

Taking the Fear OUT of Building In-House Software

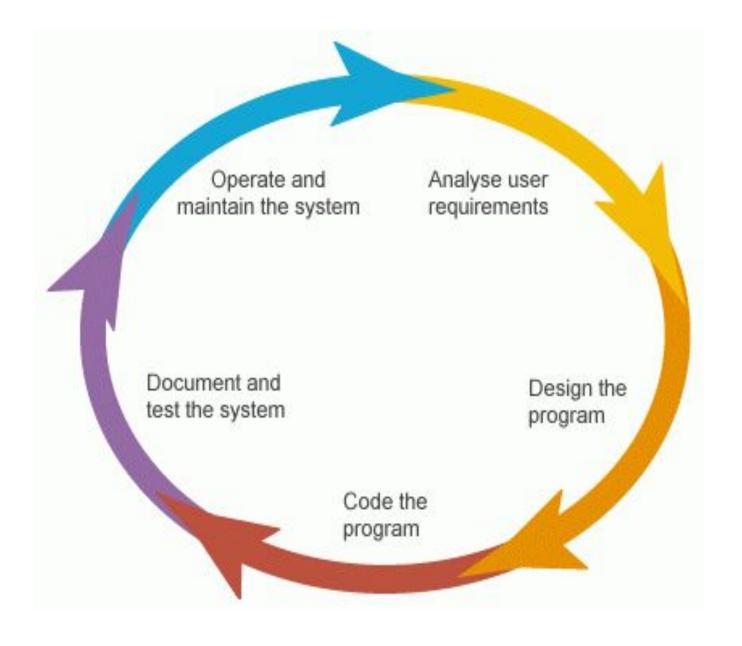
Chris Weaver, CM-Lean, Andy J. Egan Co., Inc.

Brad Wilson, SPARK Business Works



Building In-House Software

- 1. The Decision
- 2. The Process
- 3. Continuous Improvement





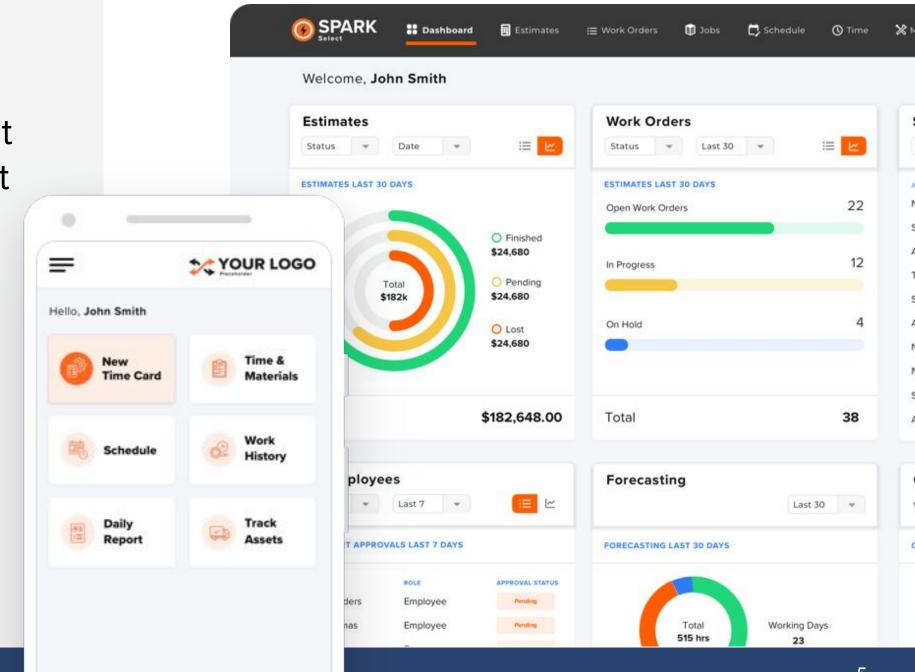


Meet SPARK

Just Right for the Way You Work

SPARK builds custom software that brings your team together where it matters.

