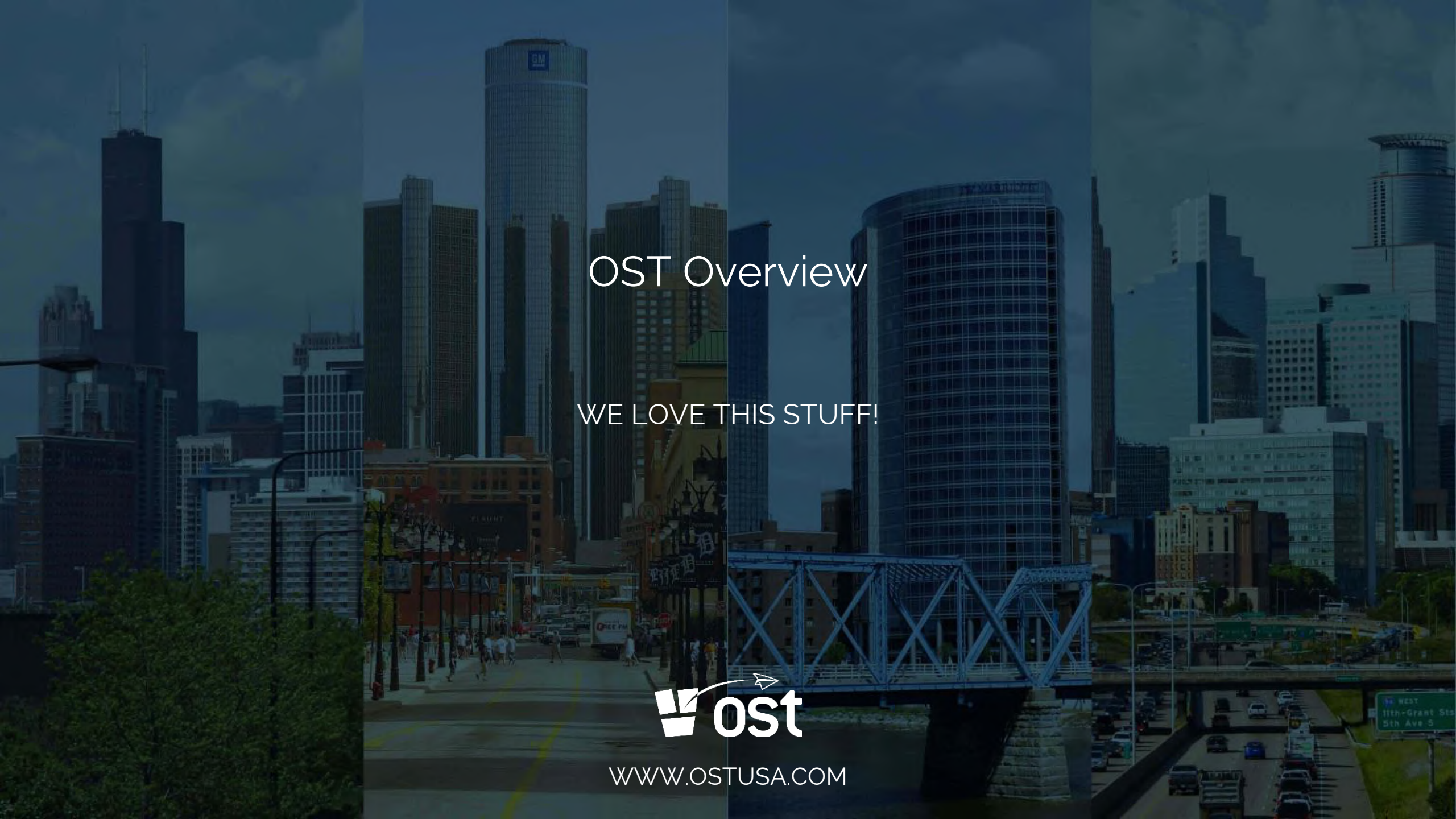
CET DESIGNER USER AND DEVELOPER CONFERENCE

# QUALITY IS JOB ONE! (WAIT-CAN WE SAY THAT?)

Nathan Bonner
*OST*



# OST Overview

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## ENTERPRISE TECHNOLOGY

PRODUCT SALES

IMPLEMENTATION SERVICES

ARCHITECTURE

DATA CENTER SOLUTIONS

MANAGED SERVICES

## BUSINESS TRANSFORMATION

DESIGN

APP DEVELOPMENT

CONFIGURATION SERVICES

CONNECTED PRODUCTS (IoT)

DATA ANALYTICS

Security

ERP

# What guides our behavior?

SIMPLE.

**honor**

our people and their families *first*, clients second, and the rest will fall into place.

**delight**

our clients.

**serve**

with humility.

**embrace**

entrepreneurship and innovation.

