

ORCHESTRATING OFFICE

AMPLIFYING ACCESS WITH MULTI-APPLICATION AUTOMATION

Brought to you by:



PEOPLE AND SOFTWARE APPLICATIONS WORKING TOGETHER
IN HARMONY TO PRODUCE AN INCREDIBLE PERFORMANCE

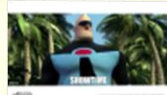
TODAY'S PROGRAM



~ The Warmup ~

Objectives

Brief Background of Domenico Ruggiero



~ Showtime! ~

Introducing the Orchestra

Technical Alternatives

Technical Demonstration



~ Encore ~

Questions and Answers

Select Case Studies
(as time and interest permit)



~ Takeaways ~

Parting Thoughts

For Laughs – Relatable Dilbert™ Comics

THE WARMUP

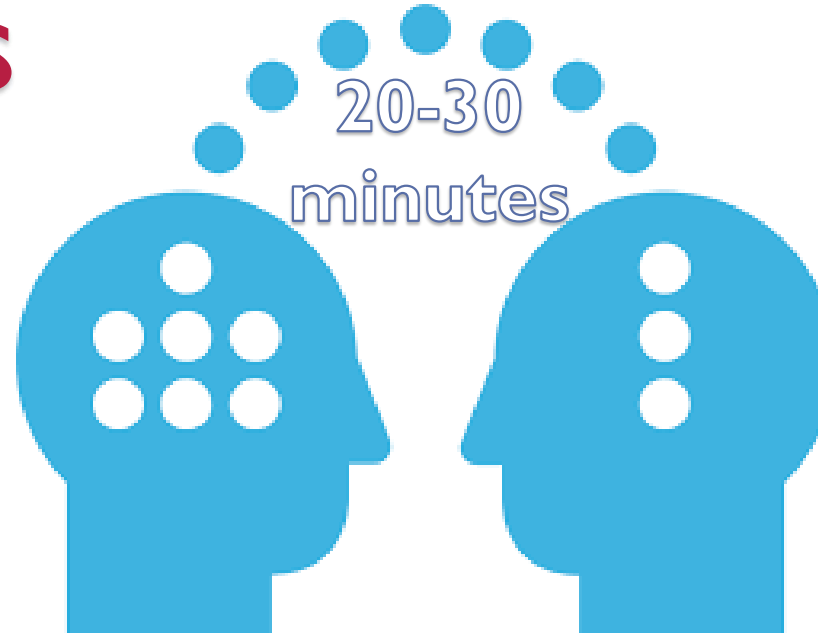
Dim the lights... the show is beginning

OBJECTIVES

Awareness



- Motivations
- AOAA Framework
- Realizing Potential Benefits
- Comparing Alternatives



Knowledge Transfer

- Technical Demonstration

Call To Action



- Q&A and other discussions
- Case Studies for Inspiration

A BRIEF BACKGROUND

➤ Education:

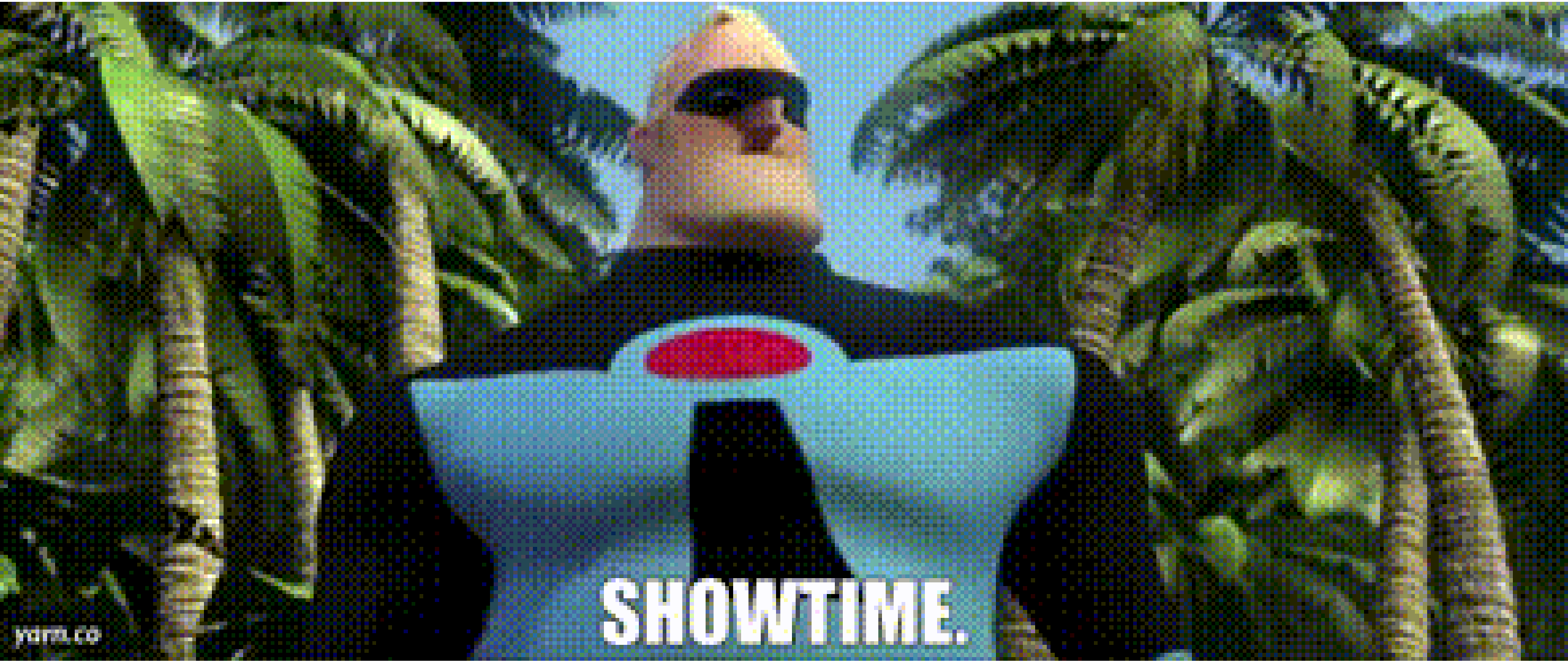
- Bachelor's Degree in Aerospace Engineering
 - Master's Degree in Industrial Engineering & Engineering Management
 - Powerful combination of various subject matter domains, including engineering and business, not just software development
- Former Thermal Protection Systems Engineer and Structures Engineer with *United Space Alliance* (primary vehicle: Space Shuttle Discovery)
- Became an Associate with the consulting firm *Booz Allen Hamilton*, serving on over 150 government client engagements over a period of 16 years
- Went full-time as “*The Software Maestro*” in 2022 to serve commercial companies and as a government subcontractor



MY COMMITMENT TO YOU

- To convey the motivations behind this approach
- To share stories of lives impacted
- To quantify verified results
- To share technical knowledge
- To encourage you to do the same and make an impact in your life and the lives of those around you
- To keep my narrative on the slides brief
 - To get to the demonstration promptly
 - To give you ample time for discussion
- Case studies as time and interest permit





MEET THE ORCHESTRA

Most common “instruments” (apps)

- SQL Server
- Microsoft Excel
- Microsoft PowerPoint
- Microsoft Word
- Microsoft Outlook
- Microsoft SharePoint

Peripheral applications

- Power Apps
- Power BI
- Other data sources that interact with SQL Server



MEET THE ORCHESTRA

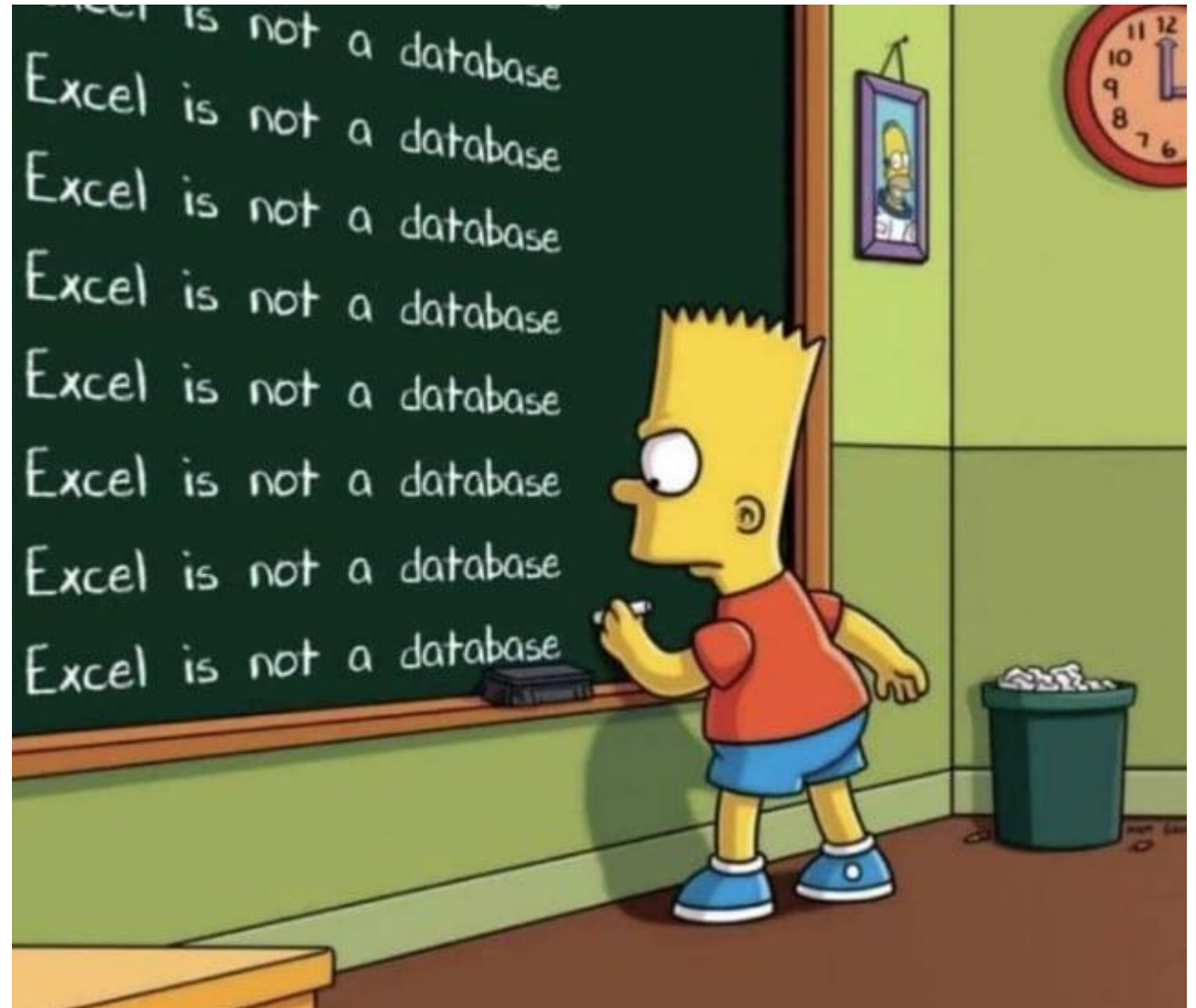
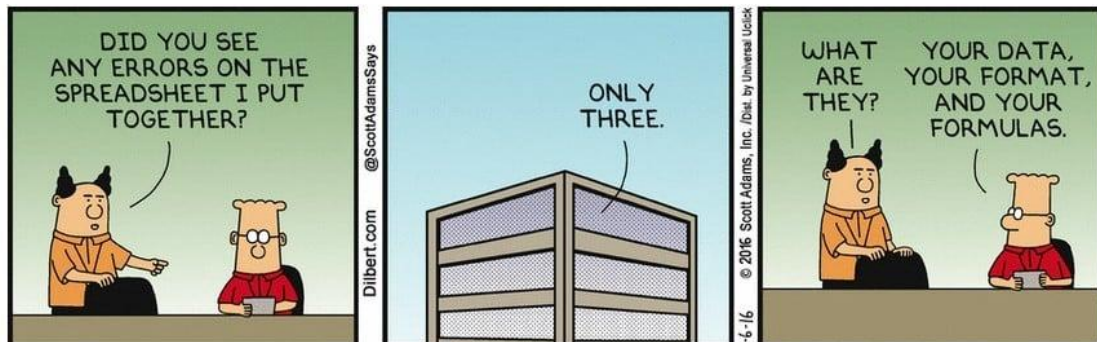
Other applications are possible but less common

