



**From site
to system**

The web matters more than ever. But web sites matter less.

EE-based websites

Disruption
Social media

Commodification
Drag-&-drop
website builders

Maturation
Sector-based
platforms

“Brands may find that they need to spend \$4 on digital operational excellence for every \$1 spent on digital customer experiences.”

—Forrester Research, November 2016

System

**Transforming input
for a wider purpose**



“Software is
eating the world.”

—Marc Andreessen

...And the web is
eating software...

Business process management

Universally required

Models and manages work itself

Enables collaboration, rules and process

Repeated work patterns, not projects

It's the underlying step of digital transformation.

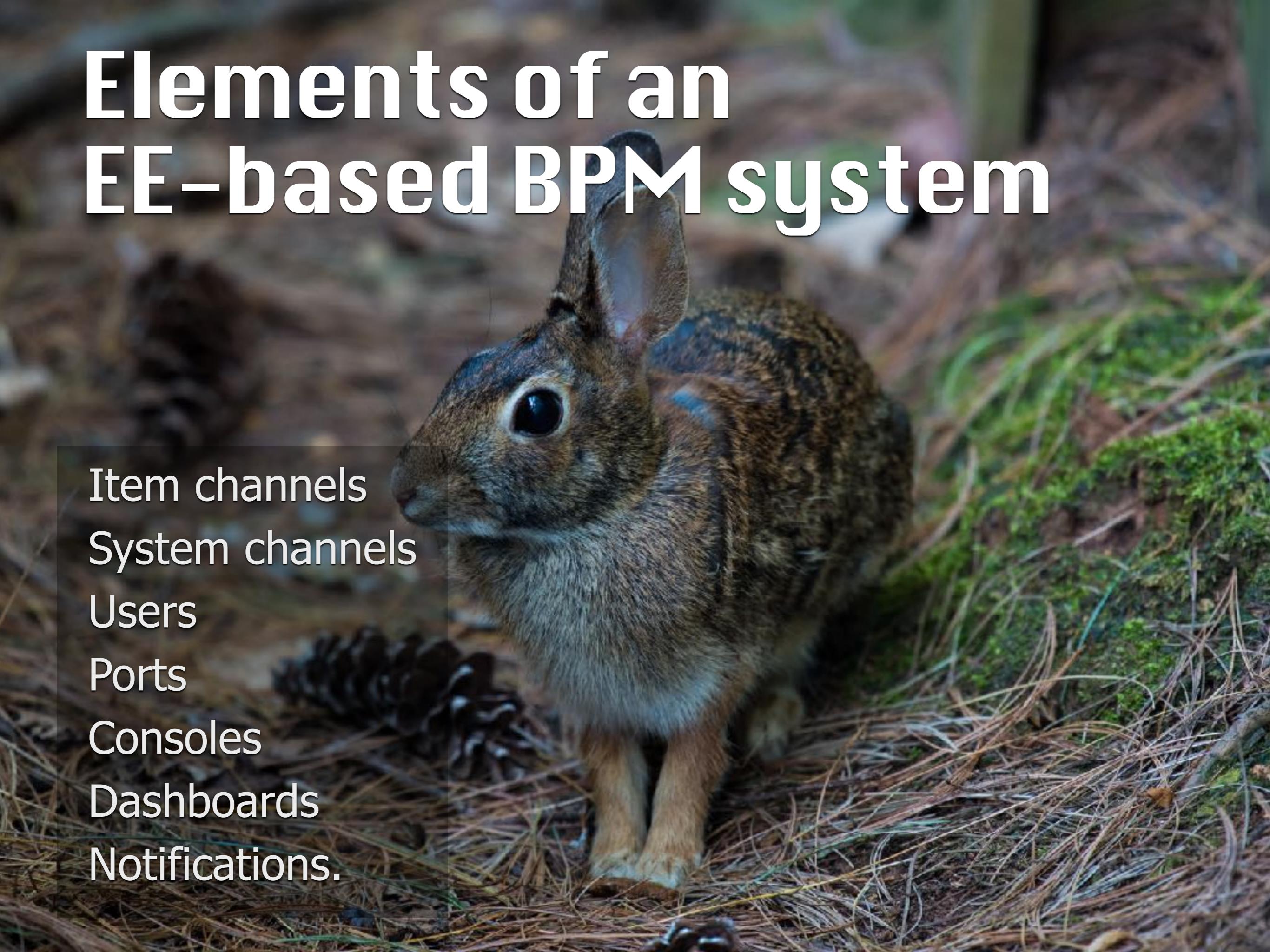




"BPM is a discipline involving any combination of modeling, automation, execution, control, measurement and optimization of business activity flows, in support of enterprise goals, spanning systems, employees, customers and partners within and beyond the enterprise boundaries."

