Modular Construction Kit Project

Borrowed with permission from Bill Levien at Seabury Hall, Maui

Intro

"Productizing" your designs is an important skill to attract potential customers, investors, and project stakeholders. It is imperative to package your creations attractively in order to please customers and gain traction in the marketplace with your product. Take a look at kickstarter and see how others package their products, and "market" them to potential downloaders, as well as how they interact with commenters, and iterate on their designs starting with rough 3D models, and improving them as they go. Also take note of part naming & version control!

Objectives

You will design a modular construction kit using OnShape and a 3D printer that is based on using cheap and readily available building materials and your connectors. You will also create a prototype model with a Bill of Materials and instructions so that anyone can print your kit, add the standard building materials, and complete your model. You will also create a complete kit and will present it to a class of lower school students as a way to beta test your product.

Deliverable

The final project will consist of:

1. STL files for 2 modular connectors that will be printed and put into your kit.
2. An instruction sheet with a Bill of Materials, instructions, and diagrams for a single model of your design.
3. A COMPLETE kit that will be delivered to a lower school class to be built from the instructions.
4. Upload your creation to Thingiverse and "productize" it

Timeline

You will have 4 weeks to complete your project. Make sure you challenge yourself, but also take into consideration limited and fluctuating 3D printer use. Include your time to print one or two iterations for fit & strength, make corrections and revisions, print as many of your final components as necessary, and troubleshoot possible (and inevitable) print failures.

Suggested Milestones:

- Week 1: You should have some initial models drafted and possibly printed to test form and function
- Week 2: You should have both of your connectors finalized and mostly printed
- Week 3: You should have your model kit concept locked and printing the kit contents
- Week 4: You should have your instructions and Bill of Materials completed, finalizing your Thingiverse submission, and preparing your lower school presentation