

The Salient Process SPARK UI Toolkit for IBM Business Process Manager (BPM)

Dennis Parrott
Offering Manager - IBM BPM,
Process Transformation

Eric Ducos
Chief Innovator - Salient Process

InterConnect
2017



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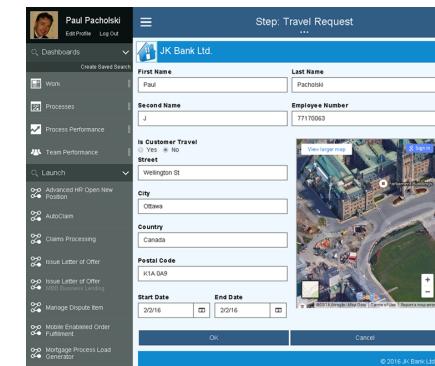
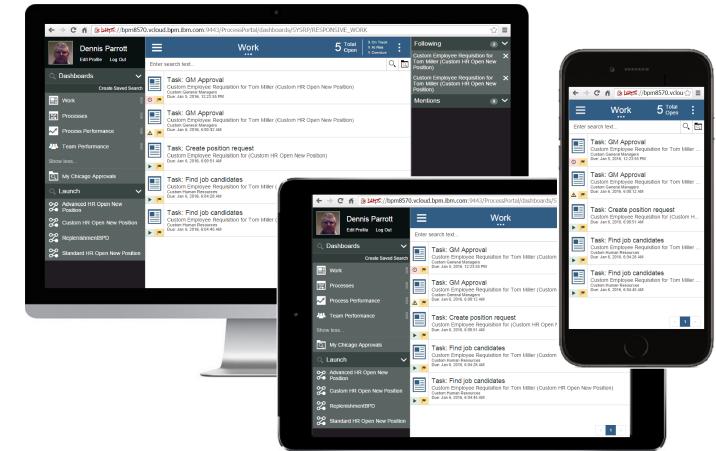
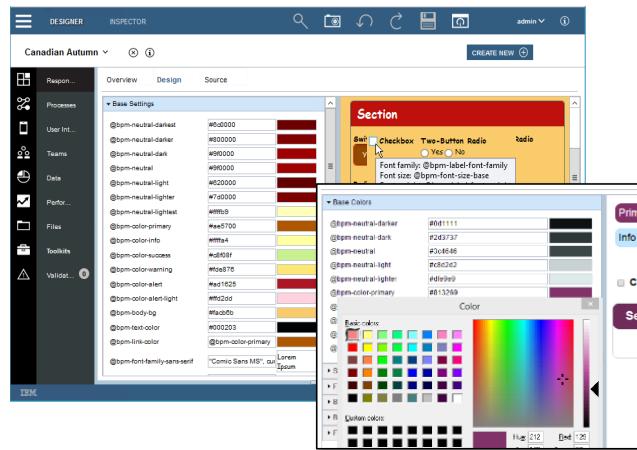
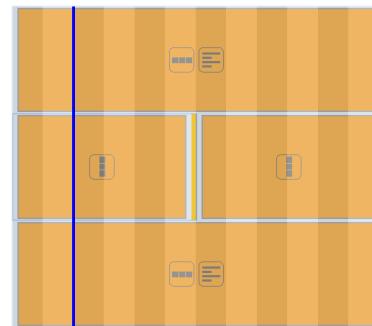
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Performance is based on measurements and projections using standard IBM benchmarks in a controlled environment. The actual throughput or performance that any user will experience will vary depending upon many factors, including considerations such as the amount of multiprogramming in the user's job stream, the I/O configuration, the storage configuration, and the workload processed. Therefore, no assurance can be given that an individual user will achieve results similar to those stated here.

The IBM BPM UI evolution

A brief history of IBM BPM UI

Heritage Coaches
Heritage Human Services
Coach Framework
Coach Views
Client Side Human Services
Responsive Portal
Responsive Controls
Grid
Theme
Business Partner Toolkits



Salient Process Partnership

June 2016 Partnership

IBM Reseller of SPARK UI toolkit
with a view to roll SPARK UI toolkit
into IBM BPM