—Nathaniai Palmer, bpm.com

Elements of an EE-based BPM system

A close-up photograph of a squirrel's head and upper body. The squirrel has brown and grey fur with a prominent white patch on its ear. It is looking slightly to the left. The background is a blurred forest floor with pine needles and moss.

- Item channels
- System channels
- Users
- Ports
- Consoles
- Dashboards
- Notifications.

Item Channels

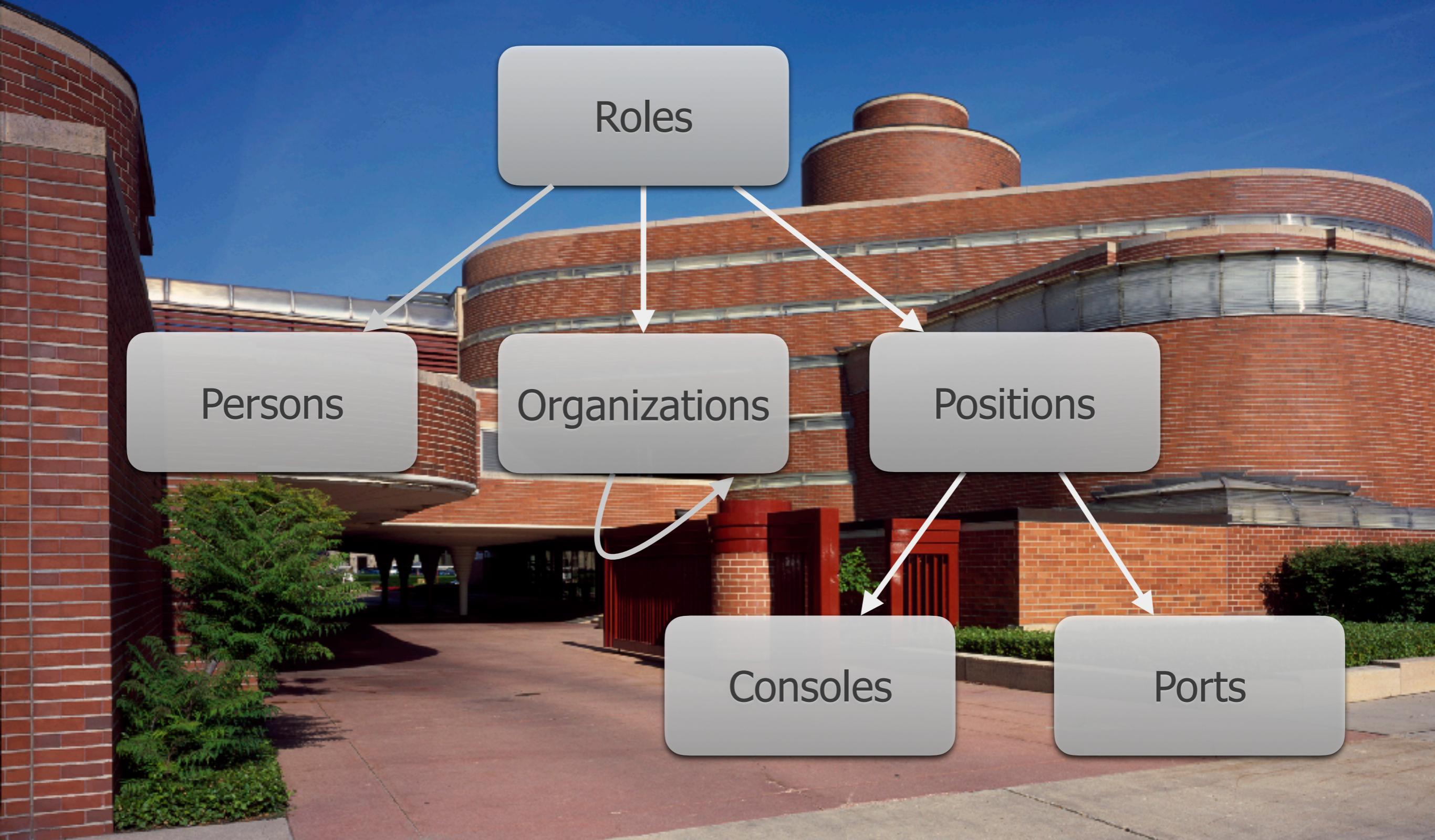
Modeling the real world

Time matters and EE entries always have it

“Model is more stable
than function.”

