



3D PRINTING IN A HEALTH SCIENCE LIBRARY

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Logan University

- Founded in 1935
 - Current campus since 1973
- Chiropractic and Health Sciences
- FTE 1620 (929 DC)
- 59% increase in enrollment 2016-2020



Why now?

- Service we've considered for a couple years
- Extension of current anatomical model offerings
- Pandemic provided opportunity
 - Reduced access to anatomical models
 - Budget surplus FY20-21

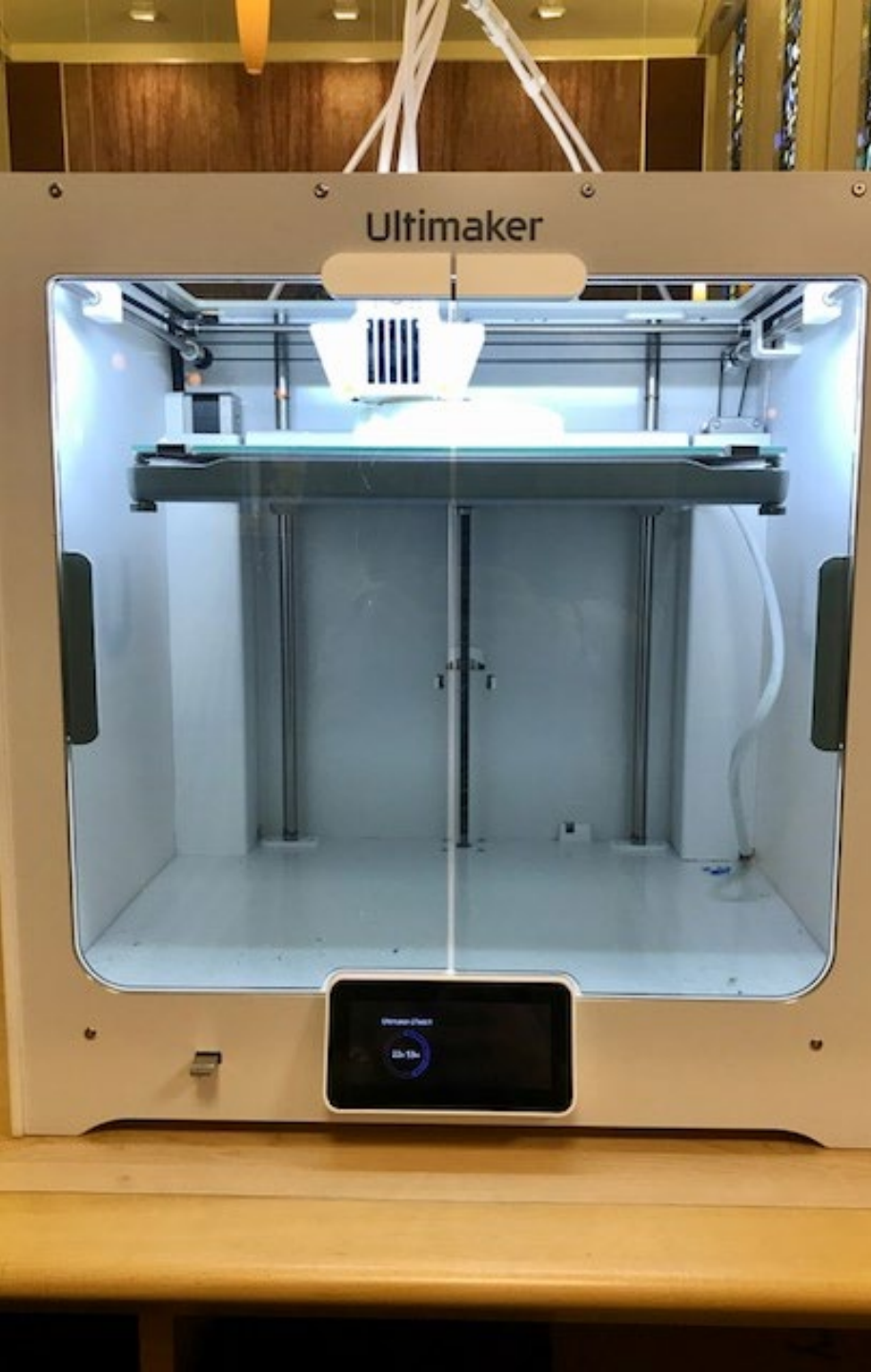
Research



- Email to MOBIUS listserv
 - A.T. Still University
- Wide range of services and budgets
- Other institutions' websites/LibGuides
- IT Department
 - Printer/Copier vendor

Proposal

- LRC 3D Printer Proposal
 - Similar programs
 - Process
 - Printers w/ cost and features
 - Supplies and continuing expenses
- Submitted to LRC Director, Dean of Students, VP of Academic Affairs