Co-authors of BPM UI redbook:
<http://ibm.biz/BPMUIRedbook>



Incremental Updates

Theming

Document Controls

Date and Time Picker controls

Accessibility, BiDi (charts) &
Internationalization

WYSIWYG, responsive configuration
& pixel level positioning

First class tooling support

Embedded Events

Embedded Controls

Benefits of SPARK UI toolkit

Over 90 controls

Attractive and intuitive UI

Powerful event mechanism

Accelerate developer productivity

Fully responsive

Maps, video and QR code

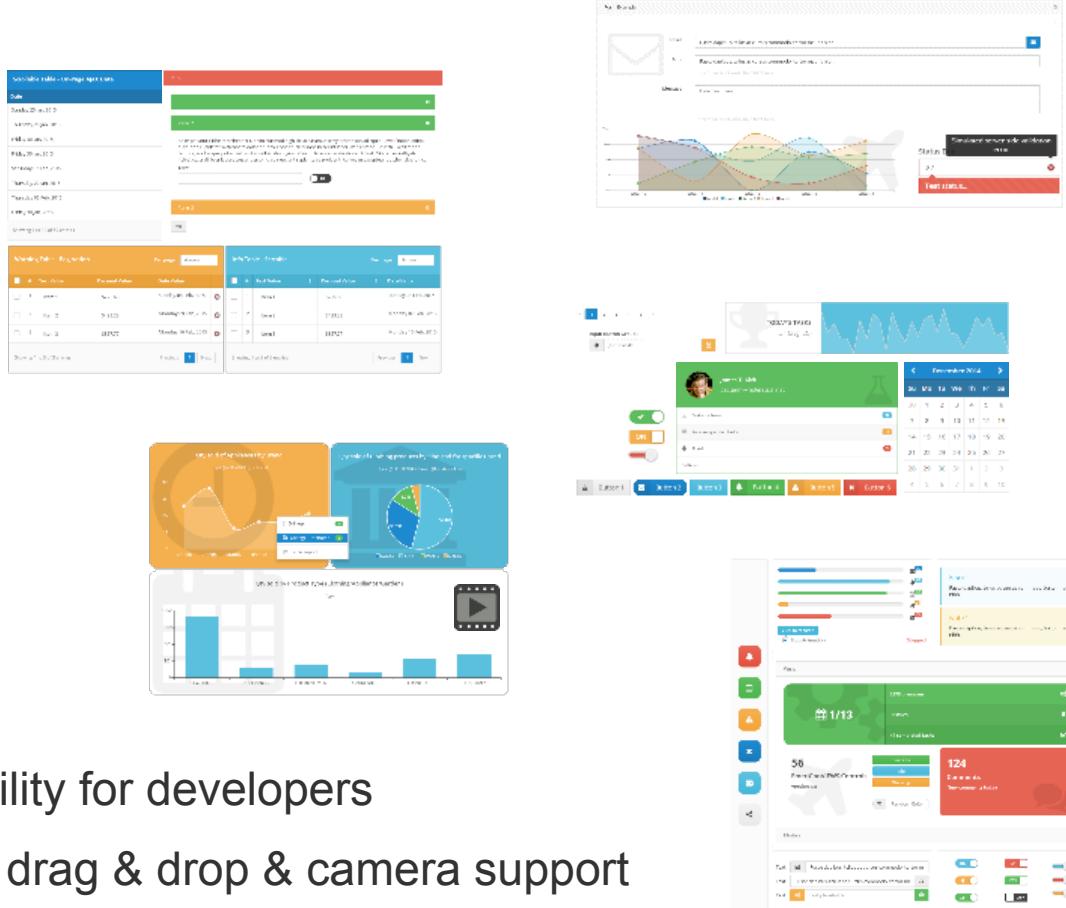
Charting controls with drill down

Designed for performance

Facilitates for user assistance

Modular design provides better flexibility for developers

Mobile ready document controls with drag & drop & camera support



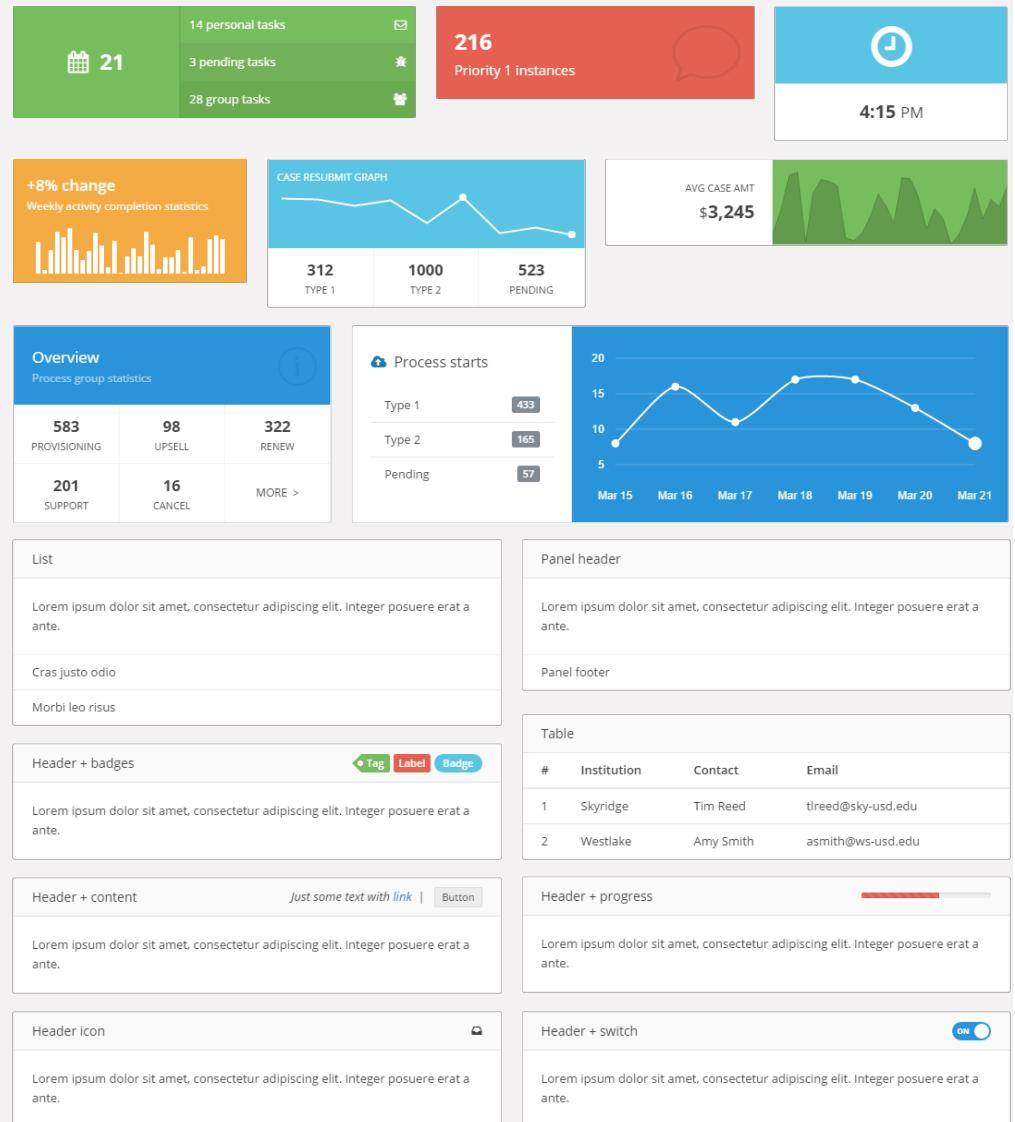
SPARK UI toolkit showcase

Business Users perspective

Business users perspective

Many function-rich controls =
Better UX

- Form controls
- Panels, Tables
- Charts
- Layouts
- Advanced form controls
- Responsive "everything"



Controls sampling – 1/6

Standard form controls

- Typography
- Data entry
- Text, Numbers, Dates
- Checkboxes, radio buttons, groups
- Layout & content flow
- Buttons
- Image

Control sampling – 2/6

Tables

- Many different formats
- Row loading performance
- Selection, paging, filtering, sorting
- Record Add/Delete
- Inline editing
 - Direct field-to-field tabbing
 - No need for click-to-edit
- Content scrolling
- For BPM and non-BPM data

Default Tables

#	Text Value	Decimal Value	Date Value
1	Item 1	\$854.37	Thursday 16 Feb, 2017
2	Item 2	\$478.41	Monday 20 Feb, 2017
3	Item 3	\$123.48	Saturday 18 Feb, 2017

6 Grid styles

Bordered Tables

#	Text Value	Decimal Value	Date Value
1	Item 1	\$854.37	Thursday 16 Feb, 2017
2	Item 2	\$478.41	Monday 20 Feb, 2017
3	Item 3	\$123.48	Saturday 18 Feb, 2017

Striped Tables

#	Text Value	Decimal Value	Date Value
1	Item 1	\$854.37	Thursday 16 Feb, 2017
2	Item 2	\$478.41	Monday 20 Feb, 2017
3	Item 3	\$123.48	Saturday 18 Feb, 2017

Hover Row Tables

#	Text Value	Decimal Value	Date Value
1	Item 1	\$854.37	Thursday 16 Feb, 2017
2	Item 2	\$478.41	Monday 20 Feb, 2017
3	Item 3	\$123.48	Saturday 18 Feb, 2017

Condensed Tables

#	Text Value	Decimal Value	Date Value
1	Item 1	\$854.37	16/02/2017
2	Item 2	\$478.41	20/02/2017
3	Item 3	\$123.48	18/02/2017