—Michael Jackson, Systems Development

System channels



Roles

Persons
Positions
Organizations



Kate Brown
Governor
Oregon



Chris Christie
Governor
New Jersey



John Hickenlooper
Governor
Colorado

Position

Source of privileges for ports and consoles

	PORT	STATUS	ACTION
PRIVILEGE #1	sys-1	saved	submit
PRIVILEGE #2	sys-1	submitted	view
ETC	sys-2	finance-approved	approve



Ports

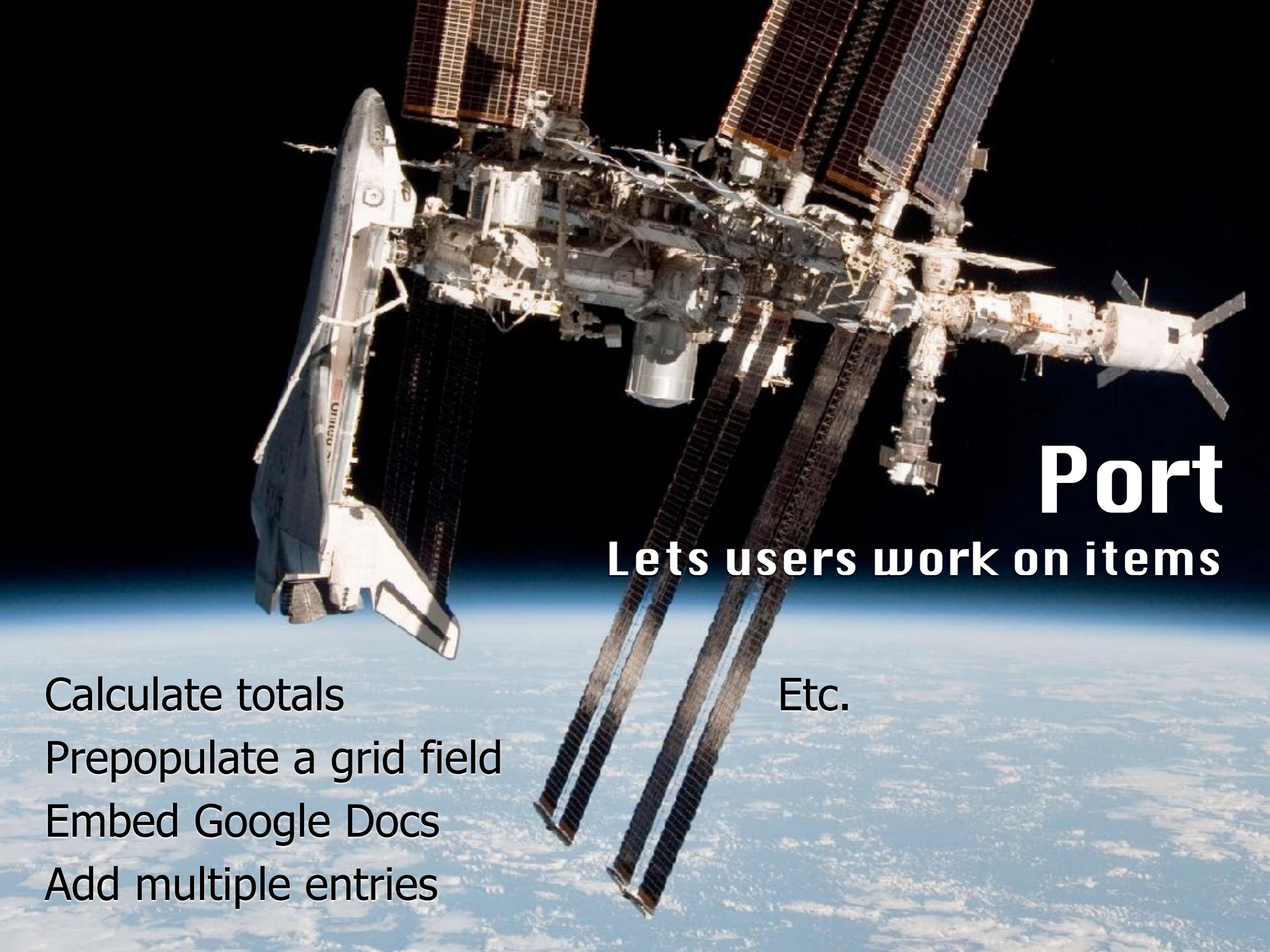
How they're made

Saved as templates named /ports/.[port_url_title]

Embedded into parent template /ports/index.html

Have URLs of /ports/[org_url_title]/
[port_url_title]/[entry_url_title]

Share common buttons area as a snippet.



