

# Fab Lab El Paso

## Executive Summary

### Community Partner

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## Background

Fab Lab El Paso is a digital fabrication laboratory that provides services and programs in digital fabrication. Located in El Paso Texas, this not-for-profit organization was established in 2013 as a grassroots organization with the help of their community and is the only fabrication laboratory in the area that is publicly available. By giving access to digital fabrication tools the organization aims to empower local communities by taking back the means of production and design. Their overall mission is to provide accessible digital fabrication, rapid prototyping tools, and training to the local community and expand within a large network of Fab Labs around the globe.

## Project Description

### Project Opportunity

The pain point that Fab Lab is currently facing is that there is a lack of knowledge for students, freelancers, and volunteers to operate the different machines they have correctly and safely. Previously Fab Lab had been conducting training for every single person that wanted to use the machines, a very time consuming task. Moving this training to an online fashion will reduce the time spent onboarding users and allow Fab Lab to further focus on its mission.

### Project Vision

The goal of this project is to develop a learning management system (LMS) where users can learn about the different machines at the Fab Lab and how to operate them correctly and safely. Additionally, through the LMS Fab Lab will be able to provide its own content on STEM education. Making this information accessible online is a step further in advancing STEM and digital fabrication education in the El Paso community.

## Project Outcomes

**People:** Interviewed the Fab Lab team to understand their processes and identify their pain points. Identified their primary pain point and verified with the team to make sure we were correct. Gathered feedback from the Fab Lab team on our idea for the solution. Held a training session for the Fab Lab's educators on how to use LearnDash.

**Process:** Held weekly meetings with the Fab Lab team. Held team meetings 2-3 times a week. Implemented a Trello board for documenting and managing tasks. Held a team meeting to

brainstorm ideas for the solution. Researched LMS's that would be viable for the Fab Lab. Pitched LMS solutions to the Fab Lab team. Developed wireframes for the site designed. Gathered feedback from the Fab Lab team on the wireframes. Conducted user testing on the wireframes and improved them based on the feedback we received. Provided documentation on the LMS and the project.

**Technology:** Selected LearnDash as the LMS to develop our platform on. Set up a subdomain for a WordPress site. Integrated LearnDash on the WordPress site. Developed website pages according to the wireframes. Implemented user registration and login. Created an initial course on 3D printing.

## **Project Deliverables**

The project deliverables include a Google Drive folder containing all the documentation created throughout the duration of the project (planning documents, notes, wireframes, user testing feedback, and team process documents), a fully developed WordPress website with the LearnDash LMS integration, and a LearnDash documentation resources guide.

## **Recommendations**

We recommend that the Fab Lab team develop more courses with LearnDash, add additional features on their website, and monetize a subset of their courses. This would allow Fab Lab to more efficiently use their employees by having their customers learn about digital fabrication by themselves instead of spending time training them. Also, this would allow Fab Lab to obtain an additional source of revenue, which can help alleviate their financial burdens caused by the pandemic.

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## **Student Consulting Team**

**Esteban Vázquez** served as project manager. He is a third-year student majoring in Information Systems with a minor in Environmental and Sustainability Studies. He is looking toward a career in Project Management and Technology Consulting.

**JP Park** served as design lead. He is a third-year student majoring in Information Systems with a double major in Human Computer Interaction. He will be interning at Microsoft as a Program Manager this summer and is looking toward a career in Project Management.

**Leo Yao** served as project manager. He is a junior majoring in Information Systems with a double major in Computer Science. This summer, he will be working at Microsoft as a Program Manager Intern on the Python ML team.