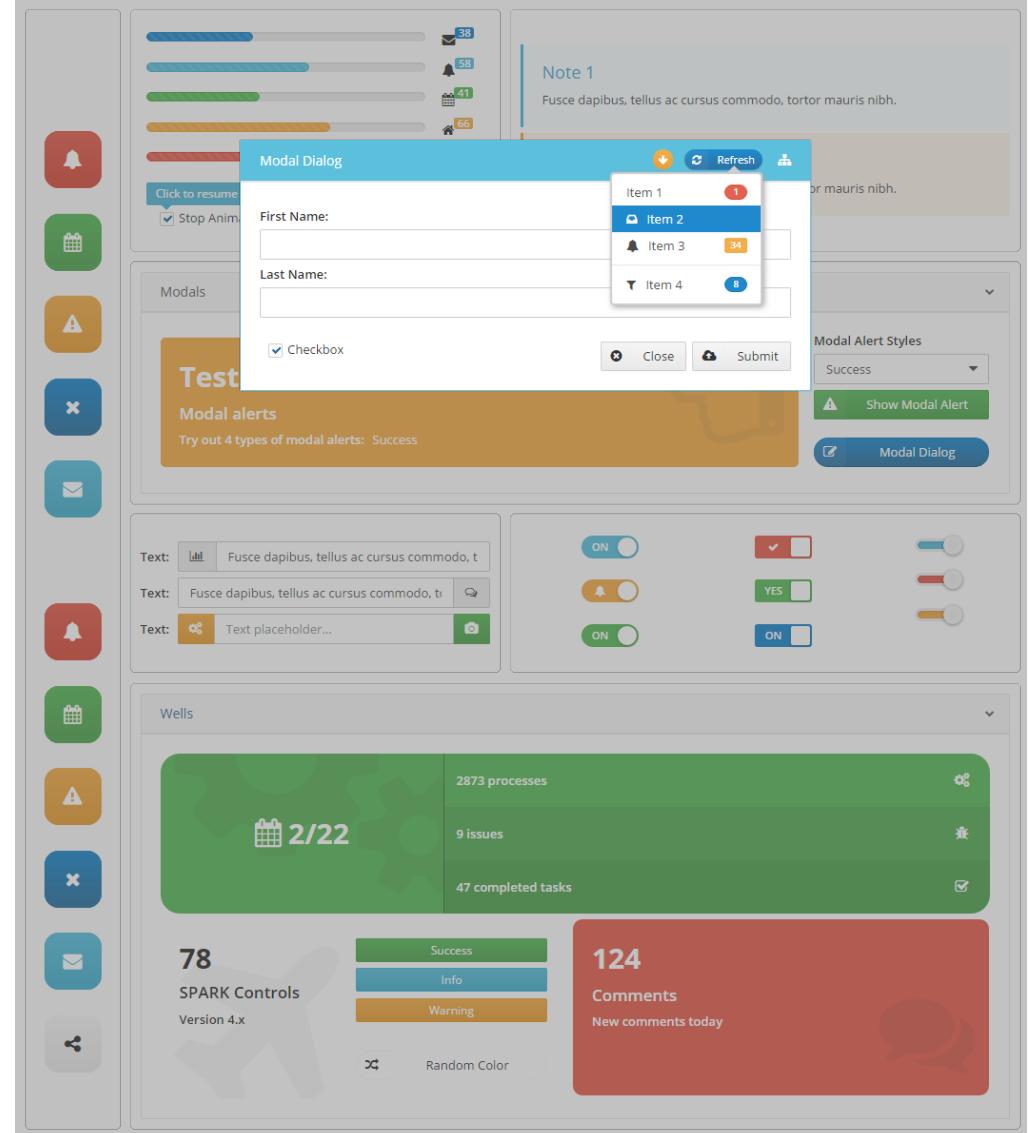
Table Variations

Light Table			Primary Table - Delete Button				
#	Text Value	Decimal Value	Date Value	#	Text Value	Decimal Value	Date Value
1	Item 1	\$854.37	02/16/ 2017	1	Item 1	\$854.37	16 Feb, 2017
2	Item 2	\$478.41	02/20/ 2017	2	Item 2	\$478.41	20 Feb, 2017
..

Control sampling – 3/6

Extended widgets

- Coloring and icons
- Switches, sliders
- Progress bars
- Alerts (modal & sliding)
- Badges, notifications
- Tooltips, status boxes, menus on anything



Control sampling – 4/6

Containers

- Panels
- Collapsible panels
- Wells
- Tabs
- Stacks
- Modal section

Panel

Panel 1

My note

Donec sagittis ligula dui, eget pretium justo bibendum non. Sed volutpat sem quis turpis bibendum, nec rhoncus nisi eleifend. Maecenas malesuada, erat id pulvinar sollicitudin, risus dui faucibus ante, a pulvinar nunc odio eu leo. Vivamus faucibus faucibus vestibulum. Quisque elit mi, faucibus id mattis aliquam, posuere ac mi. Nullam luctus dolor ut pulvinar cursus.

Text:

Text placeholder...

Sample tooltip...

Panel 2

Aenean varius, urna eget fermentum maximus, eros lacus ullamcorper tortor, ut tristique nulla nisl at augue. Maecenas vel imperdiet massa. Maecenas lacus eros, rhoncus eu mi nec, consequat lacinia dolor. Donec venenatis metus sed velit fermentum, quis lobortis lorem rutrum. In mattis interdum fermentum. Sed tincidunt lectus nisi, et elementum ligula pharetra in. Sed non sem in turpis pharetra vestibulum.

Search:

Enter question... OFF

Footer text: Duis non nibh purus

Panel 3

First Tab Other Tab

Anim pariatur cliche reprehenderit, enim eiusmod high life accusamus terry richardson ad squid. 3 wolf moon officia aute, non cupidatat skateboard dolor brunch. Food truck quinoa nesciunt laborum eiusmod. Brunch 3 wolf moon tempor, sunt aliqua put a bird on it squid single-origin coffee nulla assumenda shoreditch et. Nihil anim keffiyeh helvetica, craft beer labore wes anderson cred nesciunt sapiente ea proident. Ad vegan excepteur butcher vice lomo.