- Time and Field Data
- Scheduling
- Reporting



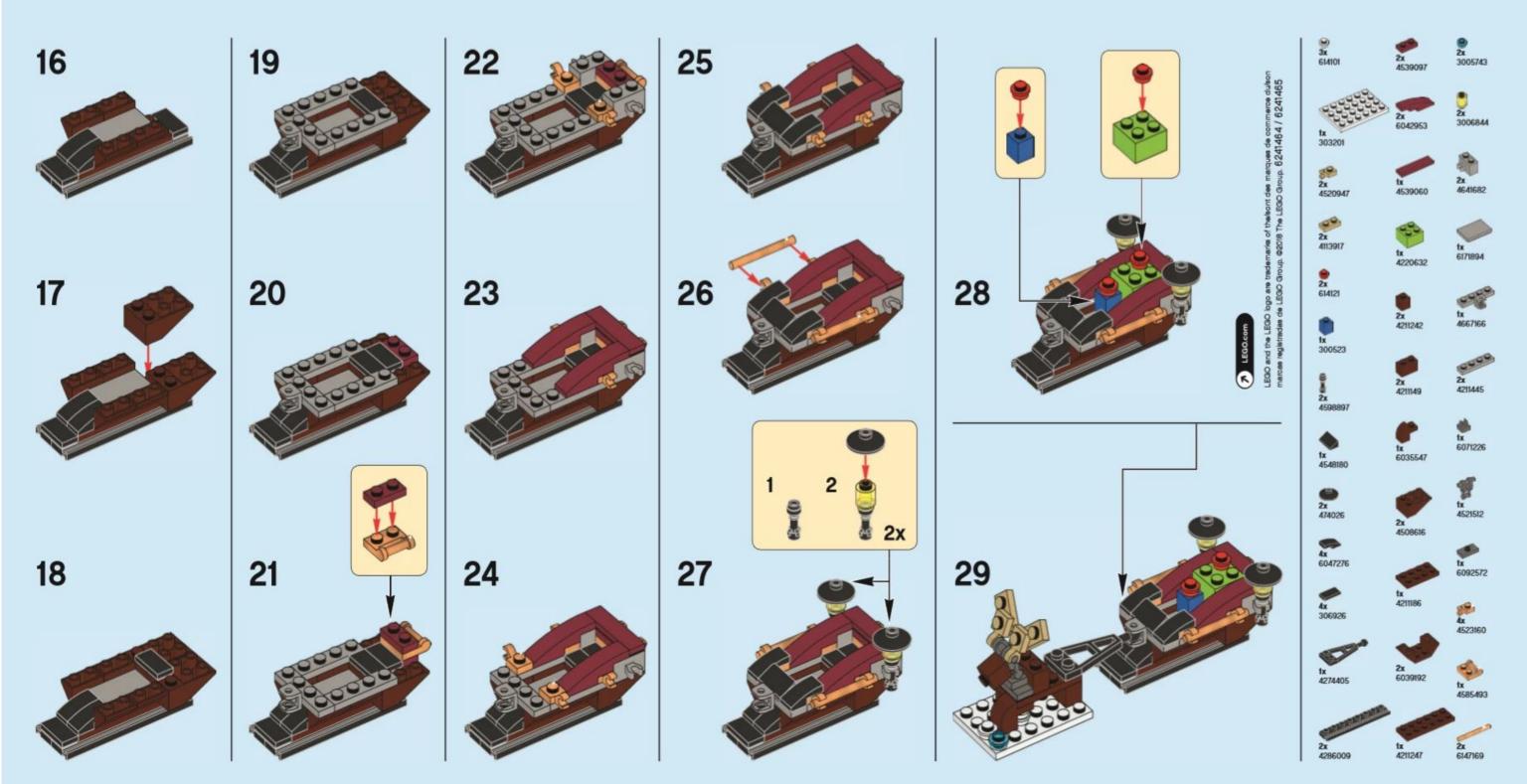








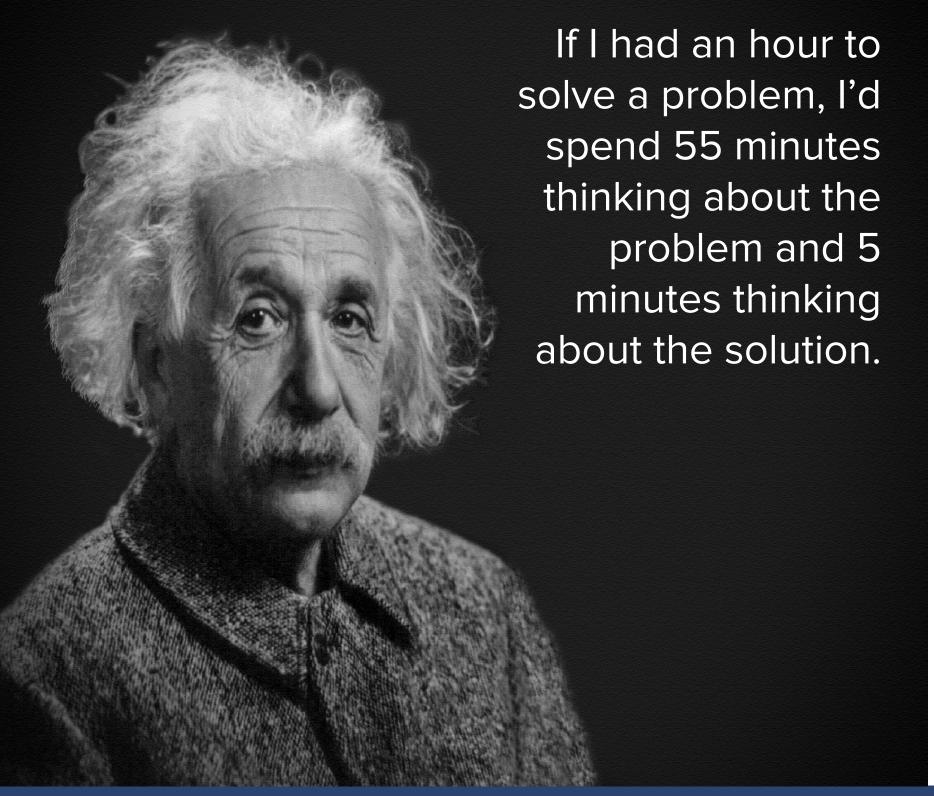


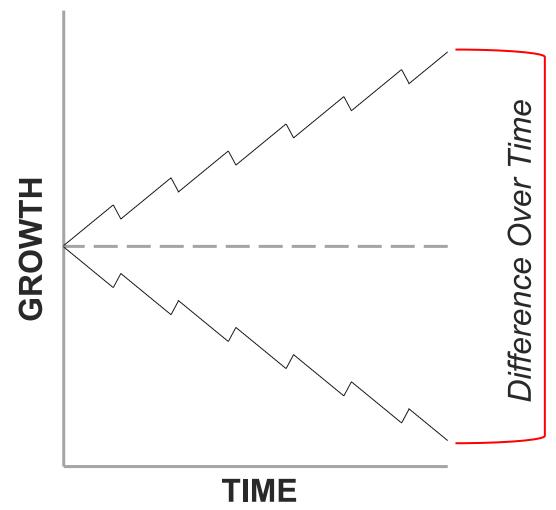


Making the Decision to Change



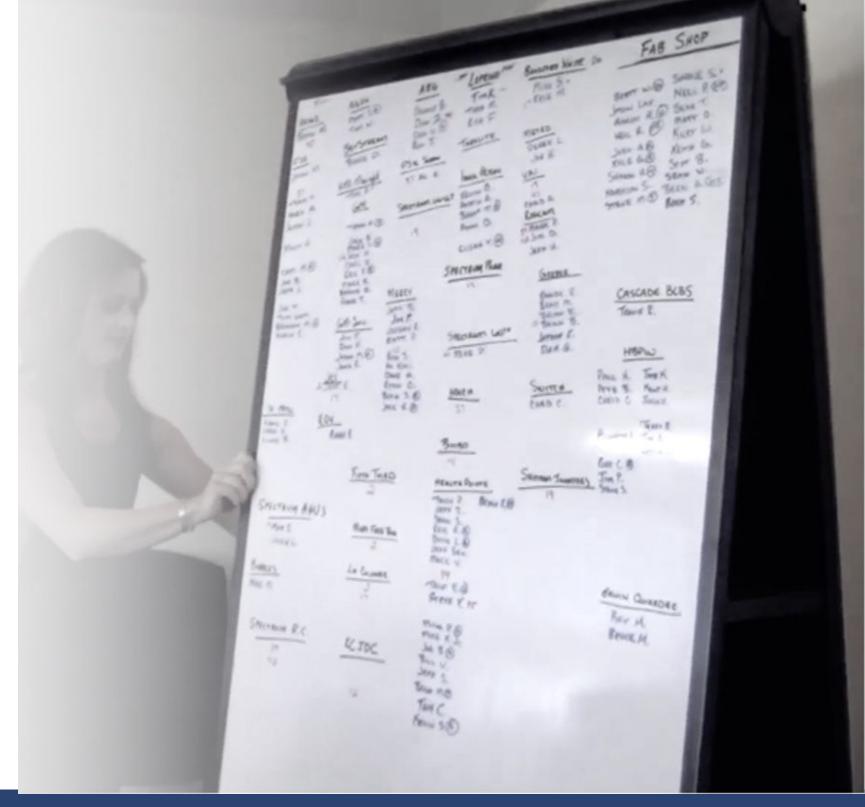
Lean Construction Institute





How we assigned project teams...

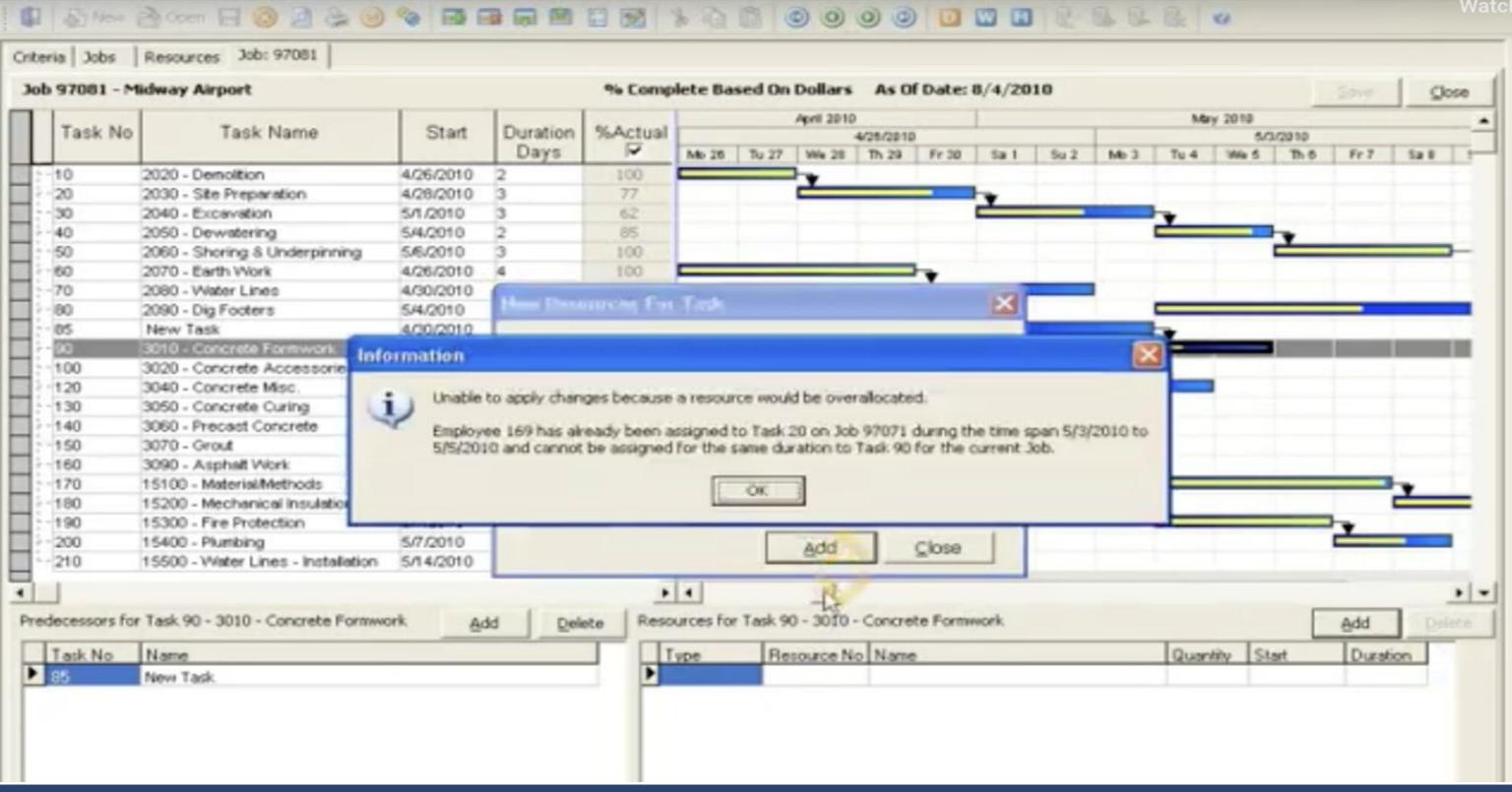
- Dry Erase Boards
- Spreadsheets
- Post-It Notes



More than 200 field employees...

