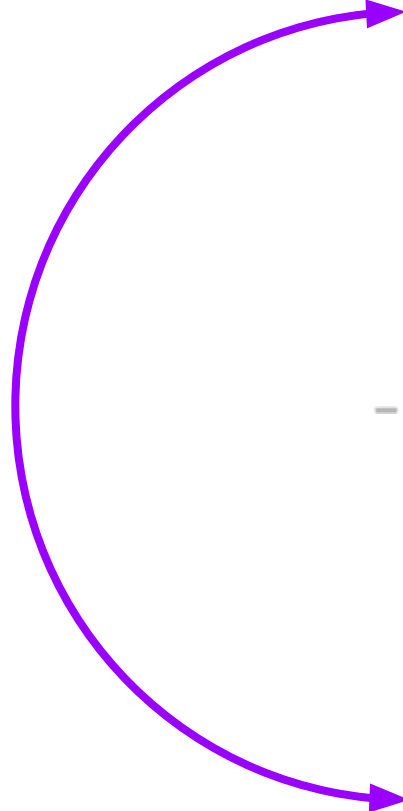
10

Program

## Production

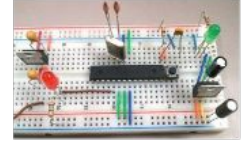
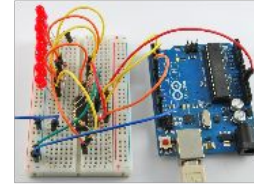