**learn**

through curiosity and empathy.

ost

# Who am I?

Nathan Bonner
Joined the OST's Configuration Services Group in 2016
Background in ERP with an emphasis on manufacturing operations and accounting/finance
Industry experience in office furniture, automotive, medical device, distribution and financial services
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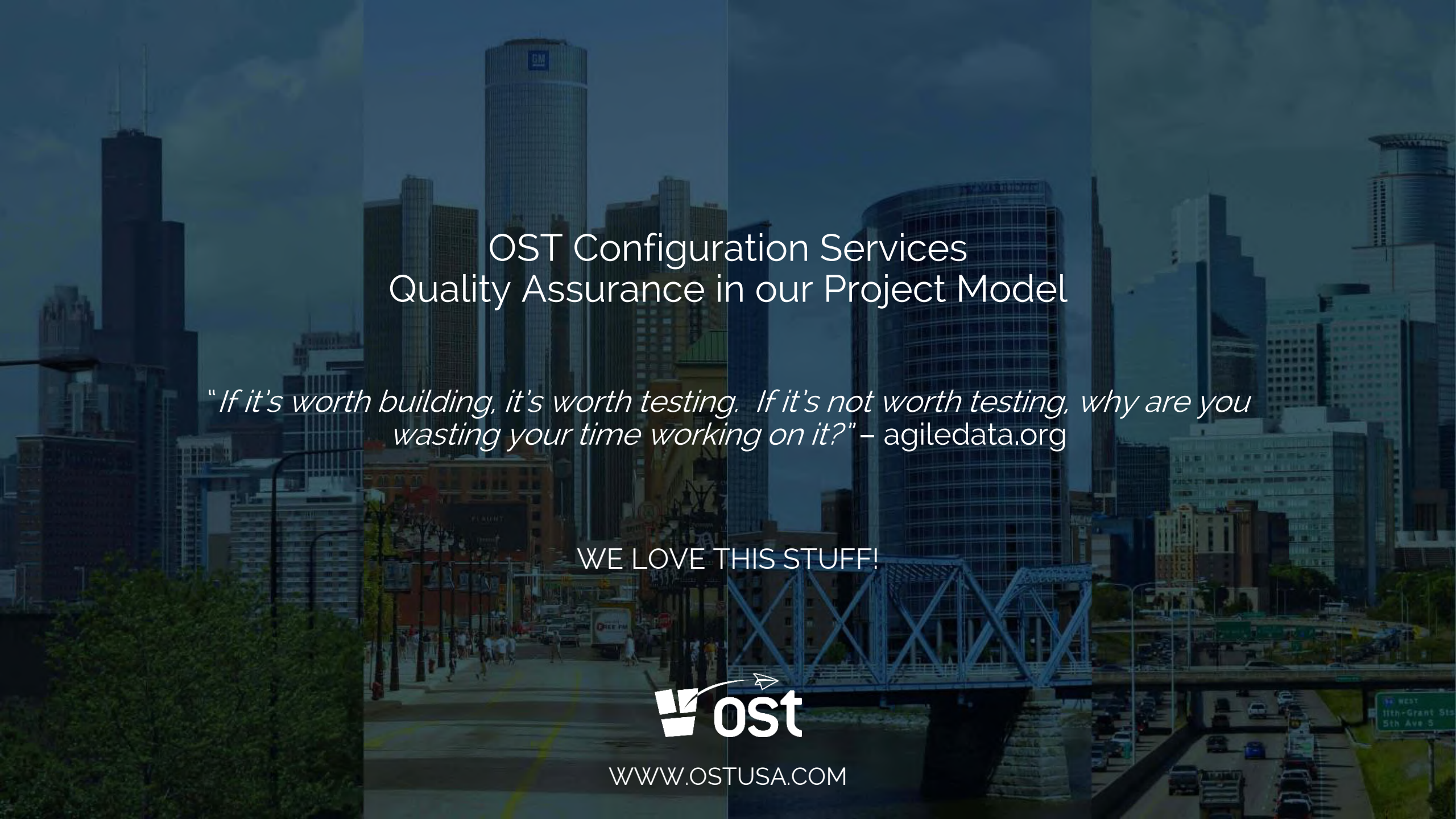

# OST Configuration Services
# Quality Assurance in our Project Model

"*If it's worth building, it's worth testing. If it's not worth testing, why are you wasting your time working on it?*" – agiledata.org

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# What is Quality in Software Development?

1. The degree to which the software ***meets the requirements*** of the customer
2. The ***reliability*** of the software


"The more effort I put into testing the product conceptually at the start of the process, the less effort I had to put into manually testing the product at the end because less bugs would emerge as a result."— Trish Khoo

# How is Quality Achieved?

## Quality by Design (QbD) in Software Development

1. Establish design targets and goals
2. Define the customer
3. Discover customer needs
4. Define the features that will meet the needs
5. Plan the processes to produce the features
6. Develop measurement standards and controls to test and confirm the features


"Quality is never an accident.  It is always the result of intelligent effort."— John Ruskin

# Why do software projects sometimes fail to meet expectations? Isn't it just bad programmers?

1. Design complexity
2. Requirements understanding
3. Programmer capability

*Software Estimation* – Steve McConnell (Microsoft Press, 2006)


"A good plan can help with risk analyses but it will never guarantee the smooth running of the project." — Bently and Borman

