

## **Abstract**

Masters of Engineering Degree (Mechanical)

### **Project Title:**

Product Lifecycle Management (PLM) For the Cornell FSAE Team

### **Author:**

Shuran Cheng; Advisor: Albert R. George

### **Abstract:**

Product lifecycle management (PLM) is the process of managing the entire lifecycle of a product from inception, through engineering design and manufacture, to service and disposal of manufactured products. PLM integrates people, data, processes and business systems and provides a product information backbone for companies and their extended enterprise. It has been a long time that the Cornell FSAE Team has been seeking PLM tools, which would allow for better organizing and control of the CAD models, data and timelines. Since most successful PLM software is developed for large companies in engineering related fields, it is necessary to compare some possible options and their features to decide if any of them fits for smaller organizations like the FSAE Team.

This project evaluated several tools, both the ones we are currently using and those we tried to put into implementation. "Tools" is used instead of "Software" for the reason that some of the options, such as S-Drive and Google Doc, are not professional software. Methods for system engineering analysis are applied for the purpose of evaluation. From the perspective of the team, there are several critical functions for both project management and CAD management, which were compared with different tools. Autodesk PLM 360, PTC Windchill, SolidWorks Workgroup PDM and Arena were tested as potential options and compared comprehensively for further research.