Port

Lets users work on items

Calculate totals

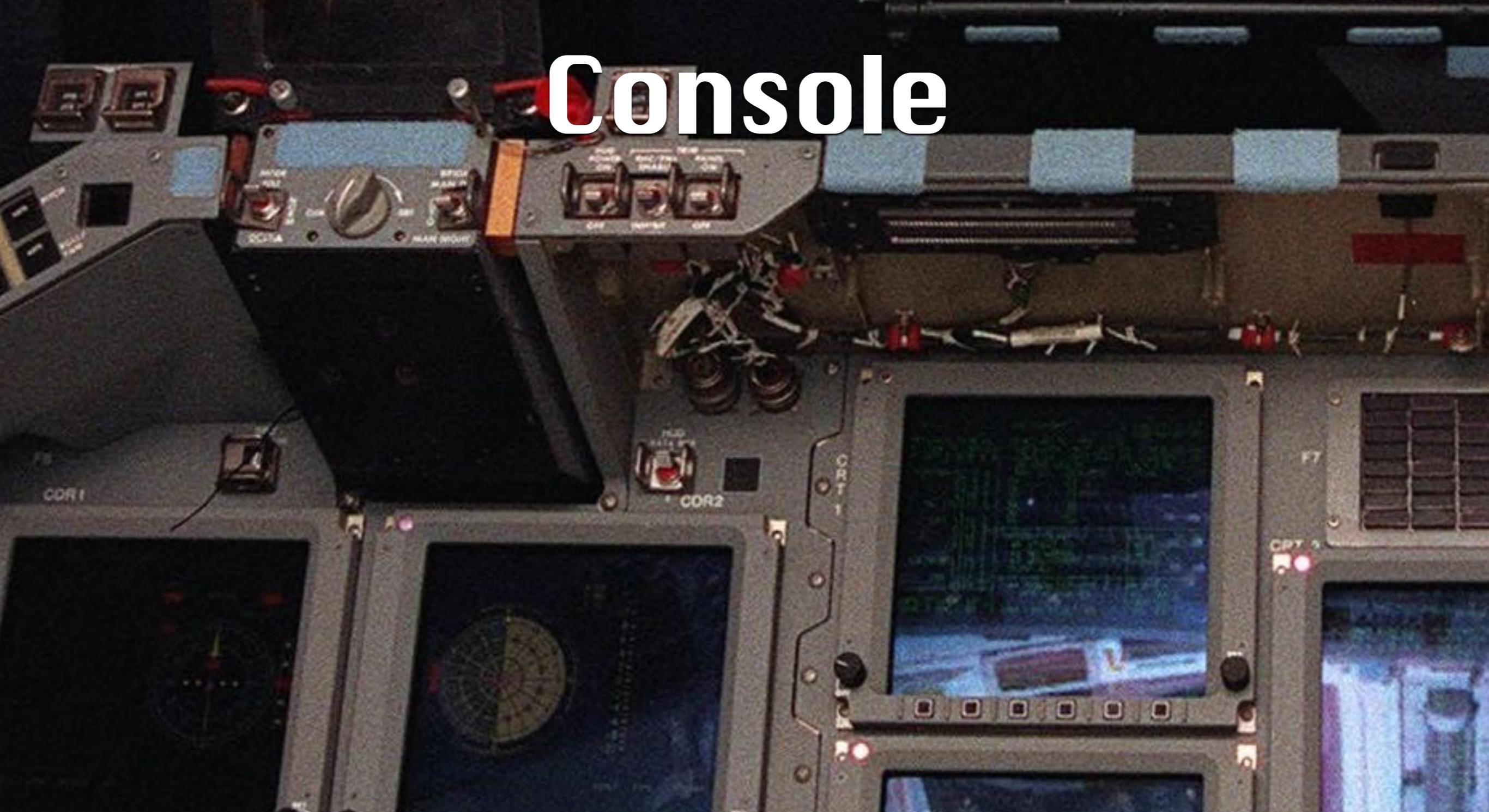
Prepopulate a grid field

Embed Google Docs

Add multiple entries

Etc.