# Week 1/7



1

Prototype



2

BOM

3

Schematic

4

Layout & Shape



5

Design Copper

6

Drill & Mill



7

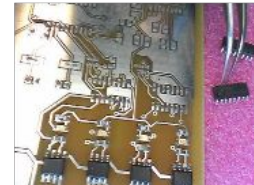
Remove Copper

8

Mask, Labels,  
Stencil

9

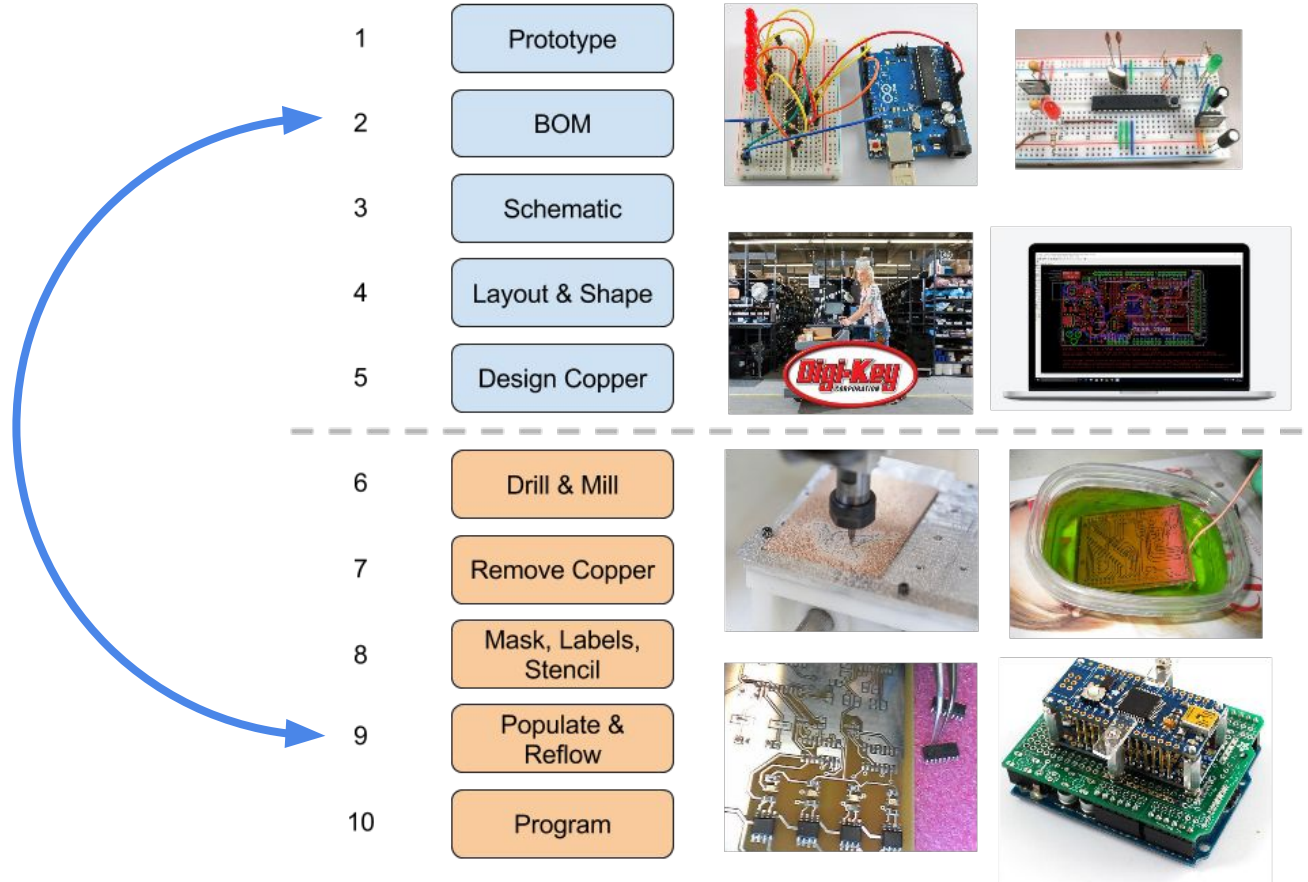
Populate &  