- Computer-Aided Drafting
 - SolidWorks
 - AutoCAD
- Accounting
 - QuickBooks Desktop
 - Sage 50 (Peachtree)
- Limited Capabilities in:
 - Microsoft Publisher
 - Microsoft Visio
- And more (see your reference library)



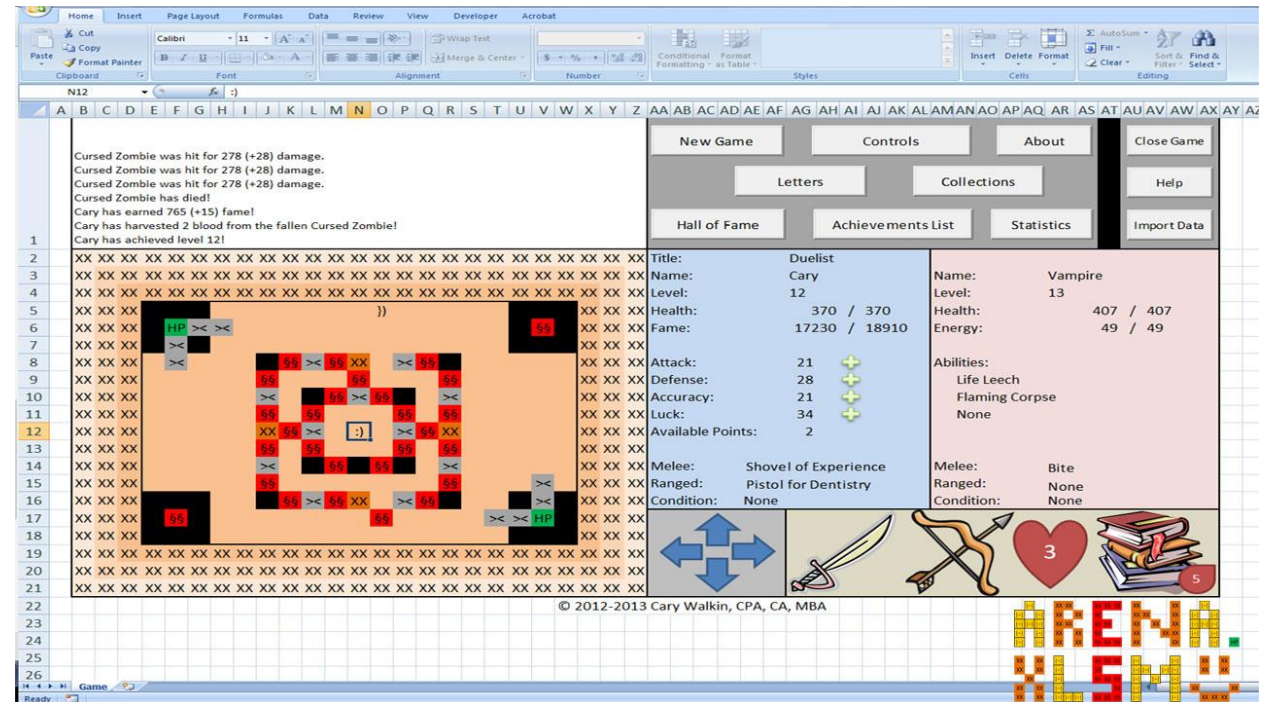
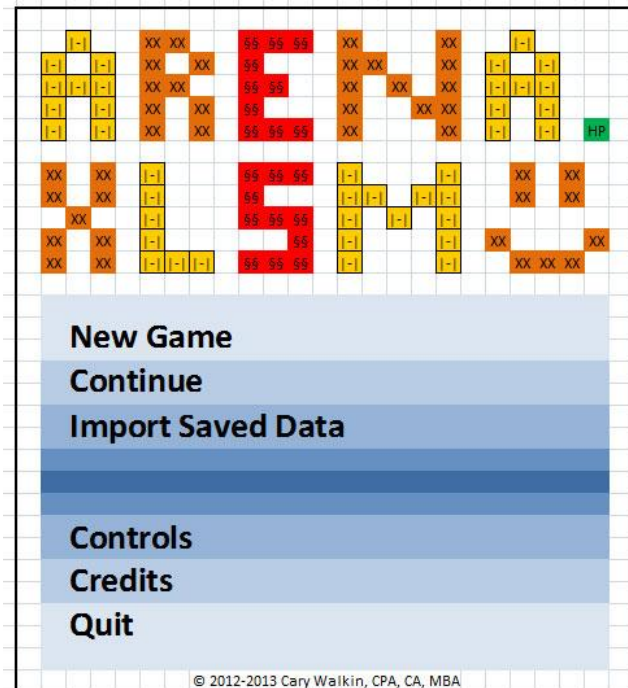
SO, WHY USE THE OTHER APPLICATIONS?

- For starters...
Why is it that we love using Access as a database?
- Despite what some people would say, **“Excel is not a database”**...
- Lacking in data integrity, scalability, querying & manipulation, concurrency & sharing, security, and backup & recovery



WHAT IS EXCEL FOR THEN?

- If the limitations aren't an issue, then it works just fine as-is
- It has its place in data analysis, charting, creating custom visualizations, and has user forms.
- Plenty of excellent-looking workbooks out there (including those I've made & sold)
- With enough effort, it apparently can be a platform for a role-playing game...



SO, WHY USE THE OTHER APPLICATIONS?

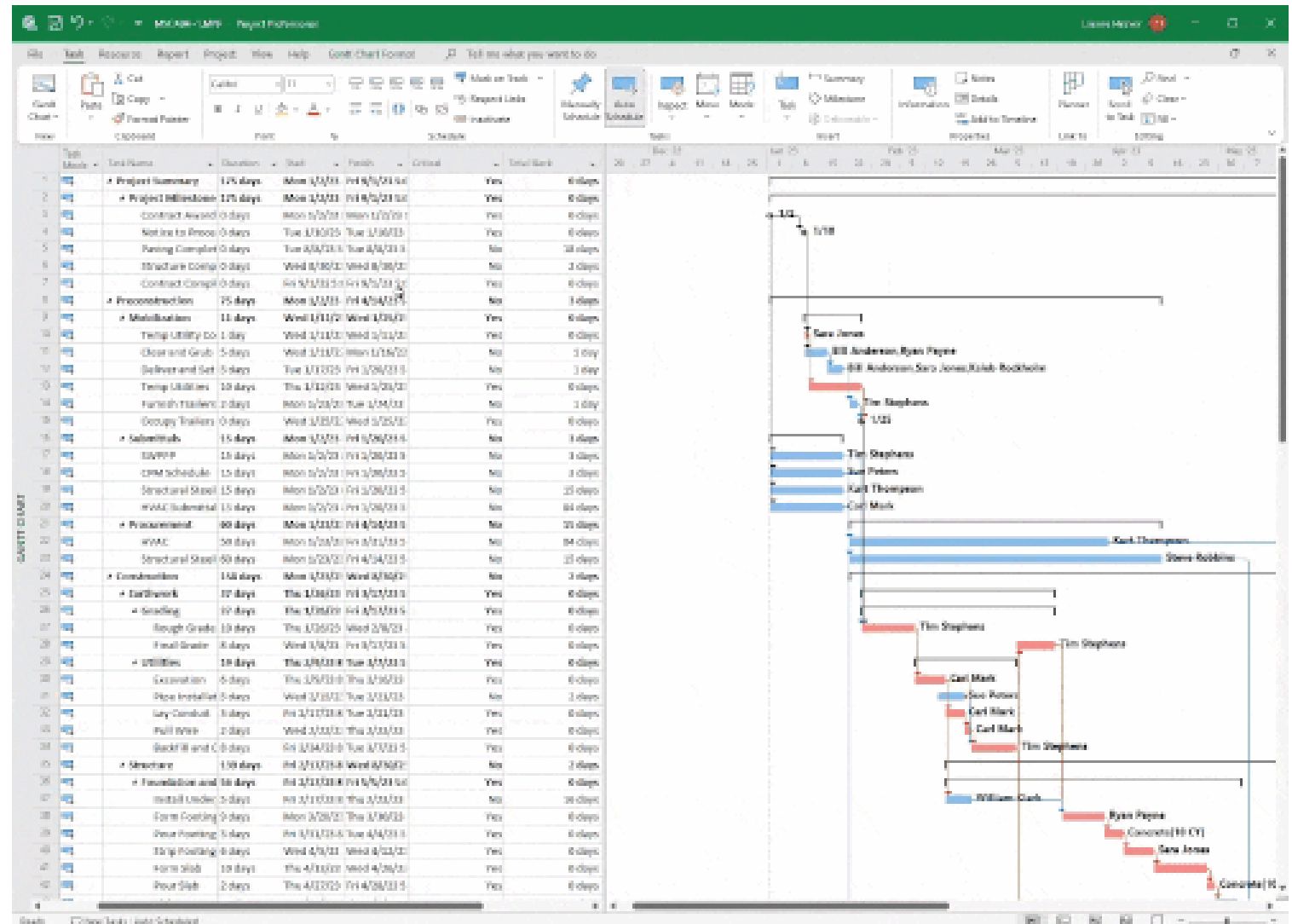
An auxiliary example:

Microsoft Project should not be part of a presentation

- Small print
- Details not summarized
- The presenter will be scrolling and clicking all over the place

While alternatives exist, PowerPoint remains an effective tool for presentations and for creating customized visualizations

- Shapes
- Transparency
- VBA



SO, WHY USE THE OTHER APPLICATIONS?

Improvisation can solve problems in a pinch or a short period...



... but that doesn't justify always relying on it when there's a tool dedicated to the task.

POTENTIAL: INCREASING DATA UTILIZATION

- Access + SQL Server is a powerful combination capable of holding and processing vast quantities of data.
- Existing database products may be sufficient
 - Real-time information retrieval
 - Basic charts and visuals
 - Reports from queries
- But are those products all that is possible or desired?
 - Resources have been expended to collect data
 - That data should work for us, not just fall into a pit.
 - The full value of this data may still be discovered
 - What other relevant applications could use that data?
- **Question #1: What additional insights, products, and benefits could flow forth and increase ROI?**



PITFALL: DON'T FORGET THE HUMAN ELEMENT IN THE SYSTEM

- Humans are often tasked with being the “go-between” for the different applications
- Fallible humans are responsible for the translation & transformation of the data
 - Manual copy-paste is neither efficient nor fun
 - Fatigue, distractions, motivation, and other factors can result in data errors, omissions, and delays
 - Any changes to data, layout, formatting, or more will automatically result in rework
 - What happens when the key personnel of that process cannot do the task?
 - Is the backup person going to do everything correctly and within the same production time?
- Clearly, the human element is an error-prone and variable part of the overall system with questionable repeatable reliability
- **Question #2: What part of your workflow today still feels *manual, repetitive, or fragile*, no matter how good your forms, queries, and reports are?**



OPTIMIZING THE ENTIRE SYSTEM FOR MAXIMUM RESULTS

- Getting the applications to do their part isn't difficult – that's what they're built for
- The best role for humans is to shift from inefficient manual labor to a **valuable innovator** (not a problem solver)
- For later discussion: This paradigm shift is similar to the discussions of AI replacing entry-level jobs. The jobs don't necessarily need to be eliminated, just changed. There's still one person working in each of these pictures



REAL-WORLD CASE STUDY: CSI COST MANAGEMENT REPORTS

Full case study and testimonial at <https://www.thesoftwaremaestro.com/cost-management-report-automation>

CHALLENGE

- With the company's growth, cost management reports were increasingly important to ensure all projects were getting completed under budget.
- **Rodney would begin Wednesday afternoon and work past midnight to produce upwards of 150 CMRs. Every week on that day, for years -- he would sleep overnight on a cot in his office.**
- Building the Cost Management Reports was a manual, error-prone process that involved referencing the previous week's CMR and the impacts of Change Requests. Errors introduced in early weeks had the potential to throw values off in successive weeks.
- Potential proprietary solutions did not match up with CSI's business process and nomenclature
- Data validation needed to be more proactive to identify issues with unexpected cost overruns / underruns.
- Delays in having an accurate Cost Management Reports results in the Project Managers working from stale financial data.



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SOLUTION

Microsoft Access database connected to a SQL Server database with Microsoft Excel templates for the CMRs, which include the following features and benefits:

- SQL Server holds the existing financial data for all executed jobs.
- Standardized templates serve as the error-free data structure used in building the Cost Management Reports
- CMR creation time depends on the amount of data to process, but **single-digit times measured in SECONDS were typical (<10 seconds each).**
- Automated validation of unmatched Cost Codes where costs were applied against a line item with no budget
- Detailed Automation Progress Notification shows jobs completed and elapsed time, the current automation action for the worked job, and the pending jobs remaining in the queue

Implementing this solution had all of the tangible benefits of fast & accurate CMRs and the intangible benefits of improved worker morale.