Scan this code

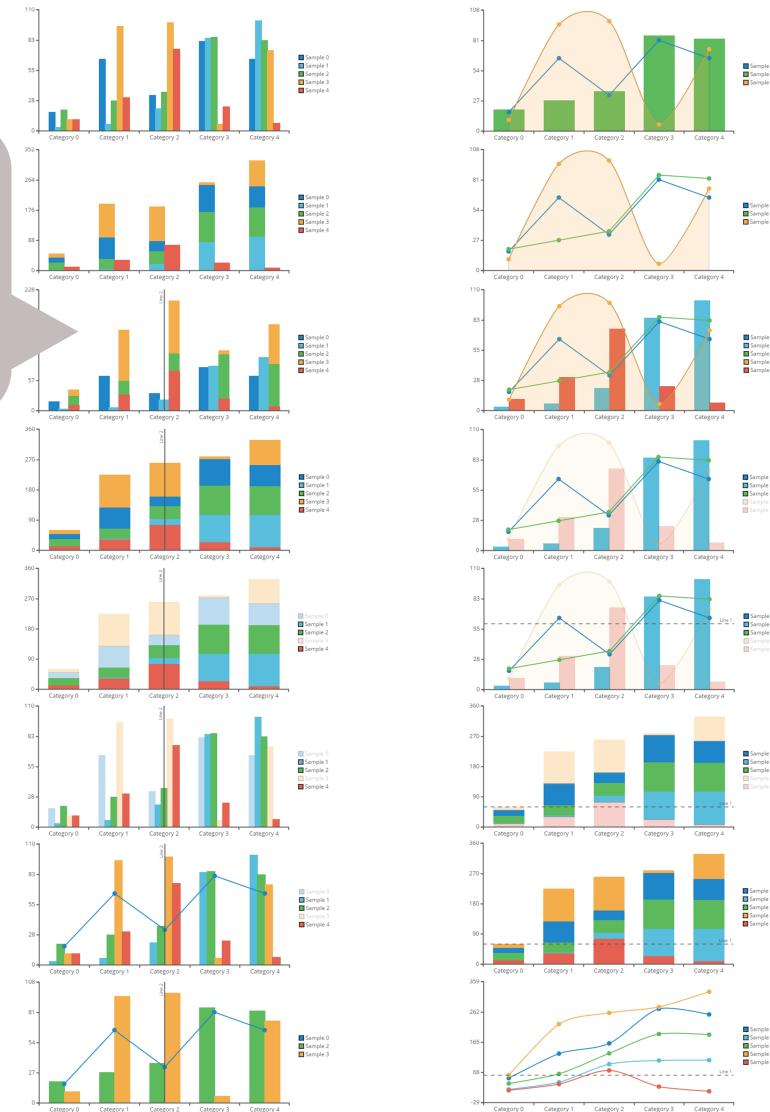
Next >> Postpone

Control sampling – 5/6

Charts

- Bar (vertical/horizontal)
- Area/Step
- Line/Spline
- Pie/Donut
- Single & Multi data series
- Interactive
 - Show/hide data live
 - Context menus
 - Built-in drill-up/down behavior
- Fluid & responsive

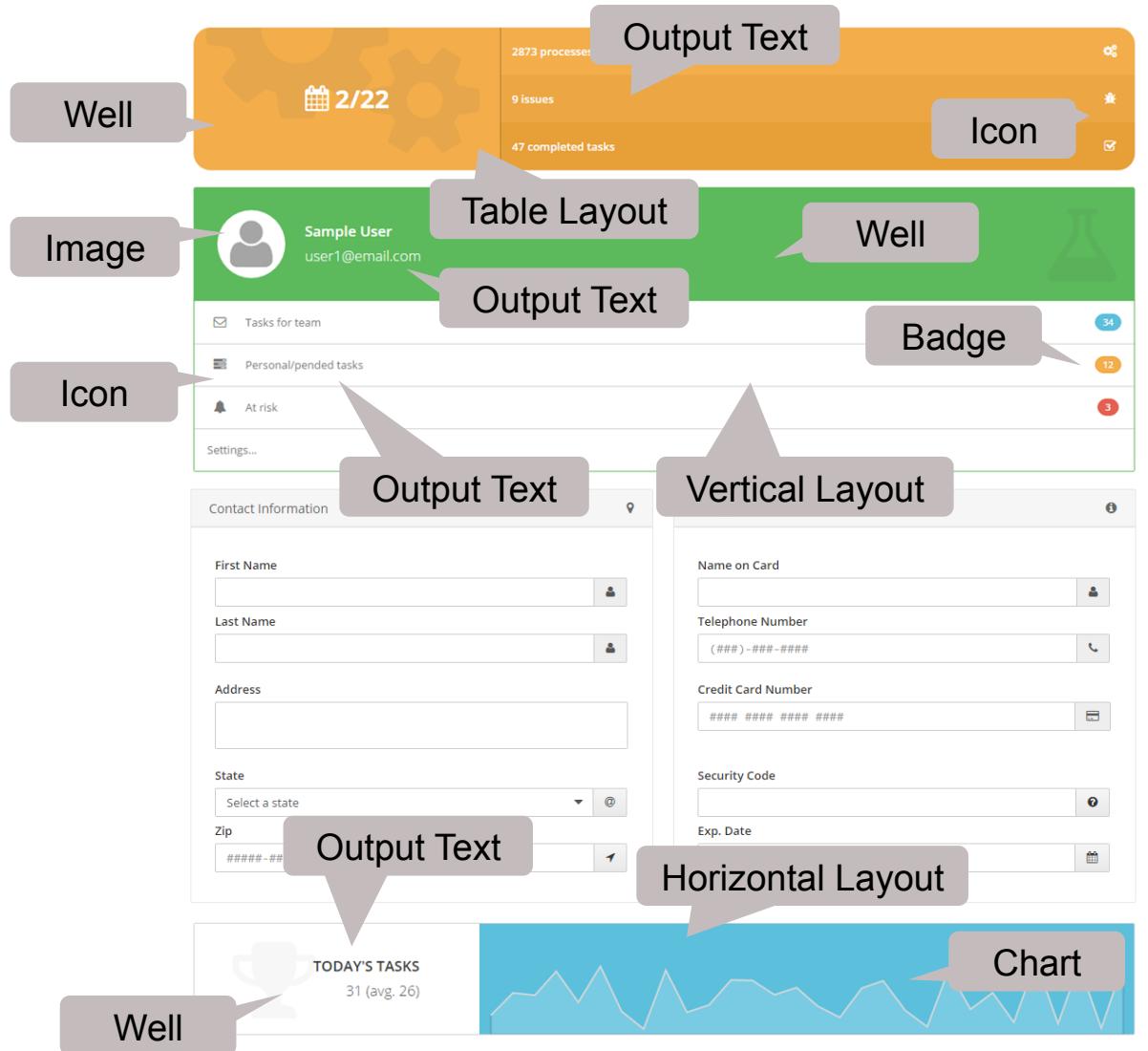
A multi data series chart can be displayed in *many ways*



