3D PRINT LIKE A BOSS

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CRETE PUBLIC LIBRARY Community in Motion

INTRODUCTION

I currently serve as the Library Director at Crete Public Library.

Throughout my career, I have worked extensively in various library Makerspaces, gaining hands-on experience with a wide range of machines.

Over the years, I have worked with several 3D printers, though I have found that many models fall short in terms of reliability and overall user experience.

WHAT IS 3D PRINTING

Definition

3D Printing is turning digital designs into physical objects, layer by layer.

Types of 3D Printing

- Filament-most common
- Resin-high detail
- SLS, DMLS-industrial

WHAT YOU NEED

3D Printer

- Do you already have a 3D Printer?
- If not, how can you get one?
  - Donations
  - Grants
  - Friends/Foundation
  - Fundraising

Filament

PLA is the most common filament type.

You don’t need to have every color.

Tip

Keep your nozzle clean. Clogged hotends are for amateurs, not bosses.

DESIGN OR DOWNLOAD

Create Your Own

Fusion 360

Tinkercad

Blender

Download

Thingiverse

Printables

Cult3D

Bambu Handy or Bambu Studio

SLICE LIKE A CHEF

Import the .STL file

- Choose:
  - Layer height (Detail vs. Speed)
  - Infill % (durability)
  - Supports (for overhangs)
  - Print temperature (depends on filament)

Tip

Use tree supports for weird shapes--minimal scarring, easier to remove

PRINT LIKE A PRO

Transfer G-Code

Your printer should use any of these:

SD Card

USB

WiFi

Checklist

First Layer Sticks?

No Spaghetti?

Nozzle not scraping bed?

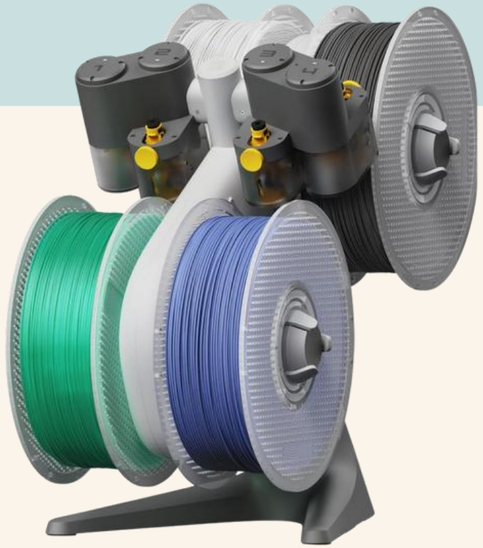
When your print is done

- Remove supports
- Sand, prime, paint
- Resin prints: Cure under UV

NEXT-LEVEL BOSS MOVES

Dual Extrusion

- Some printers will allow you to use multiple colors
- This process can be complex, but this also depends on your printer