Each with different certifications, training, skills and specialties.





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ON SCHEDULE

Man-hours

2 0 1 8

	Budget	Used	Remain		May			June				July			August				Sept				Oct				Nov				Dec			
																1																		
	3,523	0	3,523	0%						1			_	_																	-			234 Market - 2017
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	304	0	304	0%																	3	3	3											Ada B3
	268	102	166	38%											4	2																		Allegan Tech
ral	1,078		1,078	0%	2	3	3																											Bradford White Main + Co
	2,737		2,737	0%																														Canopy Hotel
	941	0	941	0%																					3	3	3	5						Chapel Pointe Church
	208	0	208	0%				2 2																										Cornerstone U. Science
	13,462	0	13,462	0%											3	3	6	6	6	6	8	8	8	8	8	8	10	10	10	10	10	10 1	10 10	East Lansing City Center
	136	0	136	0%																														Fremont Christian
	1,482	941	542	63%		3	3			3																								Hastings High School
	450		450	0%																									2	2				HGB Hospital
	120	0	120	0%																														Holland Hospital Boven
	1688	0	1,688	0%					3	3	3	3	3	3	3	3	3	3																Kent Co. Juvenile
	560		560	0%													3	3	3	3														Kraft Spec Building
	96	0	96	0%							3																							LCC Kitchen RTU
	18,790	15,216	3,574	81%	8	10	10 1	10 1	0 10	10	6	6	6	6	6	6	6	6	6	6	6	6												Mercy Health
	624	0	624	0%					2	2																								Morton Condo Rework
	3,486	569	2,917	16%	4	4	4	3 3	3	3	3	3	3	3												3	3	3	3	3				MSU College of Business
	8,195	2,557	5,638	31%	7	7	7	7 7	7	7	4	4	4						3	3	3	3	3	3	3						3	3	3 3	MSU Interdisciplinary
	355	0	355	0%																														MSU Water Treatment Pl
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	1,238	40	1,199	3%		3	3	3 3	3	3	3	3	3	3														-						South Christian HS
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Making the Change & How We Did It







Complacency

Vision

Communication



There has to be a better way!









Apps

Dashboards

Workflow

Options

What are the pathways firms are choosing from?

1

Keep doing the same thing.

Paper, Spreadsheets, Whiteboards, Excel...

2

Attempt to adopt an off-the-shelf product.

Tons to choose from!

3

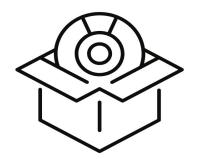
Create a custom solution.

Build something that works the way your business works.



CUSTOM VS OFF-THE-SHELF

BENEFITS



Designed for your goals

Works with existing processes

Can integrate with legacy systems or other tools

Easy to add functionality as you grow

Fast access

Documentation from other users

Regular upgrades by software provider



CUSTOM VS OFF-THE-SHELF

CHALLENGES

Increased upfront investment

Months-long development cycle

One-size fits all features

Change your processes to fit it

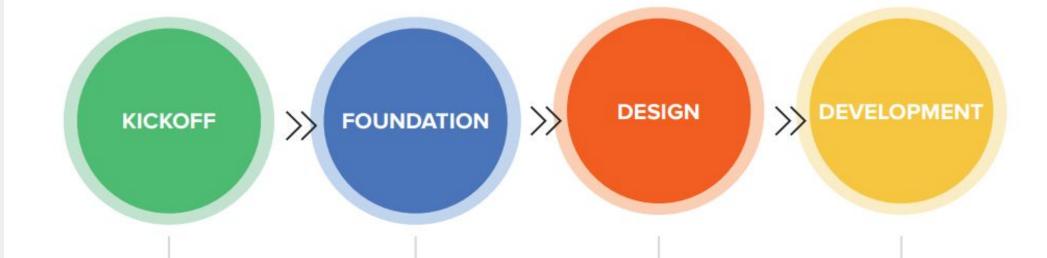
Difficult to customize

Doesn't always integrate with other software

Licensing costs can be prohibitive over time

Steps to Launch





Define business problems and examine your options

Collect stakeholder input and generate buy-in

Develop clear and achievable milestones

Determine the commitment needed to launch and sustain Prioritize features based on business impact

Engineer scalable platform and technical components

Design systematic integrations and security

> Customize solution blueprints to your exact spec

Plan intentional user flows and sitemaps

Define content strategy and creative direction

> Craft intuitive visual design

Iterate quickly with interactive prototypes

Validate a functional solution

Design and build a durable and flexible database

Code-Test-Deploy front- and back-end programming

Customize automation, alerting and analytics

Manage lifecycle with continual maintenance, monitoring and support

Risk Factors

Address these early on!

1

Not getting buy-in

Bring the users to the table

2

Not clearly defining the ROI

Set metrics for success

3

Scope creep and improper time/budget constraints

Have an open and transparent relationship with your development team.

Making the decision

PRE-MORTEM

FOR A CUSTOM BUSINESS TECHNOLOGY PROJECT



Making the decision



COLLECT
TEAM
INPUT

Avoiding Awkward



Be Intentional about Getting Input and Buy-In!



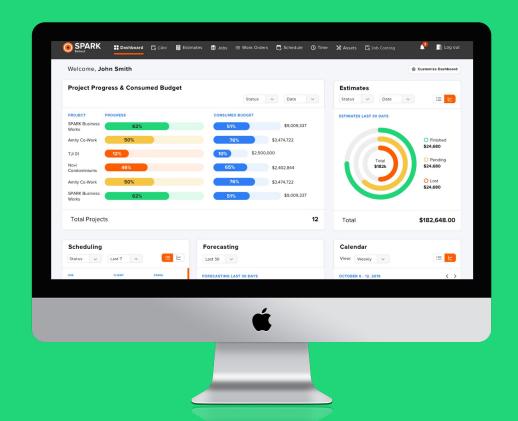


Get Custom Software Planning Survey

Automating Your Logic



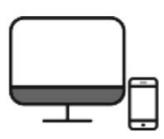




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- Web Only
- 1-2 Team Members
- 2-4 Months



Medium

- + Mobile
- 2-3 Team Members
- 4-8 Months



Large

- ++ Custom Integration
- 3-4 Team Members
- 8-12 Months



Dedicated

- +++ Complexity
- Agile Team Subscription
- Higher Velocity

Plan for...

