

IPRO 347

Developing a document Control System

PROJECT PLAN

Instructor: William Maurer
Sponsors: Abrasive-Form
IPRO Team: Vitali Basiourski, William Cabrera, Christopher Drag, Samad Erogbogbo, Richard Ike, Maciej Krolikowski, Daniel Mendez, Erin Mersch, Anton Orlichenko, Justin Roediger, Despina Zouridis

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1. Abstract

The IPRO 347 team is being sponsored by Abrasive Form to lead the company into a paperless form of tracking projects. Abrasive Form currently uses a paper folder, which they call the “job folder” to hold all the important documents for completing incoming projects. This job folder travels along with the pieces of the project until the project is completed. Once a project has been completed, and the final product is shipped out, the job folder for that project is then kept in an on-site filing cabinet.

So far this has led to several problems for Abrasive Form. As the company is increasing in size and completing increasing amounts of projects, they have had to dedicate a large portion of their offices to the storing of old job files. Abrasive Form keeps all of their completed job folders to ensure that all liability for the company is covered, and whenever necessary throughout the lifespan of completed projects in the field, Abrasive Form is able to prove that their work was of the quality that was requested. This has also lead to a lot of time being wasted by the employees of Abrasive Form traveling to the back offices where the job folders are held to look up information.

The IPRO 347 team will be helping Abrasive Form come up with a solution to this very serious problem. The solution generated thus far is to scan all the documents contained within the paper job folders into PDF form, and use a digital filing program (such as Bugzilla which is a free open source program) to organize the PDF files into sub folders, and allow for quick referencing based on critical criteria such as the job number, part number, customer name, or part number. All this information would then be contained in a single server that can be accessed on any computer throughout the company through an internal network.

2. Background

Abrasive Form is a contract based manufacturer that specializes in precision grinding. They provide services for many metal industries, but focus primarily on the Gas Turbine and Aerospace Industries. Established in 1976, Abrasive-Form is a multimillion-dollar company with a modern 62,000 square foot plant in Bloomingdale Illinois, that houses 37 creep feed grinding machines.

As the unfinished products are received from the customer, Abrasive Form creates a “job number” and “job folder” for that batch of product. This number and folder collect all the relevant data regarding the processing done to that batch. Abrasive Form uses a program called “Vista” that generates a large part of the paperwork and tracks other activities throughout the completion of the project. A physical job file is created and collects all of the paper documents that are related to the processing of the job. Most of the documents contained in this folder can be summarized as; incoming receiving documents, contract review and PO documents, in

process inspection documents, subcontracting documents, shipping documents, quality control certificates, job processing documents, and other miscellaneous documents. Each of these documents are generating during various processes along the path of receipt, processing, inspection, and shipping. Depending on the status of the job i.e. open, pending, and closed, the job folder will be stored in multiple areas. This can lead to the job folder being misplaced since there can be ambiguity about the status of the job.

There are various personnel that need access to the job files at various times for a variety of reasons. This includes Production, Quality Control, Sales, and Accounting. Access to these files may be required while the job is waiting to be processed, while it is in process, and several months after processing has been completed.

Abrasive Form has contracted the IPRO 347 to create a digital form of the job folder that can easily be accessible to all branches of the company remotely at their work stations. The folders should be searchable based on the job number, the customer name, and the part number. The access will allow viewing rights, printing, and emailing, and at no time will the documents be removed or altered from the database. There will need to be a procedure to quickly destroy the paper documents once they have been scanned into this system making the digital copy referenced by everyone.

This is the first project Abrasive Form has done with IIT's IPRO office. Therefore, this will be the first attempt at correcting this problem for the company. However, with the ease of computers and the relative inexpensive costs for a company to outfit its employees with computers, this is not the first time a company has moved towards digital data storage and local network sharing. There are many examples of companies that have chosen to use digital storage successful and there is plenty of software available to organize the data. It is the responsibility of the IPRO team to listen to the wants and needs of Abrasive Form and find the best way to transition this company to paperless records.