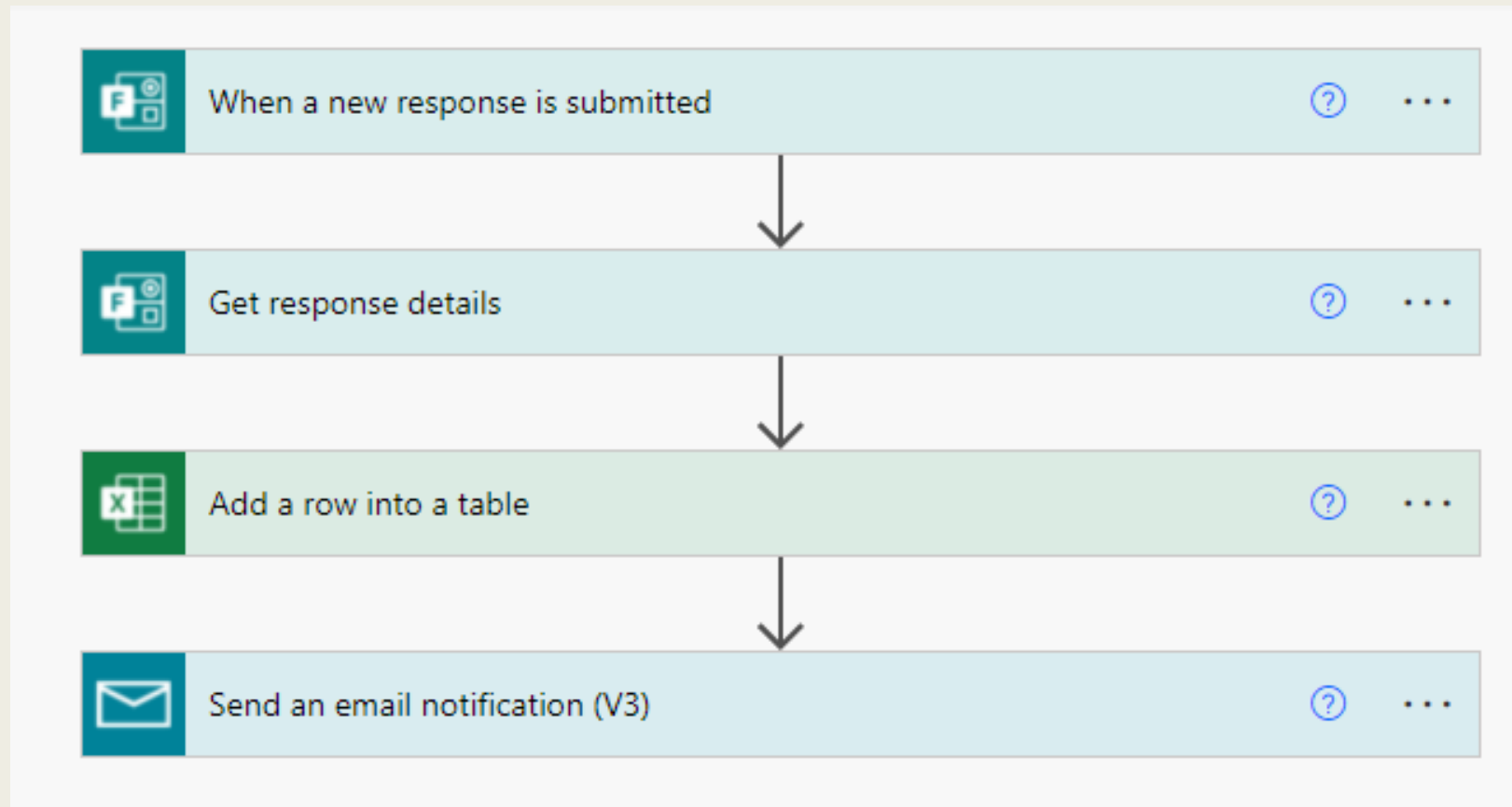
Purchasing

- Ultimaker S5
 - Dual extrusion
 - Size
 - Easy to use
- Ultimaker request for info
- Bid from Logan's Technology Vendor
- 3D Universe
 - Educational discount