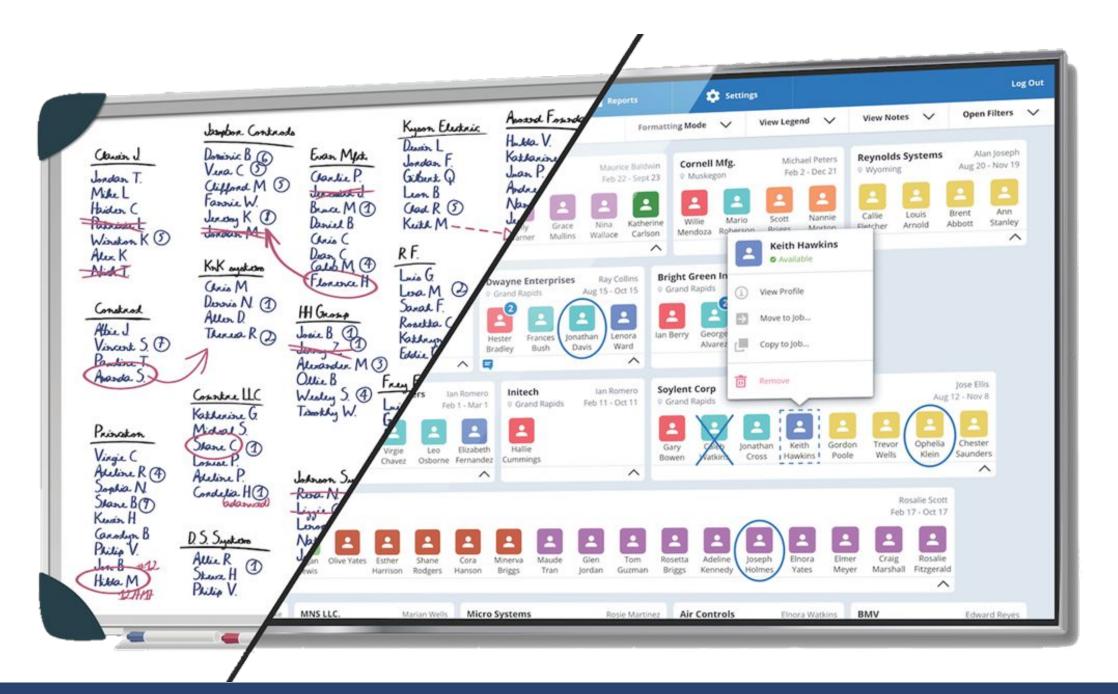
Feature Development Priority

Product Champions



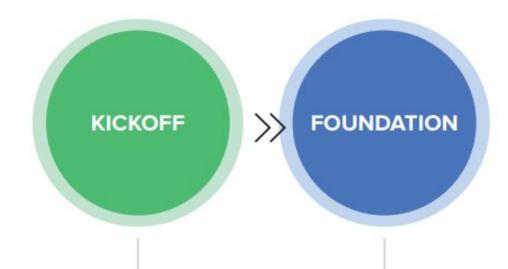
Rollout Plan

The Better Way for Andy J. Egan



First steps





Define business problems and examine your options

Collect stakeholder input and generate buy-in

Develop clear and achievable milestones

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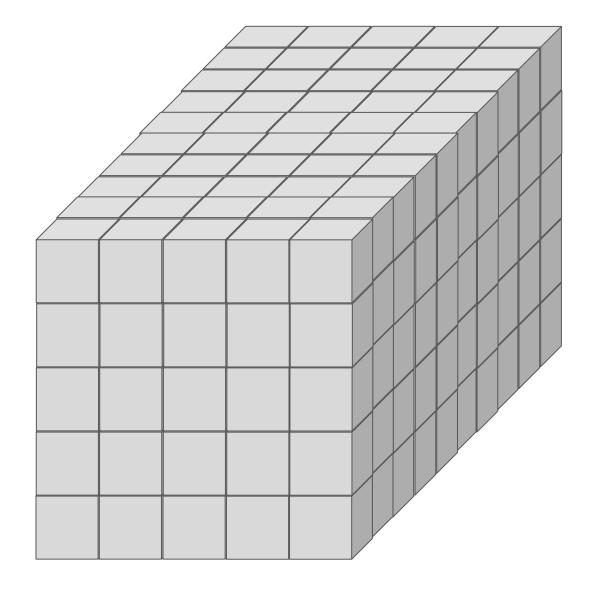
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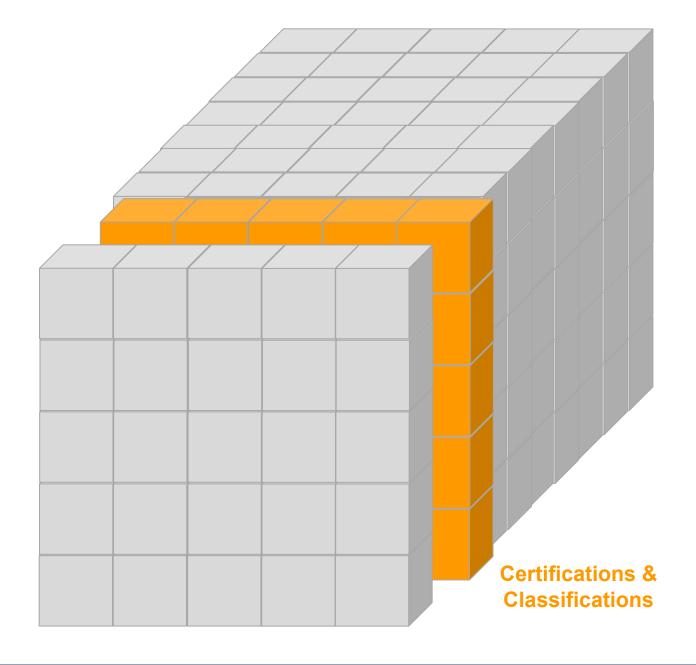
Scheduling

- Best person on the job
- Manpower forecasting



Certifications & Classifications

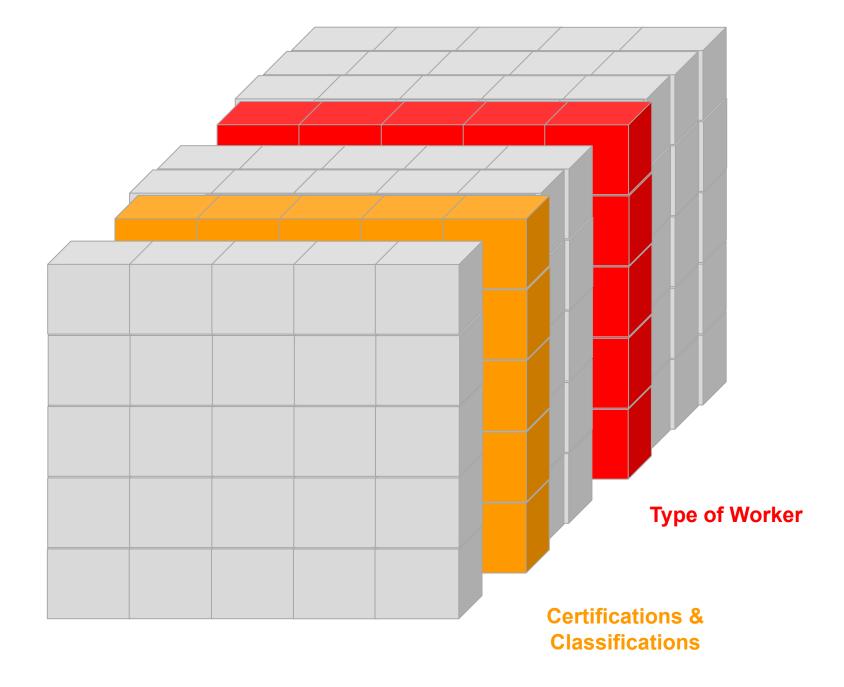




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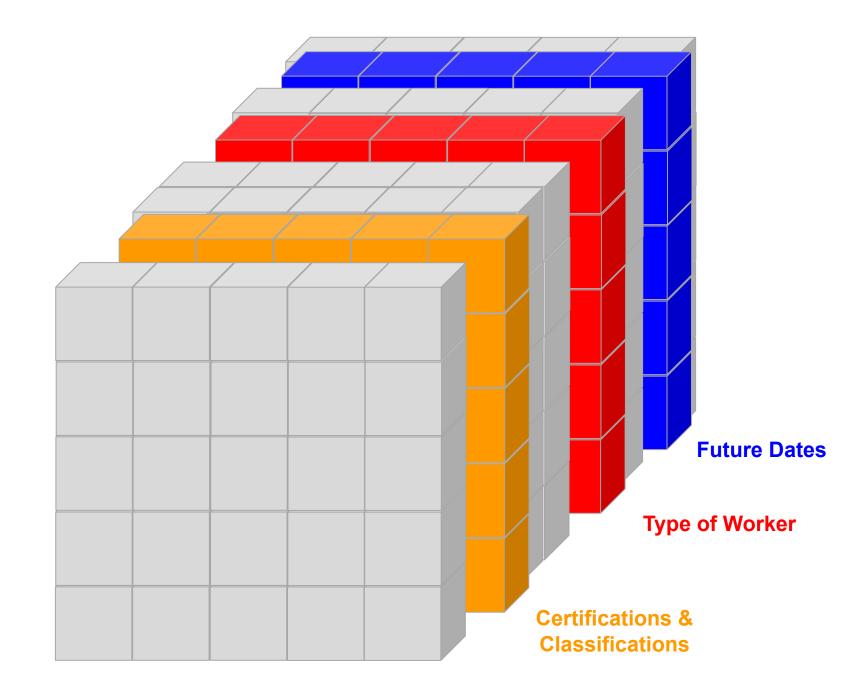
Type of Worker