Rod-Bot does his job so that Rodney can do other important tasks and still have a healthy work-life balance.



Rod-Bot

Date	Records	Jobs	Set As
12/1/2024	53873	804	Current
11/24/2024	53551	803	Previous
11/17/2024	53449	802	
11/10/2024	53304	801	
11/3/2024	53150	795	
10/27/2024	53055	793	
10/20/2024	52886	787	
10/13/2024	52627	786	

Select Current and Comparison Datasets

Set Current Set Previous Clear

Options

☒ Attach CMR to email (draft only)

☐ Show Excel in action

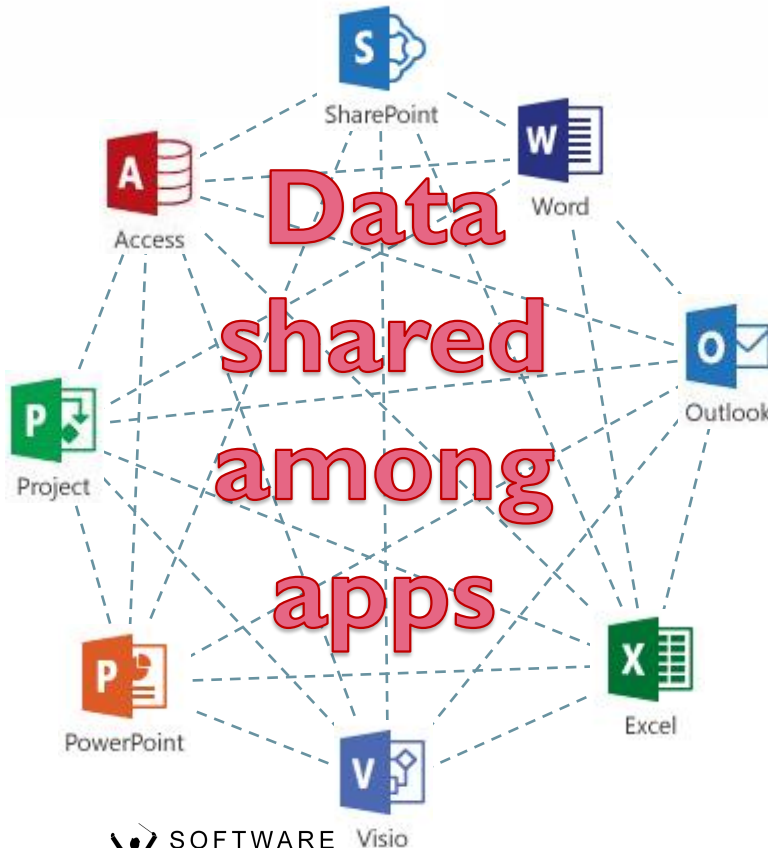
☐ Process Only Selected Jobs

****Click to Refresh QT and COR data >>**

162 Jobs in the Queue

Rod-Bot Automated CMR Export

View Rod-Bot Log



ADVANCED OFFICE ANALYSIS & AUTOMATION (AOAA)

AOAA is the utilization of **proven methodologies** incorporating advanced capabilities of commonly-used **technology** applications applied to a wide variety of **knowledge domains** to produce timely, high-value **products**.

Proven Methodologies (Sheet Music)	Technology (Instruments)
• Information Technology: Using the tools best suited to the job • Logic Conditions: IF [this] THEN [that] • Statistical & Discrete Event Models: Confidence Intervals, Monte-Carlo, etc. • Operations Research / Management Science: Goal-seeking, optimization, etc. • And more...	• MS Applications: Word, Access, Excel, PPT, Visio, Project, Outlook, etc. • Common: Found on majority of computers • Integration: Works with other IT systems through established export and/or import methods • Adaptable: Anticipating the evolution of the inputs, processes, and outputs so that changes are easily implemented by the user community, sometimes without code changes
Knowledge Domains (Genre)	Output Product Samples (Performance)
• Risk Management • Requirements Management • Scheduling • Financial / Accounting • Engineering disciplines • Business continuity • Cybersecurity • And more...	• Automated PPT Decks • Automated Word Documents • Synchronized MS Project and SharePoint • Custom data visualization • Multi-user Access Databases linked to SharePoint • Advanced Excel Workbooks w/ User Interfaces • Customized SharePoint Workflows • And more...

TECHNICAL ALTERNATIVES & COMPARISON

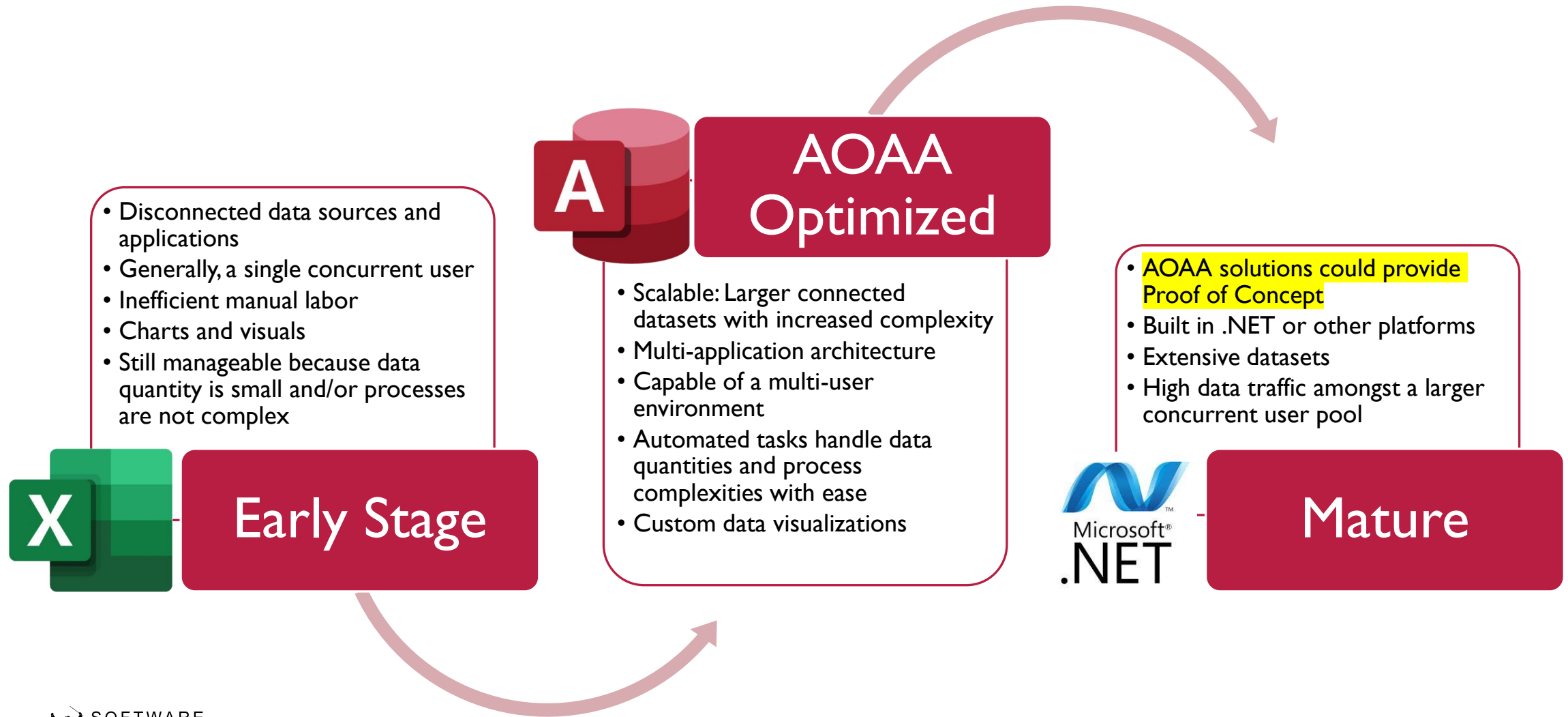
➤ VBA + Access is a strong choice, but not the only one

➤ **Question #3: Which approach is right for your team, budget, and problem?**

APPROACH	PROS	CONS
AOAA (VBA + Access + more) Low barriers to entry High potential benefit	- Built-in to the Office suite (start now) - No extra licensing (just development cost) - Tight database integration We live in this space (speed to build)	- Windows-only - VBA language limitations - COM quirks (library versions, garbage collection, error handling, etc.)
Python (win32com, xlwings, etc.)	- Modern language - Huge ecosystem (modules for everything) - Cross-platform (data logic)	- Requires Python to be installed - COM wrappers can be tricky (only work in Windows, not other operating systems)
Power Automate / Flow	- Low-code GUI - Connections galore - Cloud or desktop	- Per-user licensing - Premium connections are additional cost - Less control / flexibility - Harder to debug complex logic
Robotic Process Automation (UiPath, Automation Anywhere)	- No-code recorders - Works with any UI - Enterprise governance	- Expensive enterprise licenses - Brittle to UI changes
.NET (C# / VB.NET)	- Full language power - String type safety - Better error handling	- Need Visual Studio skills - Extra deployment overhead

TECHNICAL ALTERNATIVES & COMPARISON

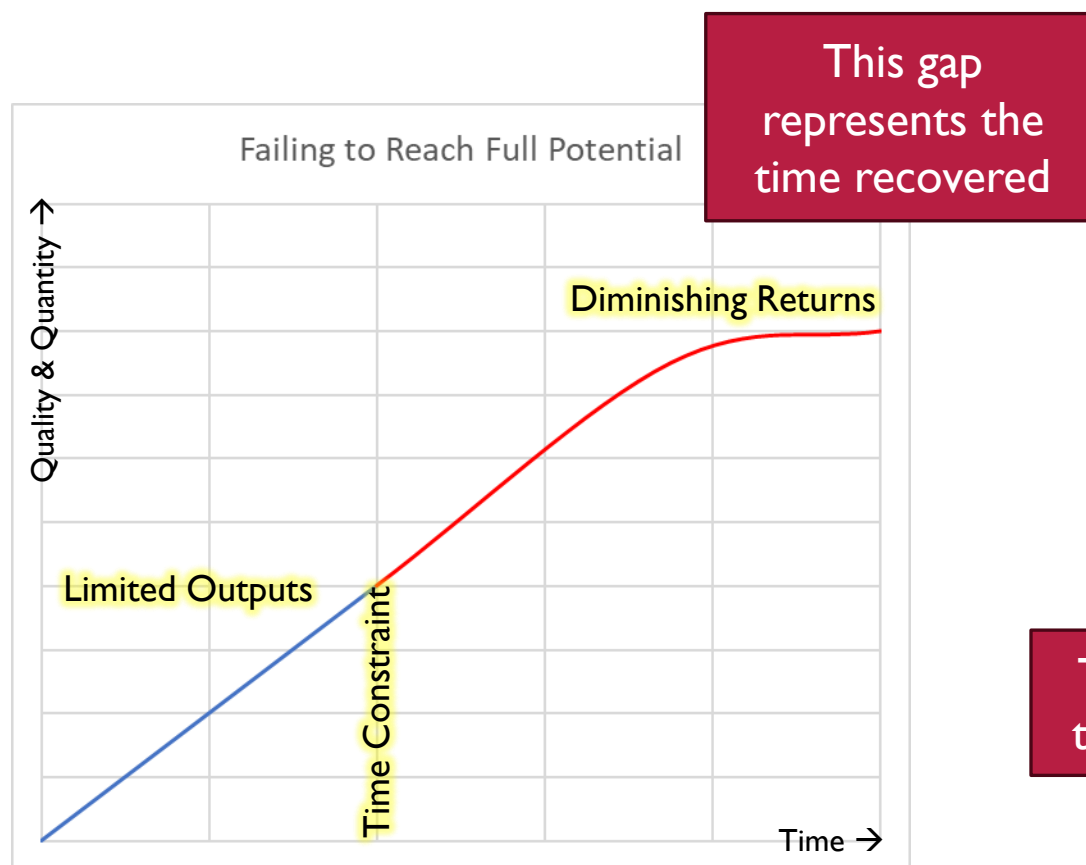
➤ AOAA is a logical next step in the progression of data and process maturity



