



Project Overview

Problem Statement

TE Connectivity Automation Manufacturing Technology Group, located in Harrisburg, PA requires an efficient scheduling system for its engineering, shop and contract manufacturing resources. The current system is outdated and given the organization's projected growth, a new system is critical for the future efficiency.

Objectives

- 1. Standardize the Request for Quote (RFQ) process
- Consolidate commercial and fabrication parts order list spreadsheets
- 3. Minimize manual entry during labor hours and parts ordering processes for the administrative personnel by automating with R and Microsoft Access



projects from the past

TE Resource Management System- (TERMS)

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Engineers sent an assortment of their own designed spreadsheet to the administrative personnel for ordering. The admin then took the necessary information and entered into MS Access where they order the parts using credit card.	Multiple for spreadshe much of a added no would sea and sort th containing informatio					
Instructions: 1) Always use the form and email Cheryl with days (or a week) time to process. 2) Do not send separate text lists in the textbox via email Required input items:	COM	NERCIAL PAR Project #: Project Name: Due Date:	2 TS : 123454 : Examp : 5/14/2	5		
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Jse a different spreadsheet for fabrication parts (sheet) Please leave less than 3 rows between items	7	TE	1			

Legacy System

Engineers perform back-end process to generate parts list: Submit Fab parts to TE e-quote system

- > Generate Excel spreadsheet once quotations are complete
- > Engineers then manicure the data and put them into their own spreadsheets to send to the admin

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Labor Hour Automation Using R

Programs within R help produce useful spreadsheets, charts and summary statistics. Additionally, a simulator program that generates timesheets of simulated data is scripted to demonstrate the effectiveness of these programs off-site.

AccountSummary

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By: Joseph (Junil) Kim, Randy Hemion, Reid Gilbertson, Dillon Gibbs, Jessica Kuskanto Putri

Commercial Parts List

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Current System

Standardized sheet shown below - now, the engineers will solely use this sheet and email to the admin.



rts List

Refined System Although this is not a standardized sheet like the commercial parts list, it gives the option of a sheet similar to the existing one. Ideally, new engineers will use this sheet from day one.

ostone Fabrication Parts Lists:



AutoSpreadsheet

eadsheet" program reads employee nd a full-time equivalent estimates sheet s Gantt charts (left) showing historical and ata, as well as several numerical tables rize hours by project and department.



PROJEC NAME: Joh ' Use this space to explain the sp	E Employe T LABOR REPORT n Doe COMMENTS the exception for any highlighted items below. PROJECT DESCRIPTION Sample Project A Sample Project B Sample Project C Sample Project D Sample Project D		T DESIGN			POILD SUPPORT	CONDITIONING			ry 28, 1727 RING	,2018	0 0 6 4 5 5 6 3 TOTAL 8	 Timesheets are submitted by employees to a common drive Previously, the administrative employee read the timesheets and typed the information into Access line-by-line Spreadsheets, which captured the same information as the timesheet, required a different formatting in order to be imported into the Access database The R program now generates a single importable spreadsheet that contains the information for all timesheets within a range of 					
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Parts Ordering Automation

Previous Method:

- 1. Download FAB materials sheet from SAP into Excel
- 2. Print the sheet and manually enter the data into MS Access
- 3. Convert first two digits of Work Order into a letter
- 4. Remove the first two digits in the P/O column

Proposed Method:

- 1. Download FAB materials sheet from SAP into Excel
- 2. Enter the scheduled arrival date of the P/O orders
- 3. Use the R program to modify Work Order and P/O columns to
- match the fields in Access 4. Import the modified Excel file to MS Access with the import function

Disadvantages to the Proposed Solutions:

- ➤ Letters will eventually run out
- ➤ Manual entry is still required

* Red Arrow: previous method Green Arrow: current method

Microsoft Access

- column in the fabrication materials sheet
- are the steps to import the data into MS Access:
- 2. Enter the scheduled arrival dates of the P/O items into Excel

Standardizations

> Naming conventions of all spreadsheets and files ➤ Form submission

Labor Report Form Update

- Scroll down options

Software Introduction

- > Oracle Peoplesoft time management

Lastly, thank you to our project sponsor Tim Darr and Cheryl Wright from TE Connectivity AMT. It was an honor working with you and we learned so much in the last two quarters. Thank you Tim and Cheryl!

Access Formatting of Labor Hours



Recommendations

> Find an IT personnel in Visual Basic (VB) coding to change the restrictions in Work Order and P/O

> If successful, the admin does not need to modify numbers to letters and erase digits through R. Below

1. Download the sheet from SAP into Excel with the matching headings

3. Import the modified Excel sheet into MS Access using the import function

> Recreate the labor report form to a simpler form with features such as:

• Standardized charge numbers, project numbers, and charge codes

> SAP Service Parts Planning (SPP) - forecast and schedule management

Acknowledgement