Future Dates





Quickly Identifying the Ideal Worker



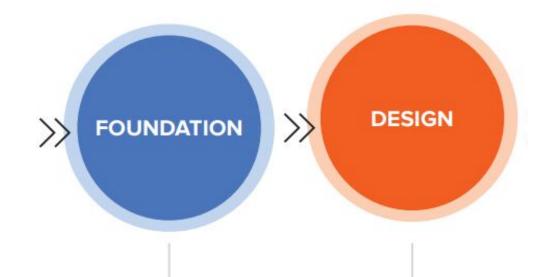






Next,





Prioritize features based on business impact

Engineer scalable platform and technical components

Design systematic integrations and security

Customize solution blueprints to your exact spec Plan intentional user flows and sitemaps

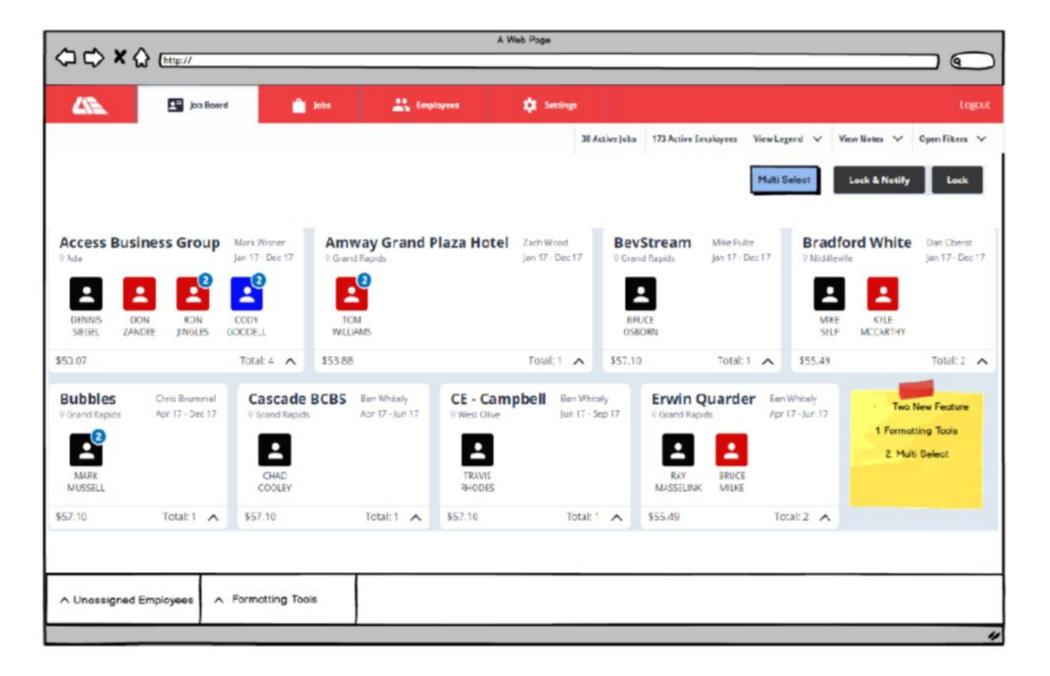
Define content strategy and creative direction

Craft intuitive visual design

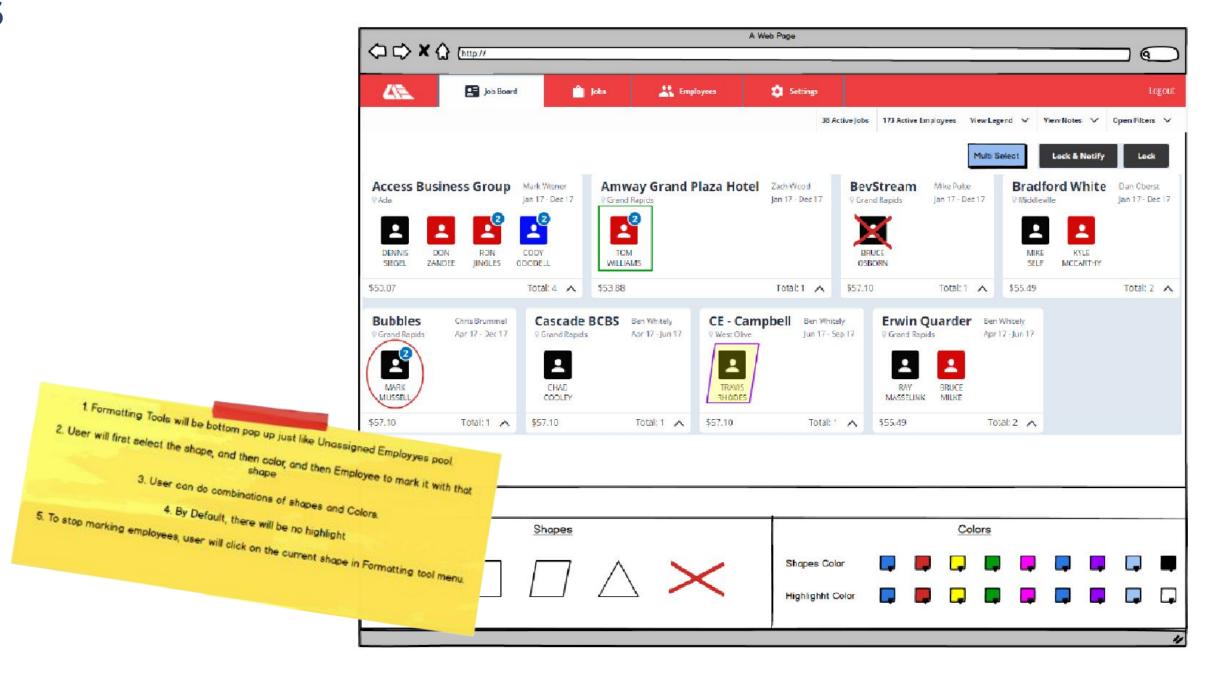
Iterate quickly with interactive prototypes

Validate a functional solution

Process



Process





1. Isolated the Variables

2. Communicated as Simply as Possible



Time to build it!



