Tracking Allocation of Costs across Studies: Development of a Software Solution

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Track Allocation of Costs

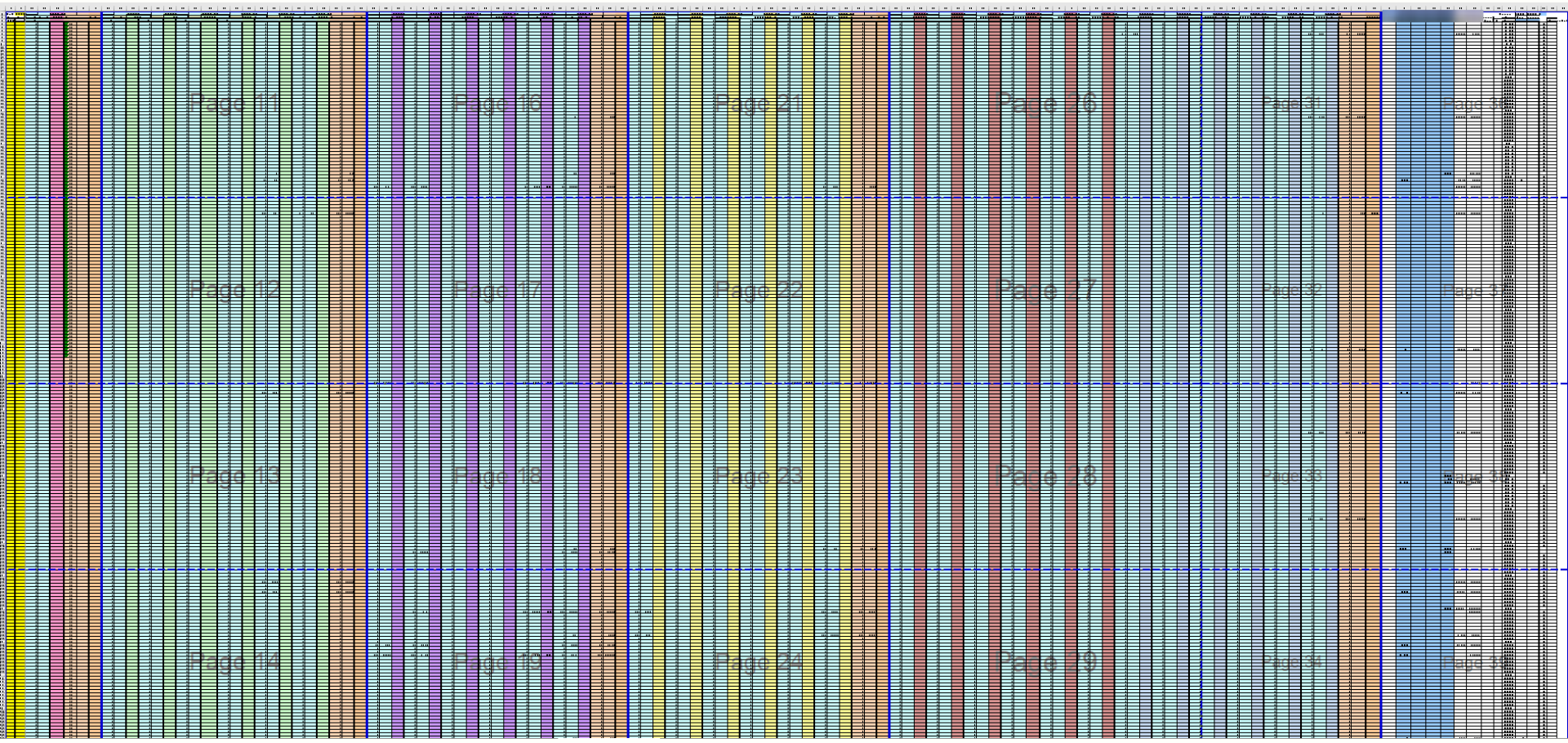
- Reconcile center expenses and payroll with current studies and their contracts
- Business office
- Monthly reports
  - Staff hours
  - Payroll and benefits
- Accounting software package (QuickBooks)
  - Shadow accounting system
  - Separate from University system
  - Meet our organization's tracking and reporting needs

