



3-D Printing in Academic Labs

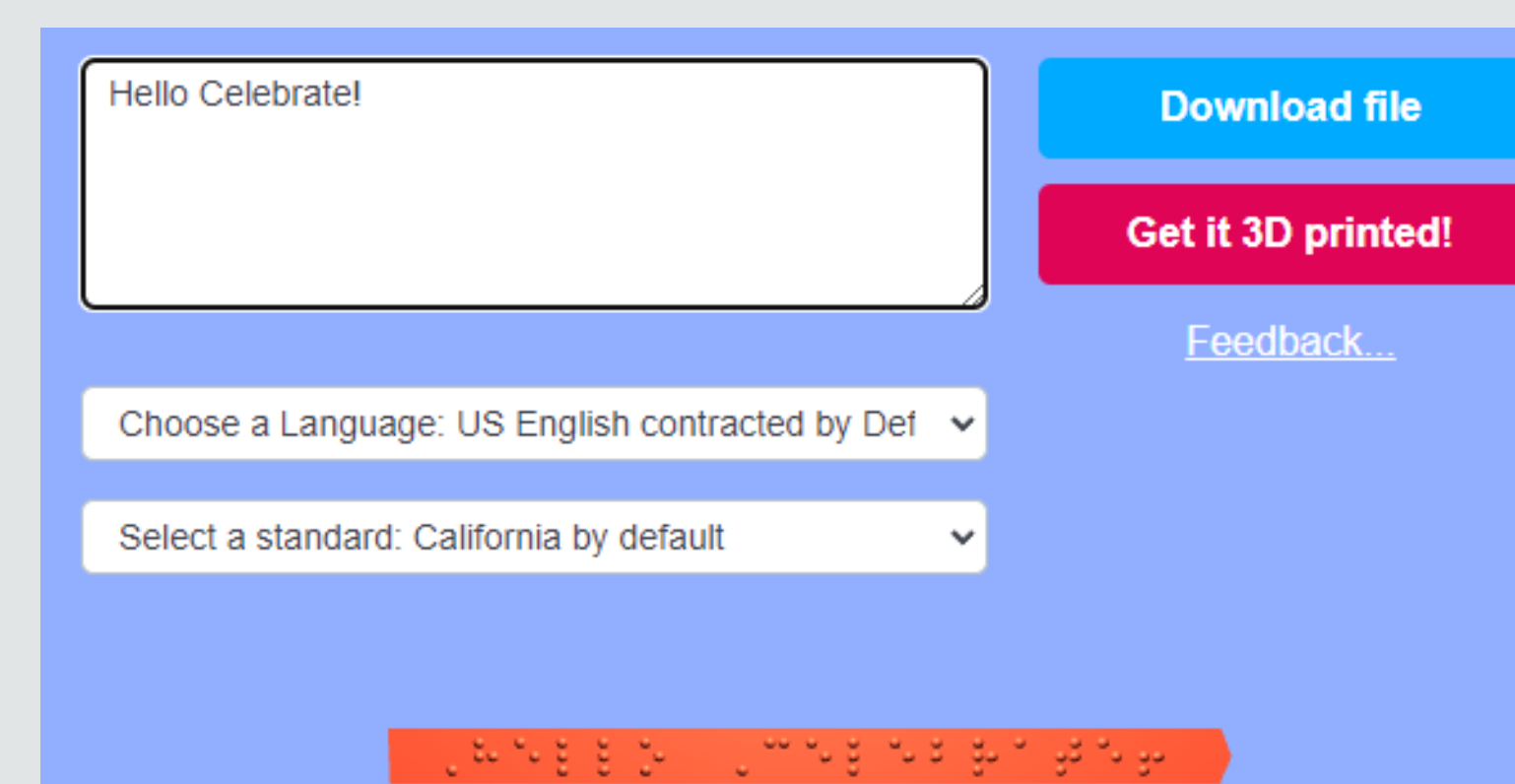
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BIOL 101L/102L Labs

Conception

- Noticed areas for growth in student support
 - Accessibility
 - Supplement
 - In-house-production
- 3 aims to address and implement

Aim 1: Address Accessibility

- Provide the same level of accessibility to all students
- Remove barriers limiting participation



Pipeline

- Concise method to go from concept to print

Observe

Note deficiencies and areas we want to improve in

Design

Design printable classroom aids to address observations

Implement

Introduce into the classroom and monitor impact through comparisons

Where we are at:

