Free software access…really!

"Autodesk customers have unfilled, high-paying positions due to the lack of qualified high school and university graduates. As part of our ongoing commitment to training and equipping the next generation of designers, engineers, architects, and digital artists, we are providing free access to our software for students, educators, and institutions around the world."

Carl Bass | Autodesk President & CEO

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MD6104
Integrating Configurator 360 into your Business Process

Jon Balgley

Configurator 360 Product Architect

Class summary

How do you deploy Configurator 360 software in a professional/commercial environment? The great technology from Configurator 360 software embeds effectively into your own company's website and integrates configuration and quoting into your company's business processes. New capabilities introduced this year make Configurator 360 software suitable to be a key component that can help your company to better serve its customers. In this class you will discover how to integrate Configurator 360 software's configuration and quoting capabilities into your own website, and you'll see how to use Configurator 360 software in conjunction with Autodesk PLM 360 software to track leads. You will also learn how to respond with custom quotes and lead into other downstream engineering, sales, and financial operations.

Key learning objectives

At the end of this class, you will be able to:

- Discover the website integration capabilities of Configurator 360 service
- Discover the extent of integration with Autodesk PLM 360
- Discover the business-process capabilities that could be enabled or enhanced
- Recognize the roles and skill levels required to effectively integrate the Configurator 360 service into a typical business

Agenda

- Introduction
- Overview of Configurator 360
- Embedding into Your Website
- Custom PDF Documents
- Native RFQ
- PLM 360 RFQ
- PLM 360 BOM
- Review

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Where does Configuration Fit in Your Business Process?

B2B users requesting info directly from website

Distributors or resellers taking orders

Post-order engineering review/approval

Different Strokes

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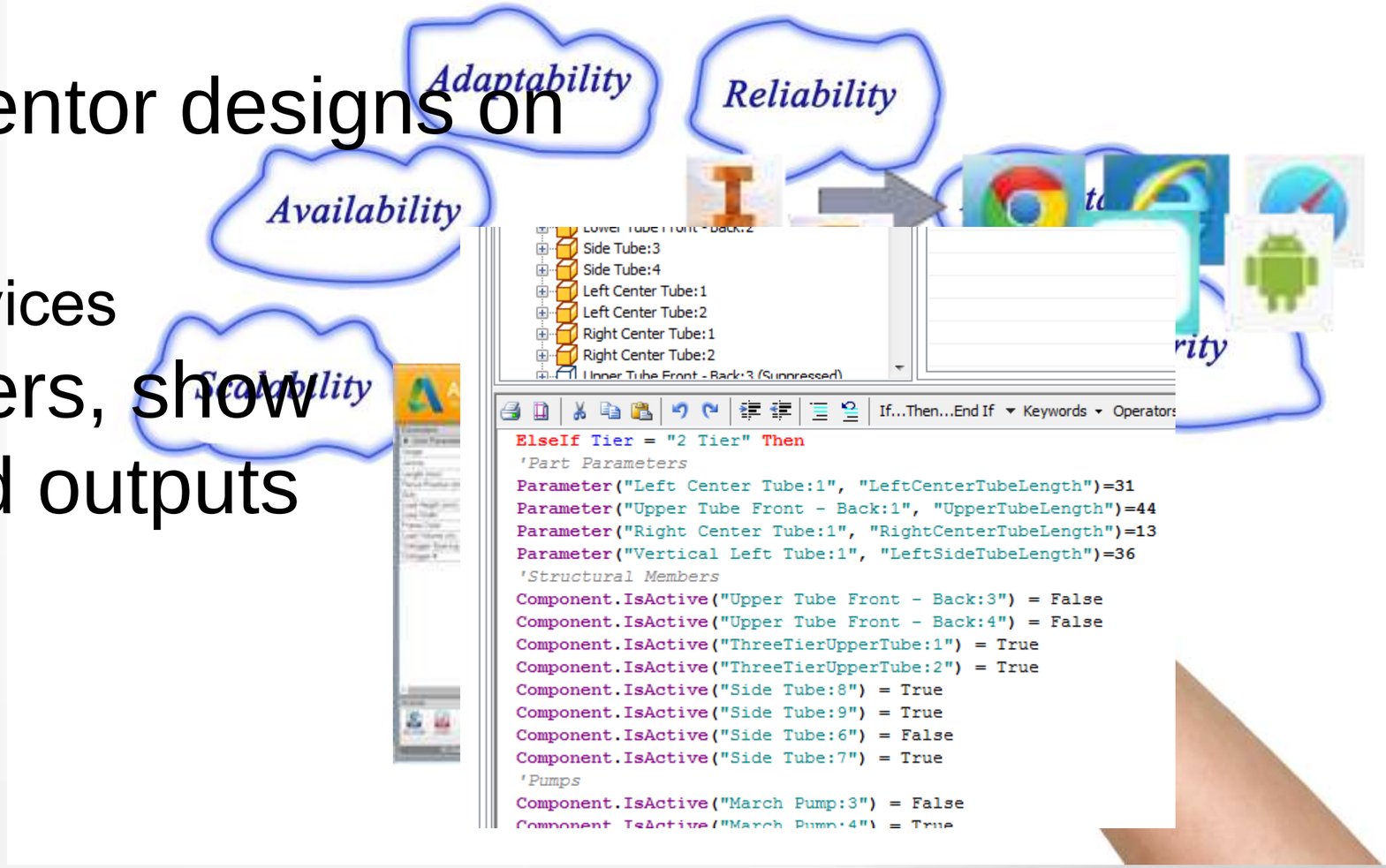
Basic Functions

- SaaS
- Configurable Inventor designs on the web
  - …and mobile devices
- Expose parameters, show results, download outputs
- “Catalog”
- iLogic and ETO