Policy and Process

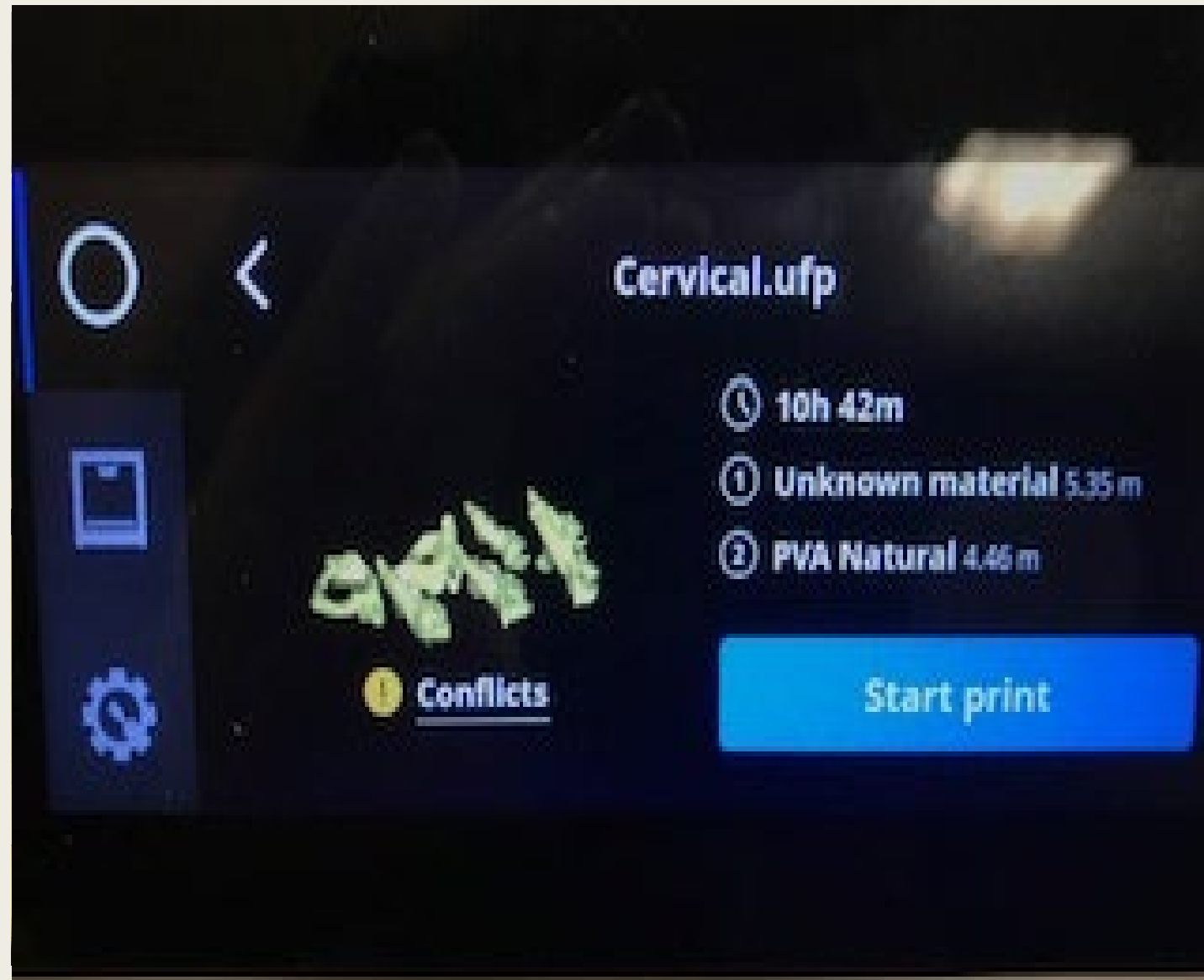
- 3D Printing Services LibGuide - <https://libguides.logan.edu/3dprinting>
- Educational and research use only
- Free of charge
- Print models catalog
 - Constantly evolving as we complete and photograph more prints
 - Students can also submit their own .stl files
- Currently no limit on number of requests, but will probably change

Microsoft Forms and Power Automate Flow



Printing process

1. Find the STL file
 - Thingiverse.com
2. Download and format
 - Ultimaker Cura to slice
3. Attach the needed filaments
4. Chose file and print.



3D Models

- Skull in 3 parts
- Hand
- Spine
- Foot
- Pelvis



Challenges

Leaning how the printer works.

- Trial and error testing
- Worked with IT

Find out what students want.

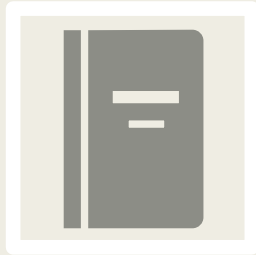
- Step up test groups
- Use word of mouth to spread news about the printer.

Resolving error messages

- Trouble shoot.
- Reaching out to the company.



Lessons Learned



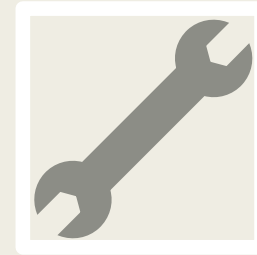
Keep thinking of ways to save time and resources.

Print time sheet
Having student dissolve, the support material.
Print models in groups.



Have patience

Just because a model printed fine before doesn't it well every time.



Prepare for issues.

Have a step by step plan.
Don't spend to much time using one method.

Resources

- Health Science 3D printing guides
 - <https://guides.atsu.edu/3Dprinting>
 - <https://guides.library.vcu.edu/c.php?g=47714&p=5924847>
 - <https://library.ouhsc.edu/3dprintpolicies>
 - <https://guides.himmelfarb.gwu.edu/3DPrinting>
 - <https://libguides.logan.edu/3dprinting>

- Ultimaker Support, <https://support.ultimaker.com/hc/en-us>