3. Objectives

Our teams' objectives were determined by indentifying who the users of the database are and what demands need to be met. We identified these users to be the five major departments of Abrasive Form. These departments are IT, Accounting, Quality control, Operations, and Purchasing. After interviews and brainstorming, we came up with the following goals for our database:

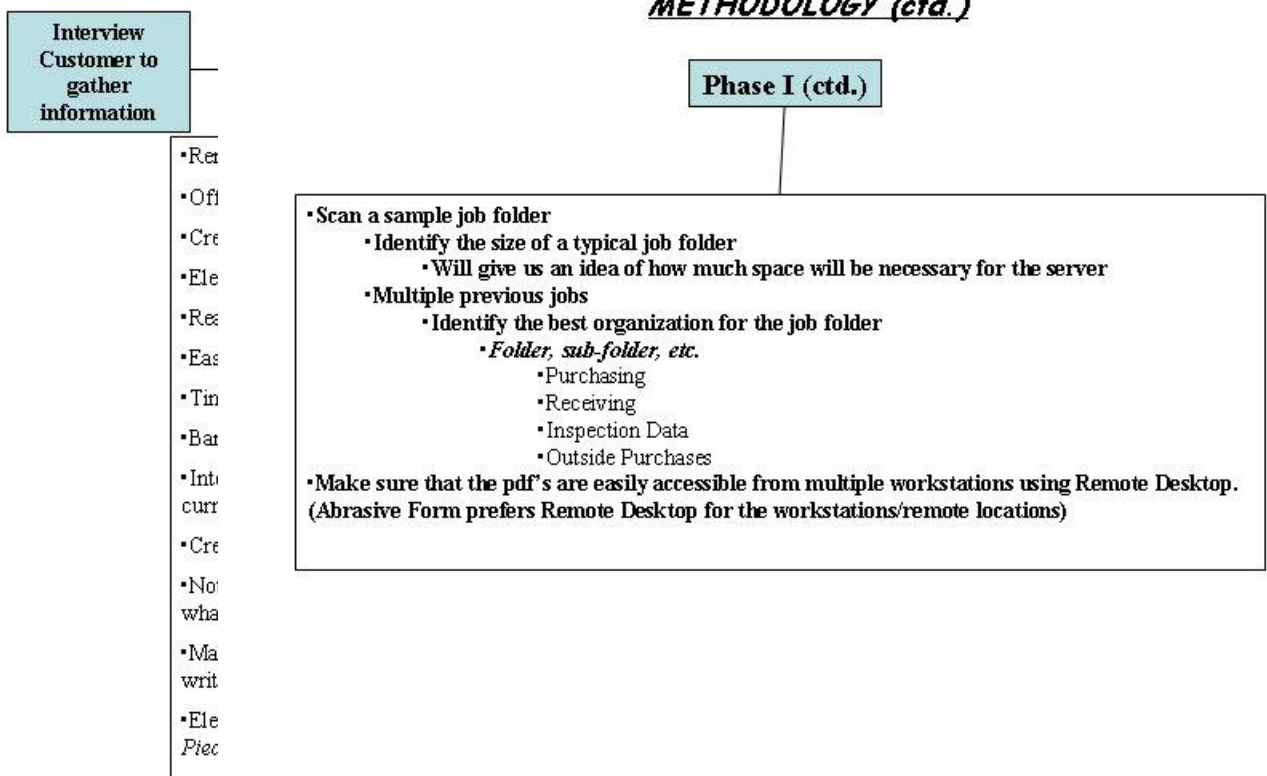
- For the IT department, our goal is to have a database with the following capabilities;
 1. Remote access
 2. Off-site backup
 3. Search Engine (internal)
 4. Electronic Copies
 5. Real Time
 6. Easy/Fast Access