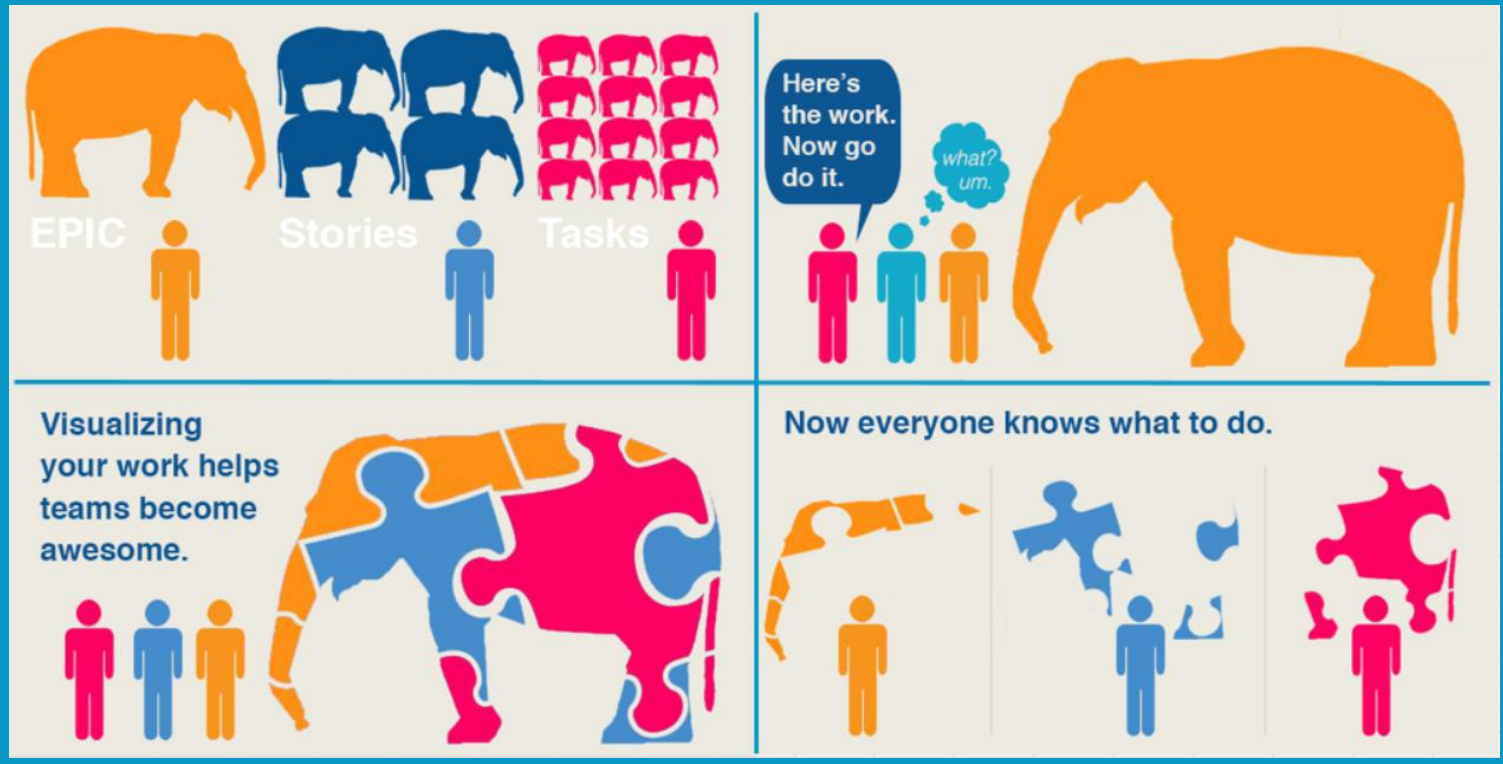
# How do we reduce design complexity?

## From Waterfall to Agile

- Small projects are easier than large projects

## From Agile to Practical Agile (Linear)

- Not every project can be a “small” project




“The art of simplicity is a puzzle of complexity.”— Douglas Horton

# How do we improve requirements understanding? Isn't that what Agile iterations are supposed to do?

**Poorly defined projects are underscoped, understaffed and undermanaged. They run longer than expected and take more budget than expected. Taking the time to define requirements is critical even though it can sometimes feel like this…**


"Peace cannot be kept by force; it can only be achieved by understanding."— Albert Einstein

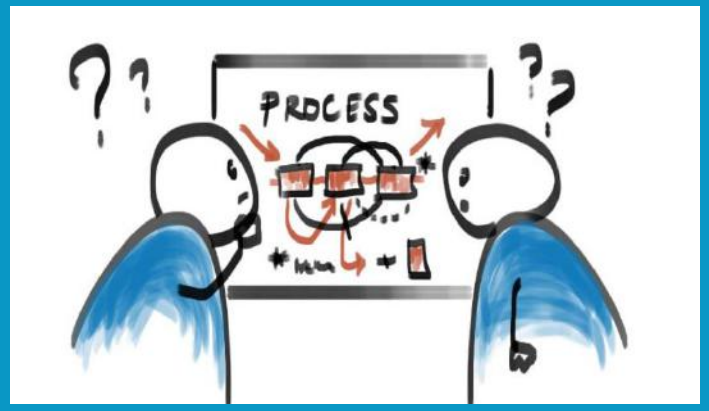
# How do we improve requirements understanding? (CET Designer Extension specific)