TRANSFORMING THE QUALITY & QUANTITY VS. TIME CURVE

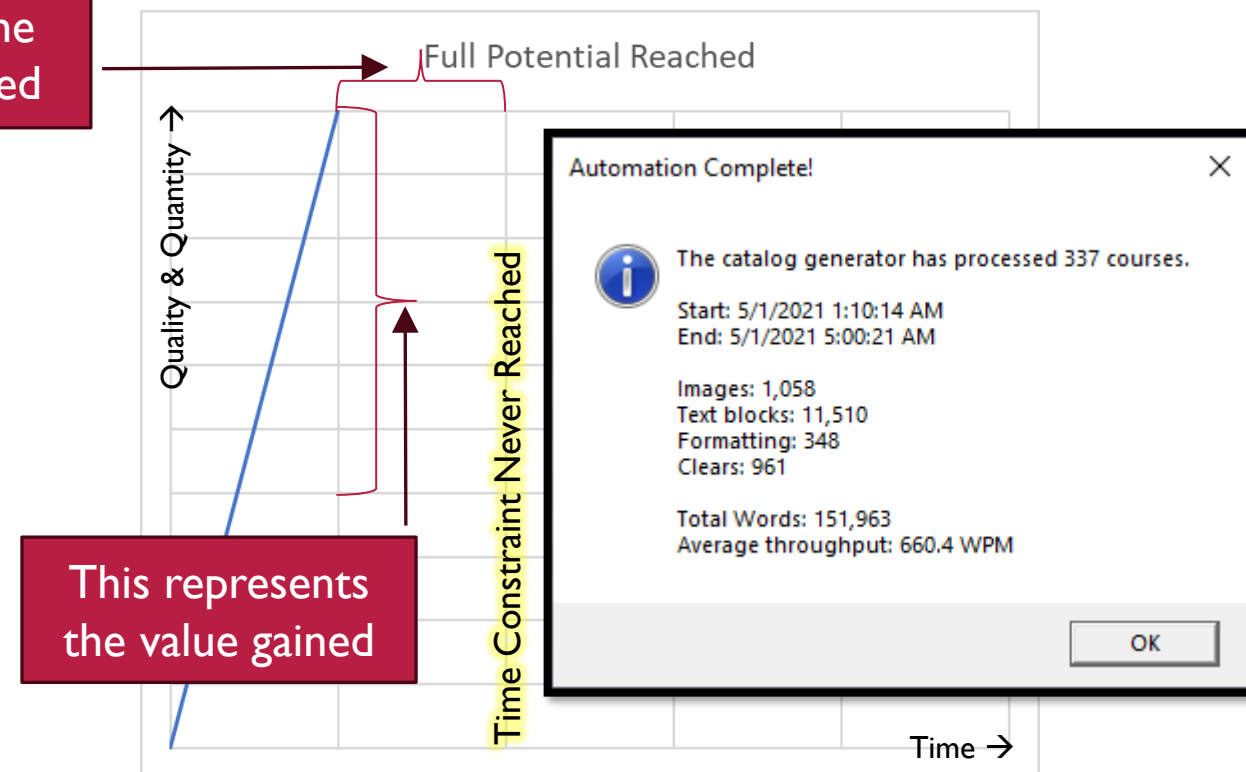
Before AOAA:

- Allowable turn-around time constraints results in limited *quality & quantity* of outputs.



After AOAA

- The Quality & Quantity vs. Time curve is drastically shifted vertically to produce higher-quality & more expansive outputs in less time.



SUMMARY: AOAA IS A FORCE MULTIPLIER!

Each solution is unique, but they all represent an effort to do more with less expense of time & resources...

More quality

More accuracy

More productivity

More insight

AOAA enhances what you are already (or will be) required to accomplish!

Question #4: If you could automate just one task, what would it be?

SUMMARY: AOAA DOESN'T DO IT ALL

Because time and resources are fungible, AOAA can free them up to be spent on other value-added activities:

Interpersonal Relationships
Creativity
Skill Development
And more!

People do what they do best when computers handle the rest!

Question #5: What would you do with the freed-up time and resources?



TECHNICAL DEMONSTRATION

With something you can download and use on your own

TECHNICAL DEMONSTRATION

- A basic but functional sample of Access conducting multiple common applications
 - Excel
 - PowerPoint
 - Word
- Emphasis is on a functional sample, not a polished user interface (you all know how to build good UIs)
- Template files are also provided
- Remember the process is data agnostic... adapt to your specific knowledge domains
- Learning the object model of each application and how they can be utilized is all part of the fun, creative, problem-solving experience
- Don't be afraid to have clients brainstorm ideas for a process or product... their ideas serve as a challenge for you to explore and to stretch your capabilities to a new level

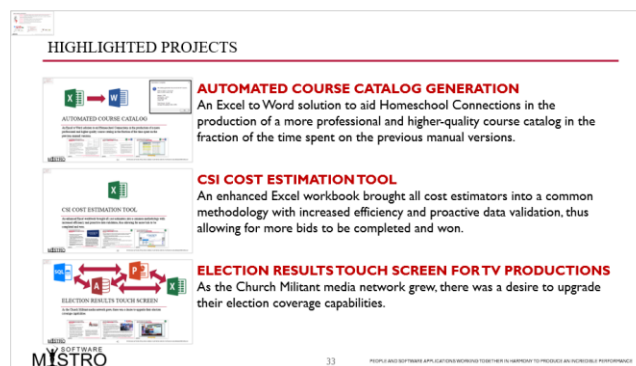
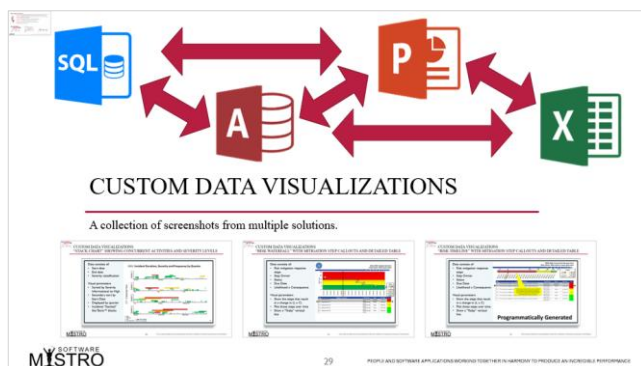
ENCORE

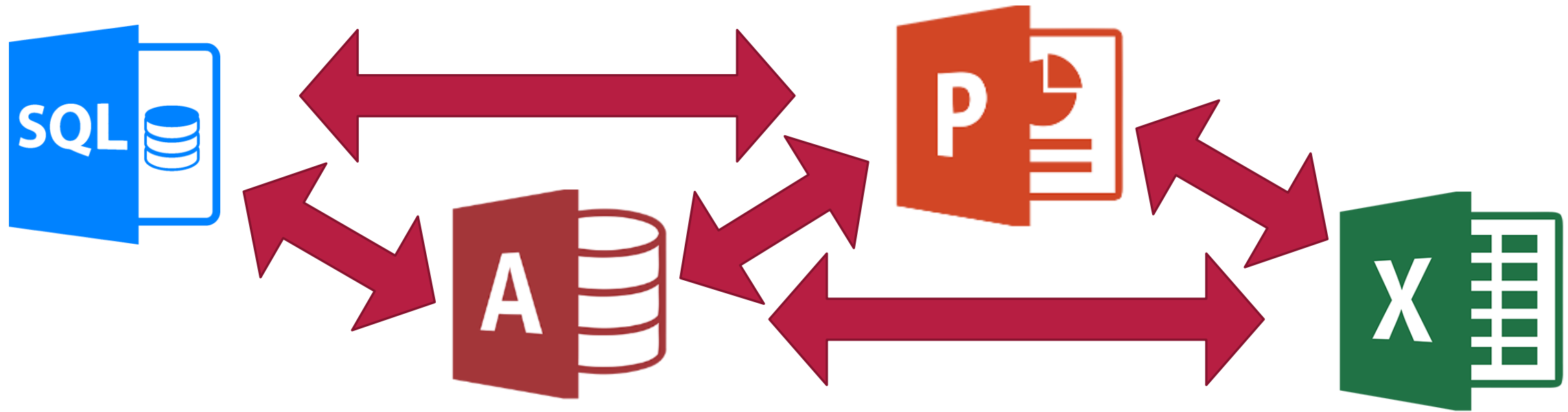
Q&A and Case Study Discussion

DISCUSSION QUESTIONS



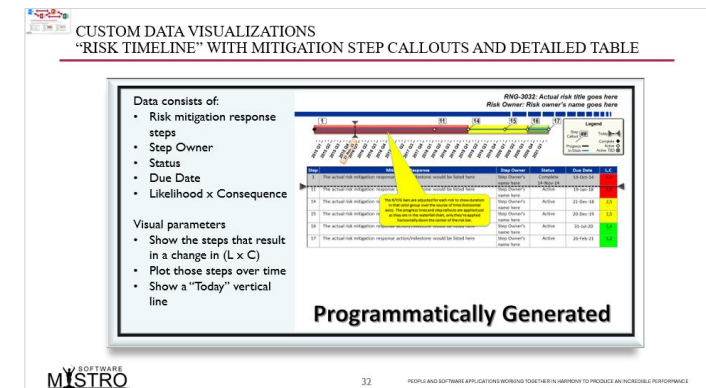
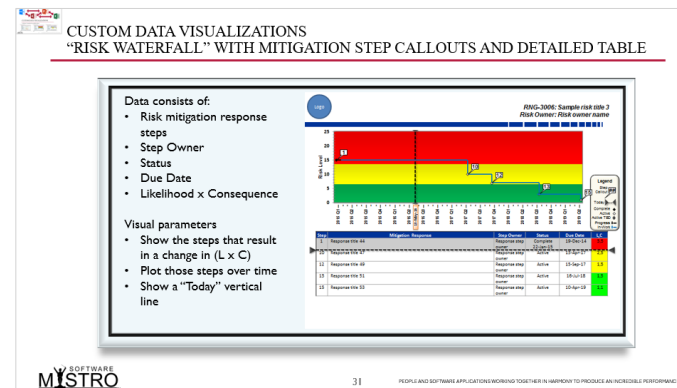
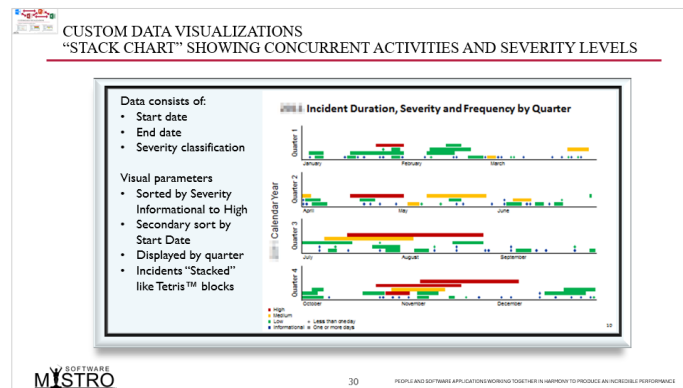
- Question #1: What additional insights, products, and benefits could flow forth and increase ROI?
- Question #2: What part of your workflow today still feels *manual*, *repetitive*, or *fragile*, no matter how good your forms, queries, and reports are?
- Question #3: Which approach is right for your team, budget, and problem?
- Question #4: If you could automate just one task, what would it be?
- Question #5: What would you do with the freed-up time and resources?
- What questions do you have for me?





CUSTOM DATA VISUALIZATIONS

A collection of screenshots from multiple solutions.