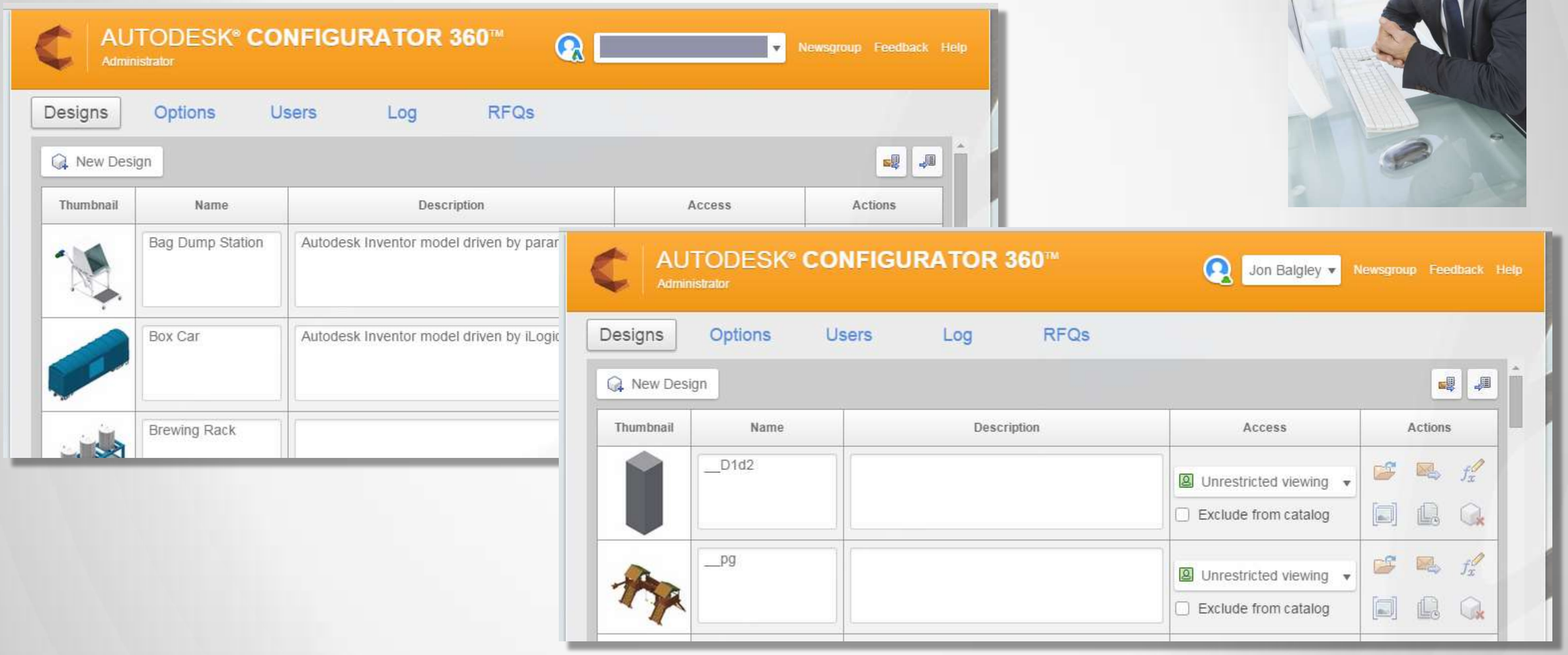
Basic Functions

- Two types of user, admin-user / end-user

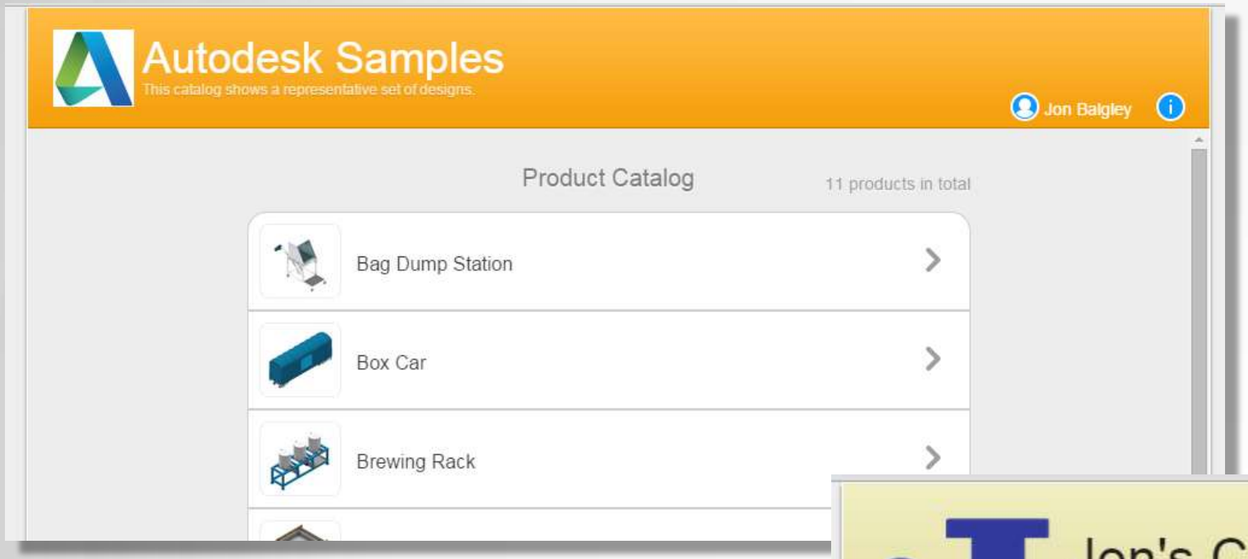
Alan, the admin-user

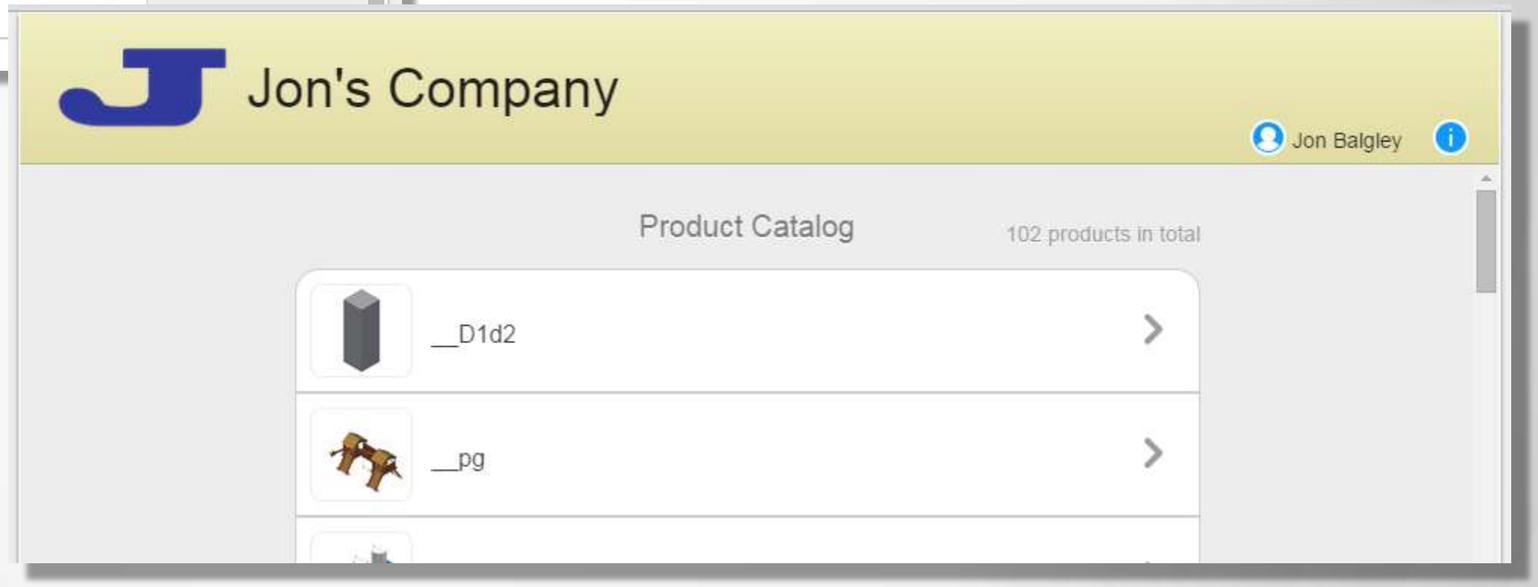
Edward, the end-user

Admin UI – Designs Page

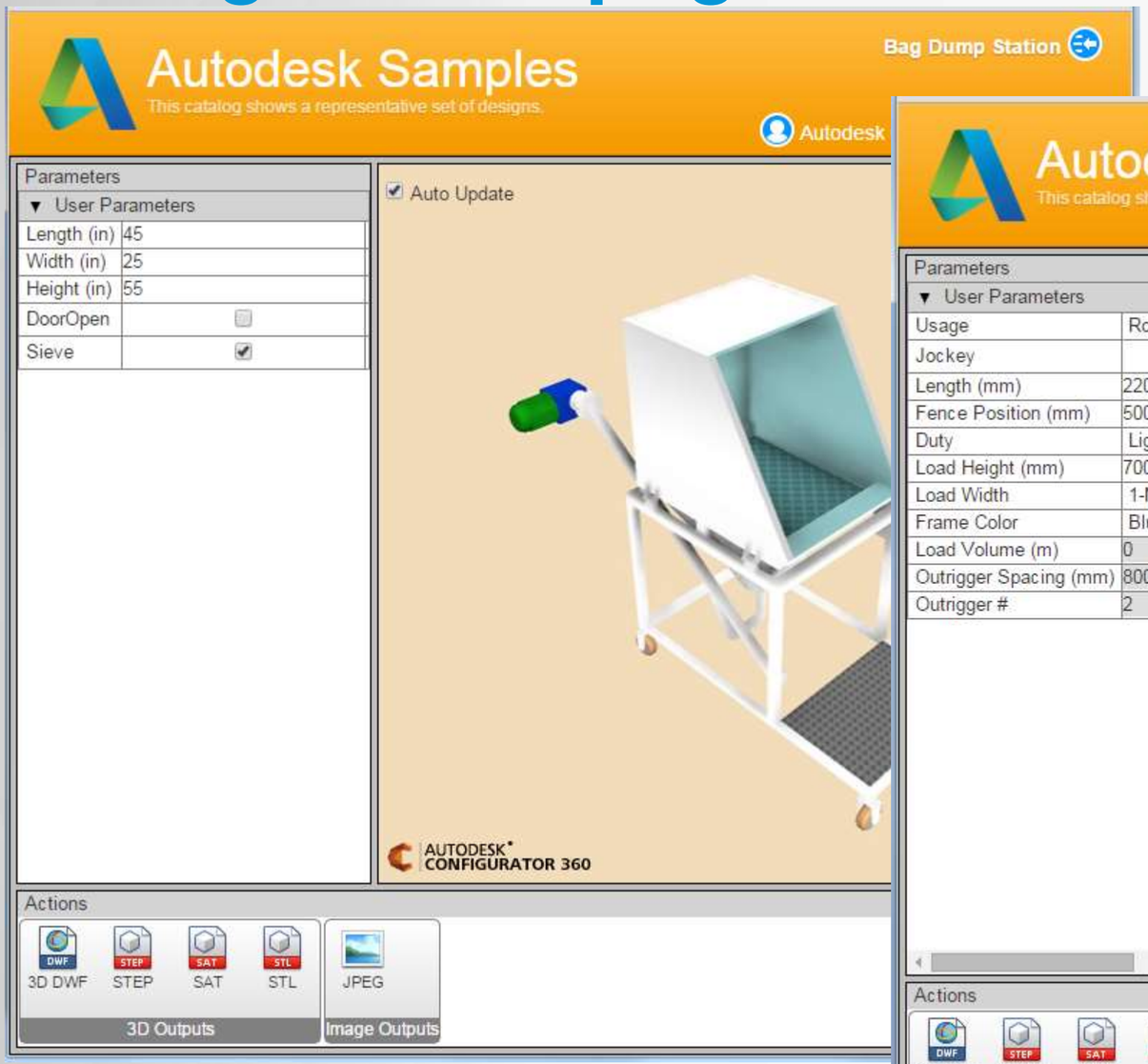


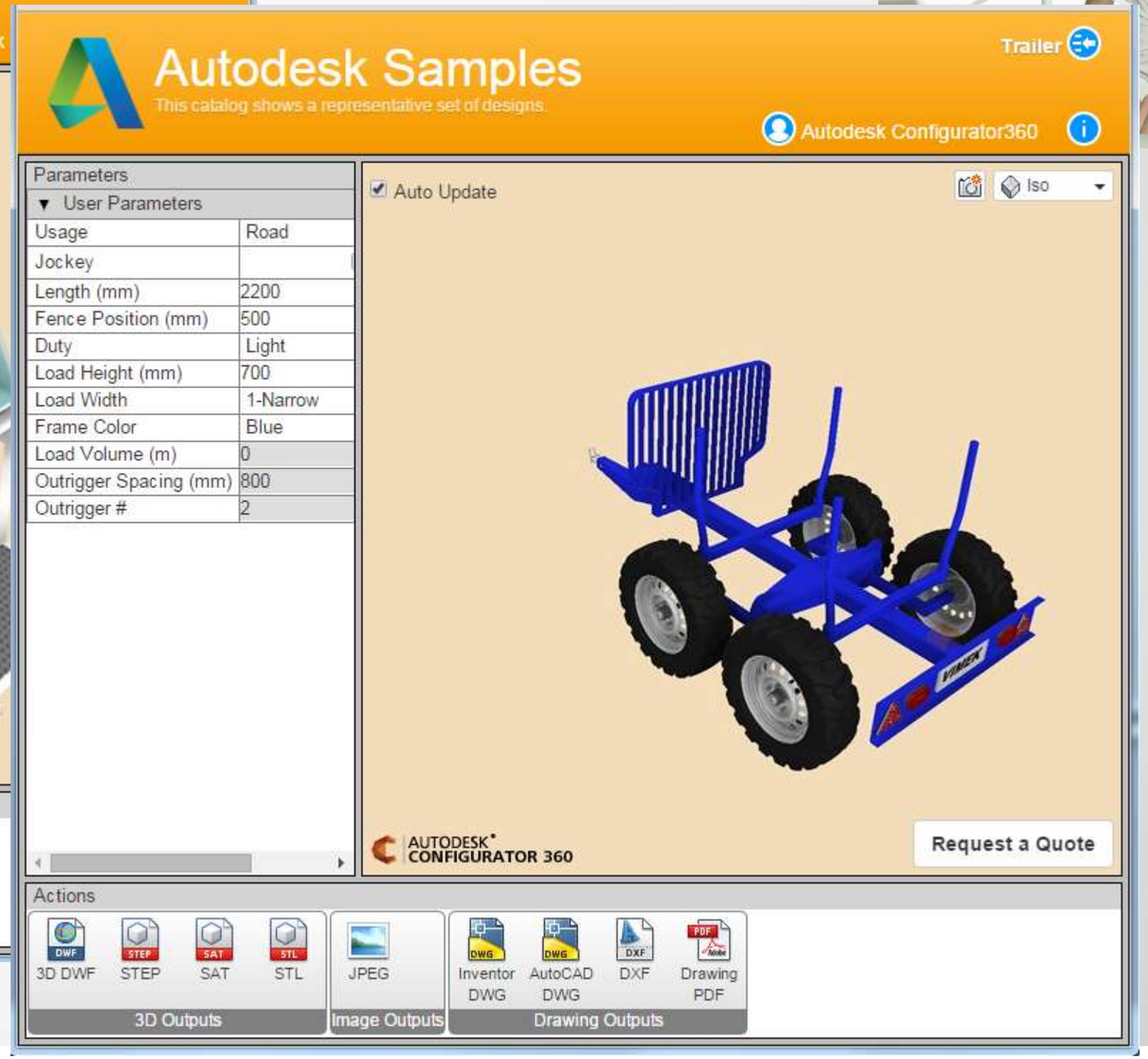
Catalog


Autodesk Samples
This catalog shows a representative set of designs.
Jon Balgley
Product Catalog
11 products in total
Bag Dump Station
Box Car
Brewing Rack


Jon's Company
Jon Balgley
Product Catalog
102 products in total
__D1d2
__pg

Configuration page





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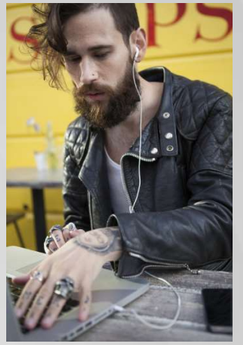
Embedding

- Out-of-the-box UI usually not sufficient
- Catalog & viewer

- Custom UI via Javascript API
- Test Harness
- Example