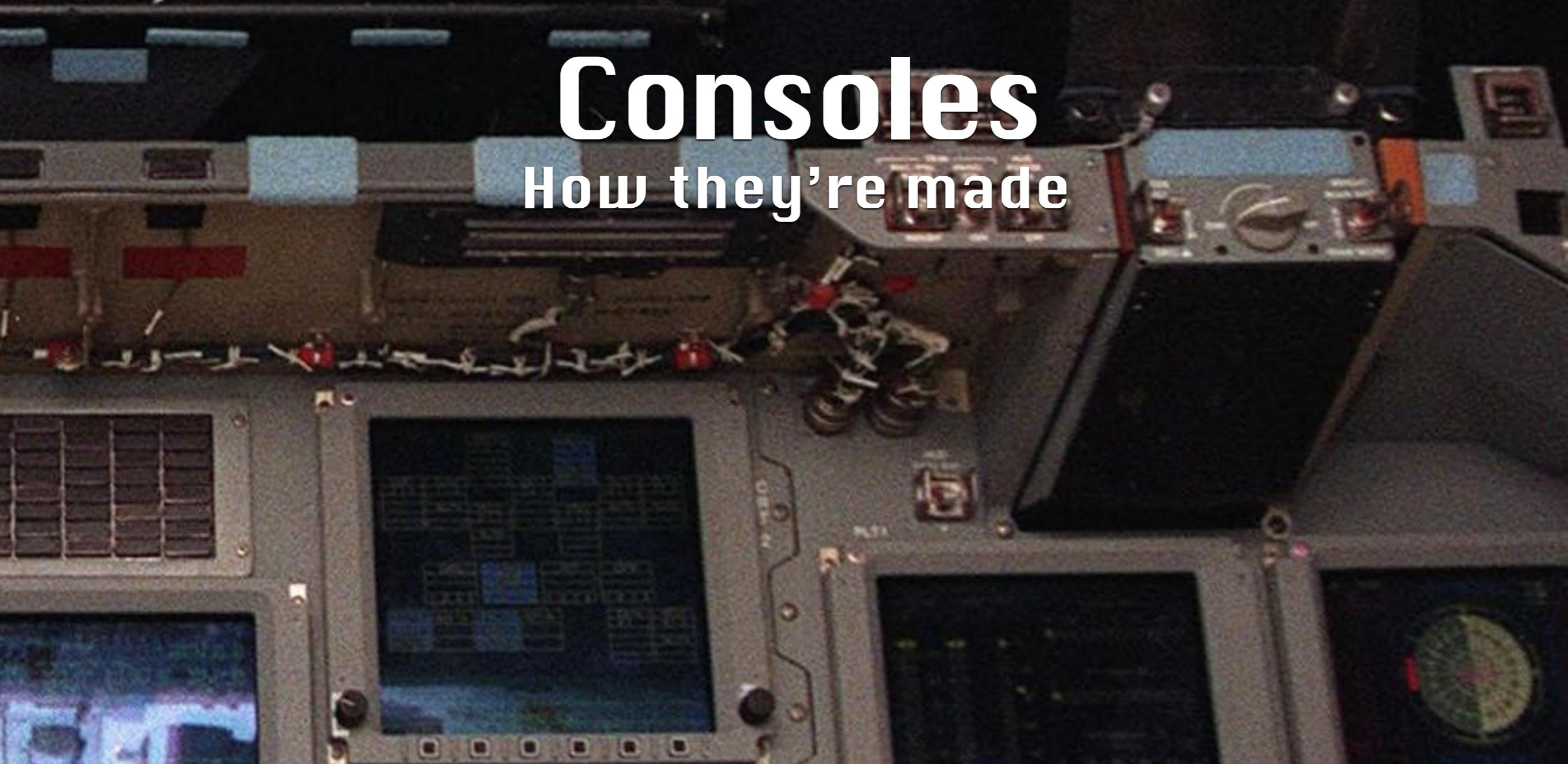
Console



Custom overview of item channel(s) such as a graph
But usually simply a table with various links to a port
Replaces user access to EE cpanel.

Consoles

How they're made



Saved as templates named
/consoles/.[consoles_url_title]

Appear for multiple positions

Have their variations handled client-side.

Dashboards



Comprised of consoles

Each corresponds to a system activity area

Together comprise a role screen

Role screens have URLs of

`/roles/[role_url_title]/[org_url_title]`

Add-ons for an EE-based BPM system

CE Cache

Visitor

(Notifications)



Testing



Difficult with a dynamic system
Requires much imagination
20% coding, 80% testing?
No, testing by trial.



OBJECT MANAGEMENT GROUP®



OBJECT MANAGEMENT GROUP®

Standards for Process Modeling

BPMN 2.0 Business Model Process and Notation

CMMN Case Management Model and Notation

DMN Decision Model and Notation



OBJECT MANAGEMENT GROUP®

Why BPMN?

Graphic, high-level, comprehensible for people

Increasingly dominant standard

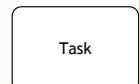
Exports to XML for software engines to import!

Perfect functional complement to channel item modeling

BPMN 2.0 - Business Process Model and Notation

<http://bpmb.de/poster>

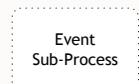
Activities



Task



Transaction



Event Sub-Process



Call Activity

Activity Markers

Markers indicate execution behavior of activities:



Sub-Process Marker



Loop Marker



Parallel MI Marker



Sequential MI Marker



Ad Hoc Marker



Compensation Marker



Sequence Flow
defines the execution order of activities.

Task Types

Types specify the nature of the action to be performed:



Send Task



Receive Task



User Task



Manual Task



Business Rule Task



Service Task



Script Task

Default Flow

is the default branch to be chosen if all other conditions evaluate to false.

Conditional Flow

has a condition assigned that defines whether or not the flow is used.

Conversations



A Conversation defines a set of logically related message exchanges. When marked with a **+** symbol it indicates a Sub-Conversation, a compound conversation element.

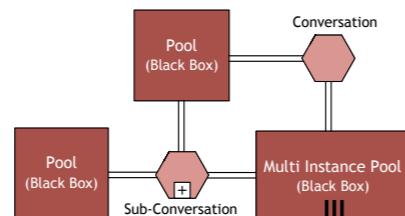


A Call Conversation is a wrapper for a globally defined Conversation or Sub-Conversation. A call to a Sub-conversation is marked with a **+** symbol.