CUSTOM DATA VISUALIZATIONS

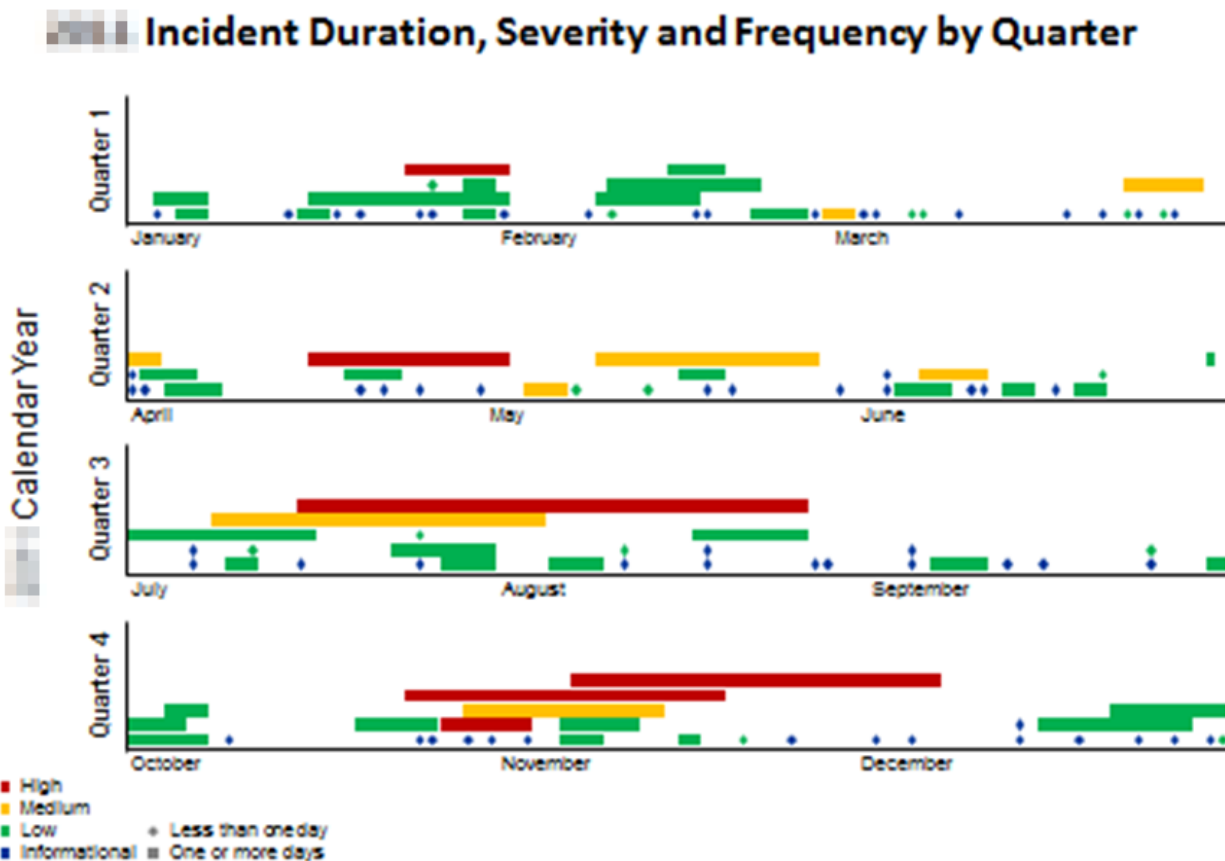
“STACK CHART” SHOWING CONCURRENT ACTIVITIES AND SEVERITY LEVELS

Data consists of:

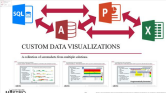
- Start date
- End date
- Severity classification

Visual parameters

- Sorted by Severity
Informational to High
- Secondary sort by
Start Date
- Displayed by quarter
- Incidents “Stacked”
like Tetris™ blocks



10



CUSTOM DATA VISUALIZATIONS

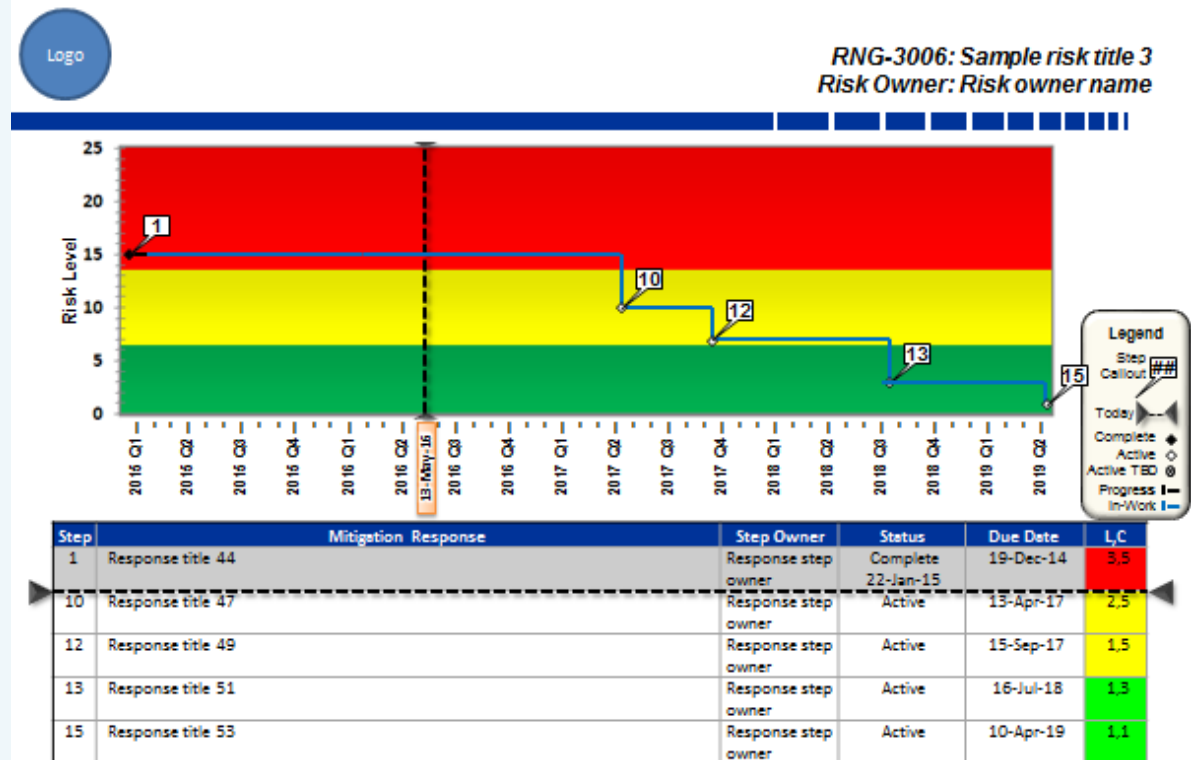
“RISK WATERFALL” WITH MITIGATION STEP CALLOUTS AND DETAILED TABLE

Data consists of:

- Risk mitigation response steps
- Step Owner
- Status
- Due Date
- Likelihood x Consequence

Visual parameters

- Show the steps that result in a change in (L x C)
- Plot those steps over time
- Show a “Today” vertical line



CUSTOM DATA VISUALIZATIONS

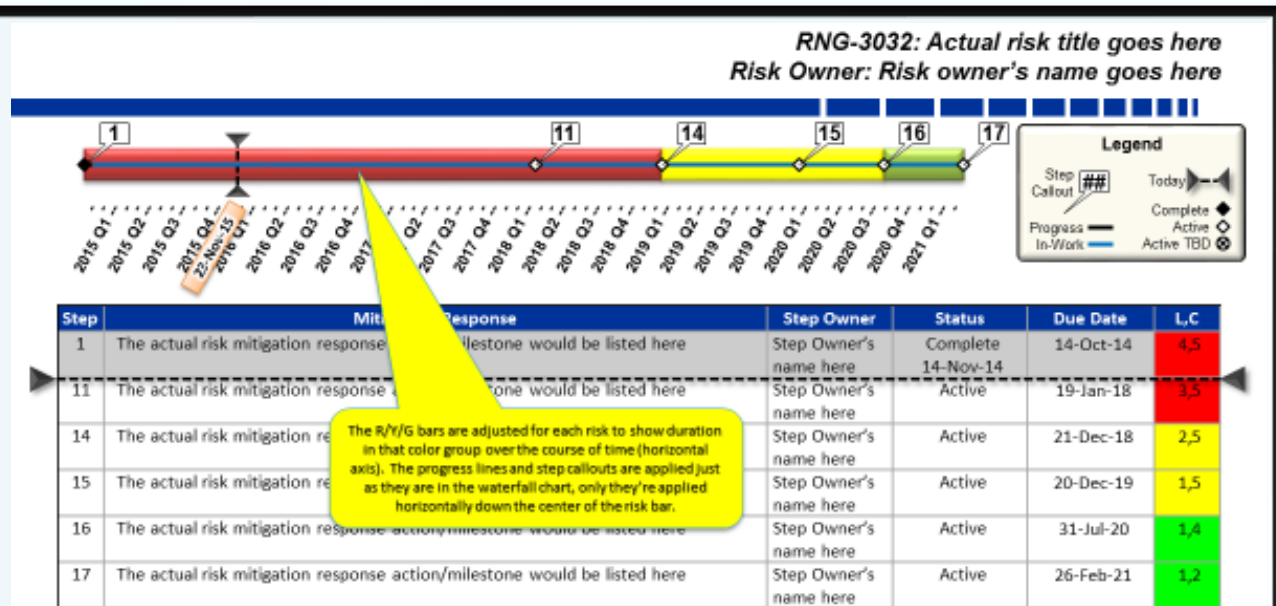
“RISK TIMELINE” WITH MITIGATION STEP CALLOUTS AND DETAILED TABLE

Data consists of:

- Risk mitigation response steps
- Step Owner
- Status
- Due Date
- Likelihood x Consequence

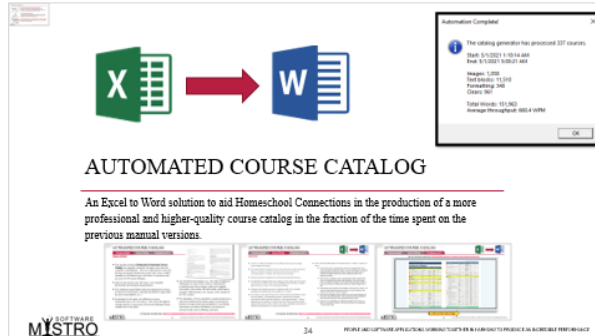
Visual parameters

- Show the steps that result in a change in (L x C)
- Plot those steps over time
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Programmatically Generated

HIGHLIGHTED PROJECTS



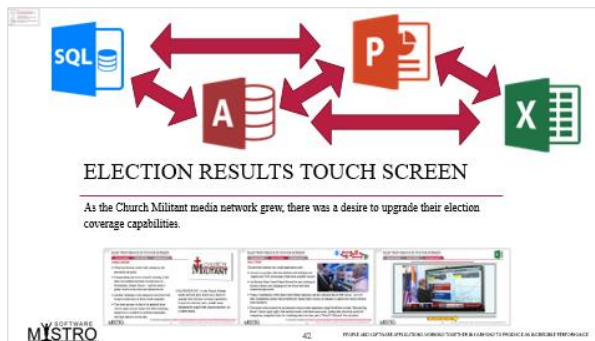
AUTOMATED COURSE CATALOG GENERATION

An Excel to Word solution to aid Homeschool Connections in the production of a more professional and higher-quality course catalog in the fraction of the time spent on the previous manual versions.



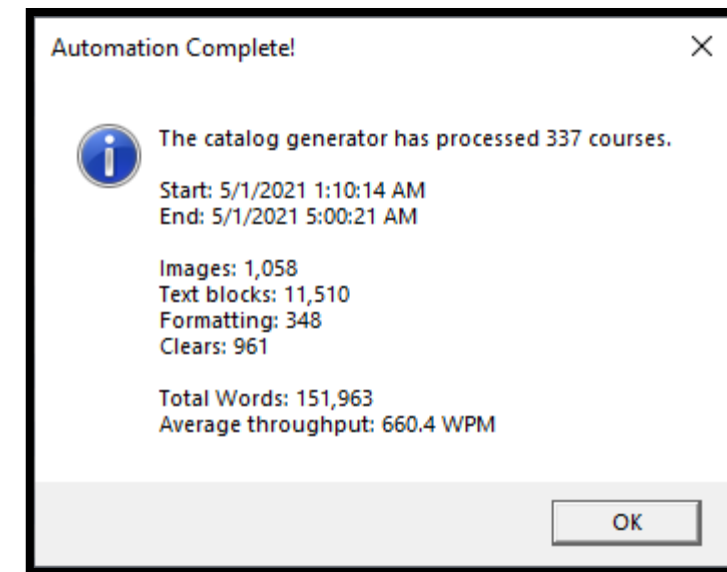
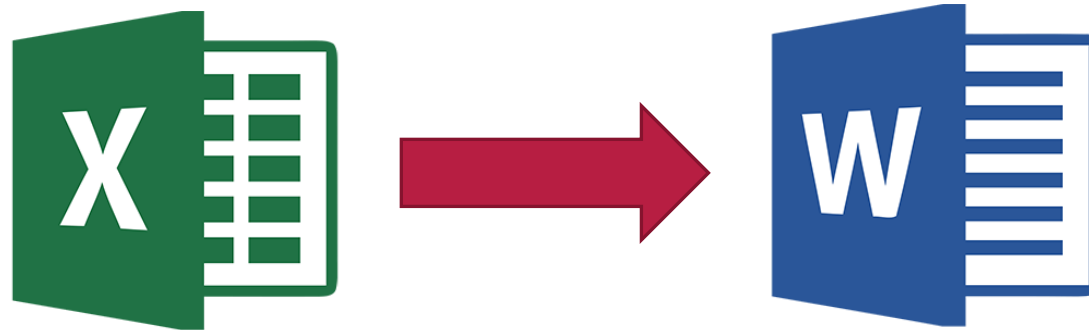
CSI COST ESTIMATION TOOL

An enhanced Excel workbook brought all cost estimators into a common methodology with increased efficiency and proactive data validation, thus allowing for more bids to be completed and won.