Wally the web programmer

Javascript API

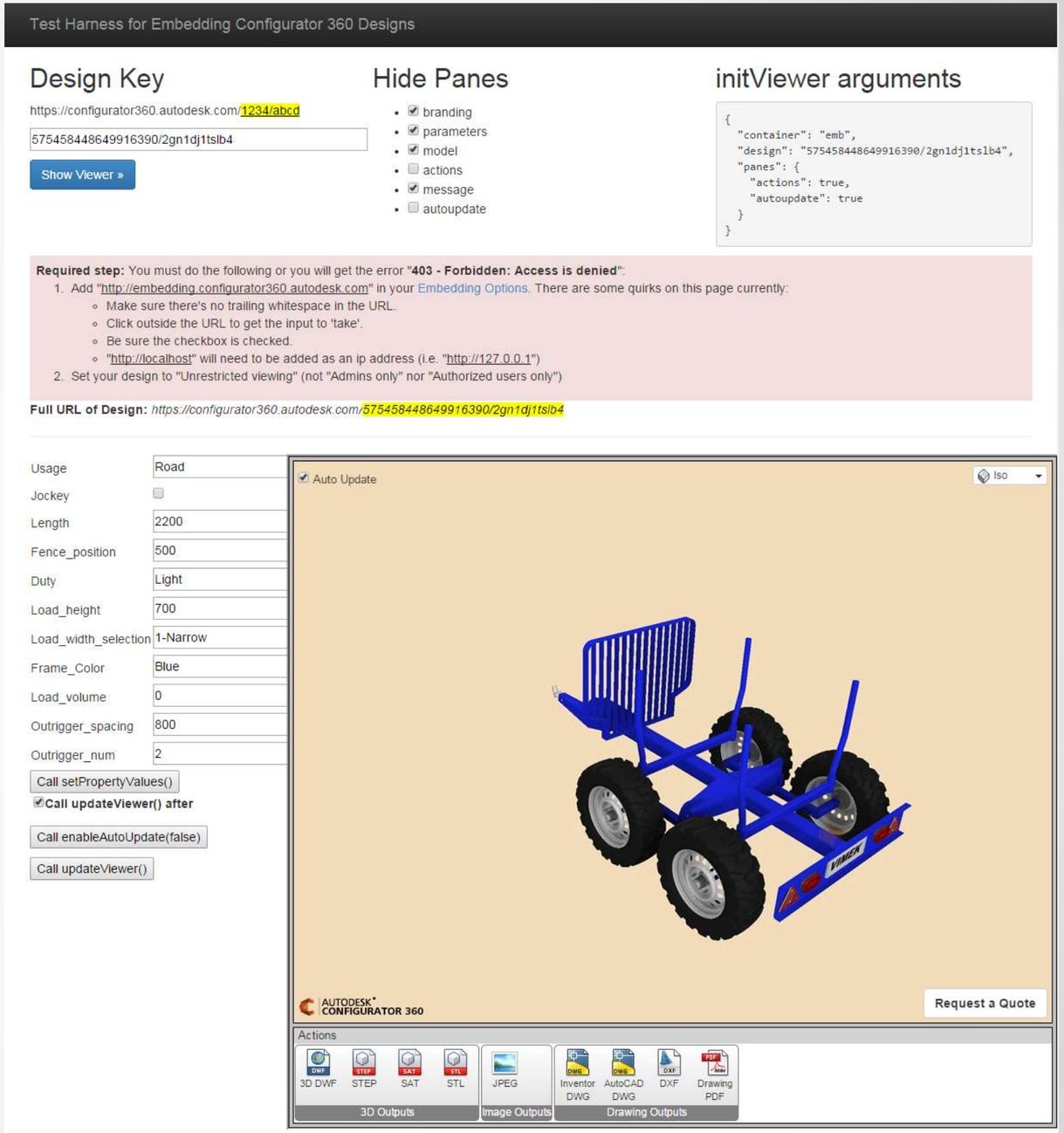


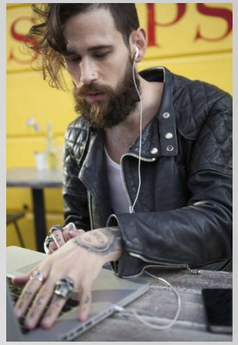
- initViewer()
- getPropertyValues(), setPropertyValues()
- updateViewer()

Test Harness

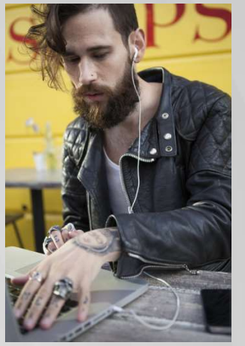
embedding.configurator360.autodesk.com

…/doc.html





jsfiddle.net



JSFIDDLE α

Run | Update | Fork | Set as base | TidyUp | JSHint | Collaboration | Share | jbalgley

Frameworks & Extensions

No-Library (pure JS)

onLoad

Fiddle Options

External Resources 1

Languages

Ajax Requests

Legal, Credits and Links

Keyboard shortcuts

HTML

```
<body>
<h1>Sample C360</h1>

<div id="myViewer"></div>
    <br/>
    Hello, do you like this model?


</body>
```

CSS

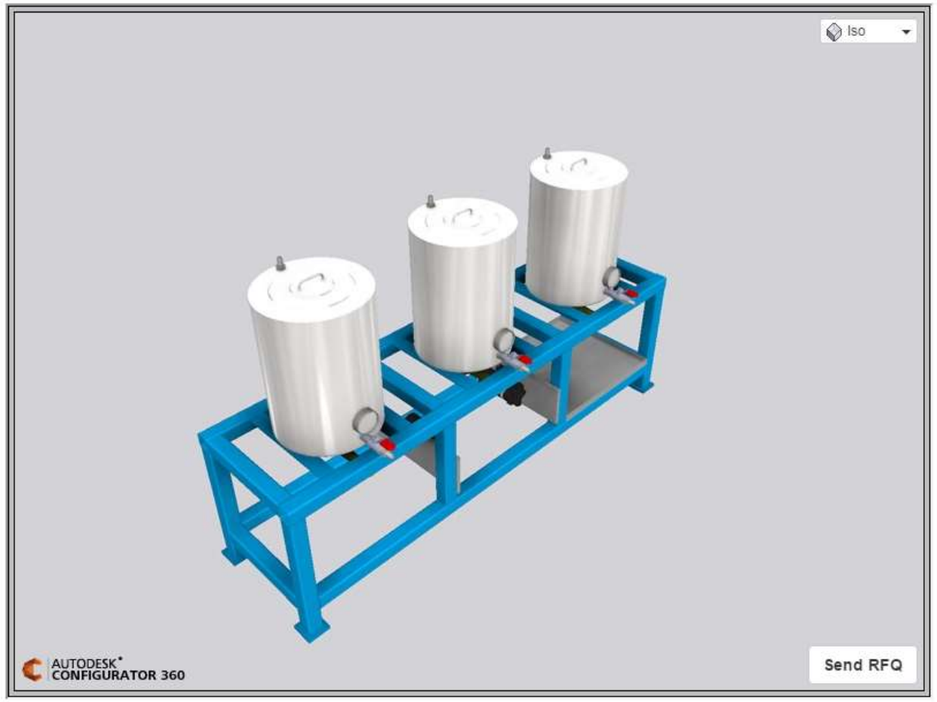
```
div#myViewer {
    position: relative;
    width: 800px;
    height: 600px;
}
```