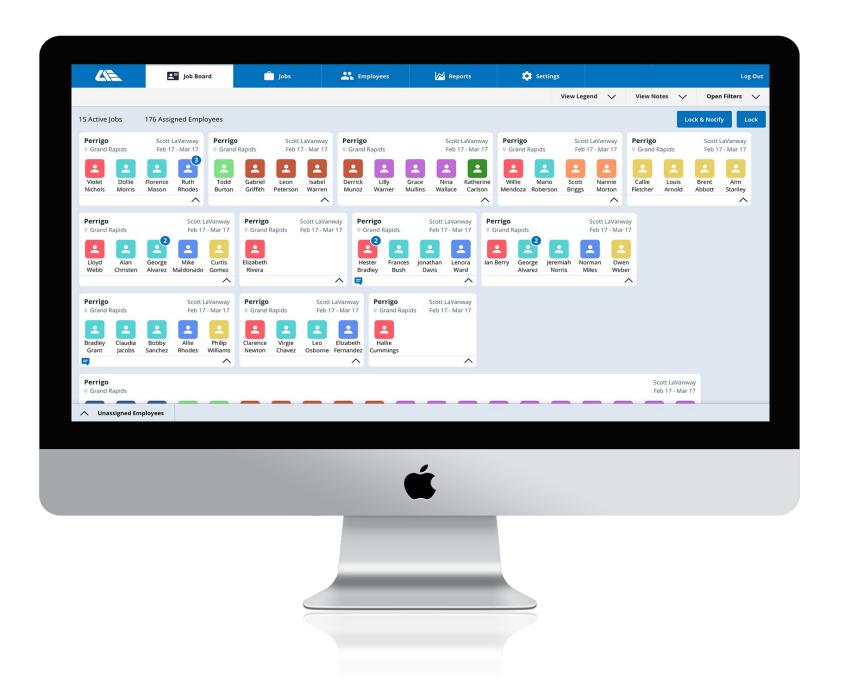


Design and build a durable and flexible database

Code-Test-Deploy front- and back-end programming

Customize automation, alerting and analytics

Manage lifecycle with continual maintenance, monitoring and support





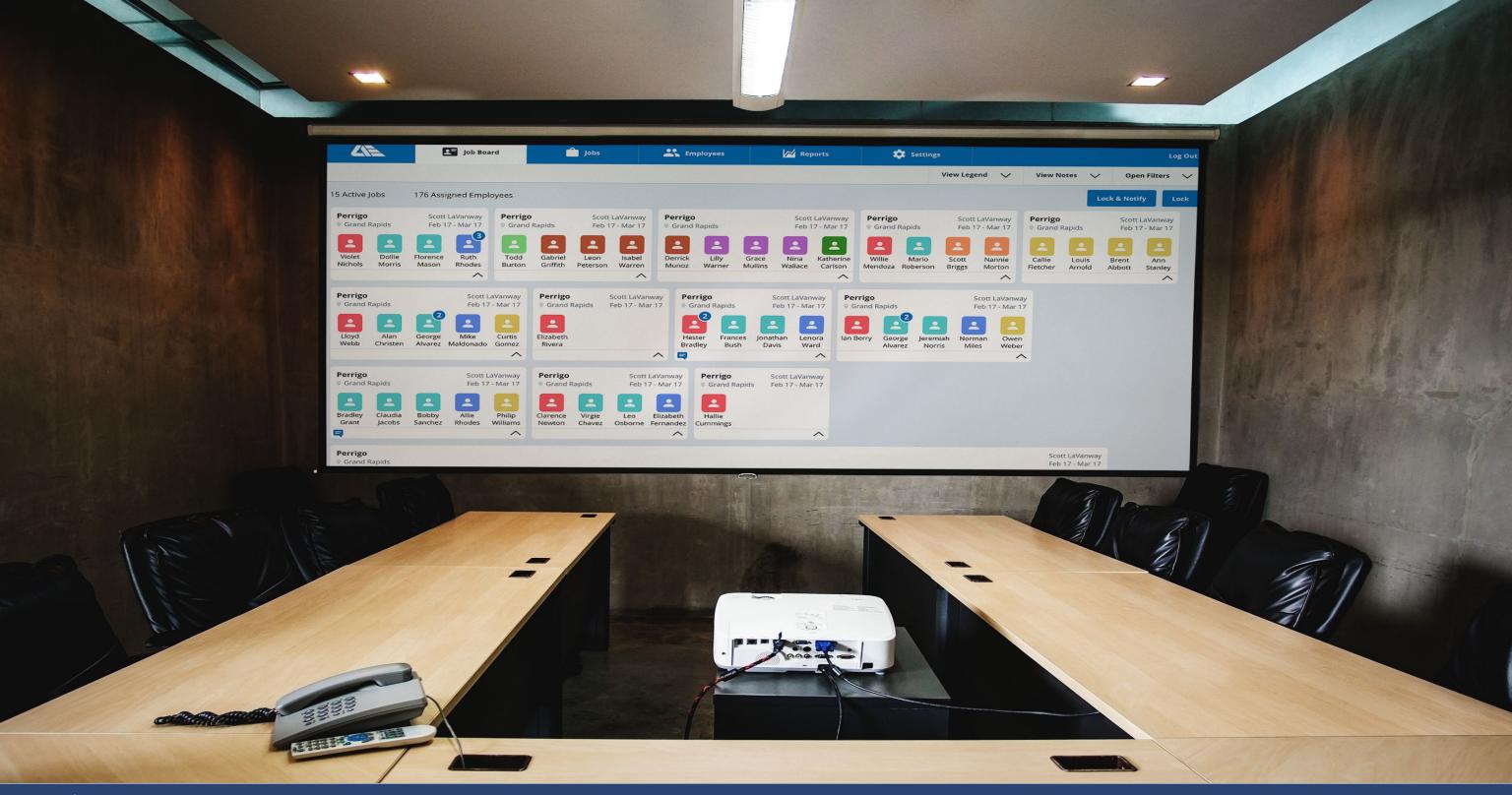


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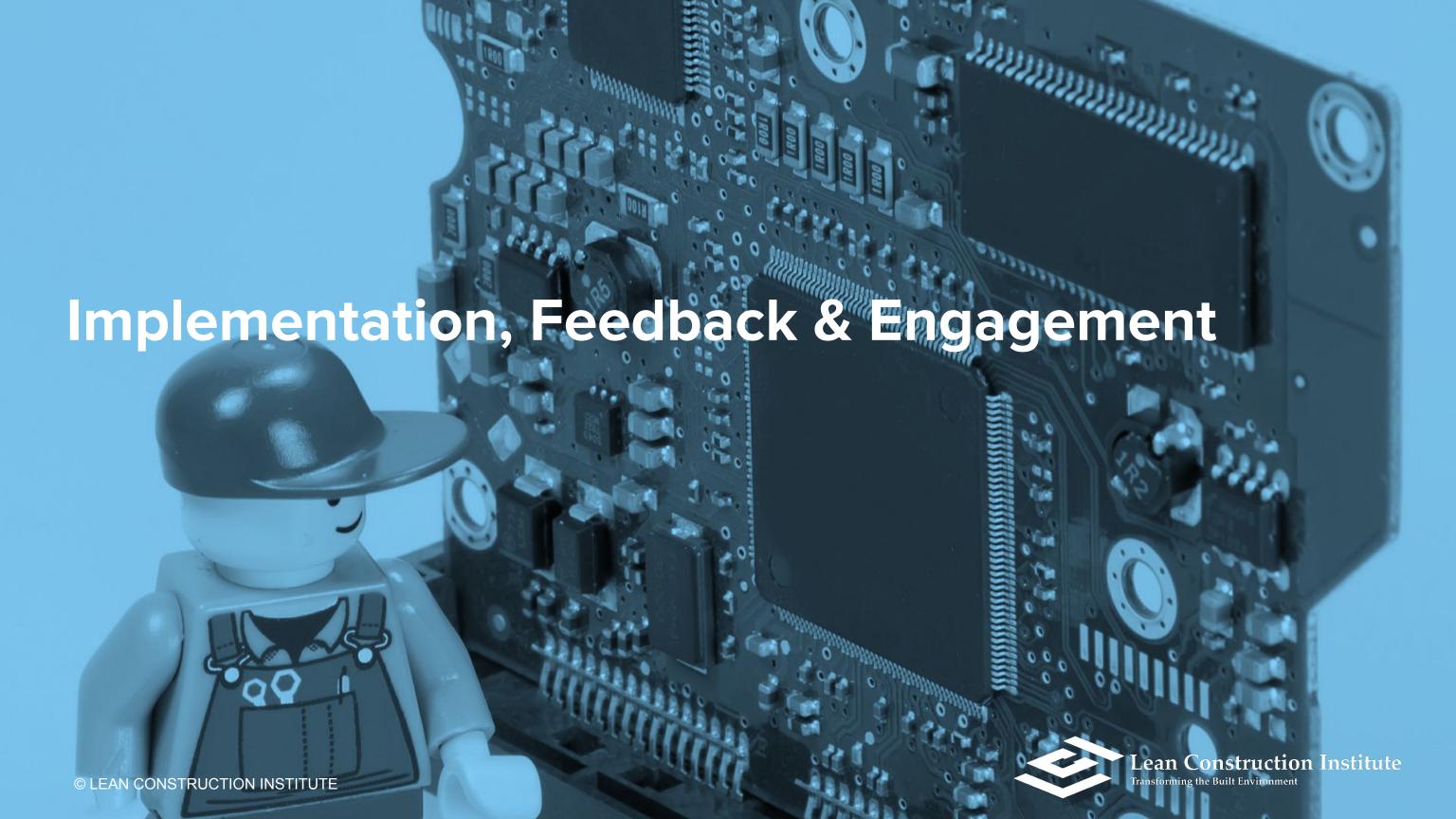