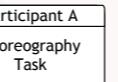


A Conversation Link connects Conversations and Participants.

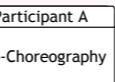
Conversation Diagram



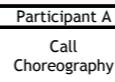
Choreographies



Participant A
Choreography Task
Participant B



Participant A
Sub-Choreography
+
Participant B
Participant C



Participant A
Call Choreography
Participant B

A Choreography Task represents an Interaction (Message Exchange) between two Participants.

A Sub-Choreography contains a refined choreography with several Interactions.

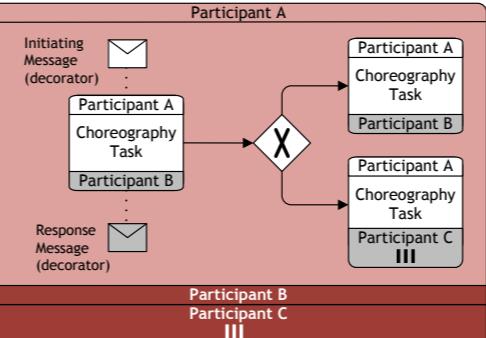
A Call Choreography is a wrapper for a globally defined Choreography Task or Sub-Choreography. A call to a Sub-Choreography is marked with a **+** symbol.

Multiple Participants Marker

denotes a set of Participants of the same kind.

Message
a decorator depicting the content of the message. It can only be attached to Choreography Tasks.

Choreography Diagram



Events



Start



Intermediate



End



Catching



Boundary Non-Interrupting



Throwing

None: Untyped events, indicate start point, state changes or final states.

Message: Receiving and sending messages.

Timer: Cyclic timer events, points in time, time spans or timeouts.

Escalation: Escalating to an higher level of responsibility.

Conditional: Reacting to changed business conditions or integrating business rules.

Link: Off-page connectors. Two corresponding link events equal a sequence flow.

Error: Catching or throwing named errors.

Cancel: Reacting to cancelled transactions or triggering cancellation.

Compensation: Handling or triggering compensation.

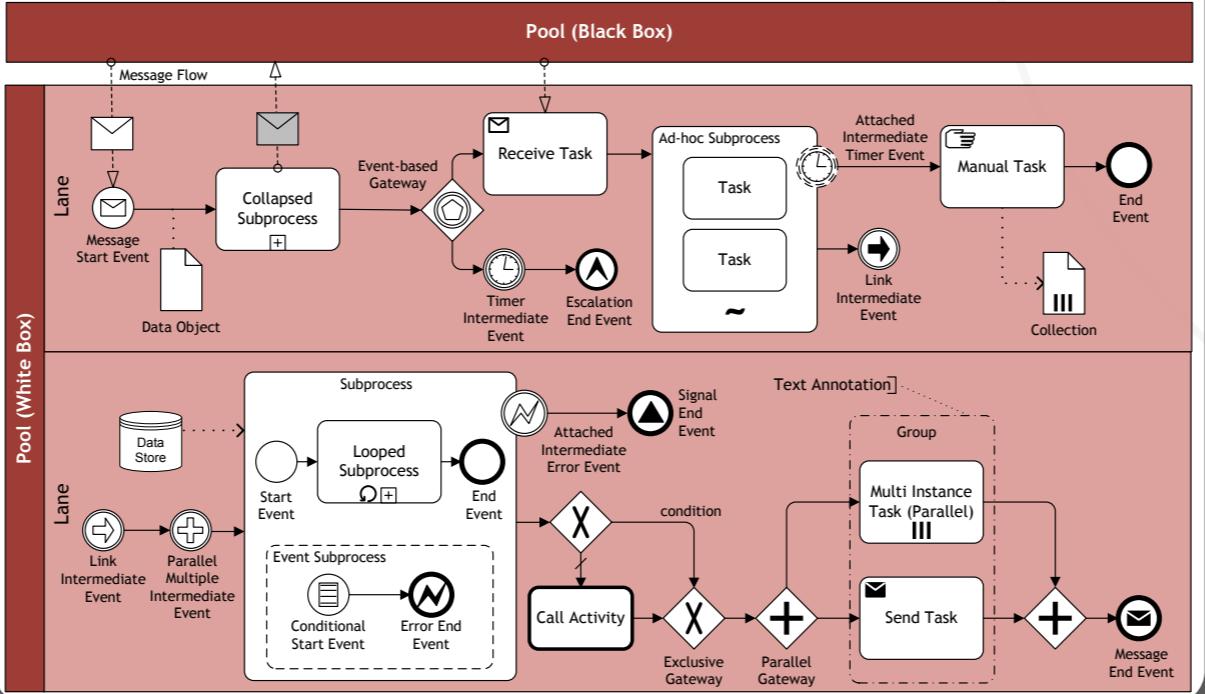
Signal: Signalling across different processes. A signal thrown can be caught multiple times.