**Define the product** (please don't just throw me the spec book)
**Define the process**
**Define "typicals" or Business Scenarios**
**Define the *detailed* process steps** (inputs, variables, expected results, etc.)
**Define data sources**
**Define output requirements**
**From all of the above define acceptance criteria and test scripts**

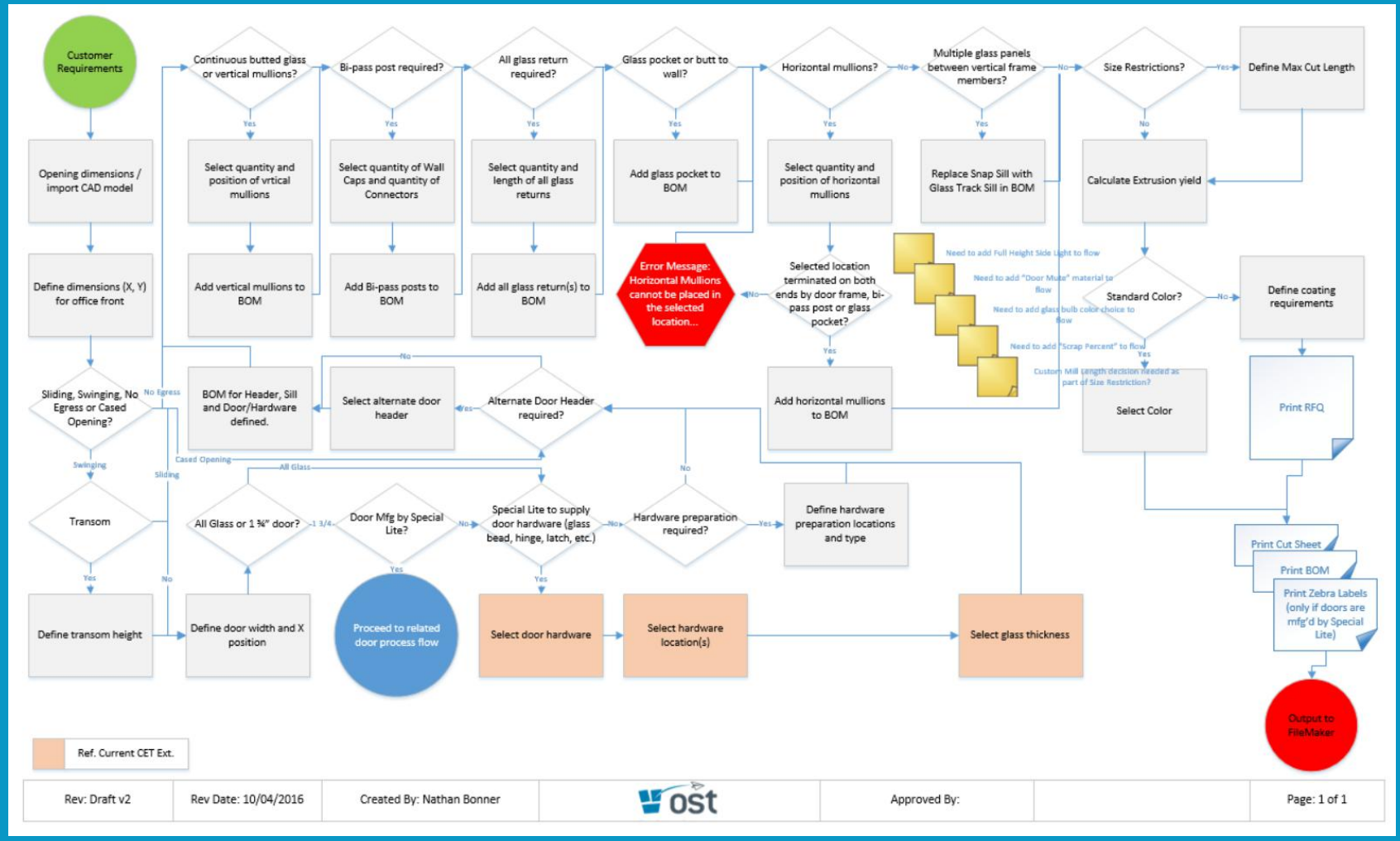

"A bad system will beat a good person every time."— W. Edwards Deming

# Defining the Product

**The spec book and price guide are great but take the time to educate team members in the same way you'd educate your sales team.**
**Product knowledge is critical but team members also need to understand process and rules…**



# Defining the Process




"If you can't describe what you are doing as a process, you don't know what you're doing."— W. Edwards Deming