Features

- Fast, Easy Importing
- Custom Filters
- Mobile-Friendly, Web-Based Platform
- Custom User Settings
- Integration with our other tools

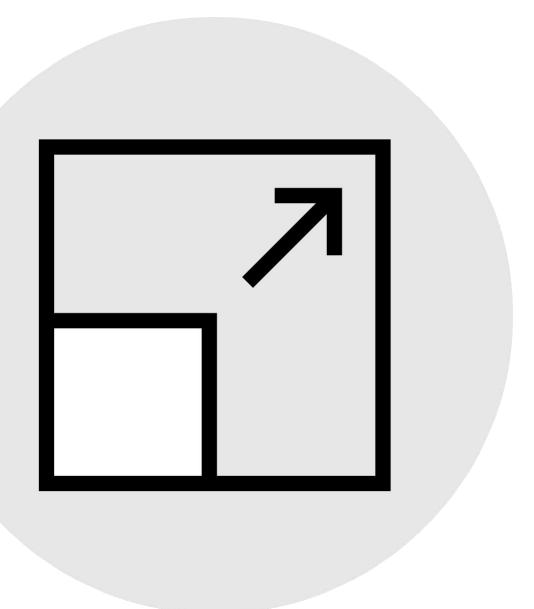






Continuous Improvement

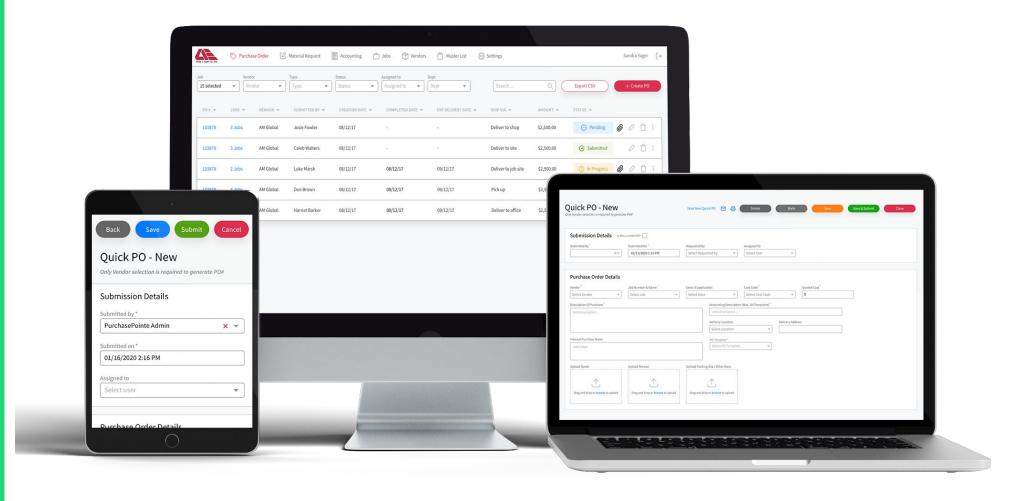




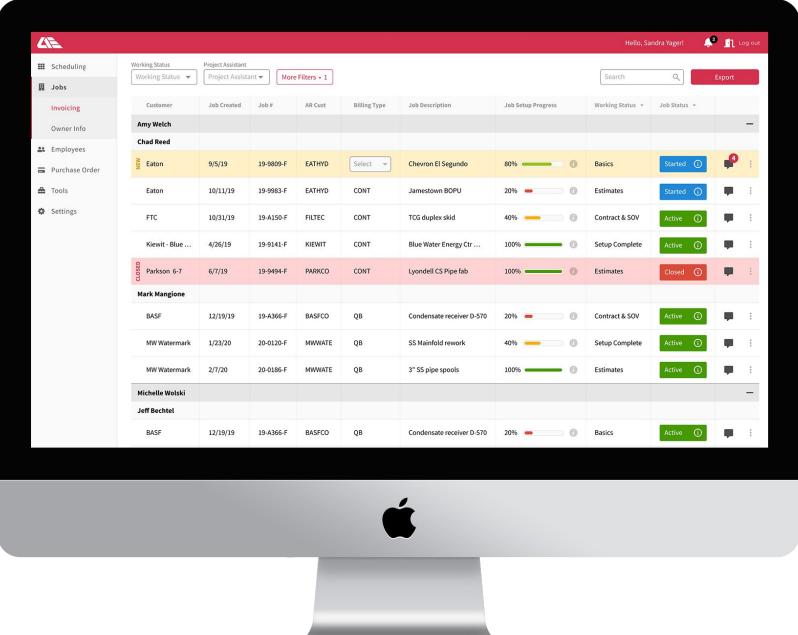
SafetyPointe



PurchasePointe



EganHUB





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Why are we talking about scheduling?



Because it's still a struggle for a lot of companies!



Pain Points



Missed Schedules

Double Booking Employees

Labor Overruns

Material Overruns

No Forecasting

Missed Margins

Are you investing in automation?



Your crew is ready

COVID-19 Created an Opportunity





Easy - Fast - Simple



What did we learn?

Technology adoption is getting easier in construction

Team members are willing to use their own devices

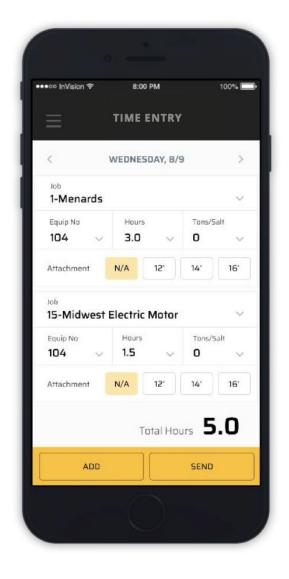
Data can be entered daily

It works when it is **Easy, Fast & Simple**

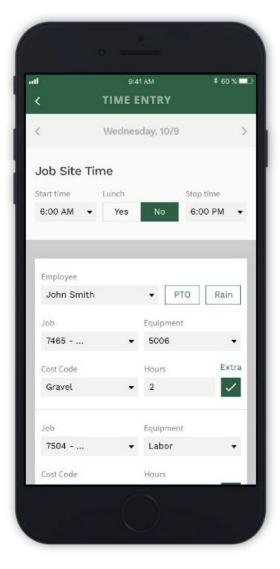
5G Network is Here 10-100x Faster Than 4G/LTE

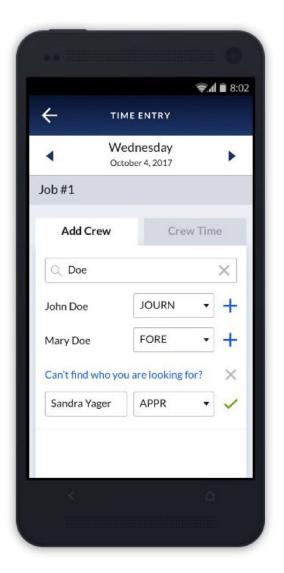


"Time Entry" is now "Data Entry"



₹.1 8:02 Schedule **Current Period** V FRI SAT Labor Code C88157 Clean Up v Overhead Vacation v 4.0 ~ Total Hours: 8.0 Vehicle Mileage *





