

IPRO 341: New Product Evaluation and Improvement Project Plan

Team Information

Team Name:

R.E.A.P.I.I.T a.k.a The Reapers

Team Roster:

- Marin Assaliyski, *Aerospace & Mechanical Engineering*
 - Strengths/Skills: *Computing, Electronics, Visual FEA*
 - Overall Expectations: *Learn new ways of doing things.*
- Ryan Attard, *Chemical Engineering*
 - Strengths/Skills: *LabView, Creative thinking*
 - Overall Expectations: *To learn things never known about mechanical engineering.*
- Vitali Basiourski, *Mechanical Engineering*
 - Strengths/Skills: *ProEngineer, MatLab, Designing, Welding*
 - Overall Expectations: *Go above and beyond finding the simple solution, improving the means of analysis*
- Lawrence Dorn, *Architecture*
 - Strengths/Skills: *Managing/Organizing, Directing, AutoCAD*
 - Overall Expectations: *Learning how other disciplines work.*
- Laurie Feldman, *Architecture*
 - Strengths/Skills: *AutoCAD, Google Sketch-Up, Designing, Organization*
 - Overall Expectations: *Gain experience working with other disciplines.*
- Luke Grabowski, *Mechanical Engineering*
 - Strengths/Skills: *AutoCAD, Creative thinking*
 - Overall Expectations: *Improve on last semesters work.*
- Jose Guerrero, *Aerospace & Mechanical Engineering*
 - Strengths/Skills: *Presentation skills, Visual FEA, MatLab, AutoCAD*
 - Overall Expectations: *Win IPRO Day, develop overall team support by the end of the IPRO.*
- Vlad Ruzs, *Business*
 - Strengths/Skills: *Marketing, Cutting Costs, Manufacturing, International Business, Finance*
 - Overall Expectations: *learning about the manufacturing process in industrial settings, gaining experience doing market research and marketing in a business-to-business (B2B) environment.*
- Natacha Tchobanova, *Mechanical Engineering*
 - Strengths/Skills: *Mechanical Design Experience*
 - Overall Expectations: *Broaden analysis expertise.*
- Priscilla Zellarchaffers, *Chemical Engineering*
 - Strengths/Skills: *Public Relations, Leadership, Innovative Ideas, Out of the box thinking.*
 - Overall Expectations: *To learn about mechanical engineering, and incorporate chemical engineering knowledge to the IPRO.*

Team Instructors:

- William Maurer
- Sheldon Mostovoy

Team Identity

- Researching, Evaluating, Analyzing; Production, Innovated, Improving through Testing.

Purpose

The team's purpose is to test the current new design for Versatility Tool Works cabinet, and make suggestions for improvements if needed. Additionally, the team's purpose was extended to develop a next-generation tool storage cabinet and also to identify potential new markets for the company to pursue. This will require a truly inter-professional team to analyze everything from the engineering of the tool storage cabinet to market research of the current and potential markets.

Objectives

Team General Objectives

- Testing and evaluation of a new drawer system design.
- Develop next generation concepts for a tool storage cabinet using new and different innovative thinking.
- Identification of potential new markets.

Technology and Testing Objectives

- Test the new drawer system in:
 - Weight distribution
 - Load capacity
 - Longevity in relation to capacity
- Evaluate the results of the tests and provide possible methods of improving the cabinet and or its individual parts if needed
- Provide insight from the findings to design a new and innovative tool storage cabinet

Marketing Objectives

- Conduct research to learn about the ways a company like this can be utilized outside of tool cabinets.
- Perform out-of-industry market research to identify markets that could benefit from using Versatility Tool Works.
- Use the data gathered and determine what other products are in demand and can be manufactured by Versatility Tool Works

Innovation Objectives:

- Determine how the current design of a Tool Cabinet can be improved upon.
- Develop a design where the Tool Cabinet can remain functional and still have a unique look.

Background

The sponsor for this IPRO is Versatility Tool Works manufacturing company. The company specializes in producing precision tooling and sheet metal components. The company was established in 1972 as a tool and die operation, but has since expanded to have the most diverse product line in the industry. The company has recently decided to begin manufacturing custom tooling storage cabinets.

Last semester the IPRO team analyzed the tool storage cabinet and developed ways in which to improve the performance. Their findings included using stiffeners, Accuride slides and shot-peened slides. The sponsor was happy with last semester's results and is looking to improve on the product. In addition to the quality improvements, the spring 2009 IPRO 341 team conducted a market research survey to identify the customer's view of the product. The response rate was low, as expected from online surveys, but the results were encouraging.

Since last semester, Versatility Tool Works has re-designed their line of tool cabinets, utilizing the findings of last semesters.

Team Values Statement

The members of IPRO 341 will as an innovative team respect the intellectual and property rights of Versatility Tool Works and others by acting in a responsible manner.

Methodology/Brainstorm/Work Structure

Expected Results

- Determine longevity of new drawer design.
- Determine design or designs for next generation cabinet
- Determine new markets for Versatility Tool Works to break into.

Project Budget

The expected costs of IPRO 341 will involve transportation to and from the company and food for the meetings as well. There will possibly be the need to invest money for the building and testing of the prototype designs that may result from the work of the team.

Schedule of Tasks and Milestone Events

- June 11th: Meet with Versatility Tool and find out new drawer design
- June 16th: Project Plan due
- June 17th: Set-up Test Matrix
- June 17th/18th: Set up Testing Equipment
- June 18th: Get Cabinet to Test, w/ weights
- June 25th: Preliminary Marketing
- June 30th: Midterm Review
- July 2nd : Progress Meeting w/ Sponsor
- July 21st : Brochure and Poster Due
- July 23rd : Final Presentation (Digital Copy) Due
- July 24th: IPRO Day

Individual Team Member Assignments

Designation of Roles

- **Testing Team:** will evaluate current drawer design through various tests, and determine and test any improvements felt necessary.
 - Marin Assaliyski
 - Vitali Basiourski
 - Luke Grabowski
 - Jose Guerrero
 - Natacha Tchobanova

- **Innovation Team:** will pursue new design ideas in the market of tool cabinetry.
 - Ryan Attard
 - Vitali Basiourski
 - Lawrence Dorn
 - Laurie Feldman
 - Jose Guerrero

- **Marketing Team:** will pursue new market outlets for Versatility Tool Works to consider.
 - Ryan Attard
 - Lawrence Dorn
 - Laurie Feldman
 - Vlad Ruz
 - Priscilla Zellarchaffers