# Defining “Typicals” or Business Scenarios

## What are the most common (or expected) configurations for the product?

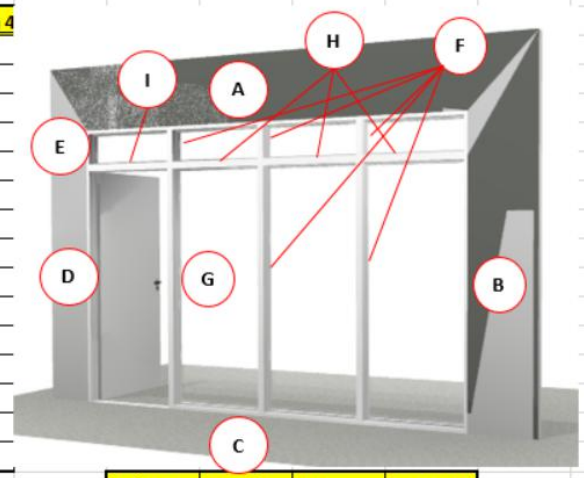
***Well defined “typicals” provide a target for development and testing***

# Defining “Typicals” or Business Scenarios

## How are these configurations defined and what is the expected output?

| ID | Feature | Option 1 | Option 2 | Option 3 | Option 4 |
|---|---|---|---|---|---|
| 1 | Door | No Egress | Swinging | Sliding | Cased |
| 2 | Door Type | All Glass | 1 3/4" | None | |
| 3 | Door Source | SL | Customer's Own Sour | None | |
| 4 | Transom | Yes | No | | |
| 5 | Door Hardware | None | Prep Only | Prep and Supply | |
| 6 | Door Header Override | Yes | No | | |
| 7 | Vertical Mullions | Yes | No | | |
| 8 | Bypass Post | Yes | No | | |
| 9 | Glass Returns | Yes | No | | |
| 10 | End Type | Glass Pocke | Butt To Wall | | |
| 11 | Horizontal Mullions | Yes | No | | |
| 12 | Multi Glass Panes between Frame Mem | Yes | No | | |
| 13 | Size Restrictions | Yes | No | | |
| 14 | Finish Color | Standard | Custom | | |
| 15 | Full Height Sidelight | Yes | No | | |