ELECTION RESULTS TOUCH SCREEN FOR TV PRODUCTIONS

As the Church Militant media network grew, there was a desire to upgrade their election coverage capabilities.



AUTOMATED COURSE CATALOG

An Excel to Word solution to aid Homeschool Connections in the production of a more professional and higher-quality course catalog in the fraction of the time spent on the previous manual versions.

AUTOMATED COURSE CATALOG

CHALLENGE SOLUTION SCREENSHOTS

CHALLENGE

- The annually-produced *Homeschool Connections Course Catalog* was manually created for the many years since the company's establishment. This was a labor-intensive task that became increasingly burdensome (nearly 200+ hours of effort annually) as the business grew with more 41 instructors and an excess of 250 course offerings.
- Dates for the lectures and "off weeks" were manually determined and contained miscalculations.
- The inefficient manual-labor effort introduced points of entry for data error (copy-paste, stale data that had been superseded by more recent updates, etc.).
- Formatting for the report was sufficient to convey information, but it was "text-heavy" with course descriptions running together in succession with uncontrolled page breaks (sample seen at top right).

Any desired format changes (e.g., the order of displayed information for each of the courses) would often be avoided because these changes could not be applied universally (once and for all) and instead would require manually implementing every instance of the change for all 250+ courses.

The abundance of time expended on catalog production is time that would have been better spent on growing the business through conference participation, social media interactions, newsletter distribution, attracting new instructors and courses offerings, and more.

Full case study and testimonials at <https://www.homeschoolconnections.com/case-study-homeschool-connections-automated-course-catalog>

AUTOMATED COURSE CATALOG

CHALLENGE SOLUTION SCREENSHOTS

SOLUTION

- Consists of a Macro-Enabled Excel workbook interacting with a high-quality MS Word template.
- Some data fields are collected each on the "off weeks" and last class dates based on scripts that calculate each factor from the start date and ascending known "off days" and instructor personal days.
- Detailed instructor biographies are collected including their pictures.
- The MS Word template defines the structure of the catalog, the look & feel of each section, utilizes more color and graphics/fonts, and has a complex table structure for many of its information displays.
- Changes to the template are easy to implement and will be reflected throughout the catalog with just an update to 1 location.
- The catalog is auto-generated from the aforementioned spreadsheet of data into the template. The generation process is hands-free (no human intervention needed other than starting it, takes approximately 1-2 hours depending on the quantity of courses, and can be viewed that the finished output reflects exactly what is found in the source spreadsheet and needs no additional modifications to be ready for distribution.

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AUTOMATED COURSE CATALOG

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[Click to View Next Image](#)

AUTOMATED COURSE CATALOG

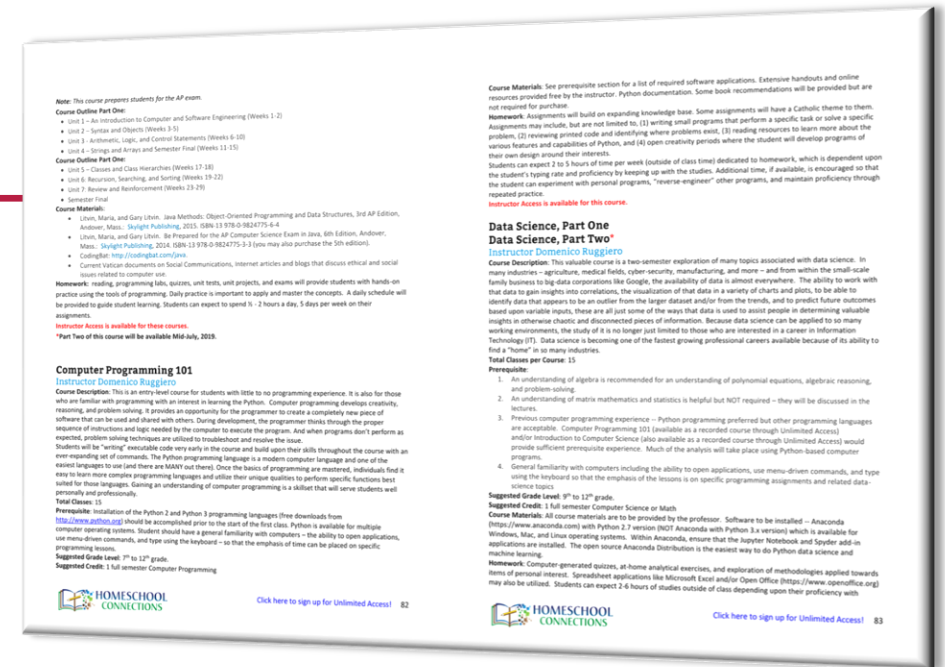
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AUTOMATED COURSE CATALOG



CHALLENGE

SOLUTION

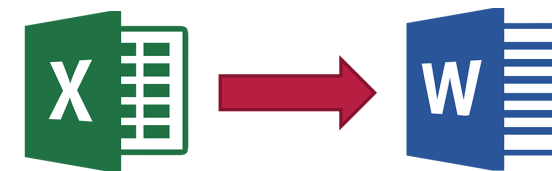
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- Changes to the template are easy to implement and will be reflected throughout the catalog with just an update to 1 location.
- The catalog is auto-generated from the aforementioned spreadsheet of data into the template. The generation process is hands-free (no human intervention needed other than starting it), takes approximately 1-2 hours depending on the quantity of content, and can be assured that the finished output reflects exactly what is found in the source spreadsheet and needs no additional modifications to be ready for distribution.
- Due to the structured nature of the source data, it is used in a variety of ways:
 - Each course is given a full page each without any odd page breaks. The course descriptions organize the details in an easy-to-find format, include the important class dates (start date, off days, and end date), utilize icons to represent the subject matter for the course, includes a picture of the instructor, and more.
 - The "Courses at a Glance" serves as an informative table of contents with each course grouped under subject matter headings, icons for the subject matter, a condensed summary of course details, and a grouped summary of how many courses are available each semester per subject (sample seen at left).
 - Each semester section begins with a weekday vs time matrix of courses. All courses for that semester can be seen in this view to allow parents to find courses that best fit into a family's schedule.
 - The Instructor Biography section includes a list of all course offerings that they have in the current schedule. Some students have favored instructors and will enroll in the other courses that these instructors offer.
 - Extensive use of hyperlinks are established throughout the "Courses at a Glance", the semester weekday catalog to jump directly to the applicable "Course Details" page.

Full case study and testimonial at <https://www.thesoftwaremaestro.com/case-study-homeschool-connections-automated-catalog-generation>

AUTOMATED COURSE CATALOG



CHALLENGE

SOLUTION

SCREENSHOTS

See more screenshots and testimonials at [Automated Catalog Generation | the-software-maestro \(thesoftwaremaestro.com\)](https://thesoftwaremaestro.com)

Homeschool Connections Course Catalog 2019-2020						
4						
Courses at a Glance						
Subject Area & Course Name	Instructor	Semester	Recommended Grade Levels	Class Day(s) & Time (Eastern)	Lectures x Duration	Catalog Page
Computer Skills 3 Fall 2 Spring						
Introduction to Computer Science, Part One	Peggy Morrow, PhD	Fall	7th to 12th grade	Mon, Wed @ 10:00 AM Eastern	26 x 50 min	44
Document and Photo Editing	Peggy Morrow, PhD	Fall	7th to 12th grade	Mon, Wed @ 2:30 PM Eastern	24 x 50 min	45
Programming Catholic Games with Python (2-D)	Domenico Ruggiero, MS-EM	Fall	8th to 12th grade (see prerequisites)	Wed @ 5:30 PM Eastern	15 x 75 min	46
Introduction to Computer Science Part Two	Peggy Morrow, PhD	Spring	7th to 12th grade	Mon, Wed @ 10:00 AM Eastern	26 x 50 min	148
Microsoft Office Automated Productivity with VBA Programming	Domenico Ruggiero, MS-EM	Spring	8th to 12th grade (see prerequisites)	Wed @ 5:30 PM Eastern	15 x 75 min	149
Drama 1 Fall						
Acting Monologues	Kevin O'Brien	Fall	7th to 9th grade	Thu @ 2:30 PM Eastern	6 x 45 min	47
Geography 3 Fall 1 Spring						
Middle School Geography, Part One	Daniel Egan, BS	Fall	6th to 8th grade	Wed @ 7:00 PM Eastern	13 x 55 min	48
Middle School Geography, Part Two	Daniel Egan, BS	Spring	6th to 8th grade	Wed @ 7:00 PM Eastern	13 x 55 min	150
Government / Law 2 Fall 3 Spring						
Middle School Civics: Part One	Alison Stanley, JD	Fall	6th to 8th grade	Tue @ 1:00 PM Eastern	11 x 55 min	49
American Democracy and Government	Ed Rivet, MPA	Fall	9th to 12th grade	Wed @ 4:00 PM Eastern	12 x 55 min	50
Middle School Civics: Part Two	Alison Stanley, JD	Spring	6th to 8th grade	Tue @ 1:00 PM Eastern	11 x 55 min	151
Political Philosophy & Systems	Ed Rivet, MPA	Spring	11th to 12th grade	Wed @ 4:00 PM Eastern	8 x 55 min	152
Supreme Court Landmark Cases	Alison Stanley, JD	Spring	9th to 12th grade	Tue @ 1:00 PM Eastern	6 x 55 min	153
History 7 Fall 7 Spring						
The Ancient World Part One	Phillip Campbell	Fall	7th to 8th grade	Mon @ 4:00 PM Eastern	12 x 50 min	51
The Old World and America	Christopher Martin, MA, PhD	Fall	6th to 8th grade (Adjustments can be made to assignments to accommodate high school students.)	Fri @ 2:30 PM Eastern	14 x 55 min	52
The Dawn of History: The Ancient World	Phillip Campbell	Fall	9th to 12th grade (Adjustments can be made to assignments to accommodate middle school students.)	Mon @ 5:30 PM Eastern	12 x 55 min	53
Christ the King, Lord of History, Part One	Christopher Martin, MA, PhD	Fall	9th to 12th grade (Adjustments can be made to assignments to accommodate middle school students.)	Fri @ 4:00 PM Eastern	14 x 55 min	54
Imperial Russia	Carol B. Reynolds, PhD	Fall	9th to 12th grade	Mon @ 11:30 AM Eastern	12 x 55 min	55
Modern U.S. History: 1865-2000 with Optional Honor's Track	Phillip Campbell	Fall	9th to 12th grade	Thu @ 4:00 PM Eastern	12 x 55 min	56
American History, Part One: Age of Exploration through the Civil War and Reconstruction	John C. "Chuck" Chalberg, PhD	Fall	11th to 12th grade (or advanced 9th to 10th grade)	Wed @ 10:00 AM Eastern	12 x 55 min	57
The Ancient World, Part Two	Phillip Campbell	Spring	7th to 8th grade	Mon @ 4:00 PM Eastern	12 x 50 min	154
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5						
Homeschool Connections Course Catalog 2019-2020						
Subject Area & Course Name	Instructor	Semester	Recommended Grade Levels	Class Day(s) & Time (Eastern)	Lectures x Duration	Catalog Page
Our Pioneers and Patriots						
Christ and Caesar: The Ancient World and the Founding of Christendom	Phillip Campbell	Spring	9th to 12th grade	Mon @ 5:30 PM Eastern	12 x 55 min	156
Christ the King, Lord of History, Part 2	Christopher Martin, MA, PhD	Spring	9th to 12th grade (Adjustments can be made to assignments to accommodate middle school students.)	Fri @ 4:00 PM Eastern	14 x 55 min	157
History of the Byzantium	Phillip Campbell	Spring	9th to 12th grade	Thu @ 4:00 PM Eastern	12 x 55 min	158
American History and the Hit Musical Hamilton	Kevin O'Brien	Spring	9th to 12th grade	Tue @ 2:30 PM Eastern	12 x 55 min	159
American History, Part Two: Reconstruction to Present Day	John C. "Chuck" Chalberg, PhD	Spring	11th to 12th grade (or advanced 9th and 10th grade)	Wed @ 10:00 AM Eastern	12 x 55 min	160
Languages 14 Fall 14 Spring						
Middle School Latin, Part One	Hannah Dea	Fall	7th to 8th grade	Mon @ 7:00 PM Eastern	12 x 45 min	58
Middle School Conversational Spanish, Part One	Nanci Lopez	Fall	6th to 8th grade	Mon @ 11:30 AM Eastern	12 x 55 min	59
Beginning Latin (Wheelock), Part One	Bridget Sutherland	Fall	9th to 12th grade	Mon @ 5:30 PM Eastern	12 x 55 min	60
Henle Latin First Year, Part One	Emily Henry, BA	Fall	9th to 12th grade	Mon @ 1:00 PM Eastern	12 x 55 min	61
Beginning Conversational Spanish, Part One	Nanci Lopez	Fall	8th to 12th grade	Mon @ 2:30 PM Eastern	12 x 55 min	62
Spanish I, Part One	Irma Luz M. Schmitt, MA	Fall	7th to 12th grade	Thu @ 11:30 AM Eastern	12 x 55 min	63
French I, Part One	Nathalie LaPierre, DVM	Fall	8th to 12th grade	Wed @ 11:30 AM Eastern	14 x 55 min	64
Intermediate Latin (Wheelock), Part One	Emily Henry, BA	Fall	9th to 12th grade	Tue @ 1:00 PM Eastern	12 x 55 min	65
Intermediate Conversational Spanish, Part One [Section 1]	Nanci Lopez	Fall	9th to 12th grade	Wed @ 1:00 PM Eastern	12 x 55 min	66
Intermediate Conversational Spanish, Part One [Section 2]	Nanci Lopez	Fall	9th to 12th grade	Tue @ 1:00 PM Eastern	12 x 55 min	66
Spanish II, Part One	Irma Luz M. Schmitt, MA	Fall	8th to 12th grade	Thu @ 2:30 PM Eastern	12 x 55 min	67
French 2 Part One	Nathalie LaPierre, DVM	Fall	9th to 12th grade	Thu @ 11:30 AM Eastern	14 x 55 min	68
Advanced Latin (Wheelock), Part One	Emily Henry, BA	Fall	10th to 12th grade	Thu @ 1:00 PM Eastern	12 x 55 min	69
Advanced Conversational Spanish, Part One	Nanci Lopez	Fall	10th to 12th grade	Wed @ 11:30 AM Eastern	12 x 55 min	70
Middle School Latin, Part Two	Hannah Dea	Spring	7th to 8th grade	Mon @ 7:00 PM Eastern	12 x 45 min	161
Middle School Conversational Spanish, Part Two	Nanci Lopez	Spring	6th to 8th grade	Mon @ 11:30 AM Eastern	12 x 55 min	162
Beginning Latin (Wheelock), Part Two	Bridget Sutherland	Spring	9th to 12th grade	Mon @ 5:30 PM Eastern	12 x 55 min	163
Henle Latin First Year, Part Two	Emily Henry, BA	Spring	9th to 12th grade	Mon @ 1:00 PM Eastern	12 x 55 min	164
Beginning Conversational Spanish, Part Two	Nanci Lopez	Spring	8th to 12th grade	Mon @ 2:30 PM Eastern	12 x 55 min	165
Spanish I, Part Two	Irma Luz M. Schmitt, MA	Spring	7th to 12th grade	Thu @ 11:30 AM Eastern	12 x 55 min	166
French 1 Part Two	Nathalie LaPierre, DVM	Spring	8th to 12th grade	Wed @ 11:30 AM Eastern	14 x 55 min	167
Intermediate Latin (Wheelock), Part Two	Emily Henry, BA	Spring	9th to 12th grade	Tue @ 1:00 PM Eastern	12 x 55 min	168
Intermediate Conversational Spanish, Part Two [Section 1]	Nanci Lopez	Spring	9th to 12th grade	Wed @ 1:00 PM Eastern	12 x 55 min	169
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CSI COST ESTIMATION TOOL