Staff Hours

- Recorded by study
- Not associated to a specific study
  - General administrative time
  - Developing infrastructure and systems
  - Attending conferences
  - Benefit time
    - Vacation
    - Sick
    - Leave
  - Allocate across active studies for the month
    - Business office and field supervisor staff

Process – Original System

- Evolved over many years
- Multiple internally-developed data sources
  - Spreadsheets
  - Timesheet databases
- Manual data entry
- Master spreadsheet
  - Seven data-entry worksheets
  - One formula calculation worksheet
  - Two formula-dependent summary/report worksheets



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Process Challenges – Master Spreadsheet

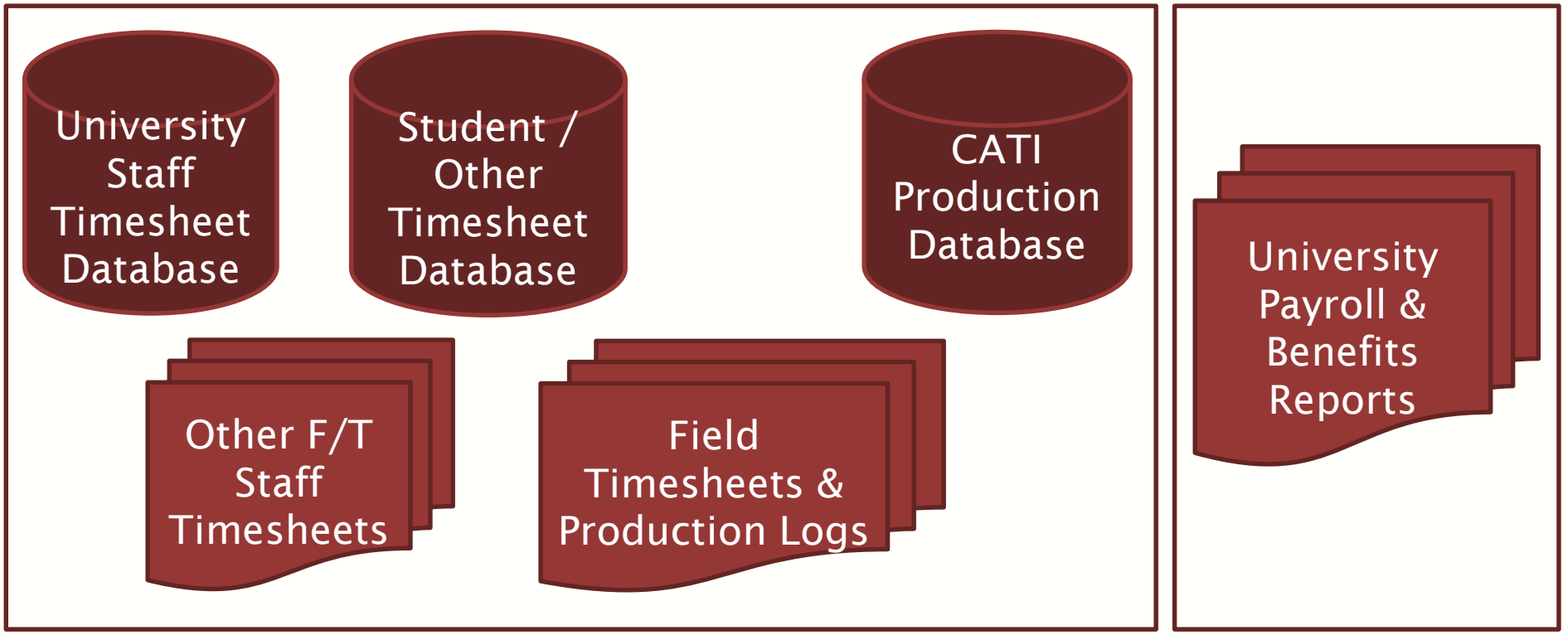
- Amount of data difficult to work with
  - Grids display all possible studies and staff
  - ~40 full-time and part-time staff
  - ~80-120 active projects during any given month
- Complex "spaghetti" formulas performing calculations
- Difficult to reliably update or modify
- Prone to data entry errors
- Time-consuming