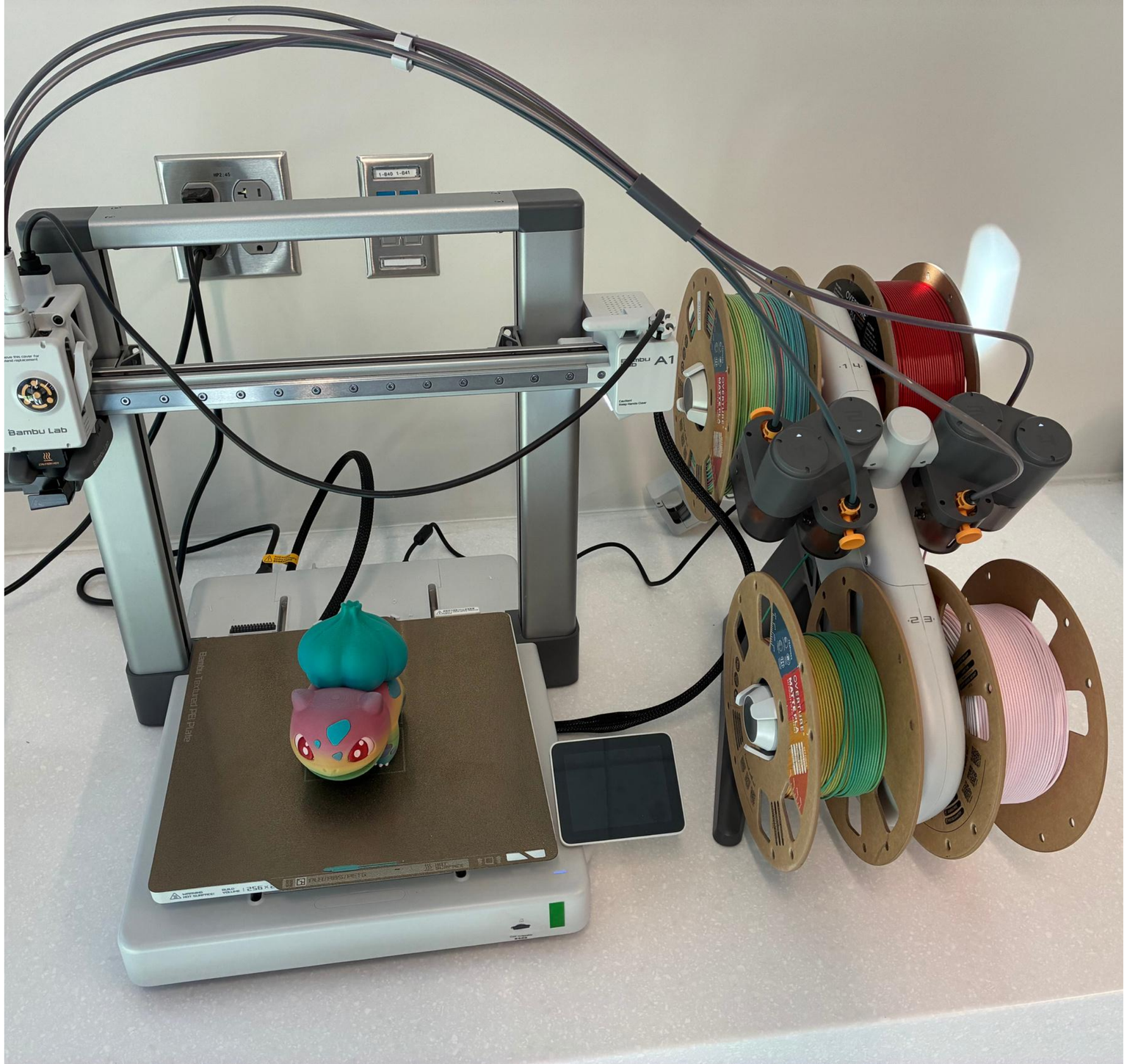


Time-lapses

Show the process of completing a 3D Print on your social media. Gets the public excited!

Tips

Learn by printing often
Always monitor the first layer
Keep a log of what works


Bambu Lab
A1
Bambu Textured PEI Plate

BUILD VOLUME | 256 x 256 x 256 mm³

THINGS YOU CAN MAKE

HOW 3D PRINTING WORKS @MY LIBRARY

Designs Binder

- Step 1: Choose your design from our 3D Print Binder
- Step 2: Fill out our 3-D Printing Order Form
- Step 3: Pay for Print
- Step 4: The Library will print the object
- Step 5: The Library will call when the print is complete
- Step 6: Pick up print in 14 days

Classes

We are going to start offering classes once a month.

Patrons can come in and do custom printing after they have taken a class.

Charge $2 per hour of print time

3-D PRINTING ORDER FORM

Payment is required at the time of order. No refunds.

Date _____

Name _____ **Phone** _____

Item _____ **Price** _____

Color Options

☐ Blue _____ ☐ Green _____

☐ Pink _____ ☐ Yellow _____

Items will only be held for 14 days after printing.

3-D PRINTING RECEIPT

Payment is required at the time of order. No refunds.

_____ **Name** _____

Pick up by _____

Item _____ **Price** _____

Color Options

☐ Blue _____ ☐ Green _____

☐ Pink _____ ☐ Yellow _____

Items will only be held for 14 days after printing.

3D PRINTER COMPARISONS

Absolutely Not

Makerbot

Flashforge

Lulzbot

Maybe...or maybe not

Ultimaker

- Cost: $5000
- Has its own software

GOAT of 3D Printers

Bambu Lab A1 Printer

- Cost: $400
- Has its own software

FILAMENT BRANDS TO USE

Click to see full view

Polymaker Panchroma Gradient Satin Rainbow 3D Printer PLA Filament 1.75mm, Multicolor 3D Printing PLA Filament, 1kg Spool (2.2lbs)

Visit the POLYMAKER Store

4.6 ★★★★½ (751) | Search or ask

50+ bought in past month

2 Price Changes

-9% $29.97 ($0.85 / ounce)

List Price: ~~$32.99~~

prime Two-Day

FREE Returns

Buying multiple items? Go to multi-select

Color: **130 - 1.75mm Gradient Satin Rainbow**

$16.79 ($0.48 / ounce) ~~$18.39~~ FREE Delivery **Thursday**	$20.99 ($0.60 / ounce) ~~$22.99~~ FREE Delivery **Friday**	$13.64 ~~$14.94~~ FREE Delivery **Thursday**	$13.64 ~~$14.94~~ FREE Delivery **Tomorrow**	$13.64 ($0.39 / ounce) FREE Delivery **Thursday**	$20.99 FREE Delivery **Thursday**	$13.64 FREE Delivery **Thursday**	$13.64 FREE Delivery **Thursday**
$13.64 ~~$14.94~~ FREE Delivery **Tomorrow**	$20.99 ~~$22.99~~ FREE Delivery **Thursday**	$13.64 ~~$14.94~~ FREE Delivery **Thursday**	$13.64 ~~$14.94~~ FREE Delivery **Tomorrow**	$13.64 ~~$22.99~~ FREE Delivery **Thursday**	$29.97 ($0.85 / ounce) ~~$32.99~~ FREE Delivery **Thursday**	$61.99 FREE Delivery **Tomorrow**	

FILAMENT BRANDS TO USE

Click to see full view

OVERTURE Matte PLA 3D Printer Filament 1.75mm, Matt Surface & Low Warping Filament 1kg Spool (2.2 lbs), Accuracy +/- 0.02 mm, Fit Most FDM Printers (Matte Rainbow)

Visit the OVERTURE Store

4.4 ★★★★½ (6,123) | Search or ask

Amazon's Choice

2 Price Changes

Limited time deal

-20% $19.99 ($0.57 / ounce)

Typical price: ~~$24.99~~

prime Two-Day

FREE Returns

Buying multiple items? Go to multi-select

Color: **25-matte Rainbow**

QUESTIONS?

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