An enhanced Excel workbook brought all cost estimators into a common methodology with increased efficiency and proactive data validation, thus allowing for more bids to be completed and won.

CSI COST ESTIMATION TOOL

CHALLENGE SOLUTION SCREENSHOTS

CHALLENGE

- > Potential proprietary solutions did not match up with CSI's business process and nomenclature
- > With the growth of the company, cost estimators and reviewers were tasked with higher quantities of estimates to complete. Working with the existing workbook was not as efficient as it could be.
- > Each cost estimator had variations in their cost estimation workbooks which complicated the review process
- > Building up estimation worksheets and subsections was a manual, error-prone process
- > Data validation needed to be more proactive to identify issues with cost codes, mixed up units of measure (UoM), out-of-norm rates, etc.

CONCRETE STRATEGIES

> **BACKGROUND:** CSI had a series of estimating workbooks in Microsoft Excel format that have been in place for several years. These workbooks were part of the natural evolution of creating cost estimates that originated with classic pen & paper tabulations. The workbooks supported the successful capture of many new jobs and allowed for CSI to remain profitable. Although the current workbook format was functional, additional efficiency and data veracity were desired in the production of cost estimates.

Full case study and testimonials at <https://www.concretestrategies.com/cost-estimation-tool>

29 PEOPLE AND SOFTWARE APPLICATIONS WORKING TOGETHER IN HARMONY TO PRODUCE AN INCREDIBLE PERFORMANCE

CSI COST ESTIMATION TOOL

CHALLENGE SOLUTION SCREENSHOTS

SOLUTION

Consists of an enhanced Excel workbook, built from the original source material, to include the following:

- > Standardized templates serve as the error-free source material used in building up cost estimates
- > Template system supports modifications and additions
 - > The VBA code is sophisticated enough to dynamically adjust to the inputs given to it without modifying the underlying code.
 - > Custom user interfaces manage cost estimate content
- > Automated the establishment of auditable formulas for traceability
- > Cost Spread "Deep Dive" allows for a quick look into the underlying supporting data found throughout the other worksheets.
- > Automated validation of unmatched and missing Cost Codes
- > Detailed Automation Progress Notification
- > Custom "Concrete Strategies" menu group that stays with the workbook (not an add-in applied universally to all workbooks in Excel).

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40 PEOPLE AND SOFTWARE APPLICATIONS WORKING TOGETHER IN HARMONY TO PRODUCE AN INCREDIBLE PERFORMANCE

CSI COST ESTIMATION TOOL

CHALLENGE SOLUTION SCREENSHOTS

This new study can be found at <https://www.concretestrategies.com/cost-estimation-tool>

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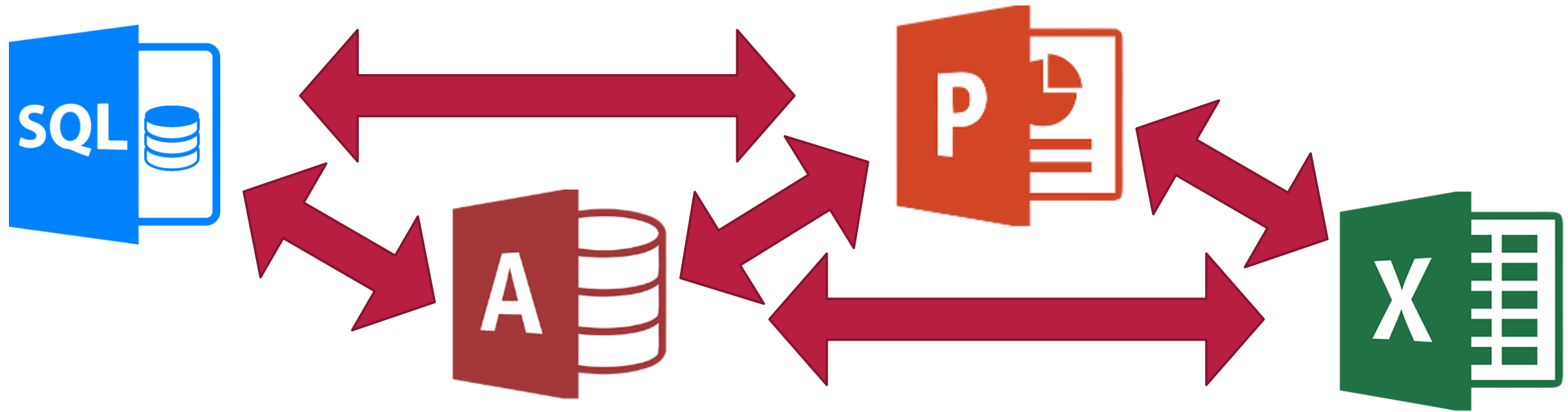


This case study can be found at [Cost Estimation Tool | the-software-maestro \(thesoftwaremaestro.com\)](https://thesoftwaremaestro.com/cost-estimation-tool/)

The screenshot displays the 'CONCRETE STRATEGIES' software interface. A 'File' menu is visible on the left with options: 'Add Building', 'Duplicate', and 'Manage'. The main window is titled 'CONCRETE STRATEGIES' and contains the 'Add Building' dialog box. The dialog box has a title bar 'CSI - Add Building' and a close button. Below the title, it says 'Add Building' and 'Use this form to add a new building to the current cost estimate.' The dialog box features a table with two columns: 'Category' and 'Section'. The 'Category' column lists 'Flatwork', 'Sitework', 'Tilt-Up', and several 'Foundations' entries. The 'Section' column lists 'SUMMARY', 'Excavation', 'Mat Slabs', 'Column Footings', 'Strip Footings', 'Grade Beams', 'Walls', 'Columns', 'Additional Items', 'Pier Caps', 'Formed Piers', 'Pilasters', and 'Brickledge'. The 'Foundations' category is selected, and the 'Walls' section is highlighted. To the right of the table, there are input fields for 'Building Name' (containing 'Building 1') and 'Short Name' (containing 'BLDG1', with a note 'Max 6 chars'). Below these fields, there is a text instruction: 'Highlight in the list which sections are to be initially provided for the new building. Sections can be added and removed later using the "Manage Buildings" function.' Below this instruction are three buttons: 'Select All SUMMARY Sections', 'Select All', and 'Deselect All'. At the bottom of the dialog box, there is a status bar that says '5 sections highlighted' and two buttons: 'Add Building' (green) and 'Cancel' (red). On the right side of the dialog box, there is a vertical progress bar with two segments, both labeled '100.0%'.

Category	Section
Flatwork	SUMMARY
Sitework	SUMMARY
Tilt-Up	SUMMARY
Foundations	SUMMARY
Foundations	Excavation
Foundations	Mat Slabs
Foundations	Column Footings
Foundations	Strip Footings
Foundations	Grade Beams
Foundations	Walls
Foundations	Columns
Foundations	Additional Items
Foundations	Pier Caps
Foundations	Formed Piers
Foundations	Pilasters
Foundations	Brickledge

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ELECTION RESULTS TOUCH SCREEN

As the Church Militant media network grew, there was a desire to upgrade their election coverage capabilities.

ELECTION RESULTS TOUCH SCREEN

CHALLENGE

- When the election results start coming in, the pace picks up quick.
- Compounding the issue of results tracking is that there are multiple elections to keep track of – Presidential, Senate, House – and the need to gather results at the state and national levels.
- Another challenge is the manpower involved with trying to keep track of these results manually.
- The sheer amount of data to be gathered from various open sources means that little remaining manpower is available to perform meaningful real-time analysis on the data.

BACKGROUND: As the Church Militant media network grew, there was a desire to upgrade their election coverage capabilities. In previous election years, results were tabulated by hand with colored markers on a white board.

CHURCH MILITANT

Full case study and testimonial at <https://www.churchmilitant.com/press-releases/church-militant-updates-election-coverage>

ELECTION RESULTS TOUCH SCREEN

SOLUTION

The provided solution was a multi-application suite:

- An easy-to-use data collection database with multiple-user support and JSON processing of data from available sources.
- An Election Main Control Panel allowed for easy tracking of election winners and changing how the lower-third data rotated through results.
- Using a combination of the Main Control Panel selections and the collected data in SQL Server, over 145 data visualization screens were available for Simon Rafe to access on-demand to support the various election result narratives.
- The results were accessed via an interactive touch-screen experience using PowerPoint on their 'Election Big Board' (shown upper right) with national results, individual state results, polling data, historical results for comparison, integrated charts for visualizing data over time, and a 'What-If' Electoral Vote calculator.

