3D Case Design

- Our client Donald Heer noticed that many students don't have experience with or access to 3D computer-aided design applications to model the enclosures they need.
- This project will support many students who want to use the 3D printing and laser cutting tools in the OSU makerspaces, but don't have the skills required in 3D modeling software.
- We aimed to create an intuitive and easy to use experience, that can result in the exact case users need.
- Mistakes happen and sometimes revisions need to be made to projects, which is why we also included login functionality which lets users save projects to their account to edit later.

Project Advantage

- This product is undoubtedly very useful to OSU students who don't have experience.
- It is a web application so that users don't have to download or install it.
- It allows to save your project for future use to avoid lose your design.

Oregon State University

Boxeur

Need to 3D print a case for a project but don't know how to use modeling software? Boxeur has you covered.

A simple editor

Using the three.js library we implemented an editor that has a live 3d visualization of the case being designed. We valued "what you see is what you get" design principles by having the model update as users input changes.

The four tabs on the left of the editor show different aspects of the case that can be edited. "Dimensions" lets users set the length, width, and height of the box. "Edge type" gives options for the types of edges that the editor supports, like interlocking finger shapes or a flat edge.

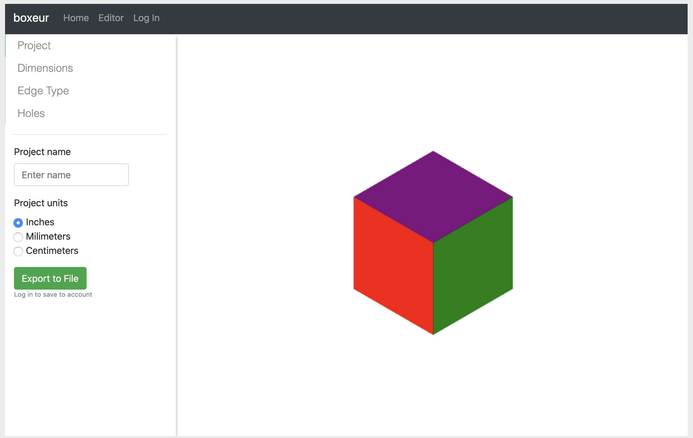


Figure 1: The editor page for Boxeur

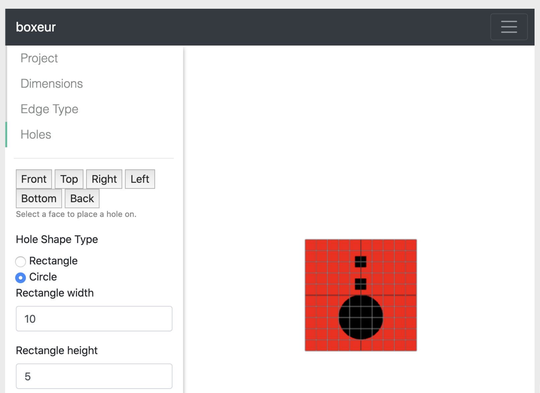


Figure 2: The hole cutting interface in the editor

Freedom in design

The "Holes" tab lets users cut different shapes and sizes of holes to allow for the openings needed for various projects. Users can select the face they would like to add holes to, then select the desired shape and size of the hole. Finally they can cut the holes by clicking directly on the case.

Save for later

When finished editing a project in the editor, users can save the model to the user's account if they log in with a google email. The library screen lets logged in users continue working on saved projects or delete them.

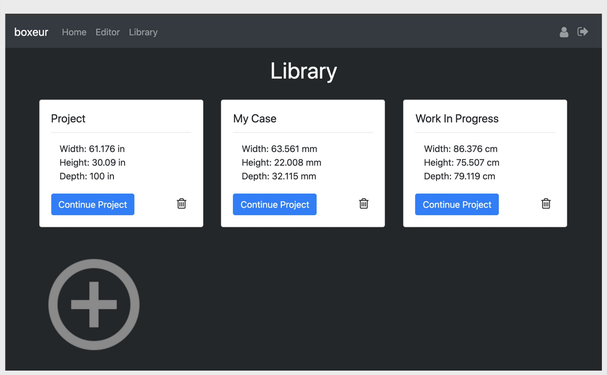
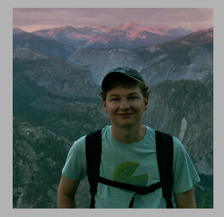


Figure 3: The library screen

About our team

- We are computer science students from a variety of backgrounds who enjoy creating web tools for improving people's work efficiency.
- Don Heer is an EECS teacher at OSU who has lead the TekBots program to teach students about programming and robotics. He also works closely with the school's makerspaces.



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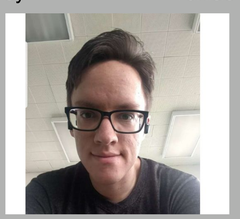

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