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CNI Dec. 9, 2014
THE UNIVERSITY OF NEVADA, RENO

- Tier One* land grant university
- ~20,000 students
- 4 libraries
  - Knowledge Center
  - DeLaMare Science & Engineering
  - Savitt Medical
  - Basque Studies

*US News & World Report 2014
Quick recap: at CNI 2 years ago …

• **What** is 3D printing?
• **Why** is it in the library?
• **Who** uses it and for what purpose?
• **What** are the critical success factors?
• **Where** do we go from here?
Quick Recap: 3D printers and scanner

1) 3DTouch
2) Stratasys uPrint SE Plus
3) NextEngine 3D Scanner
Printing - paper or plastic?

Photo credit: Nick Crowl
Chris Anderson, ex editor of *Wired*:

"3D Printing Will Be Bigger Than The Web"
Two years later...
Stratasys + Zprinter 450

Photo credit: Nick Crowl
AWESOMENESS IN PROGRESS
PLEASE DO NOT TOUCH
Who uses 3D printers?

Everyone.
3D printing
Total running time for 2013:

4,564 hours
or

nearly 6 months of printing time
3D printer usage:

- Mechanical Engineering: 46%
- Electrical Engineering: 5%
- Biomedical Engineering: 8%
- Biochemistry: 11%
- Art: 11%
- Anthropology: 5%
- Natural Resources & Environmental Science: 3%
- Chemistry: 3%
- Business: 3%
- Ag, Biotech, Natural Resources: 2%

Slide by Tod Colegrove
“One of the very hard things about teaching chemistry is explaining that molecules have shape. This basically removes that obstacle ... so it will change how we teach chemistry and how we look at molecules on a daily basis. It's also just plain fun.”
Patrick, marketing + psychology (minor)

Photos by Tod Colegrove and Nick Crowl
Heather, math education + tutor

“I think 3D printing is awesome. Now if I can’t find a [math educational] resource, I can just make one.”
No 3D printer does it all.
Questions to ask your users

• Do you want to print metal parts? ABS plastic?
• Multiple colors? Simultaneously?
• Big parts? (How big?)
• “Real” parts? (dropped, drilled, machined?)
• Interconnected moving assemblies?
Any environmental health and safety concerns?
• **What** is 3D printing?

• **Why** in the library?

• **Who** uses it and why?

• What are the critical success factors?
It’s all about engagement

Photo credit: Nick Crowl
3D printing + 3D scanning
Babe, the Iguana
Newest service: laser cutter
Julian, business student owner, Wasted Eyewear
3D printer, laser cutter + Arduino = hovercraft
It’s all about engagement

DeLaMare Science & Engineering Library
November 29

We may have just engraved marshmallows in the laser cutter… and they were delicious! #slowsaturdayatdlm

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Lindsay Sewell, DeLaMare Science & Engineering Library and 2 others like this.

DeLaMare Science & Engineering Library
November 20

Have you worked with 3D modeling software, experience with the Oculus Rift, or creating animation and iterations in 3D environments? There is a paid internship available. Check it out.
It requires a culture shift.

And extraordinary librarians and staff.
Tod Colegrove
Head, DeLaMare Library

Tara Radniecki
Engineering Librarian

Photo credit, Nick Crowl
it’s okay to fail. expect to.