Multiple: Catching one out of a set of events. Throwing all events defined

Parallel Multiple: Catching all out of a set of parallel events.

Terminate: Triggering the immediate termination of a process.

Collaboration Diagram



Swimlanes

Pools (Participants) and Lanes represent responsibilities for activities in a process. A pool or a lane can be an organization, a role, or a system. Lanes subdivide pools or other lanes hierarchically.

Message Flow symbolizes information flow across organizational boundaries. Message flow can be attached to pools, activities, or message events. The Message Flow can be decorated with an envelope depicting the content of the message.

The order of message exchanges can be specified by combining message flow and sequence flow.



HPI
Hasso Plattner Institut
IT Systems Engineering | University Potsdam

camunda
the business process company

inubit
integrating your business and IT

SIGNAVIO
simply professional



A Data Object represents information flowing through the process, such as business documents, e-mails, or letters.



A Collection Data Object represents a collection of information, e.g., a list of order items.



A Data Input is an external input for the entire process. A kind of input parameter.



A Data Output is data result of the entire process. A kind of output parameter.



A Data Association is used to associate data elements to Activities, Processes and Global Tasks.



A Data Store is a place where the process can read or write data, e.g., a database or a filing cabinet. It persists beyond the lifetime of the process instance.

© 2011

World of BPM

Buzzwords

Low-code movement

Choreography

Pools

Lanes

BPM consultancies

bpm-d.com

focus on 20% of processes that matter

BPMS vendors

Appian

Nintex

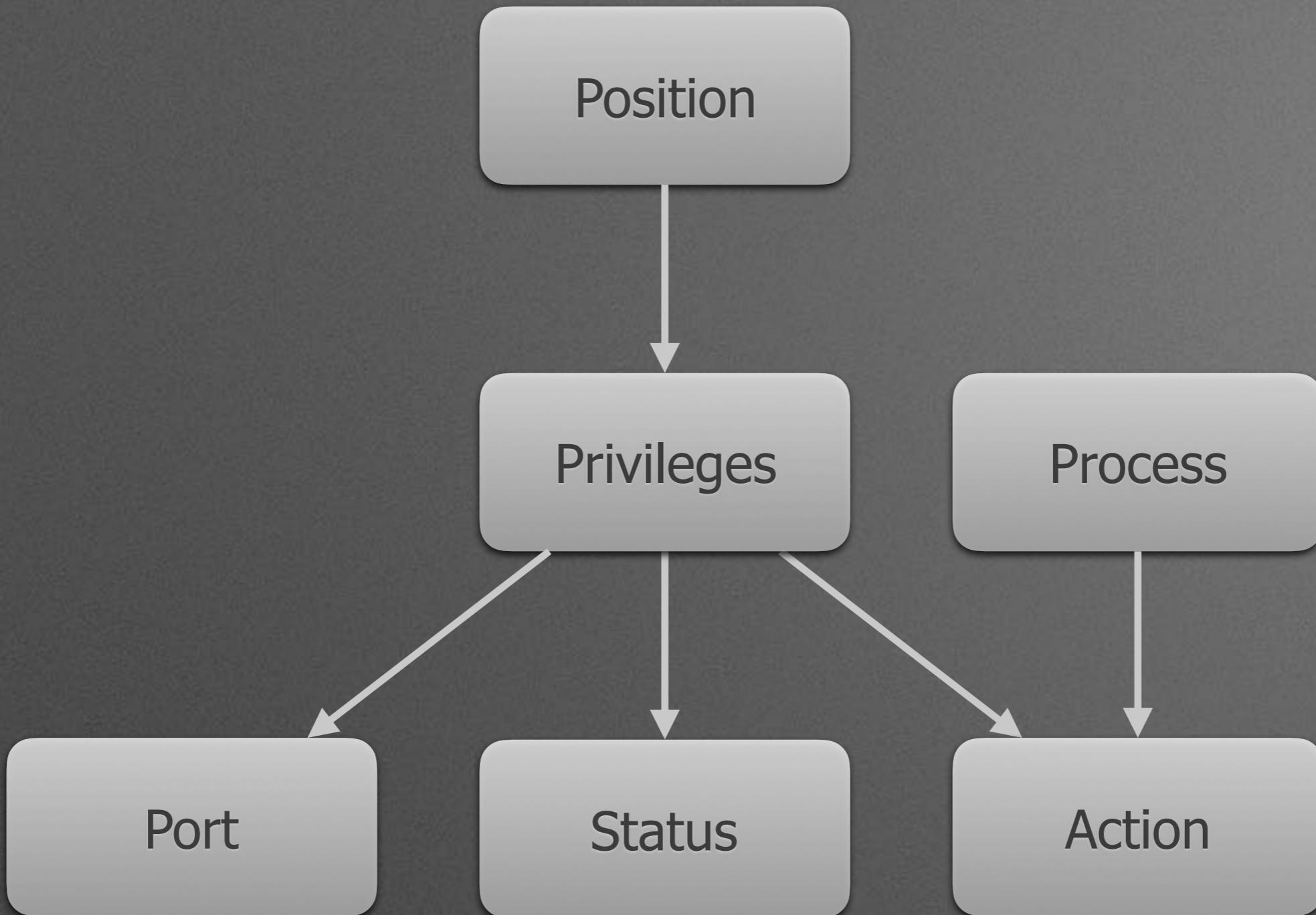
Bizagi

Pega

Camunda

Etc...