JavaScript

```
        }

        // success handler
        function viewerLoaded(viewer) {
            // The C360Viewer is loaded, do something with it.
            viewer.getPropertyValues(null, listProperties);
        }

        // error handler
        function failedToLoad(viewer) {
            reportError(viewer.state);
            // viewer.unload(); // Unload the C360Viewer
        }


        // Check if the API was loaded.
        if (C360) { // Not supported on mobile devices currently.
            // alert('c360 true');
            // Check client compatibility and load the viewer if compatible.
            C360.checkCompatibility(function (result) {
                if (result.compatible) {

                    // Initialize the viewer
                    C360.initViewer({
                        container: "myViewer",
                        design: "97353607046059152l/7pz11mnmhv04",
                        panes: false,
                        success: viewerLoaded, // Set success handler
                        error: failedToLoad // Set error handler
                    });

                } else {
                    reportError(result.reason);
                }
            });

        } else {
                // alert('c360 false');
        }
    }(this));
```

Result

Sample C360



Hello, do you like this model?

www.360trailers.com

360 Trailer International

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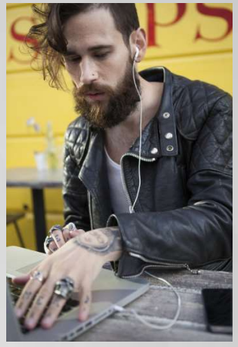
PRODUCTS

Lorem I ciis natoque I penatibus

360.Trailer International



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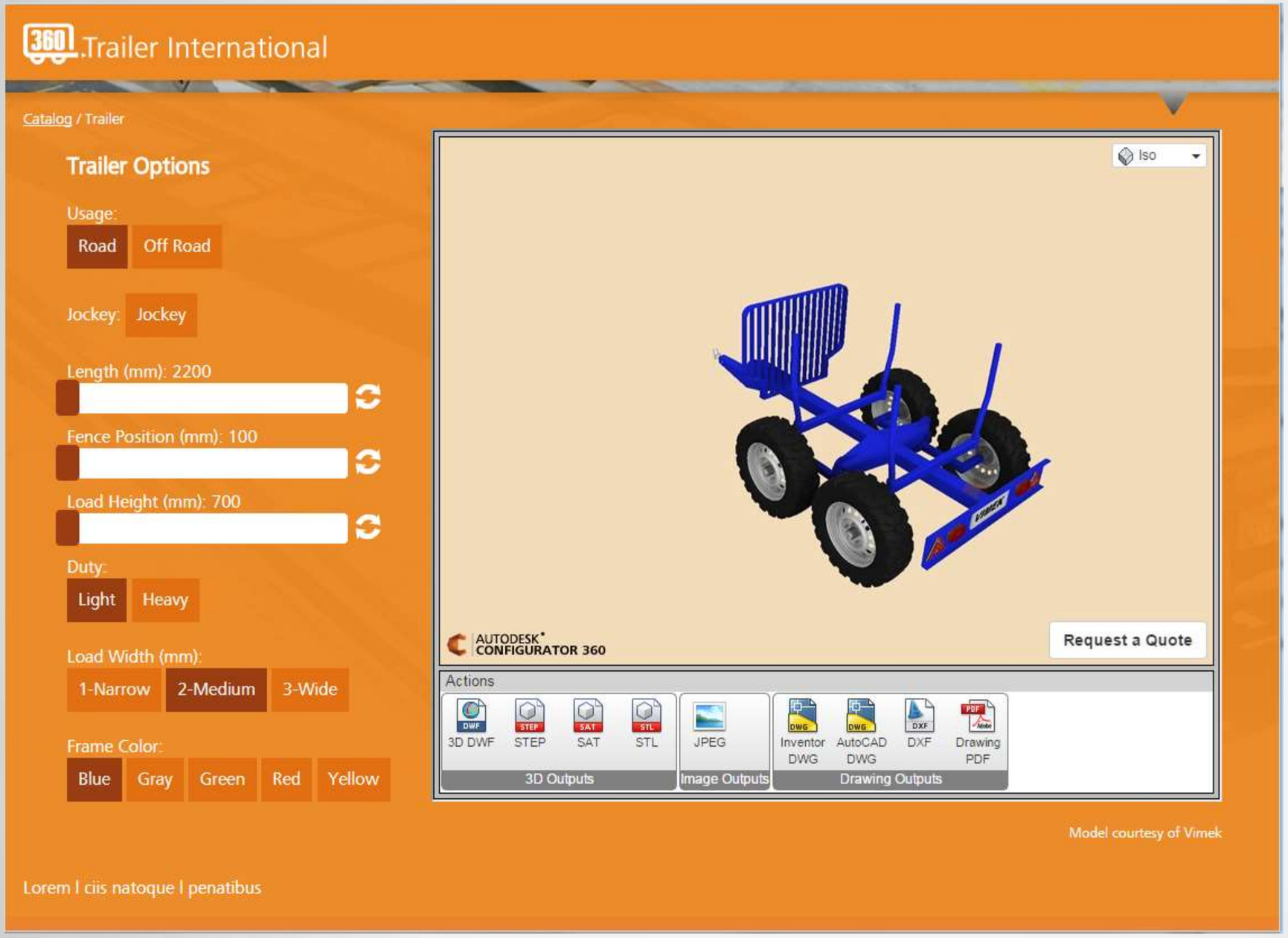
360 Trailer International
Catalog / Trailer
Trailer Options
Usage:
Road
Off Road
Jockey:
Jockey
Length (mm): 2200
Fence Position (mm): 100
Load Height (mm): 700
Duty:
Light
Heavy
Load Width (mm):
1-Narrow
2-Medium
3-Wide
Frame Color:
Blue
Gray
Green
Red
Yellow
Iso
AUTODESK CONFIGURATOR 360
Request a Quote
Actions
3D DWF
STEP
SAT
STL
JPEG
Inventor DWG
AutoCAD DWG
DXF
Drawing PDF
3D Outputs
Image Outputs
Drawing Outputs
Model courtesy of Vimek
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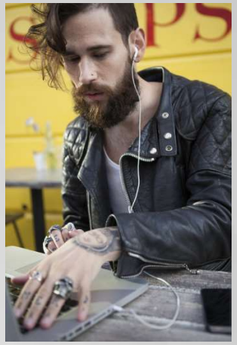


Staff/Skills required

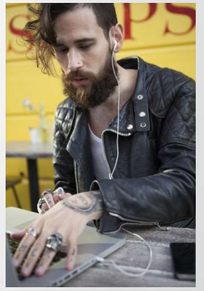
- Requirements analysis
- Specification
- Funding

But this is a LITTLE project. EASY.

Sally
the CEO

Sam the
sales guy

- Web design
- Javascript programming
- Integration with other internal systems
- Deployment



Irene
from I.T.

Alan the Admin-User is central to it!

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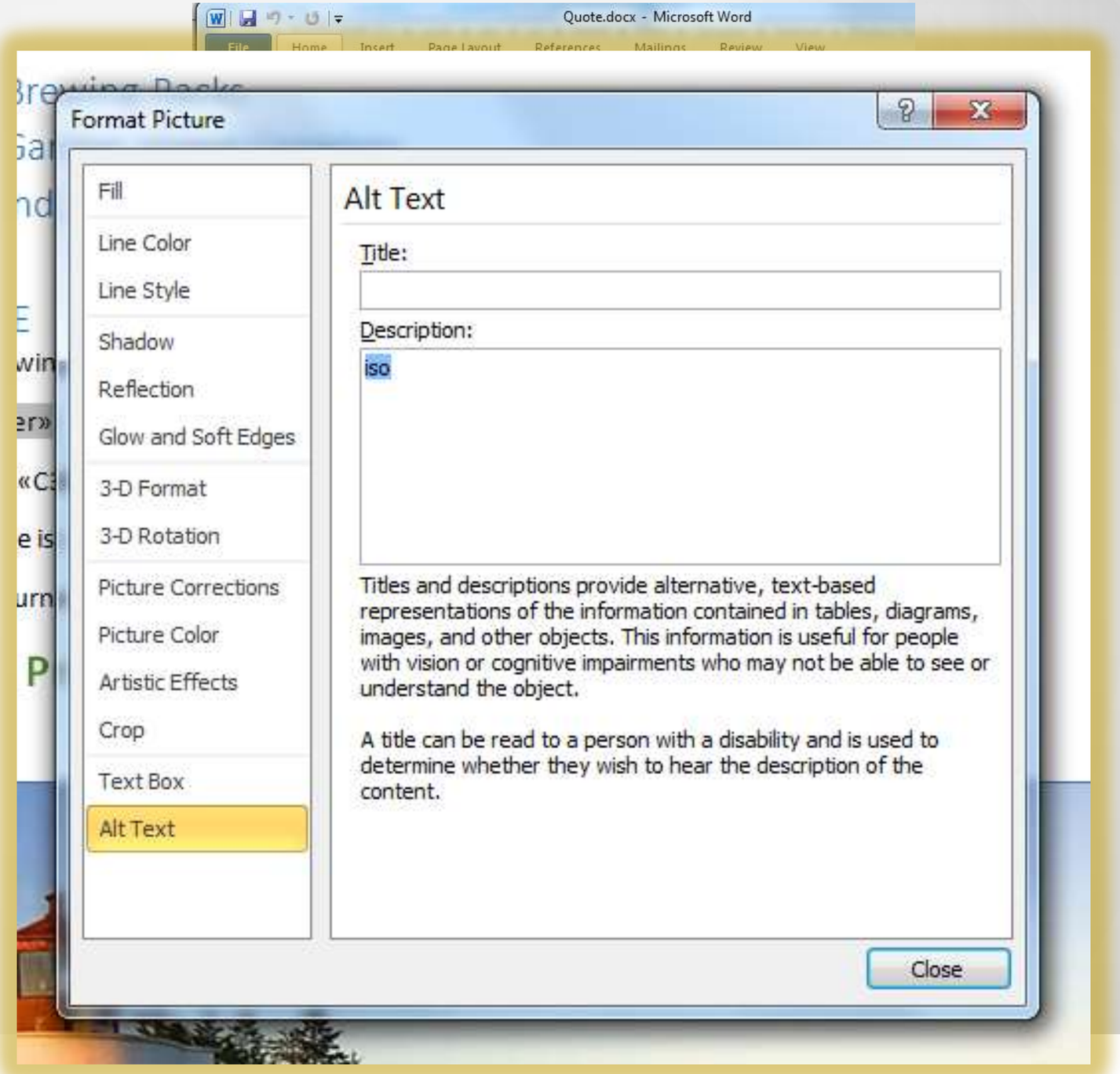
Custom PDF Documents