Control sampling – 6/6

Composable controls

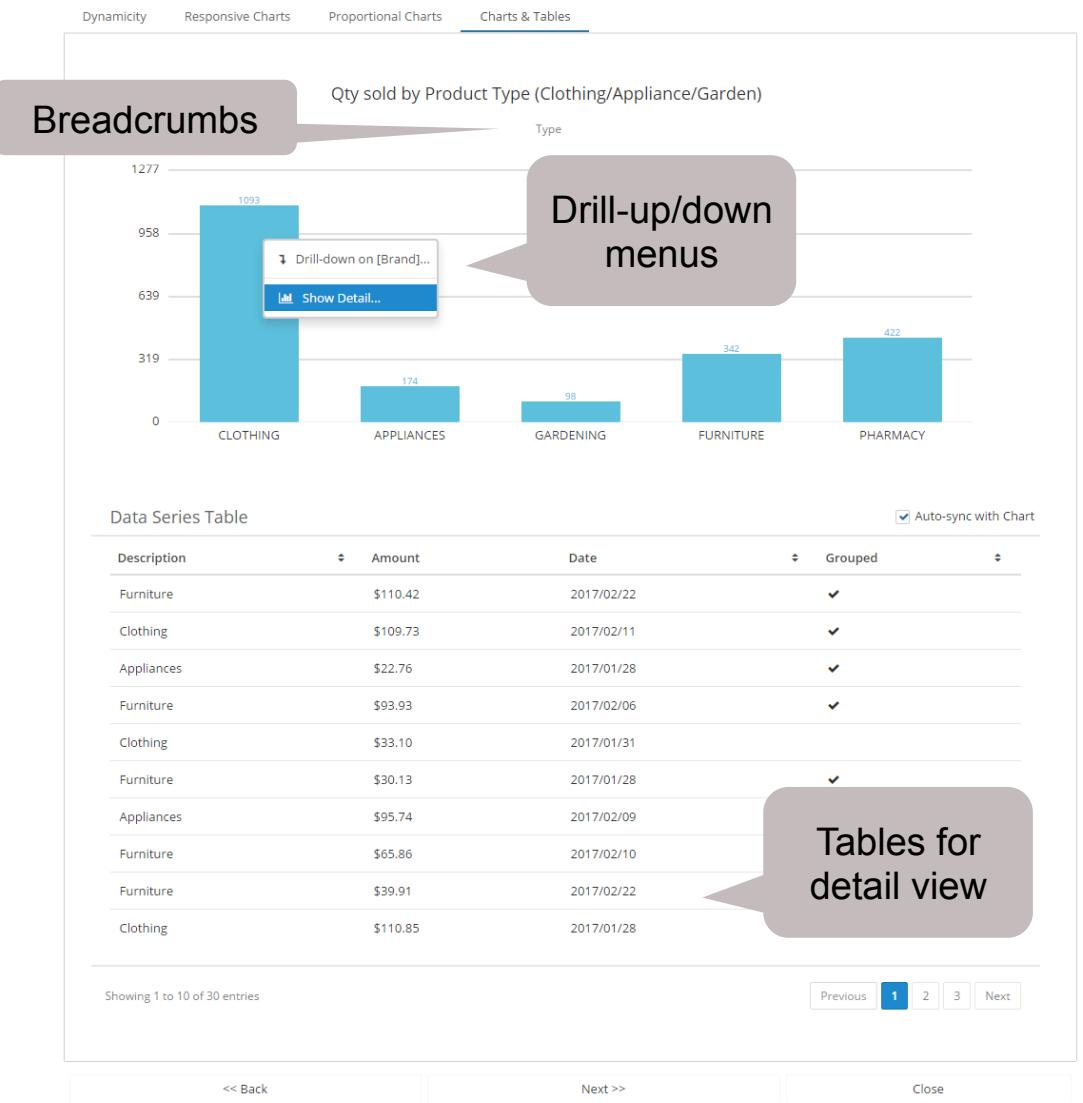
- Create reusable widgets
- Including templates



Analytics-ready

Data visualization

- As tables and/or charts
- Sync content of tables and charts
- Drill up/down and data detail
- Full interactivity between
 - Charts ↔ charts
 - Tables ↔ charts
 - Tables ↔ tables



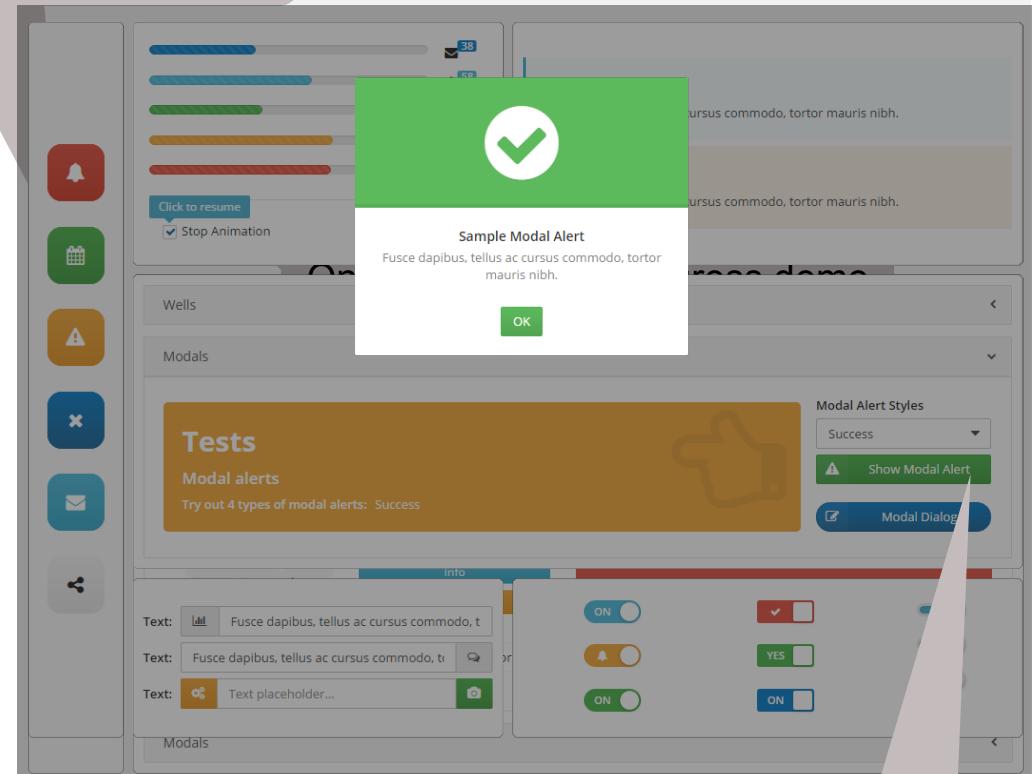
Interactivity everywhere

Respond to user interactions e.g.

- Mouse/touch: Tap/click
- Keyboard events: Keypress
- Forms elements: Focus, blur
- Menu item selection
- Chart drill up/down
- Etc...

→ Take actions based on user events

On click/tap: Set panel color to my color



On click/tap:
Show dialog

Themable

Applying themes to UIs

- Choose between 2 themes
- Or create your own
- Style SPARK UI elements:
 - Colors
 - Fonts/typography
 - Borders
 - Control-specific aspects
 - Etc...
- *Simplified approach to create corporate look & feel*



SPARK UI toolkit showcase

BPM UI Developers perspective

UI developers perspective

Many specialized controls =
Lighter & faster

90+ controls

→ Less development for
specialized capability

Benefit of lighter controls

- Simpler to program
- Faster at runtime
- Relevant configuration



The screenshot shows a user interface for configuring a "Text" control. At the top, there's a navigation bar with tabs: Overview, Diagram, Variables, and Coaches. The "Coaches" tab is currently selected. Below the navigation is a toolbar with a "Text 1" button and a text input field containing "Enter some text...". A green "OK" button is also present. To the right of the toolbar is a large speech bubble labeled "Text control". On the far right, there's a sidebar titled "Views" which lists "Table", "Text", and "Text Area". Below the sidebar is a section titled "Properties" with tabs for General, Positioning, Configuration (which is selected), Events, Visibility, and HTML Attributes. Under the "Configuration" tab, there are three main sections: "Formula", "Appearance", and "Behavior". The "Appearance" section contains fields for "Width", "Size Style" (set to "Default"), and "Label Placement" (set to "Left"). The "Behavior" section contains fields for "Tab Index", "Placeholder Text" (set to "Enter some text..."), "Regular Expression", and "Select Text On Focus". A second speech bubble on the right is labeled "Clear & relevant config options".