Equipment, Maintenance & Quantity

Multiple Jobs

Cost Codes & Multiple Jobs

Team Entry

You can integrate with your existing software

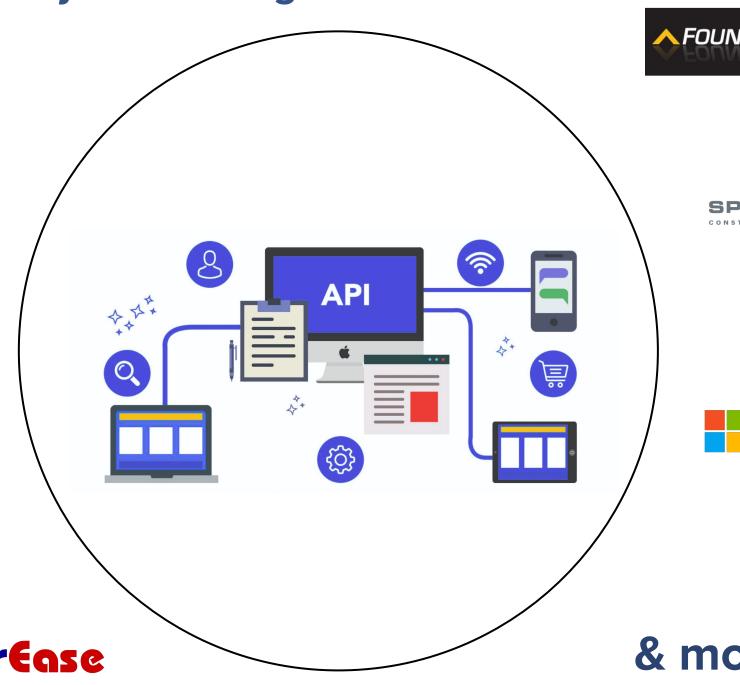








Computerfase







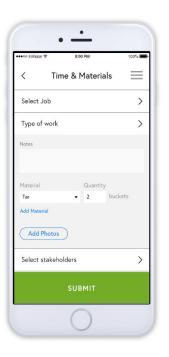


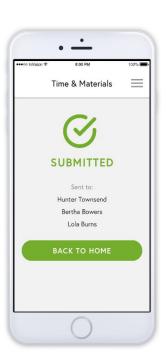


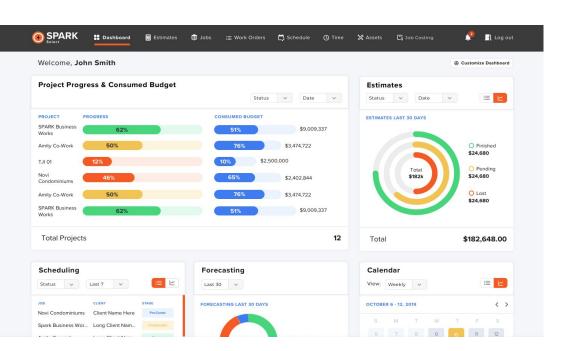


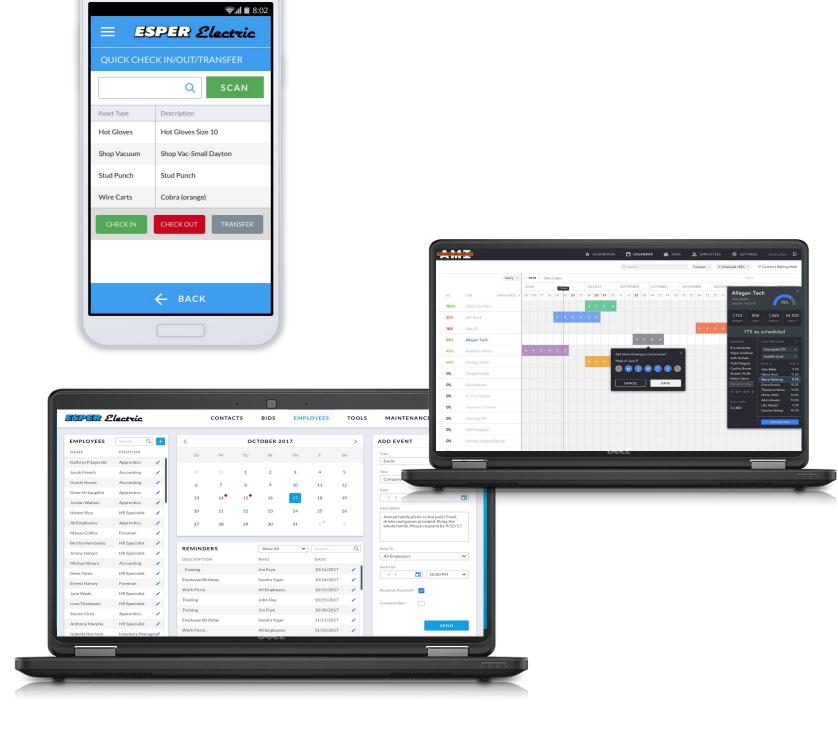


& more!





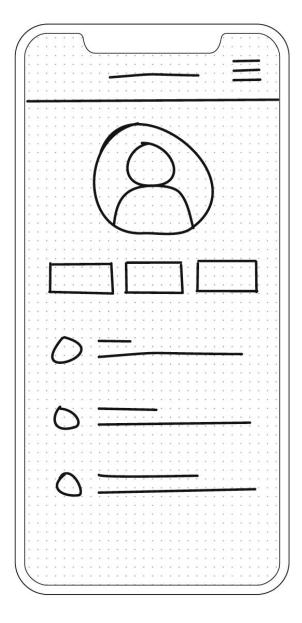




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Start simple







Final Thoughts





Investing in Custom Software

Pros:

- → Customization
- → EXACTLY what you want
- → Evolves as you do
- → Own as an asset

Cons:

- → Only blame yourself if
 - something doesn't work
- → Front-loaded investment



Estimating Your ROI

1 Direct Cost Savings

2 Indirect Cost Savings

Increase Revenue

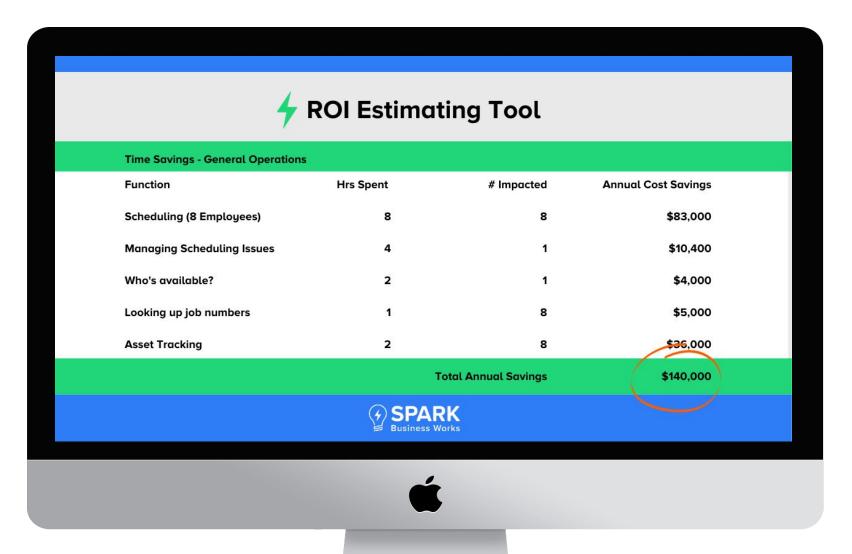
4 White Labeling

BOI Westerbard				
ROI Worksheet				
TIME SAVINGS - GENERAL OPERATION				
Function	Hrs Currently Spent (weekly)	Estimated Hrs Spent (weekly)	# of Employees Impacted	Annual Cost Savings
Scheduling (8 Employees)	8.00	4.00	8.00	\$83,200
Managing Scheduling Issues / Double booking (1 per week)	4.00	0.00	1.00	\$10,400
Who's Available? (1 per week)	2.00	0.50	1.00	\$3,900
Looking up job numbers	0.50	0.25	8.00	\$5,200
Asset Tracking (Where is it, Who has it)	2.00	0.25	8.00	\$36,400
		То	tal Yearly Hours Saved	4,784
		Total Annual Estimated Savings		\$139,100
			Average Rate	\$50
OTHER BENEFITS				
Improved billing on Time & Material Jobs				
Knowing where all guys are at in real time				
Knowing how long the guys will be on the job				
Knowing exactly what tools are on which jobs				
Knowing when tools will be available				
Improving accuracy of inventory/tools on jobs				
Who is not working and available to work				
Improved forecasting				
More time for team to work on higher greater value items				

Our Own ROI Worksheet

\$140k in yearly time wasted!

Make the Business Case for Your Custom App







Get ROI Estimating Calculator

What can YOU do?

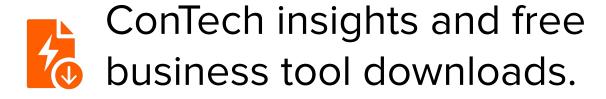
Free Stuff!





Free self-declaration and alert system for COVID-19.

EasySafetyForms.com



SPARKBusinessWorks.com

SPARKBusinessWorks.com/Construction







In the spirit of continuous improvement, we would like to remind you to complete this session's survey in the Congress app! We look forward to receiving your feedback. Highest rated presenters will be recognized.

BREELERLE

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Thank you for attending this presentation. Enjoy the rest of the 22nd Annual LCI Congress!