- For “quotations” or “specs” or “order confirmations”
- Based on Word “template” file
- Merge fields and images, data from Inventor/ETO model

Word template



PDF Output

QUOTE (15).pdf - Adobe Reader

File Edit View Window Help

1 (1 of 1) 100%

Jon's Brewing Racks
Near Garden Home Growlers
Portland, Oregon

QUOTE

Your brewing rack configuration is shown below:

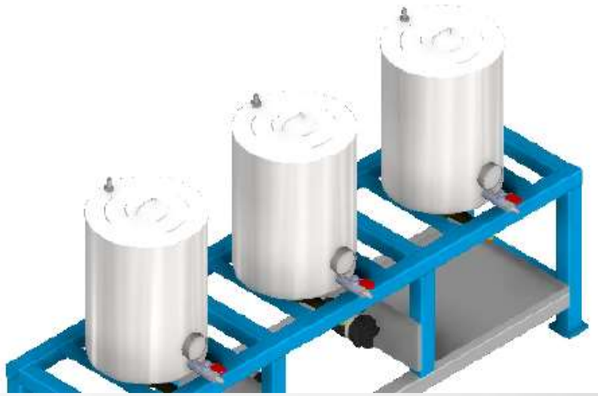
1 Tier

Casters: False

Kettle Size is 10 Gallon

Small Burner

Your Price: $700



Staff/Skills required

- Simple Word skills
- General Configurator 360 admin skills

Agenda

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Native RFQ

- RFQ = “Request For Quote”
- End-user makes request
- Configurator 360 keeps track
- Admin-user receives request
- Open model “as configured”

Native RFQ – End User

Jon's Com

Parameters	
▼ Model Parameters	
fixedEndOuterDiaXXX (mm)	50
filletRadxxx (mm)	2
slotWidth (mm)	20
fixedHoleDia (mm)	20
slotToHoleLength (mm)	76.2
thickness (mm)	5
▼ User Parameters	
swingEndOuterDia (mm)	75

Actions

STEP IGES STL JPEG

3D Outputs | Image Outputs

Request price

Please enter your contact information below, and we will get back to you with a quotation for this configuration.

Name Jon B. Goode

Email johnny.b.goode@gmail.com

Job Title Anything

Company Self-employed

Address 123 Main St.

City Portland

State OR **Country** United States

Zip 97225

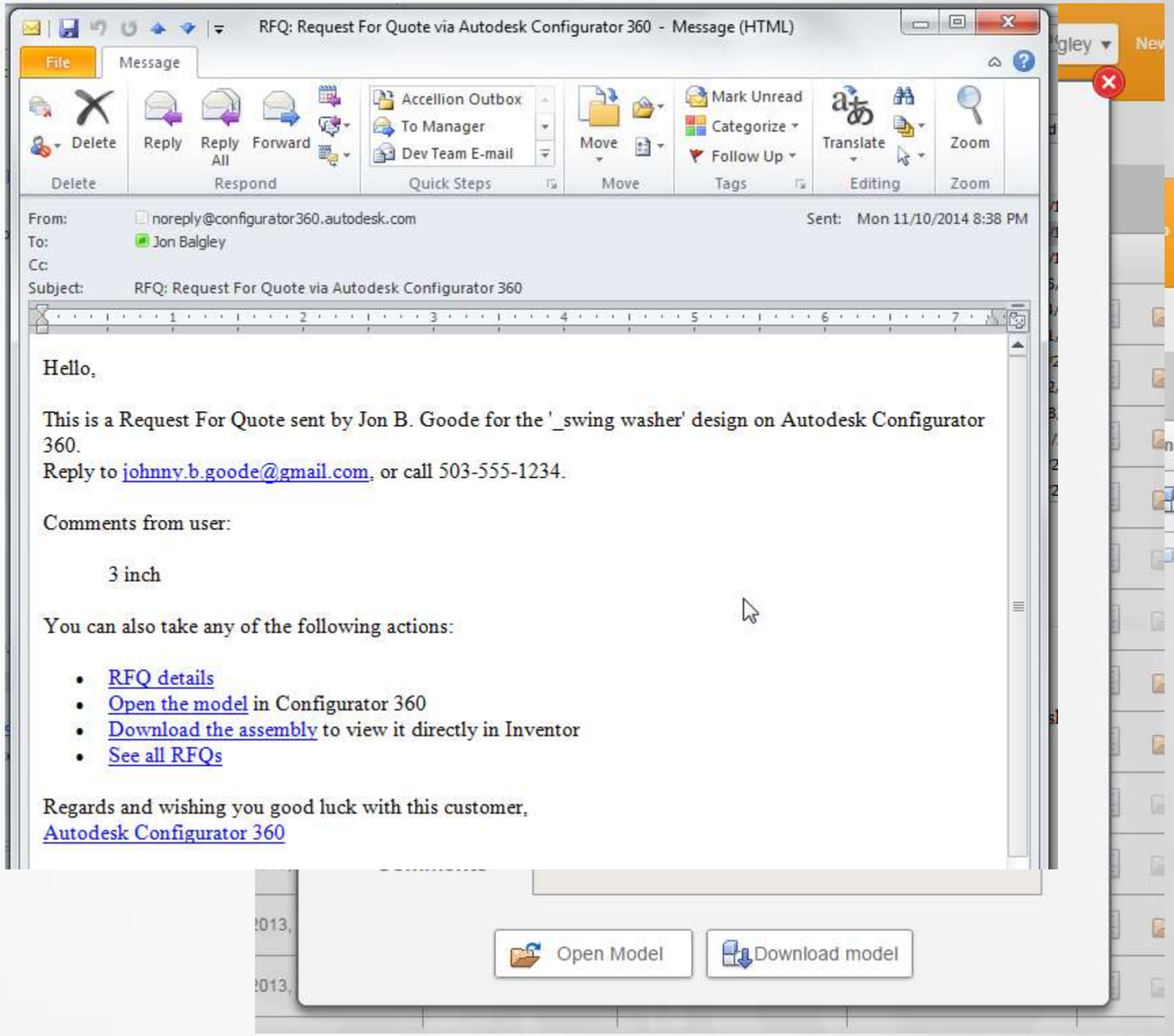
Phone 503-555-1234

Comments 3 inch

We partner with Autodesk to help bring you this service. All personal information submitted will be handled according to the privacy policies of Jon's Company and Autodesk.

