



Fab Lab Essentials

Shopbot - Press Fit Organizer



Name	Period	Score
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Introduction

There are many ways to solve a problem. Sometimes it is as simple as applying a piece of duct tape. Other times it takes months or years for a product to progress from an idea into full-scale production. Often engineers and designers use a specific set of steps (sometimes called a design process) to find the best solution to a problem.

In this activity your team will act as designers in a retail company that makes consumer furniture. Your task is to create an attractive press fit organizer that will be a prototype item for potential distribution by your company. A design process that progresses from brainstorming to presenting a final design will be used and documented. Each member of the team will have a product to present to the company executives for final approval.

Equipment

- Laptop computer with VCarve
- Shopbot
- Fab Lab Notebook
- Pencil
- Pen

Materials

- 1 24" x 24" piece of 1/2" plywood
- Screws
- Glue and finish

Procedure

In a team of three or four, using only the materials provided, design and vector cut an attractive press fit organizer with your name pocketed on it for each member that can be used as a sample for a furniture retailer. You also need to create a fictional name and logo for your company to be part of your design pocketed on panel.

Brainstorm- Each member of the team will draw a minimum three brainstorming ideas for your press fit organizer in your Fab Lab notebook. The more ideas you generate the better. You may handle and inspect the materials and research examples from the internet but you cannot copy anything directly or download any copy written or trademarked material from the internet.

Design- Sketch an annotated solution in your Fab Lab notebook. The design needs to be such that it can be transferred into VCarve software and made into a vectorable and pocketable file. All changes from your design idea to the actual press fit organizer prototype need to be documented.

Load your files into the appropriate software on the computer attached to the Shobot you are using and transfer it into the Shopbot controller to run the file.

Once your press fit organizer has been cut, you will assemble it with glue and apply a clear coat finish.

When all press fit organizer from your team are complete you will present your design for approval of the large group.

Scoring

Your members in your team will receive points for the following.

Creativity: Up to 15 points for creativity in the design and use of each individuals materials

Teamwork: Up to 10 points for how well your team works together

Performance: Up to 5 points for creating a functional key chain.

Conclusion

1. Why do furniture companies offer products such as organizers?
2. When is research done during the design process and how is it documented?
3. How do you transfer the principles of a press fit organizer into a larger furniture piece on the Shopbot?
4. What would be a different way that you could mass produce your product if you were to actually manufacture it?