**Rules**



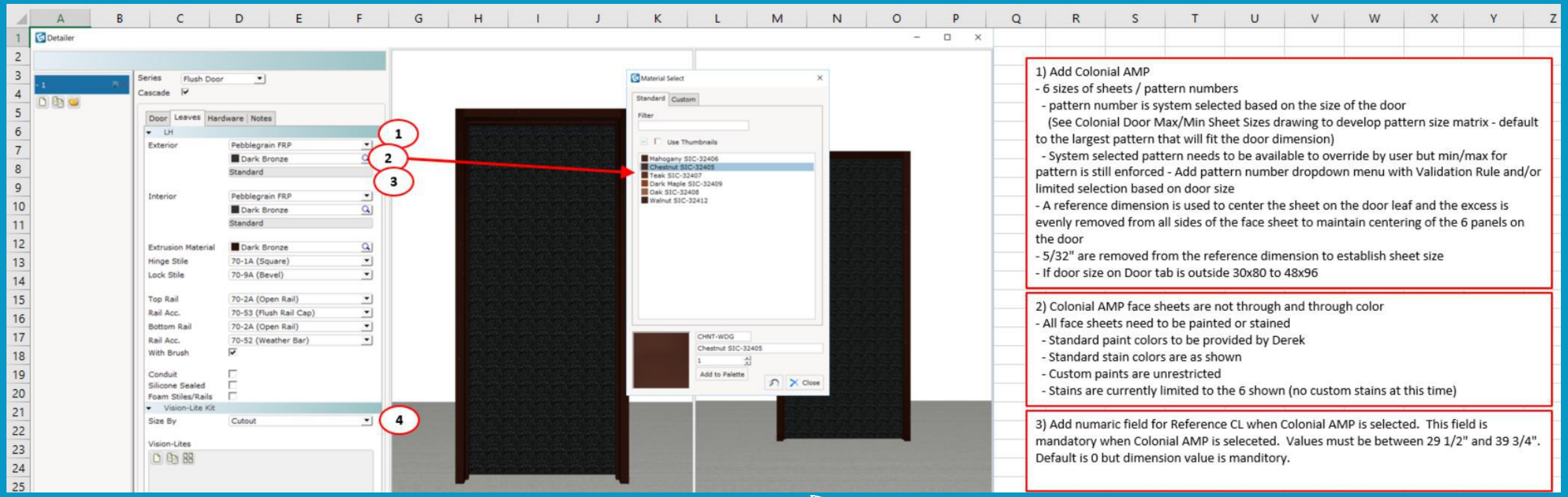

| Callout | Length | Qty | Scrap Pct |
|---|---|---|---|
| A | | | |
| B | | | |

| | Part Number | Description | Stock Leng | UoM | Re |
|---|---|---|---|---|---|
| A | SP-010 | Setting Channel, AE5857, 14 | 144 | ea. | |
| A | SP-026 | "H" Mullion For Reinforcem | | | # |
| A | SP-003 | Snap In Glass Pocket, AE58 | 144 | ea. | |
| B | SP-010 | Setting Channel, AE5857, 14 | 144 | ea. | |
| B | SP-002 | GLASS TRACK , AE5851, 144" | 144 | ea. | |
| C | SP-010 | Setting Channel, AE5857, 14 | 144 | ea. | |
| C | SP-027 | Sill Base For Slide-In Clip | | | # |
| C | SP-020 | SILL SNAP, AE5892-PFA, 144 | 144 | ea. | |
| D | SP-002 | GLASS TRACK , AE5851, 144" | 144 | ea. | |
| D | SP-009 | Snap-In Stop, AE5856, 144" | 144 | ea. | |
| D | Custom Butt Hinge Reinf | Butt hinge reinf for use with | 0 | each | |
| D | Door Mute | | | | # |
| E | SP-002 | GLASS TRACK , AE5851, 144" | 144 | ea. | |
| E | SP-005 | Snap-In Glass Pocket-Shall | 144 | ea. | |
| F | SP-002 | GLASS TRACK , AE5851, 144" | 144 | ea. | |
| F | SP-005 | Snap-In Glass Pocket-Shall | 144 | ea. | |
| G | SP-002 | GLASS TRACK , AE5851, 144" | 144 | ea. | |
| G | SP-009 | Snap-In Stop, AE5856, 144" | 144 | ea. | |

“Strummer’s Law No input, no output.”— Joe Strummer

# Defining “Typicals” or Business Scenarios

## What are the expected behaviors, limitations and requirements?



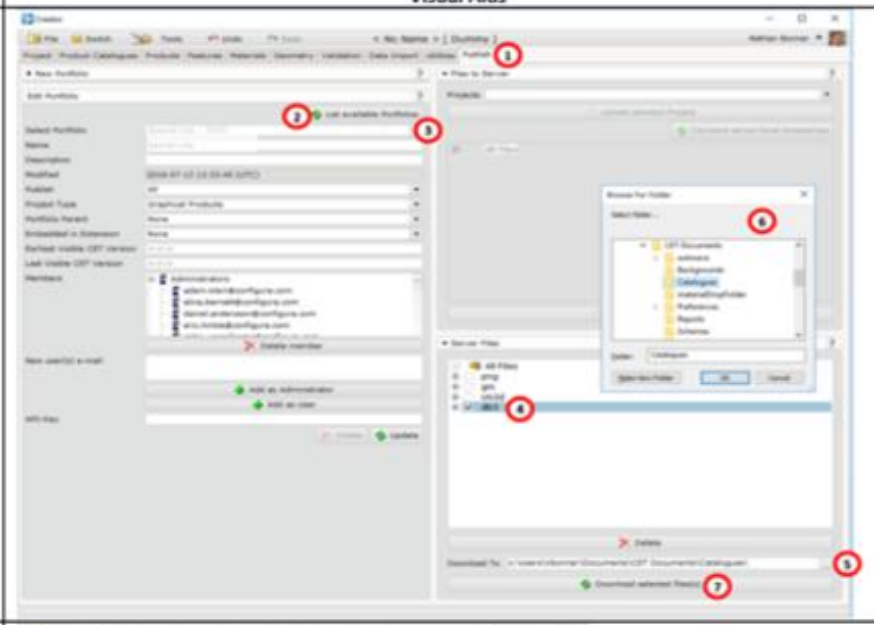
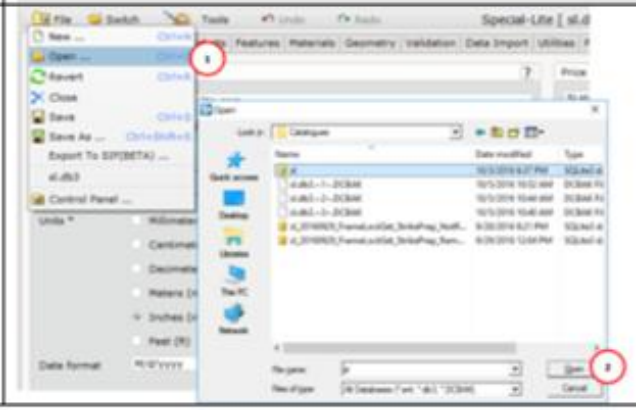

1) Add Colonial AMP
- 6 sizes of sheets / pattern numbers
  - pattern number is system selected based on the size of the door
    (See Colonial Door Max/Min Sheet Sizes drawing to develop pattern size matrix - default to the largest pattern that will fit the door dimension)
  - System selected pattern needs to be available to override by user but min/max for pattern is still enforced - Add pattern number dropdown menu with Validation Rule and/or limited selection based on door size
- A reference dimension is used to center the sheet on the door leaf and the excess is evenly removed from all sides of the face sheet to maintain centering of the 6 panels on the door
- 5/32" are removed from the reference dimension to establish sheet size
- If door size on Door tab is outside 30x80 to 48x96

2) Colonial AMP face sheets are not through and through color
- All face sheets need to be painted or stained
  - Standard paint colors to be provided by Derek
  - Standard stain colors are as shown
  - Custom paints are unrestricted
  - Stains are currently limited to the 6 shown (no custom stains at this time)

3) Add numaric field for Reference CL when Colonial AMP is selected. This field is mandatory when Colonial AMP is seleceted. Values must be between 29 1/2" and 39 3/4". Default is 0 but dimension value is manditory.