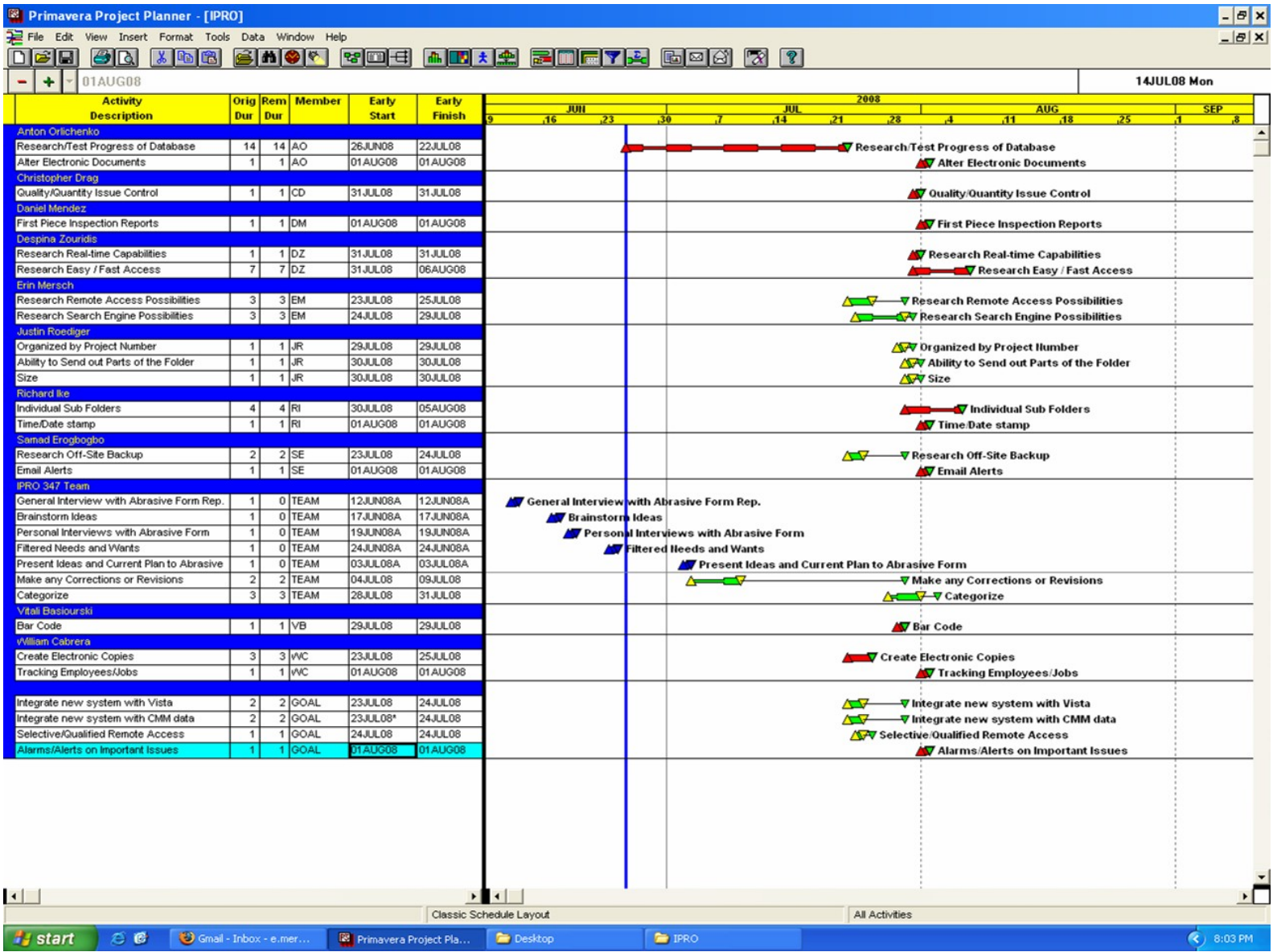
- For Accounting Department, our goal is that the database should have;
 1. Time/date Stamps
 2. Bar coding for incoming parts
 3. The ability to perform the same task as Visa (old system) thereby making it obsolete.

- For the Quality Control department, we want our database to have
 1. Email alerts
 2. Tracking of who's signing off on what.

3. Ability to Alter Electronic documents (write - to)
 4. Alarms/call to action on certain important issues.
 5. Tracking of Quality/Quantity issues
 - Order was 100 and we only sent 98, why? What's wrong?
- Our goal for the Operations department is to create a database that will be able to generate and archive inspection reports.
 - For the Purchasing department
 1. We want the database to be "selective" or "qualified".
 - Eliminate remote access for purchasing personnel.
 2. The goal is to sub-divide the job folder into;
 - Purchasing/receiving
 - Inspection data
 - outside purchases
 - Shipping
 3. The Job folder should be by arranged by project number (I.D)
 4. Our database should have the ability to send parts of the folder out to the customer if necessary (inspection data)
 5. The Database should be smaller than one gig per folder.
 6. The Database should have ability to integrate data from CMM
 7. The Database should be able to import from Vista (old system).

4. Methodology/ Brainstorming/Work Breakdown Structure





5. Team Structure and Assignments

Name	Major, Year	Skills and Strengths	Experience and Academic Interest	Team
Basiourski, Vitali	4 th year ME	Creative solutions to problems, good at managing people, Programmed with C++ and fortran	Intern at Widgi Worx, Pricing research as well as preliminary deal-making, some prototype design/refurbishing experience. Interested in power generation and prosthetic aids.	Quality control, System testing
Cabrera, William	5 th year ME	Leadership, Organization	Green engineering	Quality Control
Drag, Christopher	4th year Electrical Engineering	Organization and structure. Trying to do too many things with not enough time to complete them.	I have been a GED tutor for 4 years at Daley College. Power Engineering, reading about artificial organs and new technology.	Operations
Erogbogbo, Samad	4 th year ME	Project management, Microsoft Office, team worker	Coop in Mechanical Engineering Industry, previous IPRO experience, athlete	Accounting, IPRO Liason
Ike, Richard	4 th year ME, minor in Material science	IPRO experience, strong group worker, AUTOCAD and MATLAB experience.	3 years of experience in metallurgy as an intern/research assistant. Interested in specializing in metallurgy and a degree in management.	Accounting
Krolkowski, Maciej	4 th year BME	Team worker, Project management, project construction and demonstration	Neural engineering device construction and demonstration (2 years) Currently designing neural probe controllers.	Purchasing/Production control, File organization & scanning