Reflow



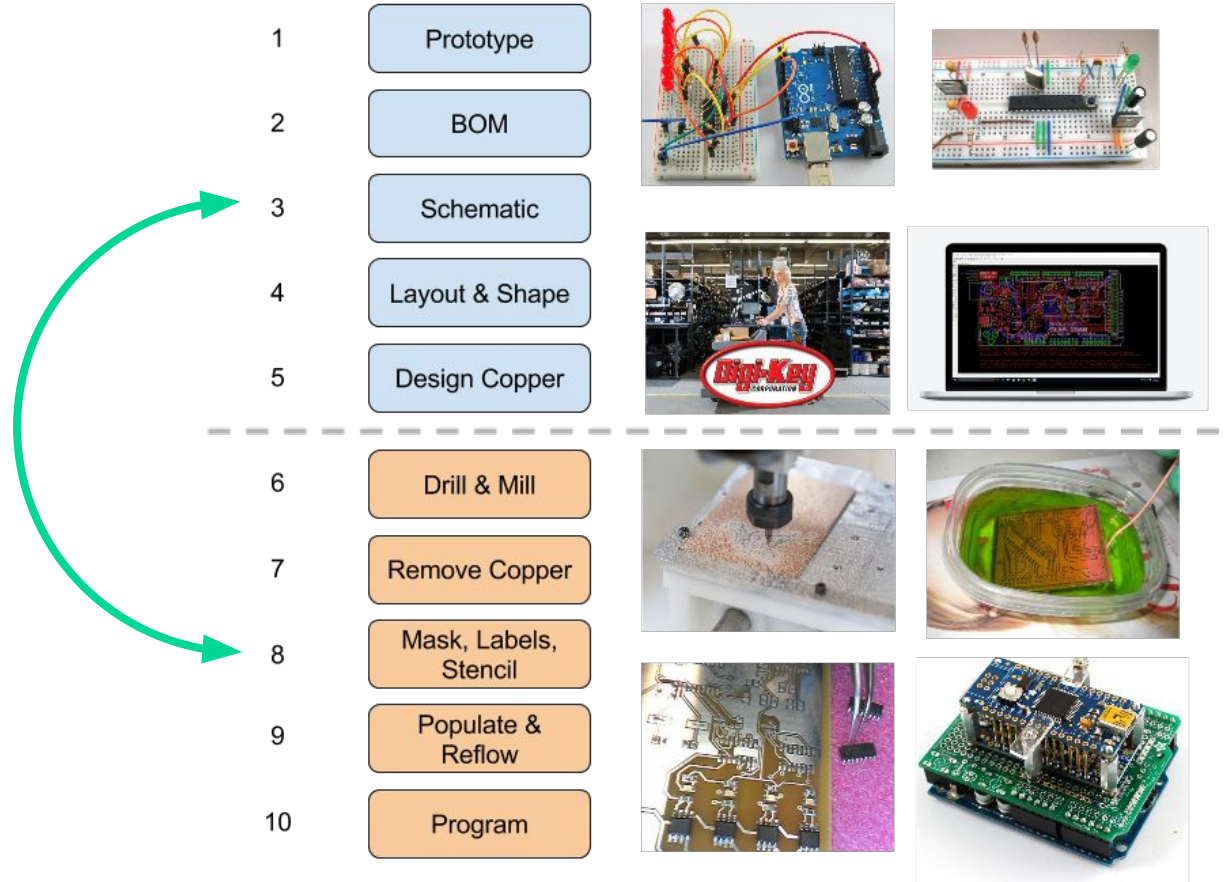
10

Program

# Week 2/7

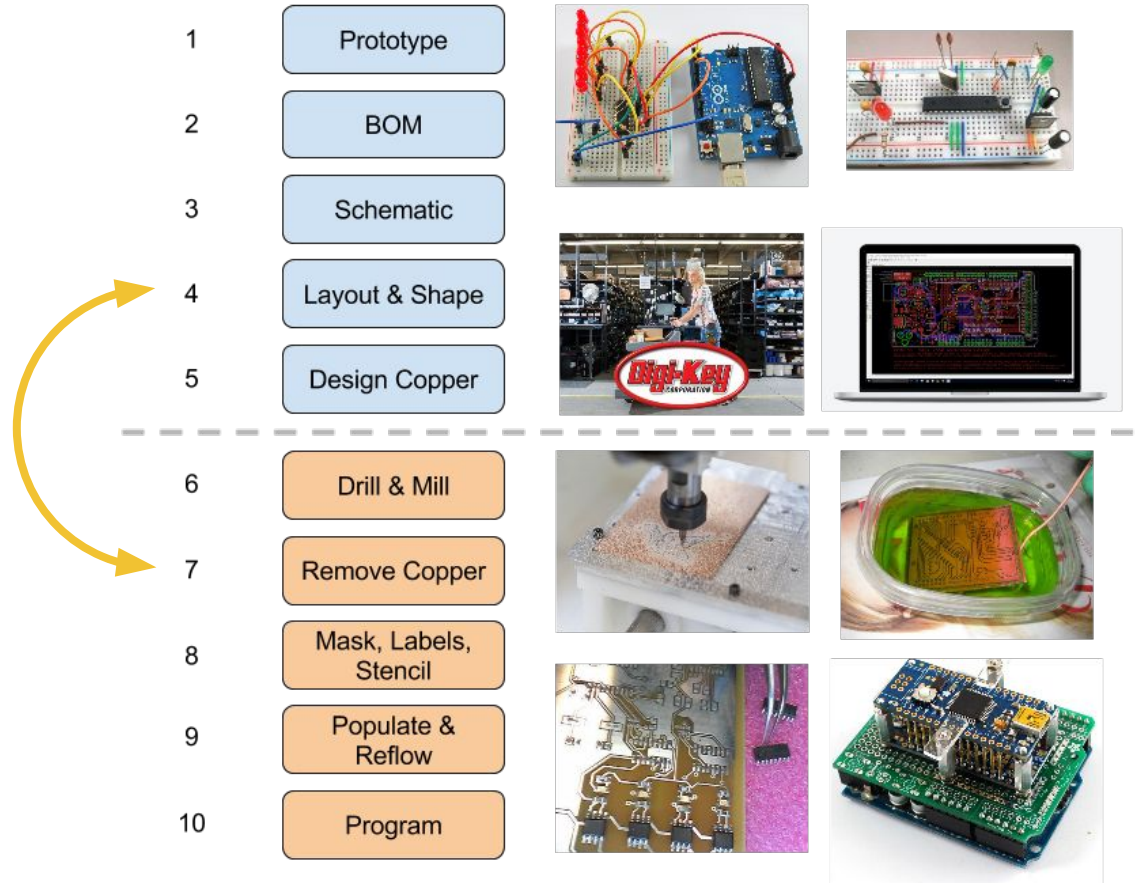


# Week 3/7

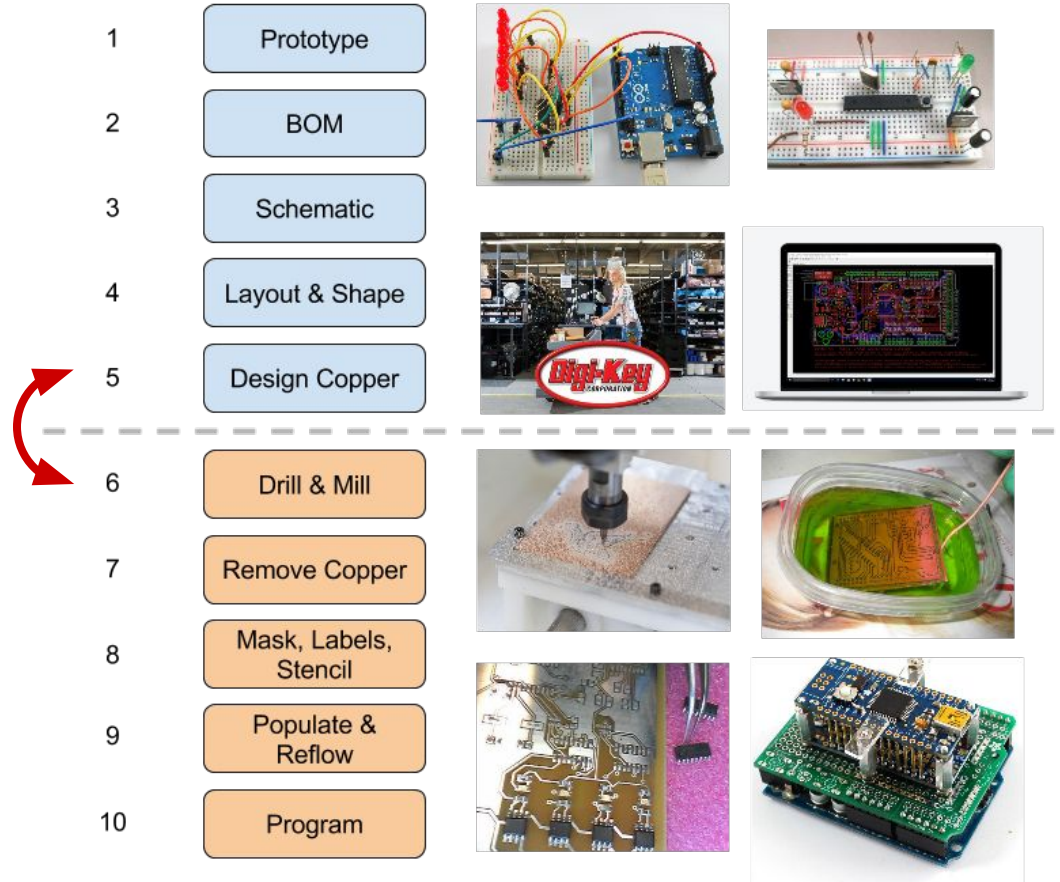


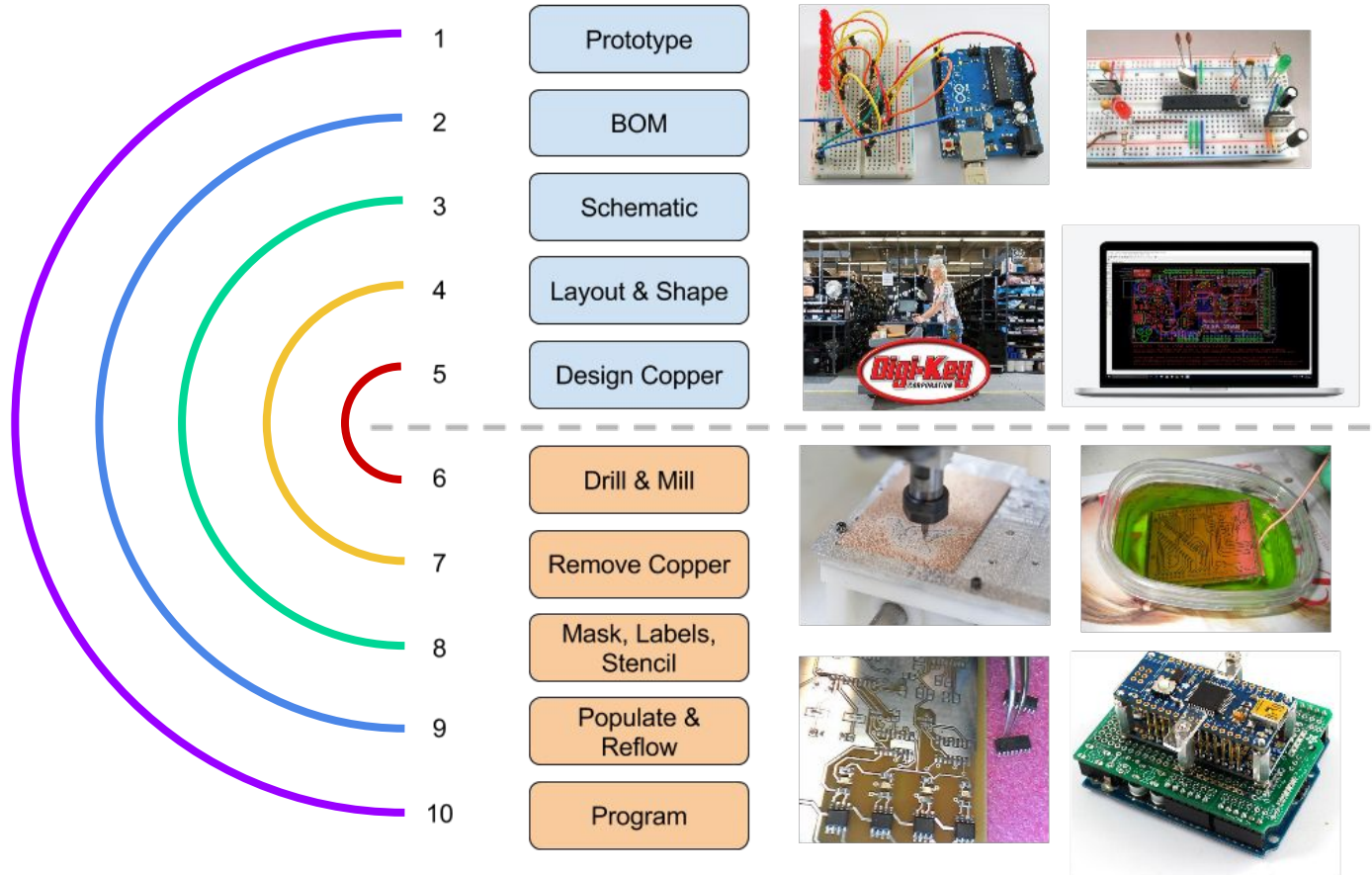


# Week 4/7



# Week 5/7









1  