Control overview

- Charts
- Content (+ Content Management TK)
- Controls
 - Standard form inputs
 - Extended set
- Media
- Mobile
- Section/Container
- System

 Area Chart SDS	Charts*
 Bar Chart SDS	
 Donut Chart SDS	
 Line Chart SDS	
 Multi Purpose Chart	
 Pie Chart SDS	
 Step Chart SDS	
 BPM File Dropzone	Content*
 BPM File List	
 BPM File Uploader	
 File Viewer	
 Alerts	Control*
 Badge	
 Breadcrumbs	

Enhanced programming model

Coach Views

→ Web Component-like controls

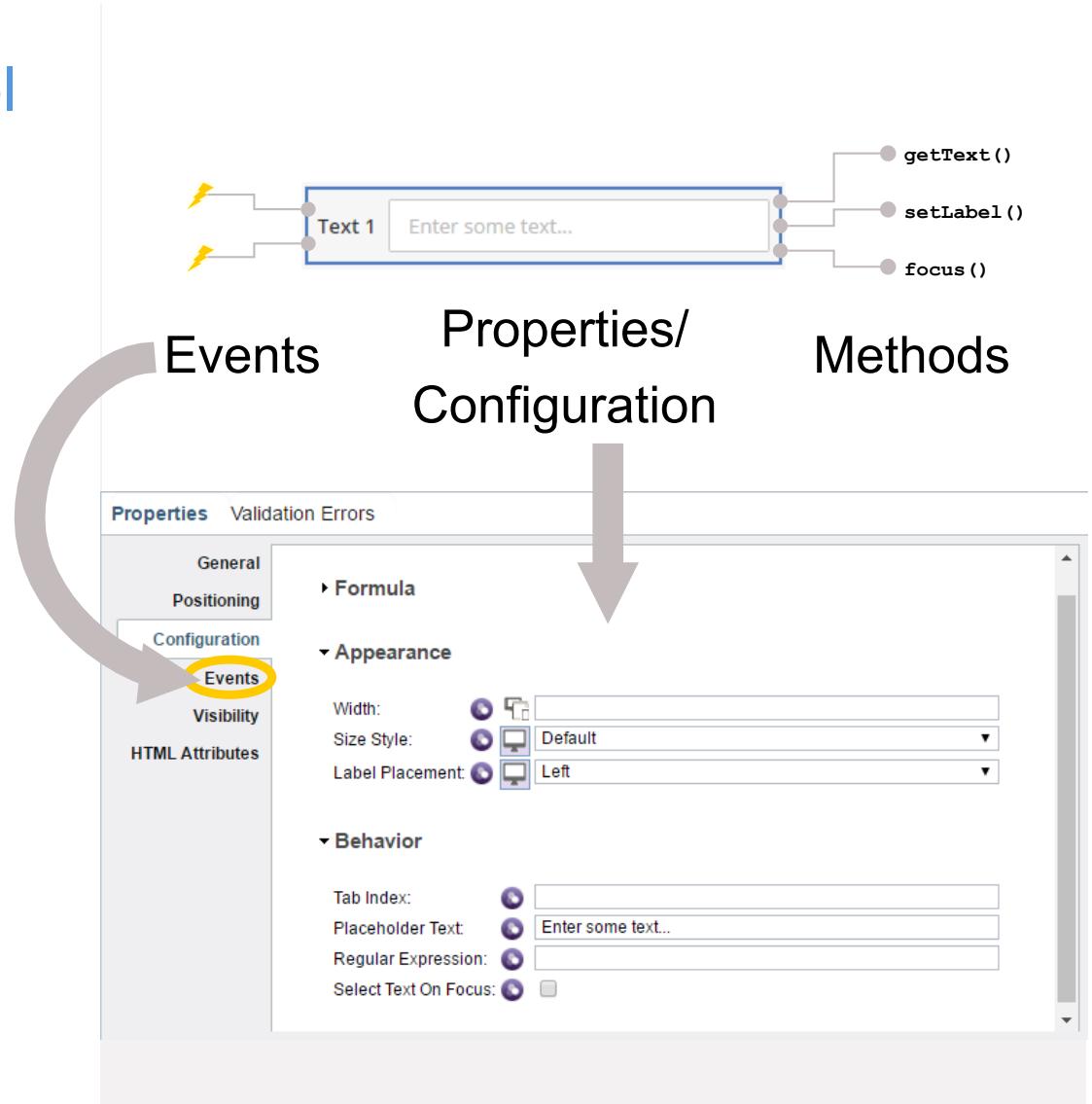
- Properties
- Events
- Methods
- Formulas
- AJAX