Full case study and testimonial at <https://www.churchmilitant.com/press-releases/church-militant-updates-election-coverage>

ELECTION RESULTS TOUCH SCREEN

SCREENSHOTS

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ELECTION RESULTS TOUCH SCREEN

CHALLENGE

SOLUTION

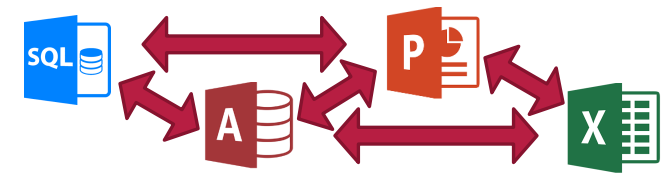
SCREENSHOTS

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ELECTION RESULTS TOUCH SCREEN



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SCREENSHOTS

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ELECTION RESULTS TOUCH SCREEN

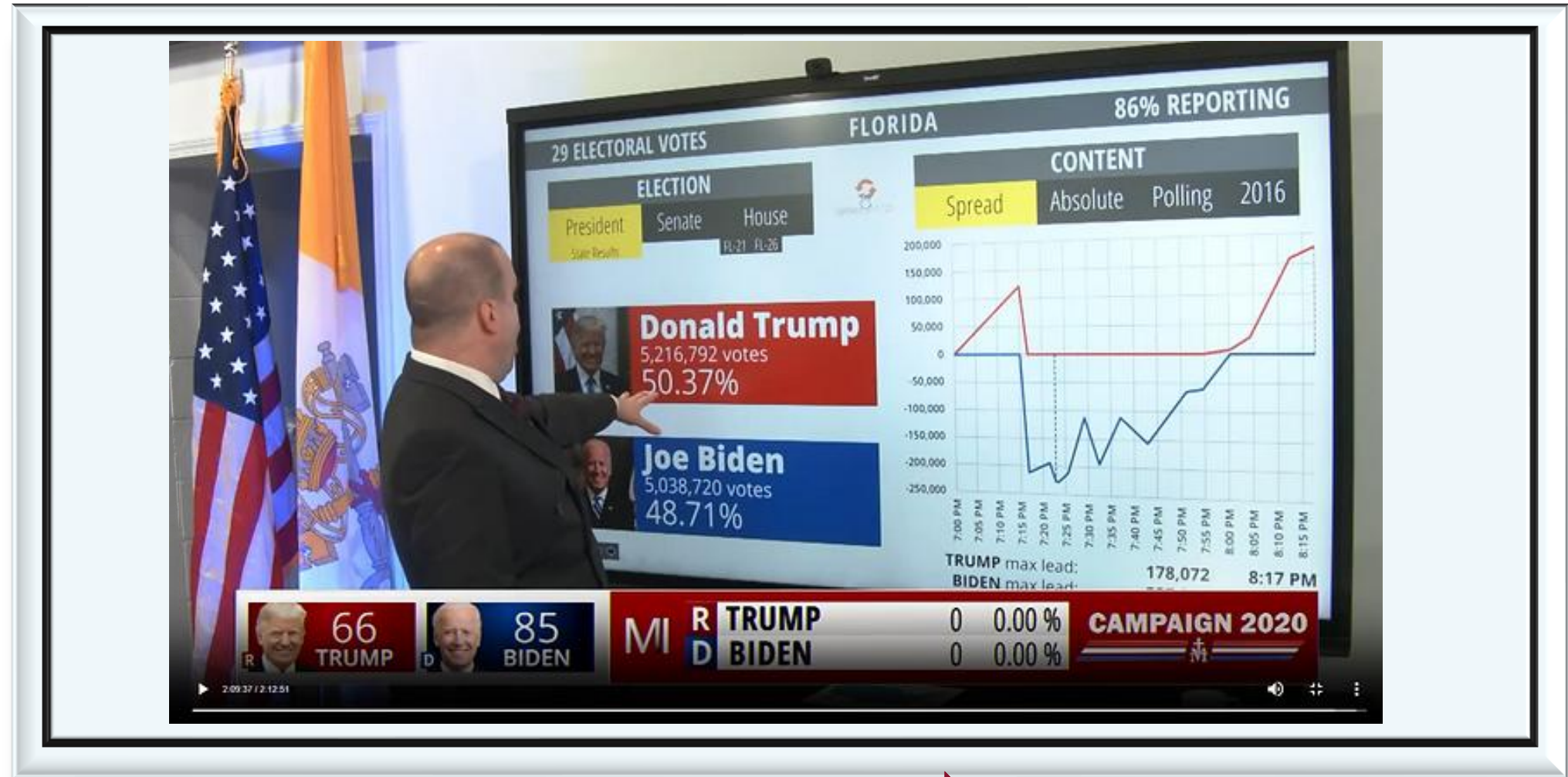


CHALLENGE

SOLUTION

SCREENSHOTS

This case study can be found at [Interactive Election Results | the-software-maestro \(thesoftwaremaestro.com\)](https://www.the-software-maestro.com/interactive-election-results/)



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TAKEAWAYS

HOW DID I DO? PLEASE LET ME KNOW!

- Did I satisfy all of the objectives?
- Was the knowledge transfer successful?
- Are you motivated to try something new?

I hope to hear from you soon about the great "performances" you composed!



Domenico A. Ruggiero
✉ distinguished@thesoftwaremaestro.com
<http://www.thesoftwaremaestro.com>

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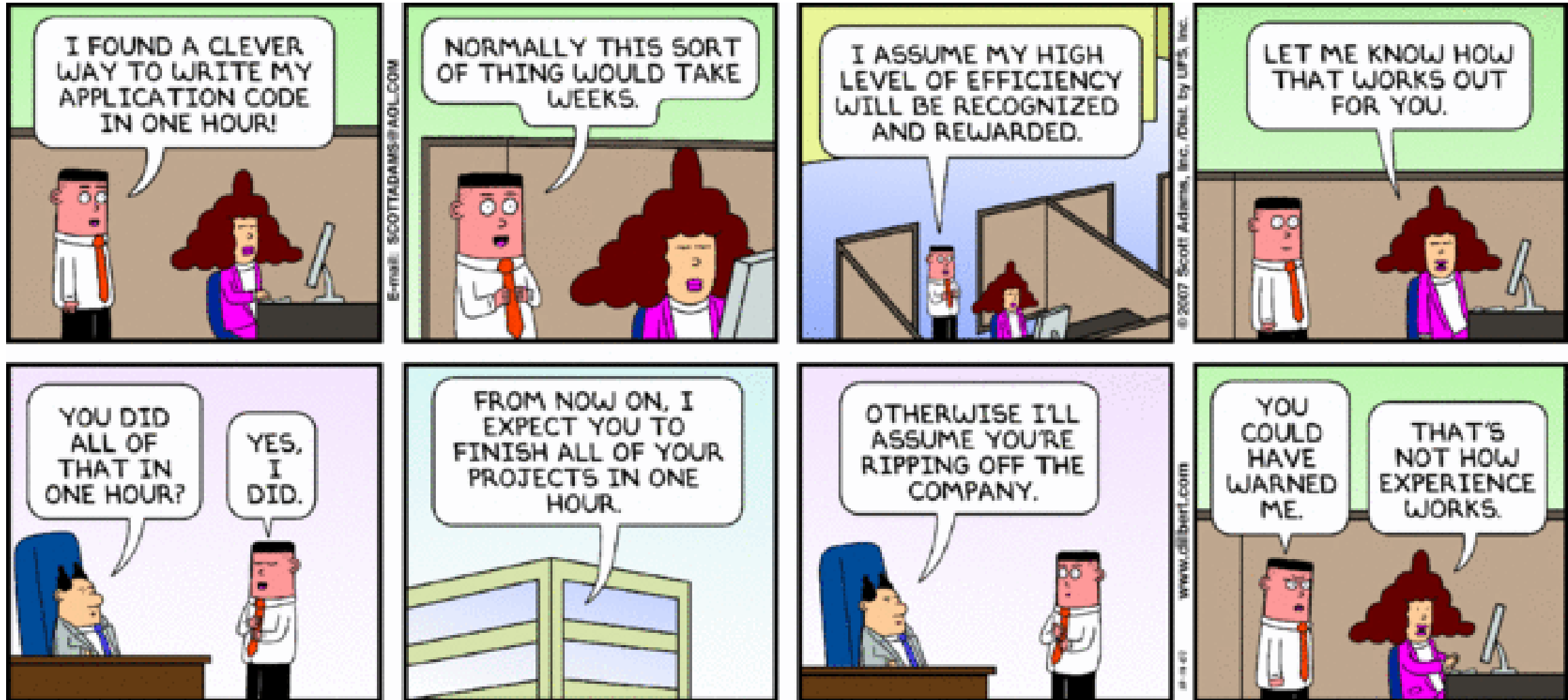
<http://www.thesoftwaremaestro.com>



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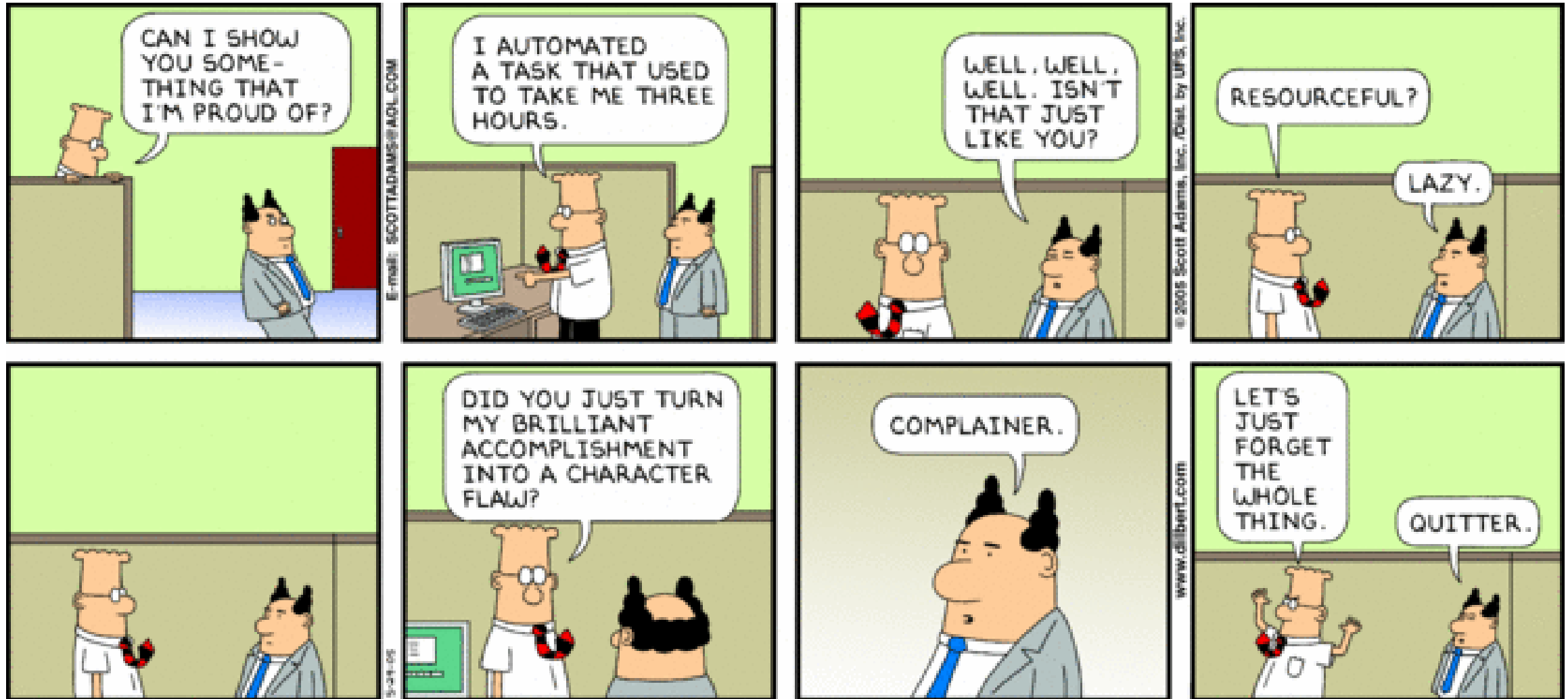
EFFICIENCY



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FIN