Submit Cancel

Native RFQ – Admin User



Native RFQ - Setup

Staff/Skills required

- General Configurator 360 admin skills

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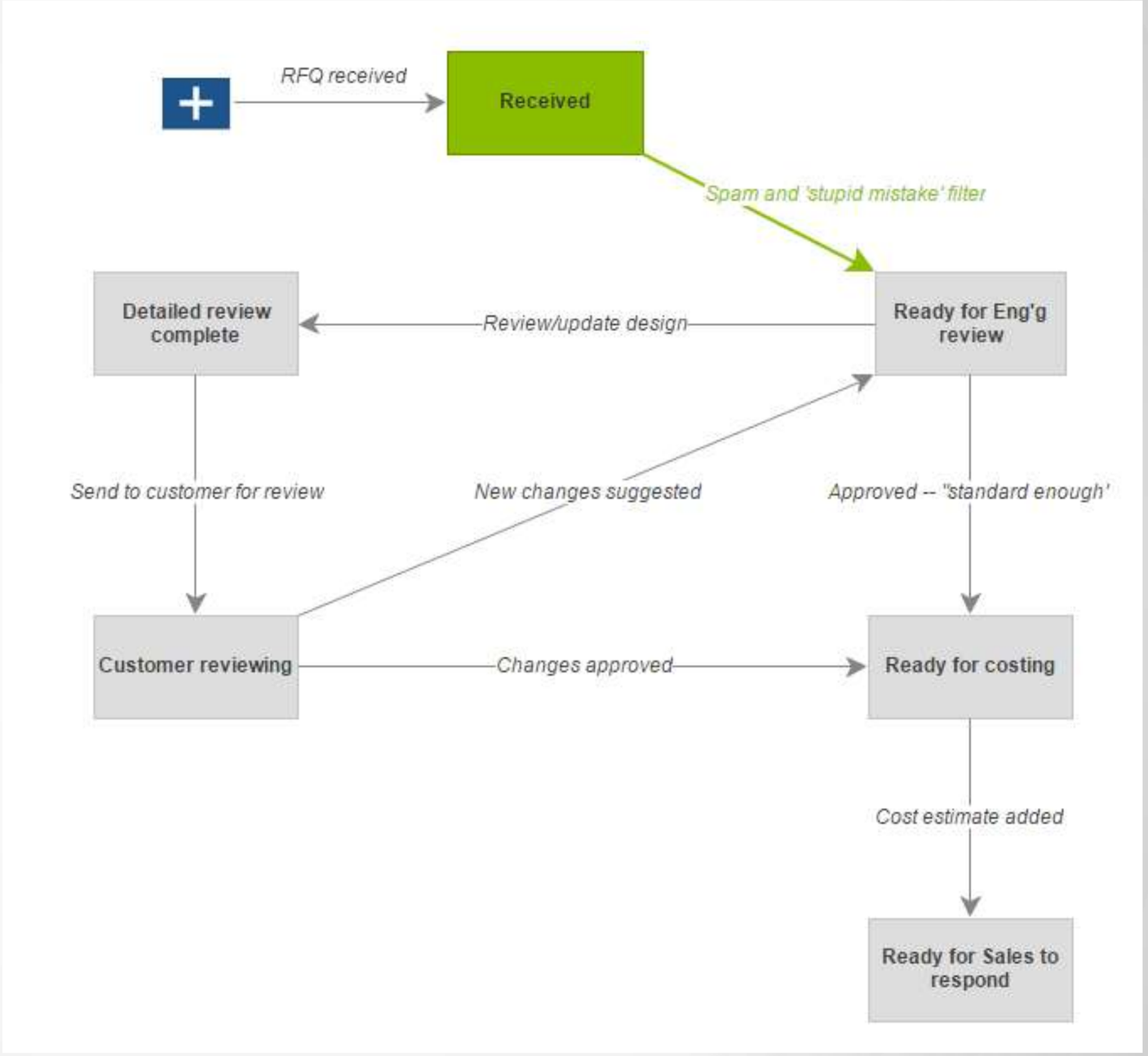
What is PLM 360?

- Autodesk SaaS
- Automation system for managing workflows and records
- Users/groups
- Simple tables/records (“workspaces” and “items”)
- Items can have “states”
- Sequence of states forms a workflow
- …and much more.

Sample Workflow



PLM 360 RFQ

- RFQ = “Request For Quote”
- End-user makes request
- **PLM 360** keeps track of data
  - Same ability to open model “as configured”
- PLM 360 “workflow” begins
- “Pairing” / Setup
- “Update” RFQ data

Admin-user Setup

…and more

End-user Makes Request

Jon's C

Parameters

Model Parameters	
fixedEndOuterDiaXXX (mm)	50
filletRadxxx (mm)	2
slotWidth (mm)	20
fixedHoleDia (mm)	20
slotToHoleLength (mm)	76.2
thickness (mm)	5
User Parameters	
swingEndOuterDia (mm)	75

Actions

STEP IGES STL JPEG

3D Outputs | Image Outputs

asher

ley

Front

est price

Request price

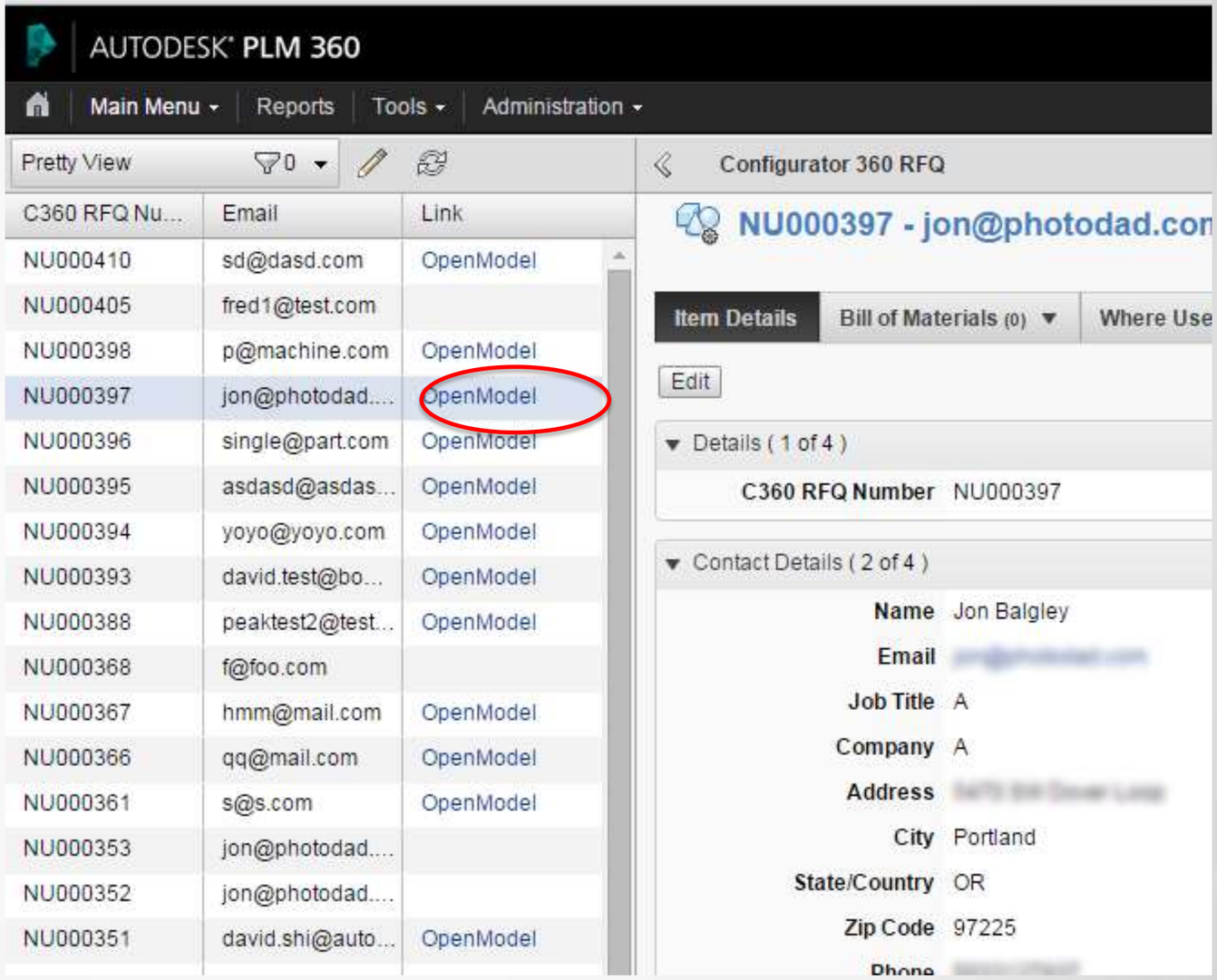
Please enter your contact information below, and we will get back to you with a quotation for this configuration.

Name	Jon B. Goode
Email	johnny.b.goode@gmail.com
Job Title	Anything
Company	Self-employed
Address	123 Main St.
City	Portland
State	OR
Country	United States
Zip	97225
Phone	503-555-1234
Comments	3 inch

We partner with Autodesk to help bring you this service. All personal information submitted will be handled according to the privacy policies of Jon's Company and Autodesk.