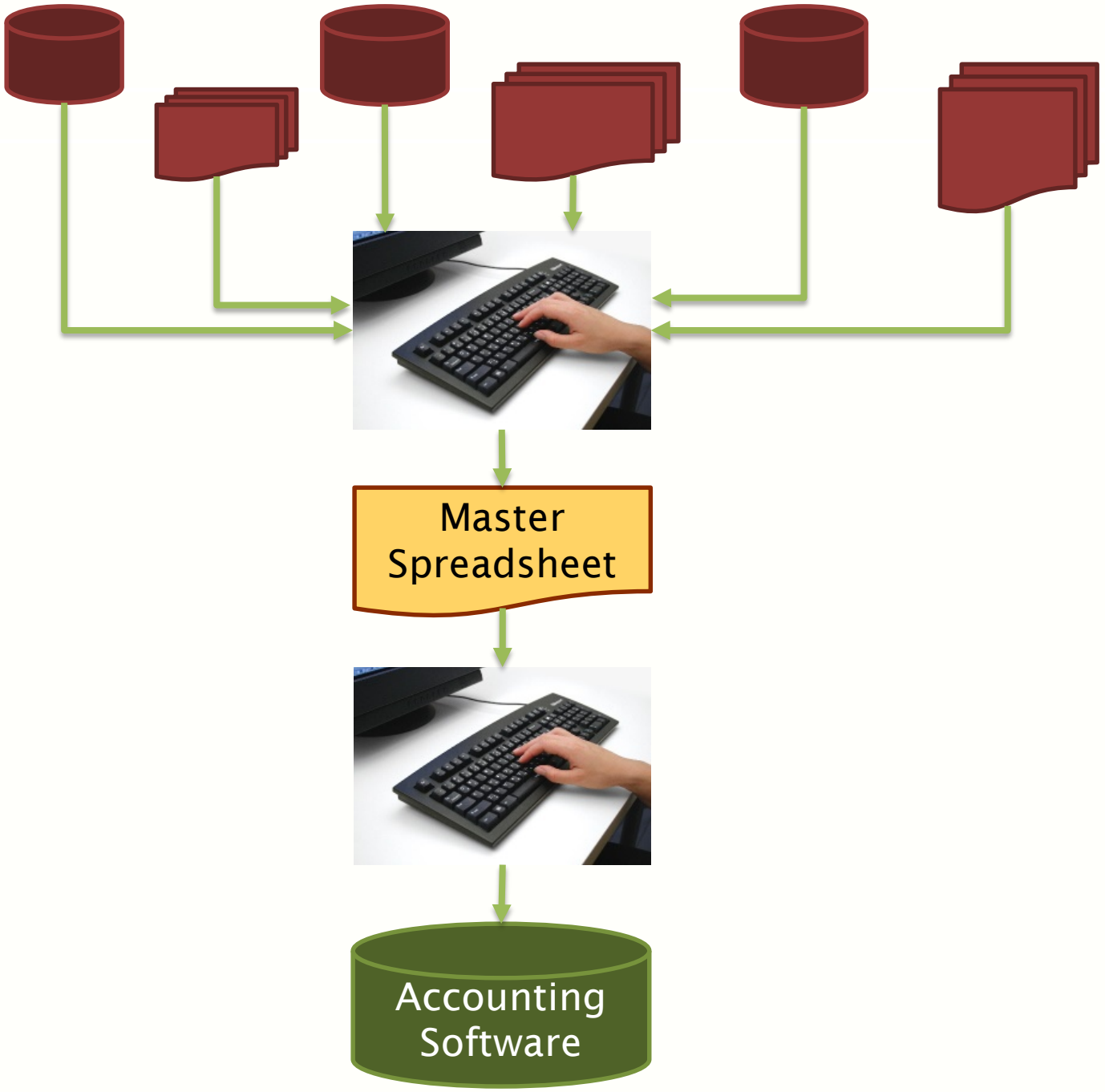
- Create a new solution!