“The only limitations you will ever have are the ones you put on yourself.”— Kristinna Habashy

# Defining *detailed* process steps

| # | Process Description | Key Points | Visual Aids |
|---|---|---|---|
| 5.0.03 | 1) Navigate to the **Publish** tab<br>2) Click the **List available Portfolios** button<br>3) Select the desired portfolio from the **Select Portfolio** dropdown menu<br>4) In the **Server Files** pane check the **db3** checkbox<br>5) Click the **…** button to the right of the **Download To** field<br>6) From the **Browse For Folder** dialog box search for and select the target folder (or use the **Make New Folder** button to create a new location) and click **OK**<br>7) Click the **Download selected file(s)** button | *Note the location selected as you will need to refer to it in an upcoming step*<br><br>*Note that it is recommended that old local copies of the DB3 file be deleted prior to downloading the current version* |  |
| 5.0.04 | From the **File** menu<br>1) Select **Open…**<br>2) From the **Open** dialog box navigate to the db3 file downloaded in the previous section and click **Open** | |  |

"The difference between something good and something great is the attention to detail."— Charles R. Swindoll

# Defining acceptance criteria and test scripts

| Process Step | Description | Expected Results | Observed Results | Pass/Fail | Tester | Date |
|---|---|---|---|---|---|---|
| 5.0.03.1 | Navigate to the Publish tab | | | | | |
| 5.0.03.2 | Click the List available Portfolios button | Available Portfolios are populated | | | | |
| 5.0.03.3 | Select the desired portfolio from the Select Portfolio dropdown menu | Description and other related fields should populate | | | | |
| 5.0.03.4 | In the Server Files pane check the db3 checkbox | Checkbox should appear as checked | | | | |
| 5.0.03.5 | Click the ... button to the right of the Download To field | Browse For Folder dialog box should appear | | | | |
| 5.0.03.6 | From the Browse For Folder dialog box search for and select the target folder (or use the Make New Folder button to create a new location) and click OK | Browse For Folder dialog box should close and the Download To field should be populated with the selected path | | | | |
| 5.0.03.7 | Click the Download selected file(s) button | Selected file should be saved to the selected path | | | | |
| 5.0.04.1 | Select Open... | Open file dilog box should appear | | | | |
| 5.0.04.2 | From the Open dialog box navigate to the db3 file downloaded in the previous section and click Open | The Open file dialog box should close and the selected DB3 file should open and | | | | |


"It is not enough to do your best; you must know what to do, and then do your best."— W. Edwards Deming

# Values of acceptance criteria and test scripts

Using acceptance criteria and test scripts helps ensure:

- Understanding of functional context for feature development
- Completeness of testing
- Consistency of testing (between developers and testers, from tester to tester and time over time)
- Documentation that testing occurred
- Timeline of new features and bugs (e.g. “when did that break?”)


“The big problems are where people don’t realize they have one in the first place.” — W. Edwards Deming

# When should acceptance criteria and test scripts be used?

- Sprint Planning ★★★☆☆
- Feature or Ticket Level Testing ★★★★☆
- Regression Testing ★★★★★
- Smoke Testing ★☆☆☆☆
- Automated Testing ★★★☆☆
- Beta Testing ★★★★★
- Release Candidate Testing ★★★★★
- Go/No-Go ★★★★★
- Retrospective/Milestone Review ★★★★☆
- Conference Room Pilots/Business Simulations ★★★☆☆
- End user training ★★★☆☆


"Without data you're just another person with an opinion."— W. Edwards Deming

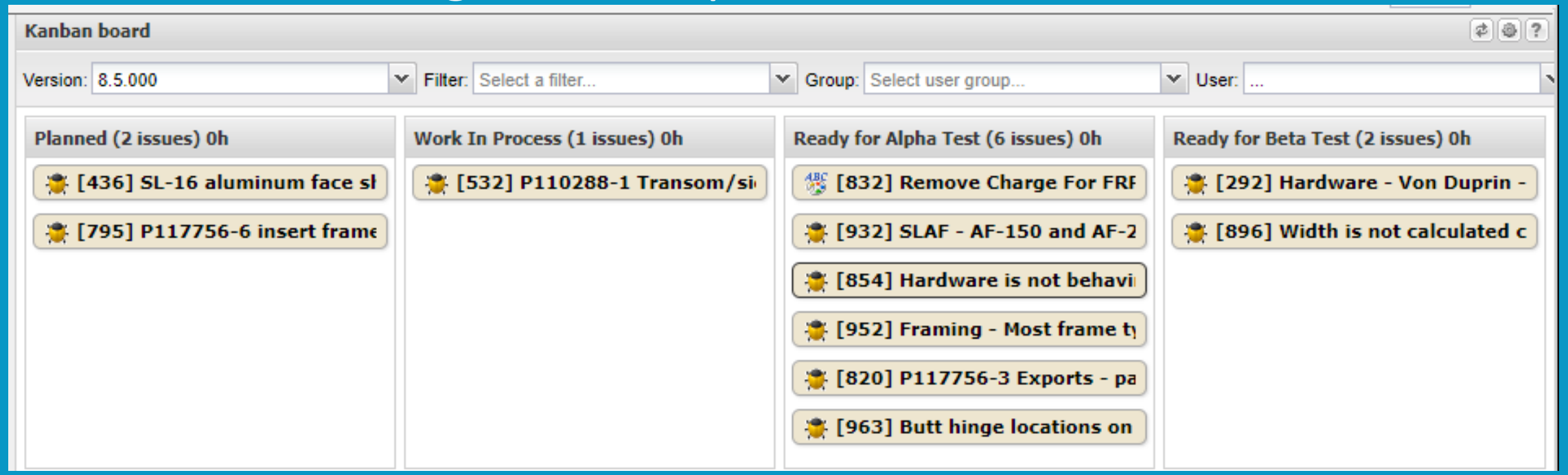
# Where does QA belong in the Software Development Cycle?