- Design phase complete for several projects
- Mechanical issues present with printer
- Seeking a consultant to aid with issues beyond our capabilities
- Need to secure future funding to ensure longevity of project

Where we are going:

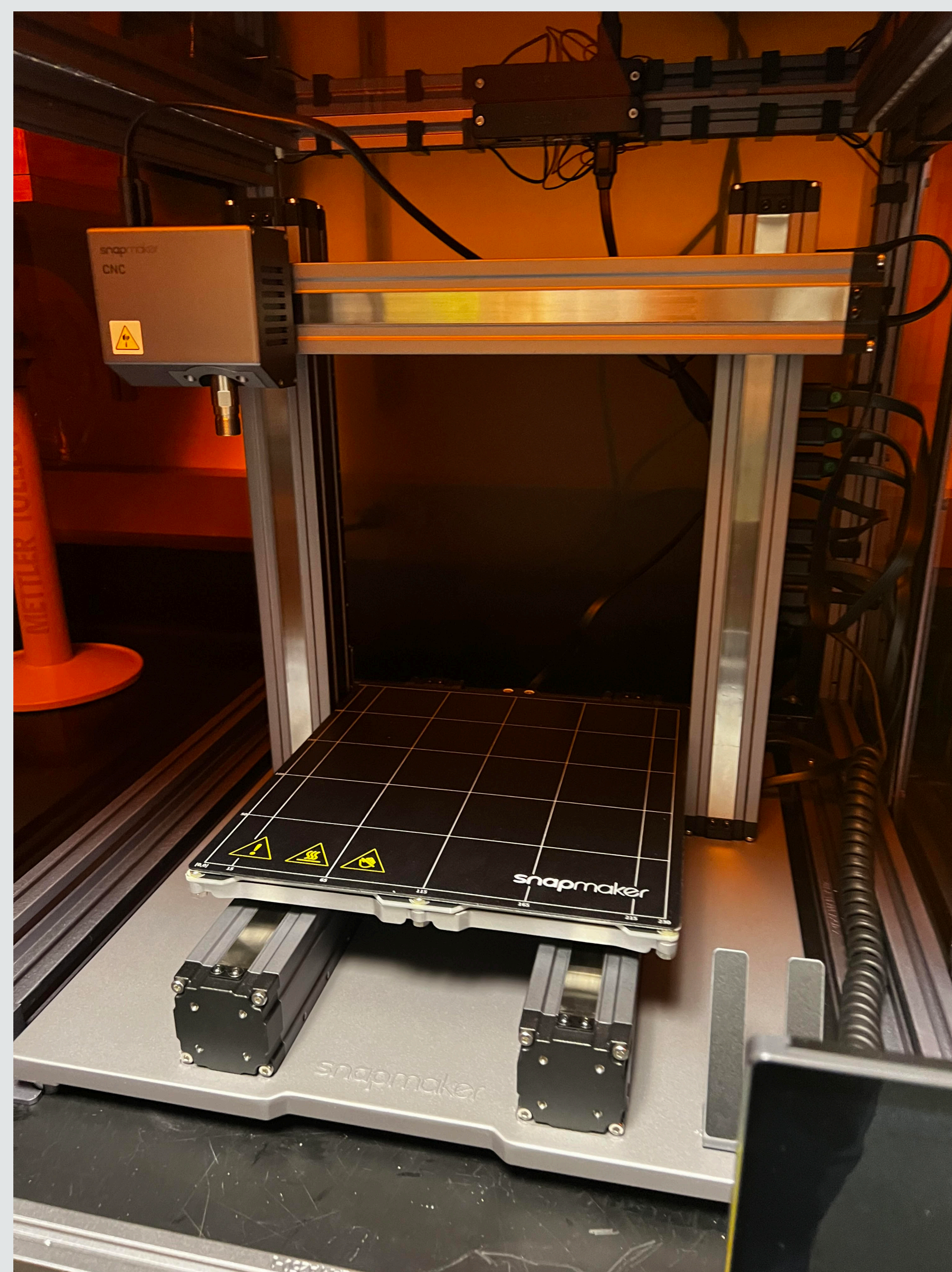
- Summer 23 – Generate prototypes to address all 3 aims
- Fall 23 – Initial implementation and cross classroom impact comparison
- Spring 24 – Expand or revise designs based on gathered observations