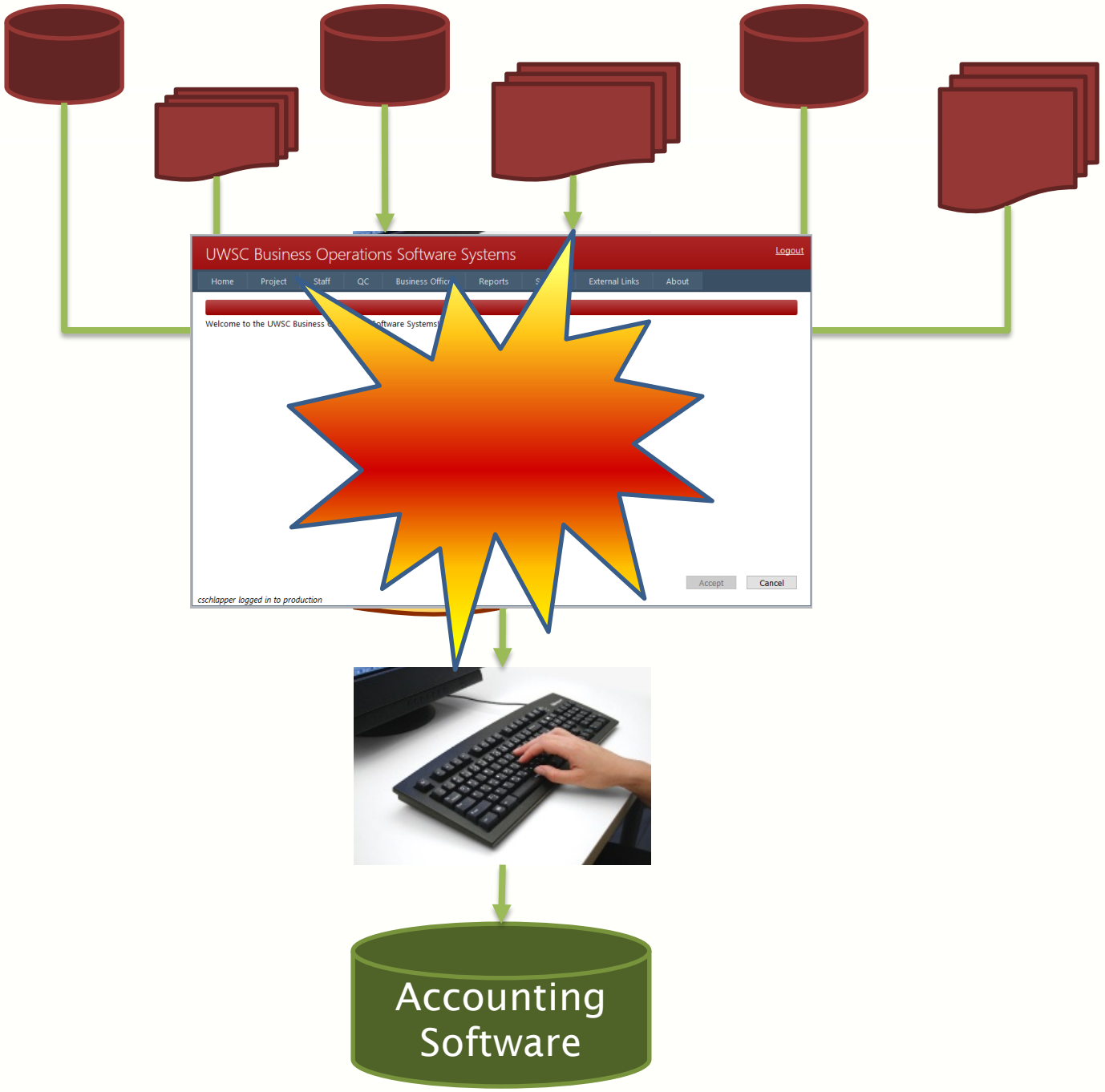
Process Goals – New Solution

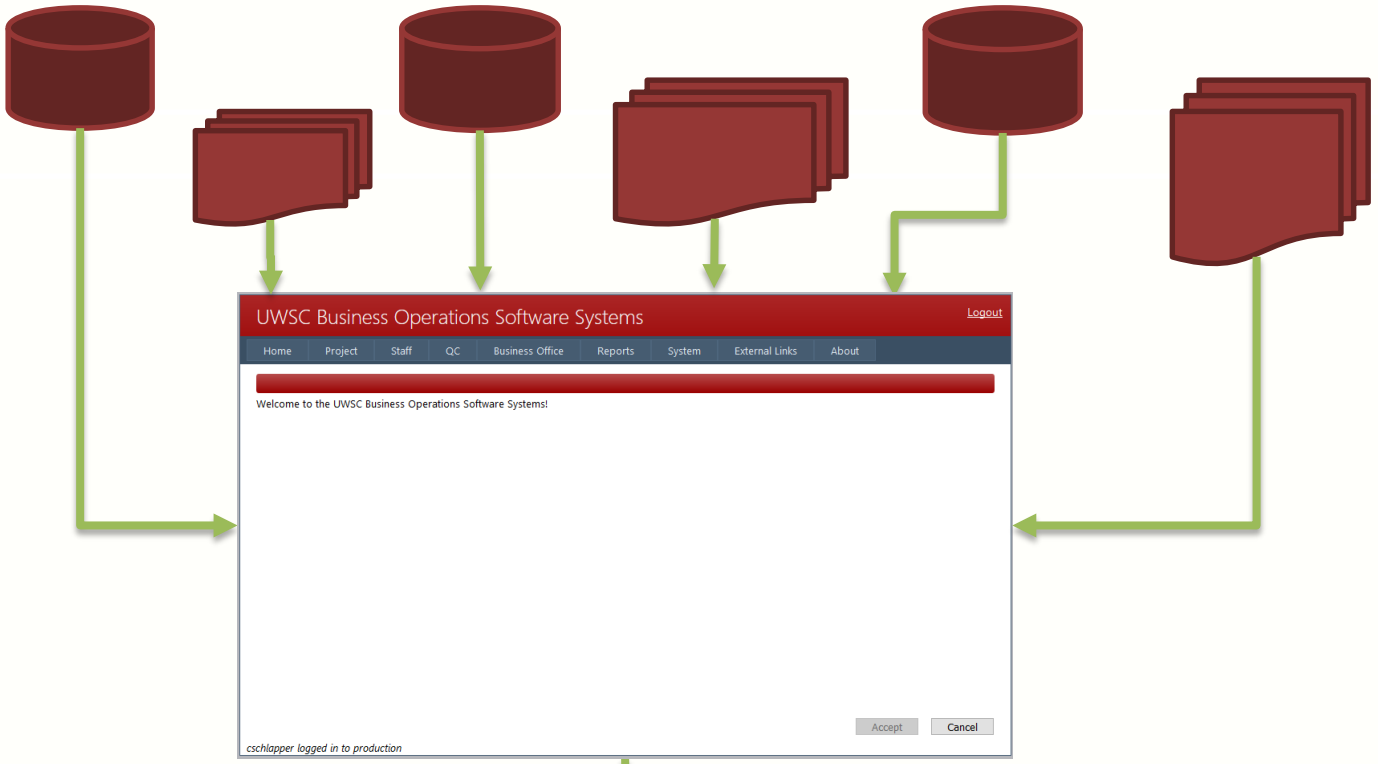
- Eliminate the Master Spreadsheet
- Leverage automation
  - Minimize manual data entry
  - Import data into a centralized data structure
  - Business Office Software System (BOSS)
    - Administrative software package
    - Developed in-house
- Implement more useful reporting tools
- Provide “show your work” feature
  - Illustrate how calculated values are produced

Data Sources




Master
Spreadsheet
Accounting
Software


UWSC Business Operations Software Systems
Logout
Home
Project
Staff
QC
Reports
External Links
About
Accept
Cancel
cschlapper logged in to production
Accounting Software