3x productivity



**Intuitive
Development
Experience**

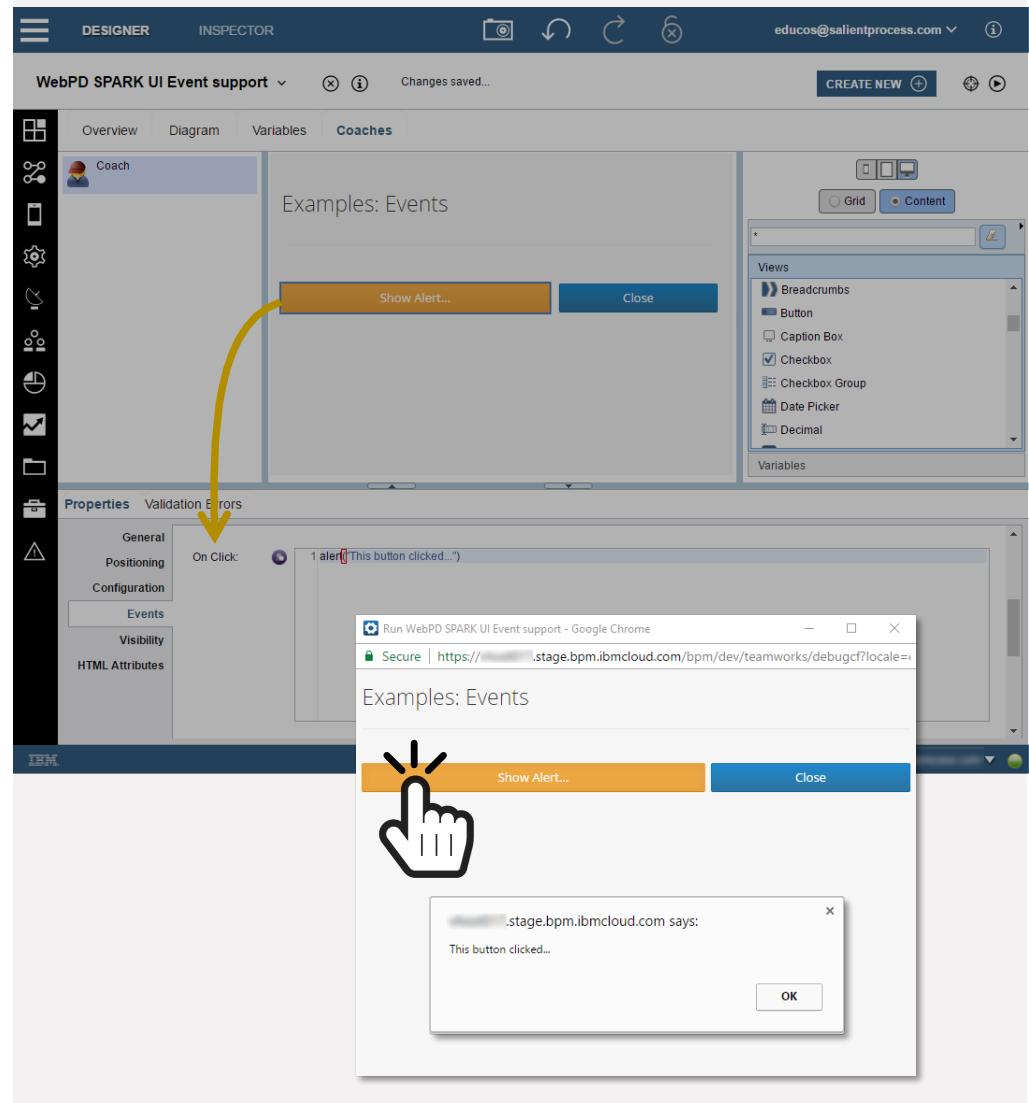


SPARK UI Events

Most SPARK UI controls support events. For example:

- On click
- On input
- On panel expand
- On deleting row
- On AJAX result
- On tab changed

SPARK UI events fully integrated into WebPD



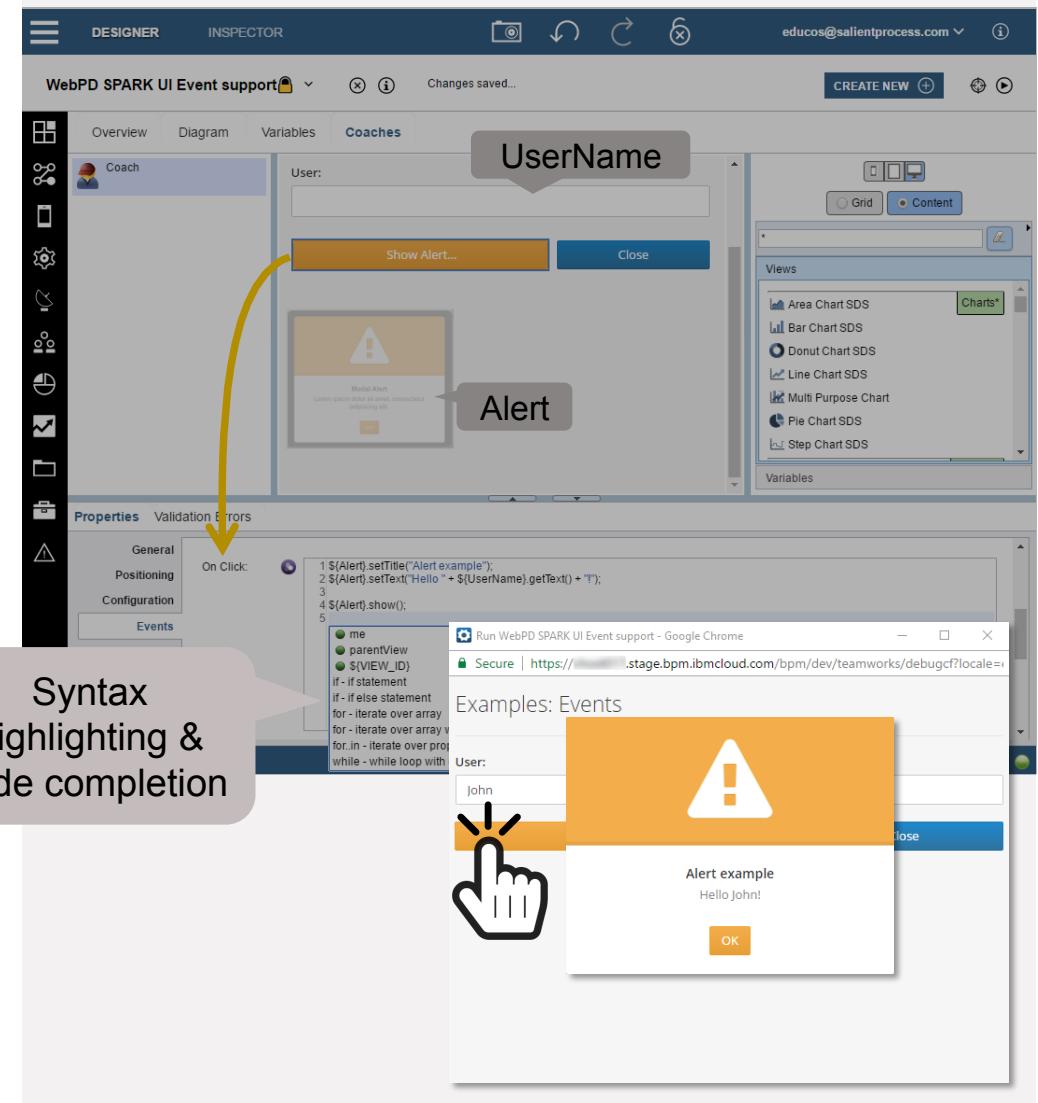
SPARK UI Control Methods

Controls have methods

- General aspects
(visibility, labels, data, etc.)
- Control-specific functionality
(e.g. `select1.getSelectedItem()`)

Combine methods and events:

- Create interactive user experience
- Minimal reliance on Human Service diagram
- Encapsulated functionality



SPARK UI Control Methods (2)

Full reference:

<https://support.salientprocess.com/spark-ui-controls>

Documentation

- Per control
- Methods, Events, Properties
- General SPARK UI helper functions
- + Examples & videos

The screenshot shows a detailed documentation page for SPARK UI controls. On the left, there's a sidebar with a search bar and a tree view of control types: Button, Members, ui, Methods, and several static modules like bpmext, bpmext.log, bpmext.number, bpmext.text, bpmext.ui, Alerts, AreaChartSDS, and Badge. Each module has its own section with methods listed. The main content area contains several detailed method descriptions with examples and code snippets.