- Written tests for each Story before the first Sprint begins (facilitates Test Driven Development)
- Development accountable to QA
- QA accountable to Product Owner
- QA as part of the development team (not its own team)


"Quality is everyone's responsibility."— W. Edwards Deming

# Testing in Development Sprints

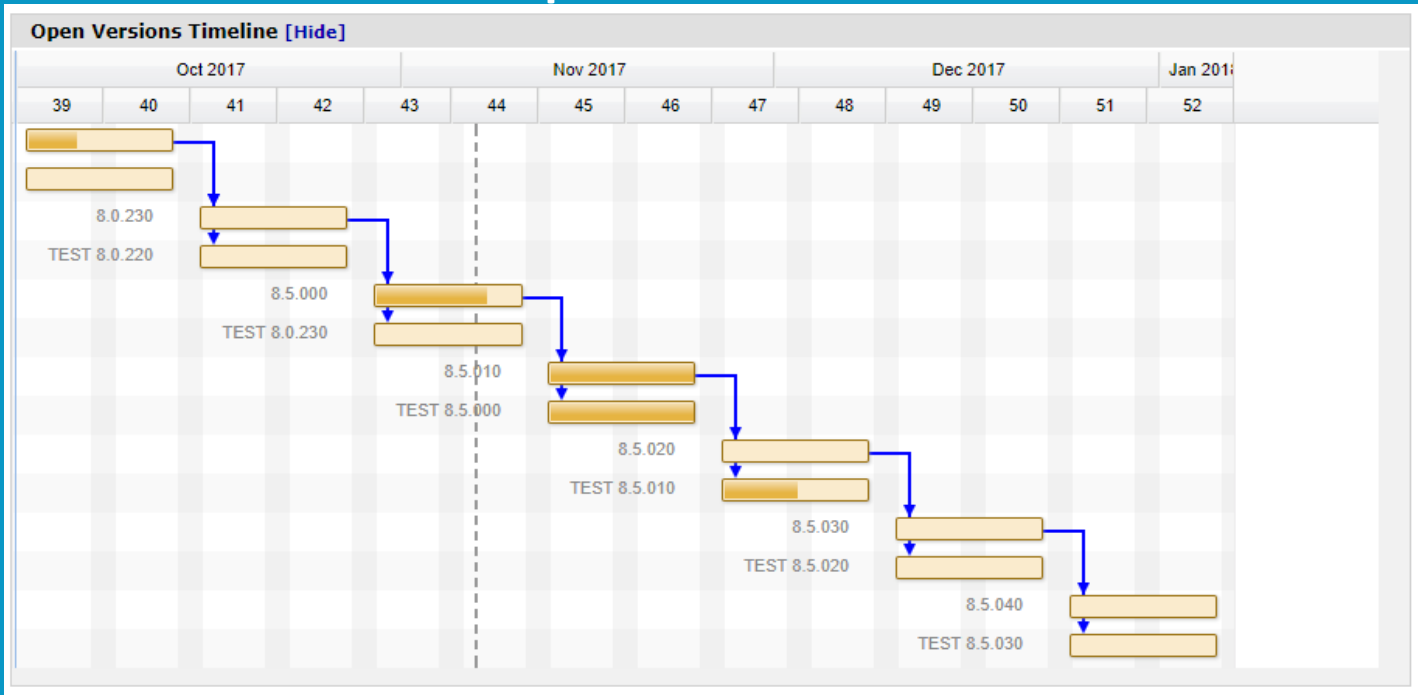
How close is testing to development?




"Quality is pride of workmanship." — W. Edwards Deming

# Testing in Test Sprints

What is the value of a Test Sprint?




"The emphasis should be on why we do a job."— W. Edwards Deming

# Testing Mindset

Developers and Testers should:

- Think like users
- Be impatient
- Follow test scripts
- Go beyond test scripts
- Push to find the limits of the code

# Questions

?

# Thank you!