2  
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10

Prototype

BOM

Schematic

Layout & Shape

Design Copper

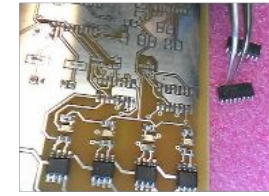
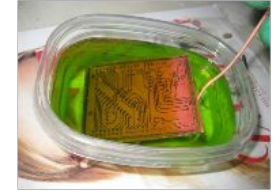
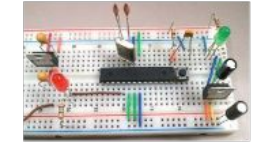
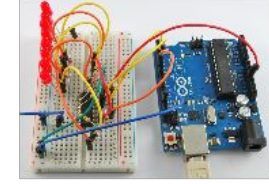
Drill & Mill

Remove Copper

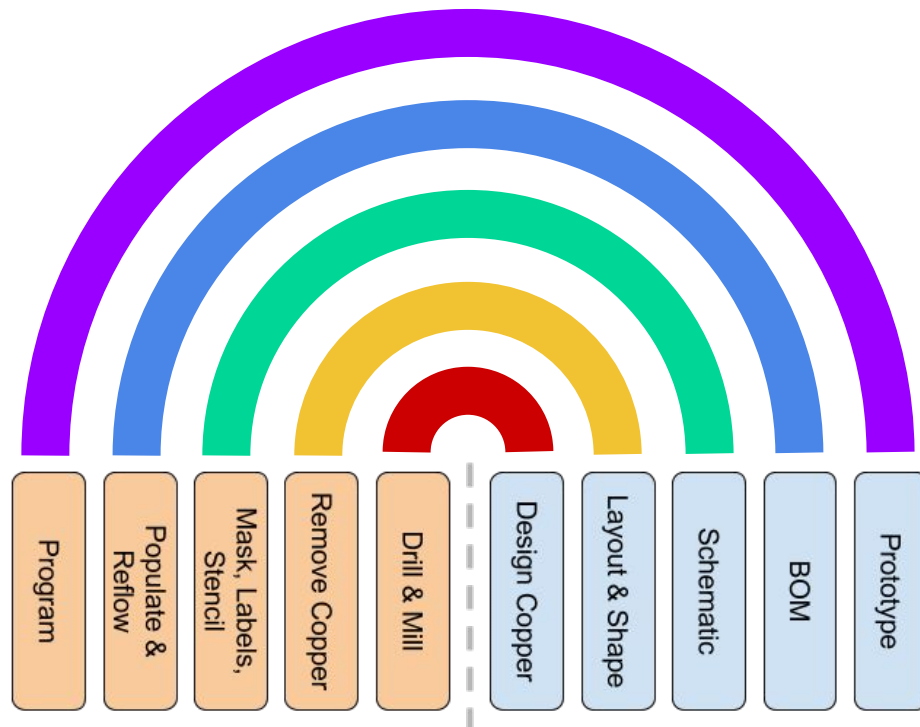
Mask, Labels,  
Stencil

Populate &  
Reflow

Program



# PCB RAINBOW



# Syllabus

[intro2pcbfab.com](http://intro2pcbfab.com)