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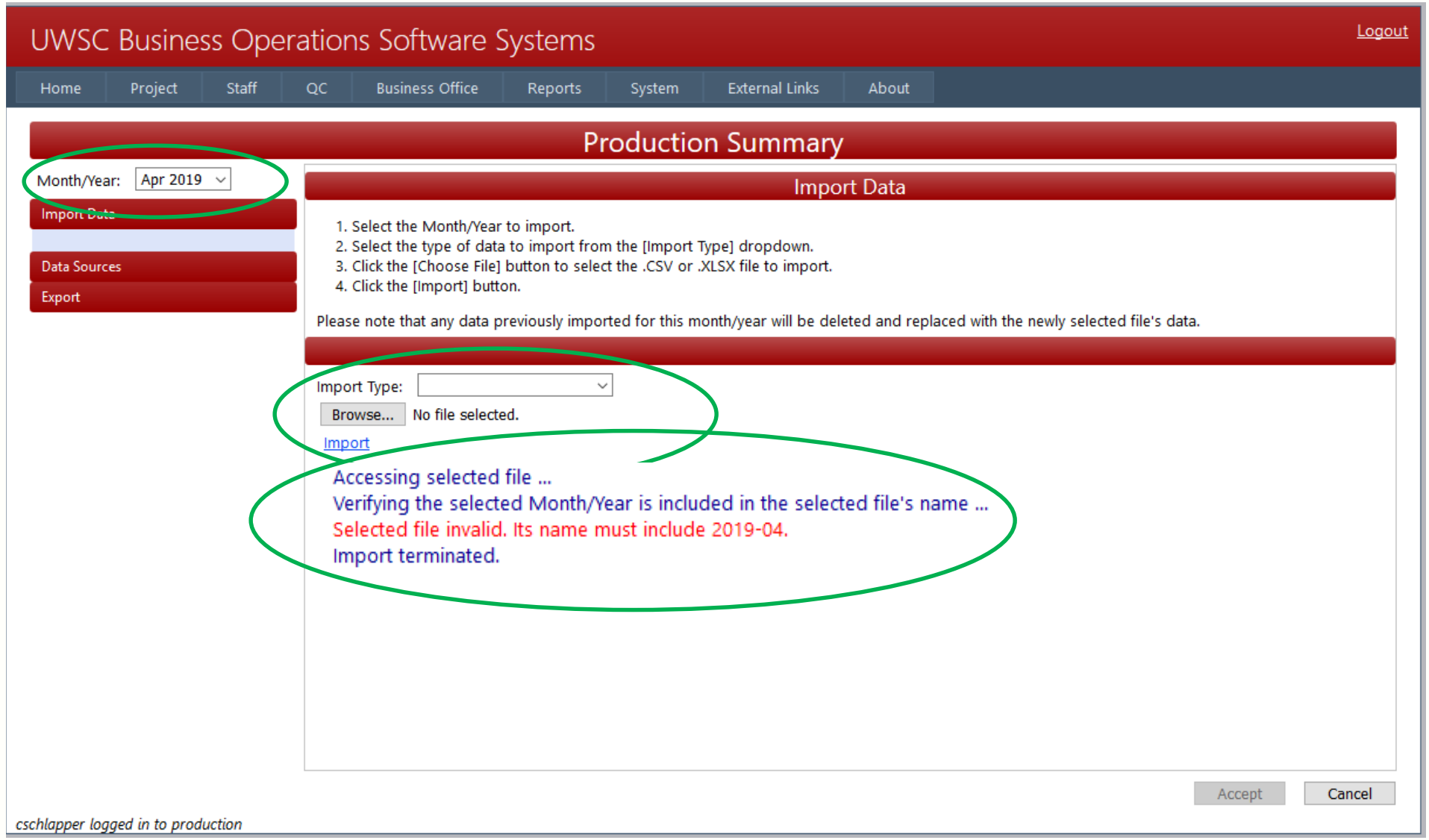
UWSC Business Operations Software Systems
Logout
Home
Project
Staff
QC
Business Office
Reports
System
External Links
About
Production Summary
Month/Year: Apr 2019
Import Data
Data Sources
Export
Import Data
1. Select the Month/Year to import.
2. Select the type of data to import from the [Import Type] dropdown.
3. Click the [Choose File] button to select the .CSV or .XLSX file to import.
4. Click the [Import] button.
Please note that any data previously imported for this month/year will be deleted and replaced with the newly selected file's data.
Import Type:
Browse...
No file selected.
Import
Accessing selected file ...
Verifying the selected Month/Year is included in the selected file's name ...
Selected file invalid. Its name must include 2019-04.
Import terminated.
Accept
Cancel
cschlapper logged in to production

Import Data Source File Requirements

- Formalize file naming convention
  - Including report month/year
- Lock down spreadsheet layout
- Perform data validation
- Create lists/categories, confirm during validation
- Throw meaningful validation errors
  - Guide updates/corrections

UWSC Business Operations Software Systems

Logout

Home | Project | Staff | QC | Business Office | Reports | System | External Links | About

Business Office Reports

General

Business Office

- Academic Hour Totals by Name
- Academic Hours by PNUM
- Academic Hours Grid
- Field Hours Grid
- Field Hours Table
- Load Rates
- Open Timesheets
- Payroll Table
- PNUM Hour Grand Totals

Department Heads

Please select a Report from the menu on the left.

