Another Dimension:
Practical, Legal, and Ethical Considerations of 3D Printing in Academic Libraries

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Introduction

- 3D-Printed Goods.
- Legal Issues.
- Ethical Issues.
- User Agreements.
- References.
3D-Printed Goods

Consider . . .

“A world in which everyone has advanced 3D printers at home or available in a public facility is a world in which manufactured goods no longer have to be *produced in bulk* and are *no longer scarce*” (Lemley, 2015, pp. 474-475).
3D-Printed Goods

- Now we can print anything, like human kidneys and batteries!
- Food: astronauts, military.
- Fashion: swimwear, footwear.
- Medicine: cells, tissues, organs, bones, teeth.
- NASA: food, equipment (e.g., wrench).
- Military: food, skin, weaponry, equipment.
## Legal Issues: Intellectual Property

<table>
<thead>
<tr>
<th>Patent</th>
<th>Copyright</th>
<th>Trademark</th>
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<tbody>
<tr>
<td>• Exclusive rights of creator for an invention</td>
<td>• Rights of creator over literary or artistic creation</td>
<td>• Sign or design distinguishes goods or services from others</td>
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<tr>
<td>• Protects how invention, which must be novel and inventive, works</td>
<td>• Protects expression, not idea</td>
<td>• Protects company’s brand identity</td>
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<tr>
<td>• <em>E.g.</em>, design plan for 3D printer</td>
<td>• <em>E.g.</em>, code of CAD design</td>
<td>• <em>E.g.</em>, MakerBot logo</td>
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Sources: World Intellectual Property Organization; Raconteur.net
Legal Issues: Intellectual Property

- **Copyright.**
  - 17 U.S.C. Section 108(f)(1) rule: library immunity for photocopiers carries over to 3D printers!
- **Notice posted and use unsupervised.**
- **Common sense and law.**
Legal Issues: Product Liability

- “Strict liability” for defective products.
- The seller or distributor of a defective product is liable for the harm to person or property caused by the defect (Third Restatement § 1).
Legal Issues: Product Liability

- Who is liable?
  - “Hobbyist inventor” who created and sold defective product?
  - Manufacturer of 3D printer that “printed” the defective product (e.g., printer malfunction)?
  - “Digital designer” who wrote the code that instructed the printer what to print (e.g., CAD flaw)?

(Engstrom, 2013, p. 37)
Legal Issues: Product Liability

- Is 3D printing really manufacturing?
- If someone makes a defective product on the academic library’s 3D printer on its premises, is the academic library liable?
- 17 U.S.C. Section 504(c)(2): damages remission for libraries doing the 3D printing.
Legal Issues: Free Speech

- Public university library is *limited public forum*.
  - Can define nature of space.
  - Can limit 3D printing to coursework.

- Library should have:
  - Viewpoint-neutral 3D printer policy.
  - Warning notice.
  - Waiver of liability (optional).
Ethical Issues: “Bad” Products?

Consider . . .

“3-D printing democratizes product creation. It empowers ordinary Americans to become countertop creators—and not merely of jam and lemonade, but of material that’s complicated, sophisticated, and potentially dangerous” (Engstrom, 2013, p. 41, emphasis added).
Ethical Issues: “Bad” Products?

- Food.
- Medical devices and body parts.
- Weapons:
  - 3D-printed guns are manufactured and distributed without regulation (Reddy, 2014, p. 230).
- Drugs.
- Toys protected by intellectual property laws.
Ethical Issues: Regulation

- No current federal or state regulation of 3D printers or 3D-printed products!
- The manufacture of food, medical devices, body parts, weapons, etc. is unregulated.
- Pro: Patrons use 3D printers to create and innovate.
- Con: Patrons use 3D printers to steal ideas and create copyrighted products.
User Agreements

- No national standards for library’s 3D printer user agreements or policies.
  - Some templates are emerging from public libraries.
- Academic libraries can define nature of 3D printer space and limit 3D printing to academic coursework.
- Academic libraries can establish rules for using the 3D printer and consequences for inappropriate use.
User Agreements

- User agreements and policies can:
  - Provide instructions and create parameters for 3D printer space.
  - Describe technologies and training offered.
  - Explain expectations for the space.
  - Signage and training.
User Agreements: Sample

Sample user agreement for academic library could include:

- Patrons allowed.
- Use of space and neatness.
- Technology offered.
- Safety and liability.
- Intellectual property.
- Miscellaneous.
References

Thank You!

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