Submit Cancel

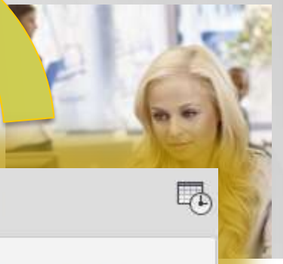
PLM 360 Keeps Track of Data

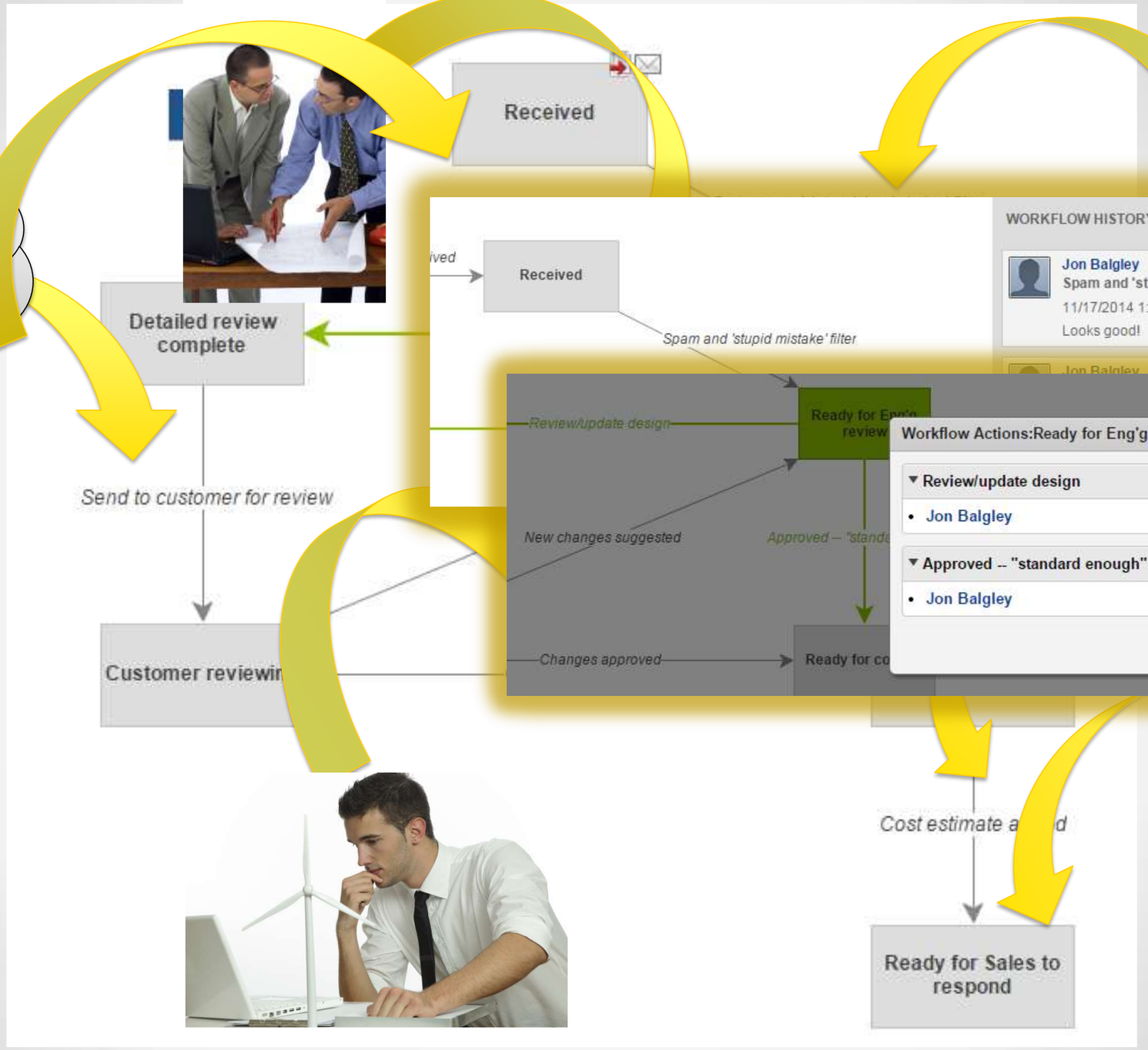


PLM 360 Workflow Begins

Workflow

Configurator 360





Olga in Order Entry

Arthur the accountant

Staff/Skills required

- “It takes a village”

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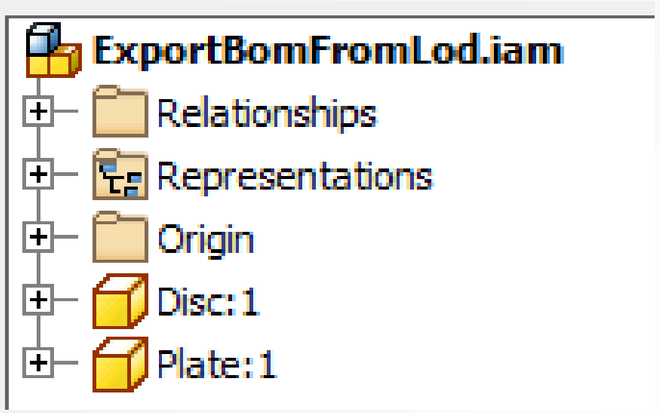
PLM 360 BOM

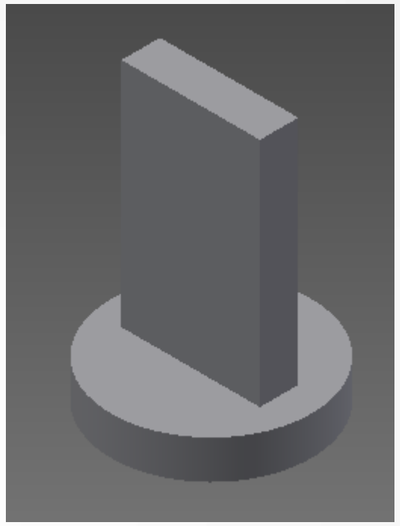
- BOM = “Bill of Materials”
- Inventor BOM → PLM BOM
- Custom / Standard

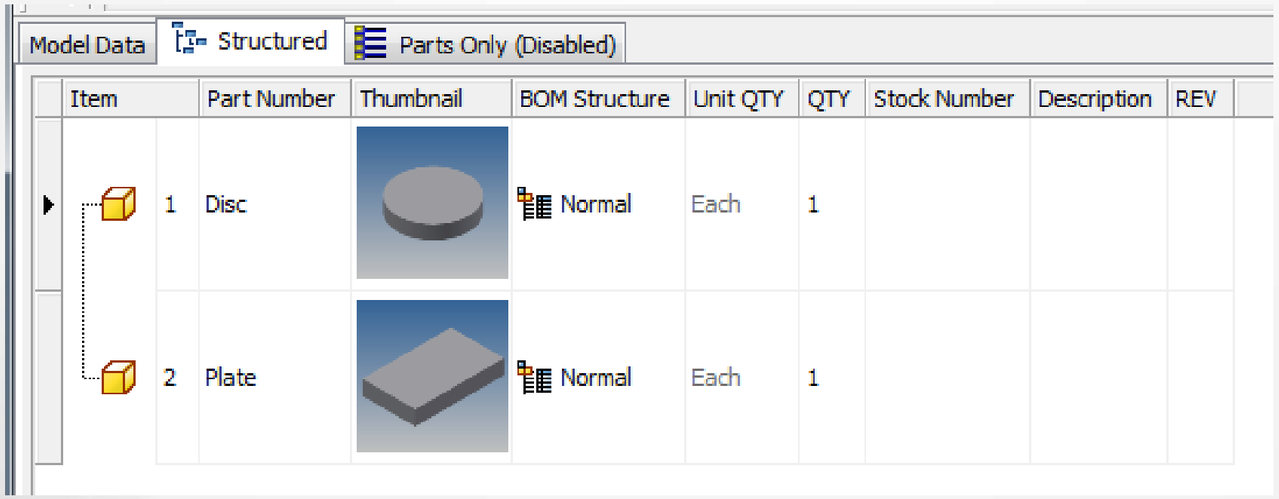
Inventor “BOM Structure”

- Normal
- Inseparable – normal, but treat assembly like a part
- Purchased – assemblies also treated like a part
- Phantom – not transferred, children promoted
- Reference – not transferred, children ignored

Inventor “BOM Structure”

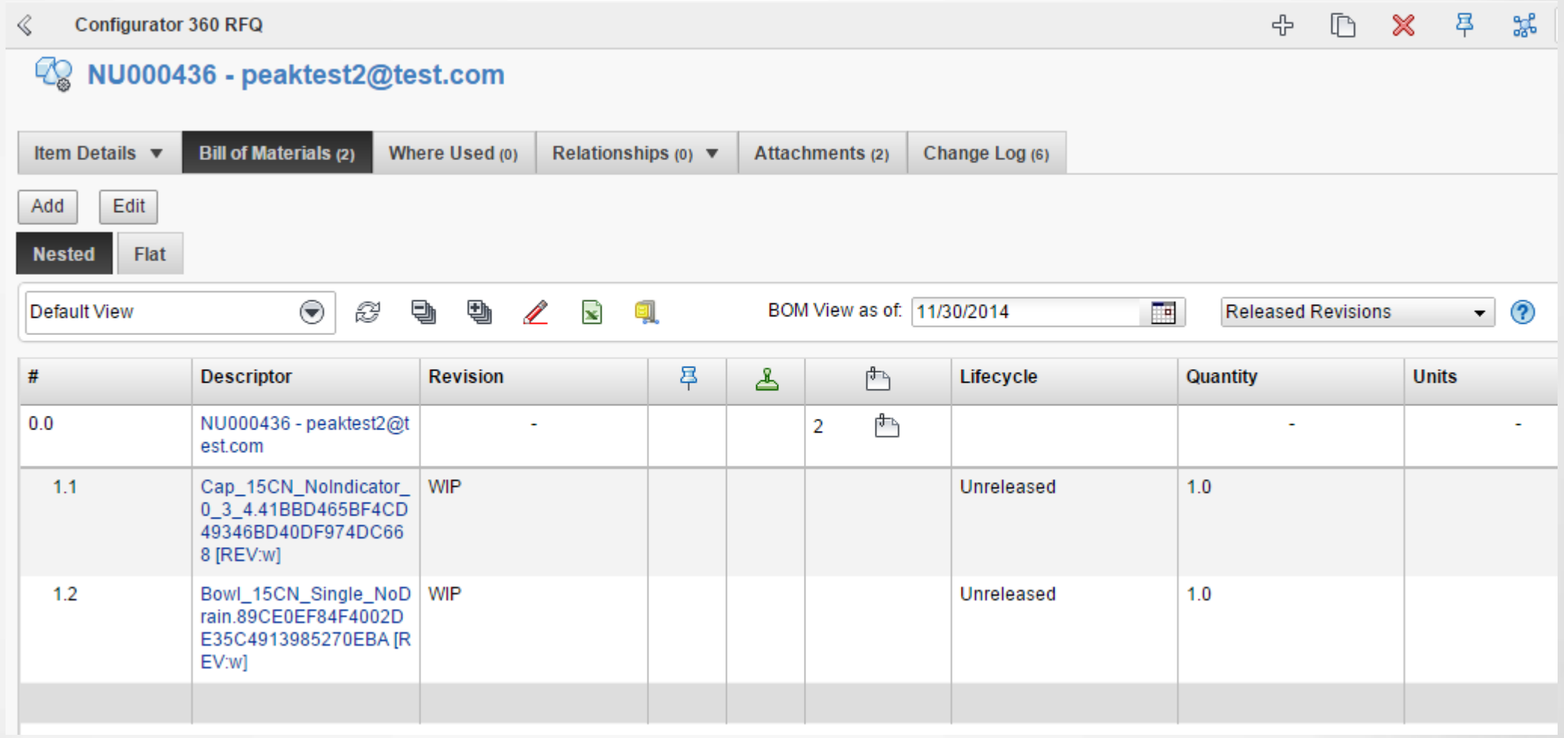






PLM BOM

- Attached to RFQ Item



PLM BOM

- Items in a workspace (records in a table)
  - Or multiple workspaces
- Hierarchical relationship between “parent” and “children” items; quantity

