

I. Abstract

The Cal Poly College of Architecture and Environmental Design shops, directed by David Kempken, give the opportunity for thousands of students to use the “Learn By Doing” philosophy and operate various machinery, tooling, and devices to complete projects inside and outside of the classroom. These students are able to check out tools and machinery to complete these projects on a weekly basis. This report will discuss the complexities and shortcomings of the current database system, FileMaker Pro, that is used for these transactions. The report will furthermore discuss the design and methodology of replacing this system with an improved integrated software or database designed specifically for this shop. Within this report is the senior project of IME fourth year students Chris Chen, Kevin Gallagher and Ryan Mattel. Two academic quarters have gone into the research, design, testing, analysis and recommendation of a proposed system using Microsoft Access to vastly improve the CAED shops. This proposed database will cut the current lost tooling of almost 350 tools per year, and drive down costs and processing time of each transaction by 50 percent. With the help of Technical Advisor Karla Carichner, and Project Sponsor David Kempken, the project is completed and a final proposal and product have been presented to the CAED shops based on the following research and analysis.