System channel architecture Improvements



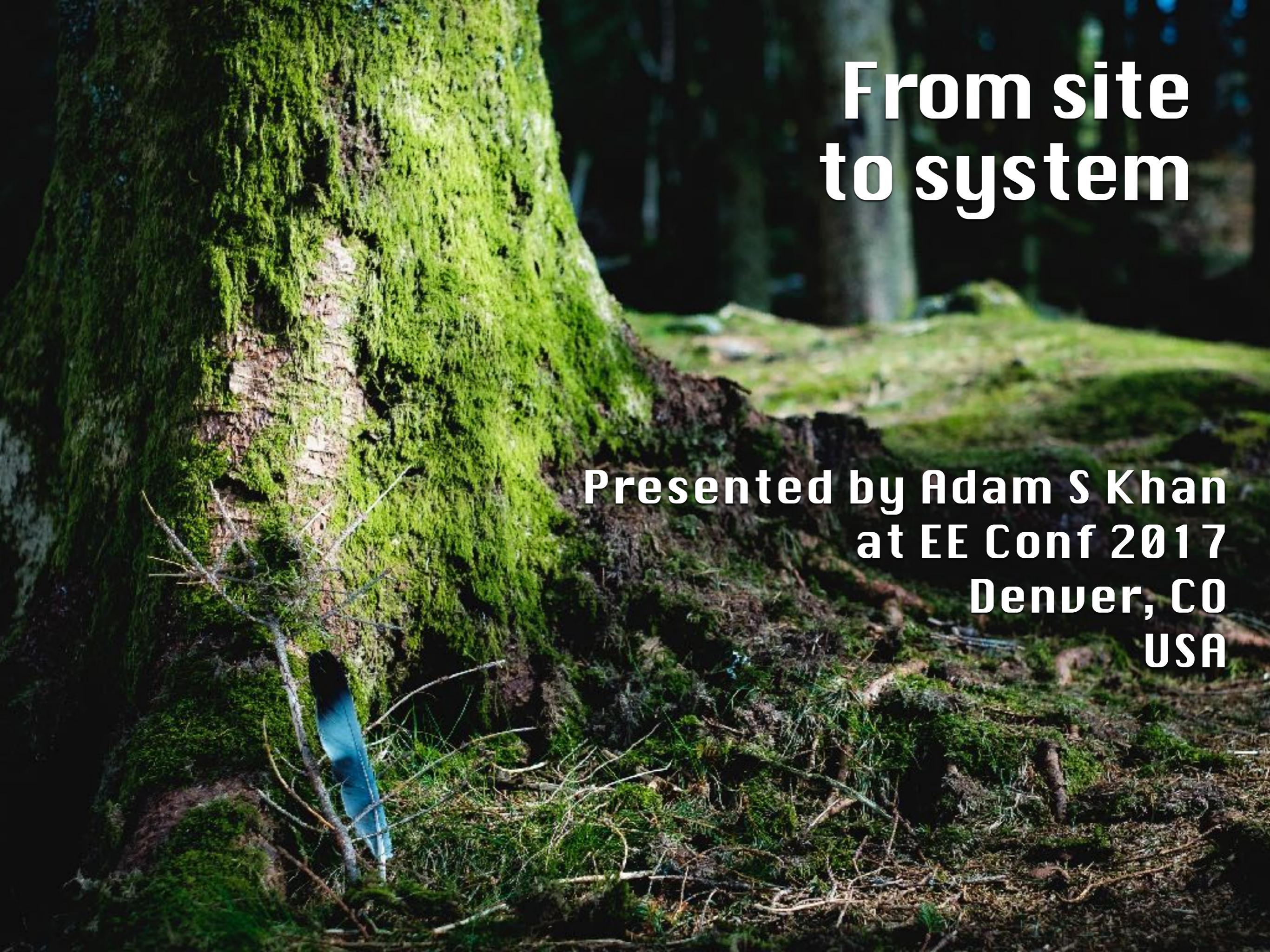
We've got this

We live in the browser
We know modeling
We're user-centric
Our web-first approach
can bring together staff
and customers/audiences



“We have no longer an outside and an inside as two separate things. Now the outside may come inside and the inside may and does go outside. They are of each other.”

—Frank Lloyd Wright



From site to system

**Presented by Adam S Khan
at EE Conf 2017
Denver, CO
USA**