PLM BOM – Two Workspaces of Items

Custom

Name	Part Number	Description
Assembly	PN001	Anything

Standard

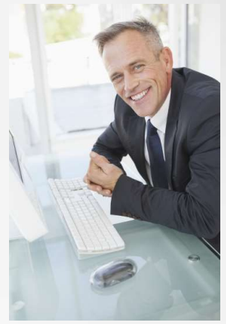
Name	Part Number	Description
Disc	PN002	Something
Plate	PN003	Another

Integration

- Populates PLM BOM from Inventor BOM
- “Standard” and “Custom” workspaces
- Standard = reusable for other customers
- Custom = unique for this order
- Partitioned by Inventor BOM Structure
  - (normal/inseparable vs. purchased)

Staff/Skills required

- Inventor skills (part numbering)
- General Configurator 360 admin skills
- PLM and other admin skills



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Agenda

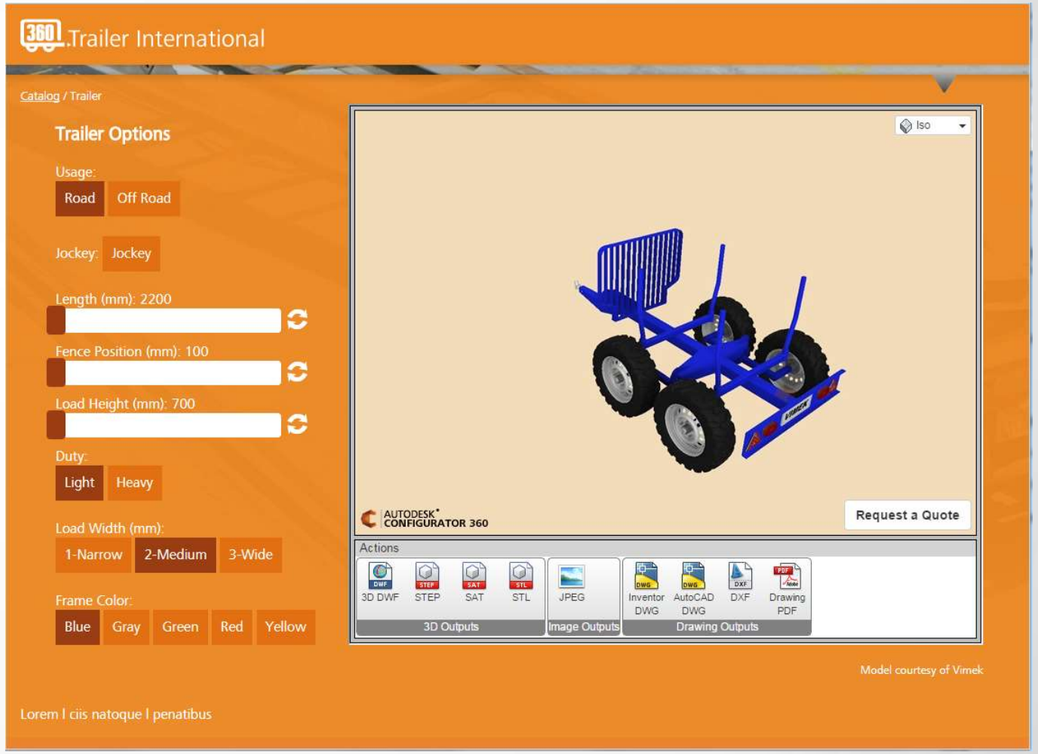
- Introduction
- Overview of Configurator 360
- Embedding into Your Website
- Custom PDF Documents
- Native RFQ
- PLM 360 RFQ
- PLM 360 BOM
- Review

Review: Key learning objectives

- …website integration capabilities of Configurator 360 service
- …enhanced business-process capabilities
- …integration with Autodesk PLM 360
- …roles and skill levels integrate Configurator 360

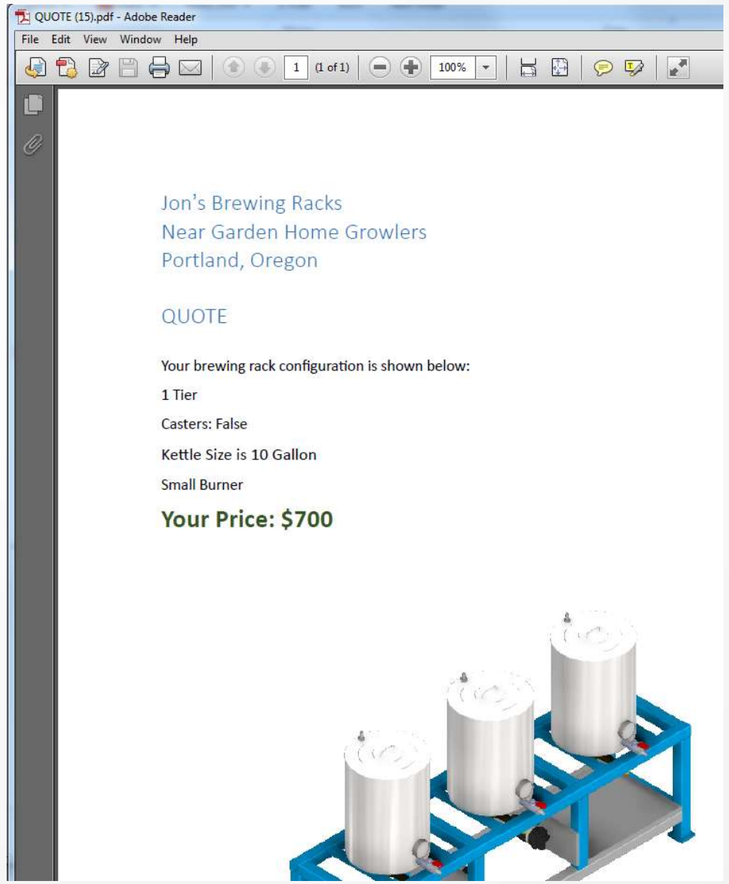
Learning Objective: Website Integration

- Custom website is common scenario
- Test environments
- Use Javascript API
- Web programmer



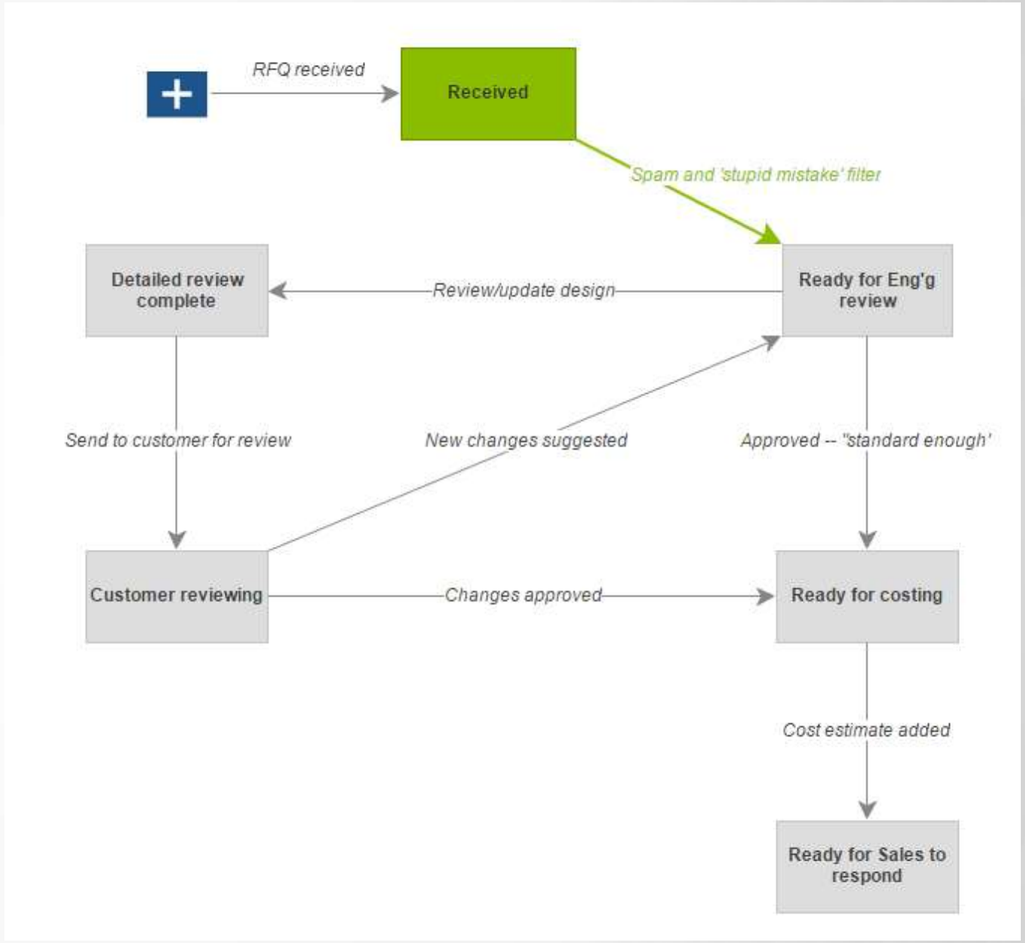
Learning Objective: Business Process Capabilities

- Custom PDF documents from Word templates
- Other outputs
- “Native” RFQ



Learning Objective: Integration with PLM 360

- Save “RFQ” data
- Optionally save Inventor BOM
- Kick off “workflow”
- Open models from PLM



Learning Objective: Roles and Skill Levels

- Inventor expert – for models and rules
- Configurator 360 admin – for coordinating
- Web programmer – genius/wizard NOT required
- PLM 360 admin – similar to a DB admin, NOT a genius/wizard

Session Feedback

- Via the Survey Stations, email or mobile device
- AU 2015 passes given out each day!
- Best to do it right after the session
- Instructors see results in real-time

Thank you!

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