Software and Online Tools:

- Adobe Photoshop
- Autodesk Fusion360
- Snapmaker Luban
- <https://touchsee.me/>
- Thingiverse

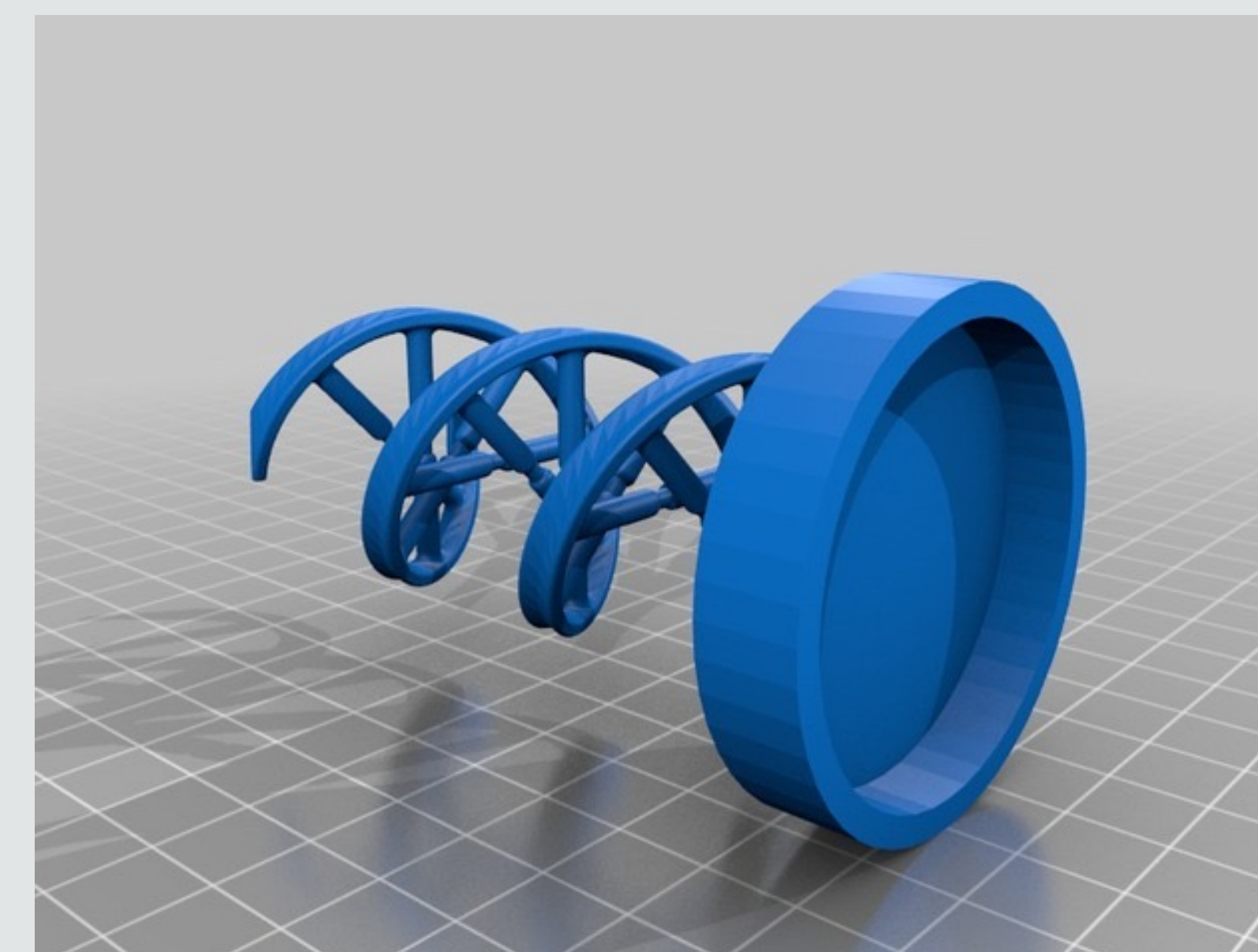
The SnapMaker A250 3-in-1

- 3 modes of operation
 - 3D Print, Laser Engraving, CNC
- Each mode aided with aims



Aim 2: Supplement Curriculum

- Create aids that meet students' learning needs
- Add physical component to lab activity



Aim 3: Build-Our-Own

- Produce our own speciality supplies
- Create our own attachments for less \$\$