Generate | Print

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Field Hours Table

Month/Year: Apr 2019

Export as .csv

PNUM	QB Item #	QB Item	Hours
p1209	06265-6	CATI TE Interviewer	50.37
p1209	06265-7	CATI Student Interviewer	75.90
p1209	06263-011	CATI Office Associate	91.82
p1209	06265-4	CATI Shift Leader TE	18.66
p1209	06265-5	CATI Shift Leader Student	9.03
p1209	06263-012	CATI Shift Leader Office Operations Associate	12.25
p1209	06263-032	Mail Office Operations Associate	0.20
p1209	06263-041	Tracing Office Associate	0.68
p1209	06241-07	[redacted]	11.75
p1209	06265-1		6.62
p1209	06241-09		11.81
p1209	06265-20		17.46
p1209	06265-25		17.36
p1221	06263-023	CAPI Office Operations Associate	174.19
p1221	06263-051	Coding Office Associate	5.00
p1221	06263-032	Mail Office Operations Associate	8.54
p1221	06241-07	[redacted]	8.52
p1221	06265-1		4.80
p1221	06241-09		8.57

PNUM	QB Item #	QB Item	Hours
p1360	06263-031	Mail Office Associate	3.02
p1360	06263-032	Mail Office Operations Associate	1.82
p1360	06241-07	[redacted]	30.69
p1360	06265-1		17.30
p1360	06241-09		30.86
p1360	06265-20		45.45
p1360	06265-25		45.19
p1361	06265-6	CATI TE Interviewer	132.00
p1361	06265-7	CATI Student Interviewer	371.56
p1361	06263-011	CATI Office Associate	56.45
p1361	06265-4	CATI Shift Leader TE	126.84
p1361	06265-5	CATI Shift Leader Student	65.71
p1361	06263-012	CATI Shift Leader Office Operations Associate	93.44
p1361	06263-032	Mail Office Operations Associate	1.49
p1361	06241-07	[redacted]	38.45
p1361	06265-1		21.68
p1361	06241-09		38.67
p1361	06265-20		57.25
p1361	06265-25		56.92
p1362	06265-6	CATI TE Interviewer	5.76

Field Hours Detail - Mozilla Firefox

https://shale.uwsc.wisc.edu/ProjectManagement/ReportBusinessOffice.aspx

PNUM	QB Item #	QB Item	Hours
p1209	06263-041	Tracing Office Associate	0.68

Equation

(17.25 * 0.50 / 49.25) + 0.50

Formula

{Tracing Production}(([Allocated Hours][06263-041] * [p1209][06263-041] / [Project Hours][06263-041]) + [p1209][06263-041])

p1287	-	-	-	-	-	-	-	-	11.02
p1296	-	-	1.18	-	-	-	-	-	1.18
p1313	-	-	-	-	-	-	-	-	7.04
p1331	-	-	8.80	-	-	34.27	-	22.67	65.74
p1340	-	-	-	-	-	-	-	226.23	226.23
p1350	6.02	1.99	18.13	-	-	5.25	-	-	31.39
p1357	8.00	1.67	3.43	-	-	-	-	-	435.66
p1360	-	3.02	1.82	-	-	-	-	671.57	676.41
p1361	-	-	1.49	-	-	-	-	846.00	847.49
p1362	-	-	-	-	-	-	-	36.17	36.17

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“Show Your Work” Feature

- Illustrates how calculated values are produced
- Debug tool
- Provides confidence in the calculations
- Training future staff
- Administrative staff consider future formula adjustments

Testing and Debugging Results

- Ran both systems in parallel ~6 months
  - Minor programming tweaks
    - Account for “exceptional” or rarely seen data
  - “Show your work” feature invaluable
  - Discrepancies consistently tracked back to the old system
    - Spreadsheet formula errors
    - Mis-keyed data entry

Project Outcomes

- Exclusively using new system
- Time savings of ~10 hours per month for Business Office Manager
- More accurate
  - Greatly reduced the risk of errors
- Faster turn-around for administrative staff

Future Features

- Automate the rest of the process
- Import data directly into QuickBooks
  - Eliminating all manual data entry
  - Already taken steps towards implementing
  - Estimate additional 8-10 hours of time-savings per month
- Create centralized database for Field staff
  - Automate data gathering processes
    - Electronic timesheets
    - Electronic production logs

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Thank You!

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