Mendez, Daniel	EE, 5 th Year	Tech savvy, Strong team skills	4 years as Power Industry intern. Interests include power generation & distribution as well as electric motor drives.	Operations
Mersch, Erin	Business Administration and Applied Science	Primavera Project Planner	Construction management and Law school	IT
Orlichenko, Anton	3 rd year Computer Engineering	GSD, works well under deadlines, Good problem solver	Knowledgeable in Unix/Linux/Mac OS, proficient in programming java, C, and Ruby. Some experience in MATLAB, Python and other languages. Interested in biotech and medical imaging.	IT
Roediger, Justin	4 th year BME, minor in business	Effective team worker, good public speaker, MATLAB experience	4 years working in HVAC industry, athlete, interested in pursuing health management and consulting.	Purchasing/Product control
Zouridis, Despina	5 th year Architecture	Design	Pursuing a career as an architect.	Purchasing/Product control

Sub teams

S IT

1. Erin Mersch
2. Anton Orlichenko

A Operations

1. Daniel Mendez
2. Christopher Drag

C Purchasing/Product Control

1. Despina Zouridis
2. Maciej Krowlikowski
3. Justin Roediger

S Accounting

1. Richarde Ike
2. Samad Erogbogbo

S Quality Control

1. Vitali Basiourski
2. William Cabrera

Minute Taker : Team
Agenda Maker : Team
Time Keeper : Team
Weekly Timesheet Collector : Professor Maurer
Master Schedule Maker : Samad
Igroups : Team

Team Availability

Availability Time Blocks for IPRO 347 Project Members													
2 Yes/Green means generally available for meeting. NO/Red means generally not available for meetings. BLANK means possibly available for meetings, or not filled in. 3 RED means normal class meeting time.													
Day	8-9am	9-10am	10-11am	11-12am	12-1pm	1-2pm	2-3pm	3-4pm	4-5pm	5-6pm	6-7pm	7-8pm	8-9pm
Monday													
Basiourski, Vitali													
Cabre's, William													
Drag, Christopher													
Ercgbogto, Samad													
Ike, Richard													
Krclikowski, Maciej													
Mendez, Daniel													
Mersch, Eric													
Orchenko, Anton													
Ruediger, Justin													
Zouricis, Despina													
Tuesday													
Basiourski, Vitali													
Cabre's, William													
Drag, Christopher													
Ercgbogto, Samad													
Ike, Richard													
Krclikowski, Maciej													
Mendez, Daniel													
Mersch, Eric													
Orchenko, Anton													
Ruediger, Justin													
Zouricis, Despina													
Wednesday													
Basiourski, Vitali													
Cabre's, William													
Drag, Christopher													
Ercgbogto, Samad													
Ike, Richard													
Krclikowski, Maciej													
Mendez, Daniel													
Mersch, Eric													
Orchenko, Anton													
Ruediger, Justin													
Zouricis, Despina													
Thursday													
Basiourski, Vitali													
Cabre's, William													
Drag, Christopher													
Ercgbogto, Samad													
Ike, Richard													
Krclikowski, Maciej													
Mendez, Daniel													
Mersch, Eric													
Orchenko, Anton													
Ruediger, Justin													
Zouricis, Despina													
Friday													
Basiourski, Vitali													
Cabre's, William													
Drag, Christopher													
Ercgbogto, Samad													
Ike, Richard													
Krclikowski, Maciej													
Mendez, Daniel													
Mersch, Eric													
Orchenko, Anton													
Ruediger, Justin													
Zouricis, Despina													
Saturday													
Basiourski, Vitali													
Cabre's, William													
Drag, Christopher													
Ercgbogto, Samad													
Ike, Richard													
Krclikowski, Maciej													
Mendez, Daniel													
Mersch, Eric													
Orchenko, Anton													
Ruediger, Justin													
Zouricis, Despina													

6. Budget

Equipment:

Purchase materials and/or parts for testing or construction.

\$

Explain:

Color/Digital Scanner for testing of high quality document scanning

Services:

Printing, rentals, consulting, patent searching, etc.

\$

Explain:

Travel/Meetings:

Transportation costs, meals, conference passes, etc.

\$

Explain:

Students must travel 60 miles back and forth to meet with customer

Participant Support:

Incentives to participants of usability testing, product testing, user survey, focus groups, etc.

\$

Explain:

Define Your Own Category:

\$

Explain:

Software used to create database for customer