- Button**
 - setColorStyle(style)**: Sets color style of button. NOTE: to avoid ambiguity always set the color using "D"|"P"|"I"|"S"|"W"|"E".
Name Type Description
style string "DEFAULT"|"DEF"|"D"=Default | "PRIMARY"|"PRI"|"P"=Primary | "INFO"|"INF"|"I"=Info | "SUCCESS"|"S"=Success | "WARNING"|"WARN"|"W"=Warning | "DANGER"|"ERROR"|"ERR"|"E"|"G"=Danger
 - setEnabled(enabled, required)**: Enable/disable this view/control.
Name Type Description
enabled boolean Enabled/read-only flag (true to enable view, false to disable/make read-only)
required boolean Enable/disable required field flag for control
 - setHelpText(text)**: Set help text for button.
Name Type Description
text string Rollover text to be set
 - setIcon(icon)**: Sets icon to display on the button.
Name Type Description
icon string visit <http://fontawesome.io/icons/> for icon options
 - setOutline(outline)**: Sets outline style of button.
Name Type Description
outline boolean {true | false}
 - setShapeStyle(style)**: Sets shape style of button. NOTE: to avoid ambiguity always set the shape style using "D"|"R"|"F".
Name Type Description
style string "Default"|"D"=Default | "ROUNDED"|"ROUND"|"R"=Rounded | "FLAT"|"F"=Flat
 - setSizeStyle(style)**: Sets size style of button. NOTE: to avoid ambiguity always set the size style using "D"|"S"|"L"|"X".
Name Type Description
style string "DEFAULT"|"DEF"|"NORMAL"|"D"=Default | "SMALL"|"S"=Small | "LARGE"|"L"=Large | "EXTRA-SMALL"|"X-SMALL"|"XS"|"X"=X-small

SPARK UI Formulas

Excel-like expressions

- Fast automated alternative to code
- Control-to-control formulas
- Underlying language: JavaScript
 - Supports very complex expressions
- Example:
 - Change panel title from text input

The image displays two screenshots of the WebPD SPARK UI Designer interface. Both screenshots show a 'Data Entry' panel with a text input field labeled 'User:' and a 'Submit' button. The top screenshot shows the 'Events' tab in the properties panel with the following JavaScript code:

```
On Change: 1 $[Panel1.setTitle("Data Entry: " + me.getText())
2 ]
```

A callout bubble points to this code with the text: "JavaScript code: Text onchange event + 2 method calls". The bottom screenshot shows the 'Formula' tab in the properties panel with the following formula:

```
Title Formula: "Data Entry: " + @(UserName)
```

A callout bubble points to this formula with the text: "Simple formula".

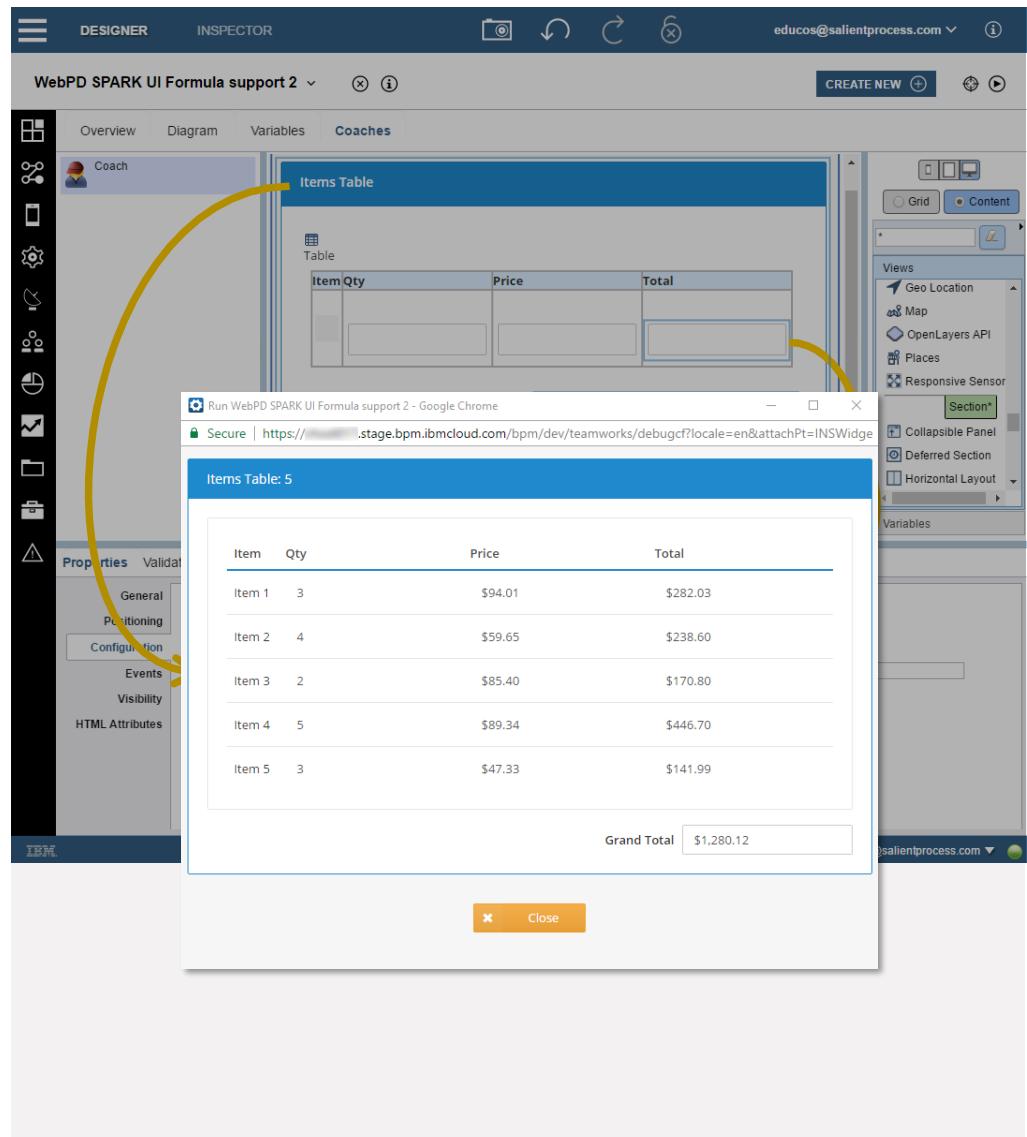
SPARK UI Formulas (2)

Aggregate formulas

- Tabular data computations
- Dynamic: Auto-updates with changes

Example:

- 1) Compute line item totals
`@{Qty=} * @{Price=}`
- 2) Sum up grand total
`SUM(${ItemTable/LineTotal*})`
- 3) Show count in table title
`COUNT(${ItemTable/Qty*})`



The screenshot shows the WebPD SPARK UI Formula support 2 Designer interface. On the left, there's a sidebar with icons for Overview, Diagram, Variables, and Coaches. Below these are sections for Properties, Validation, General, Positioning, Configuration, Events, and Visibility. A yellow arrow points from the 'Properties' section towards a table component. The main area displays a table titled 'Items Table' with columns 'Item', 'Qty', 'Price', and 'Total'. The 'Total' column contains the formula `@{Qty=} * @{Price=}`. A modal window titled 'Items Table: 5' is open, showing the same table structure with data rows and a 'Grand Total' of \$1,280.12 at the bottom. The right side of the screen shows a toolbar with 'CREATE NEW' and various icons, and a sidebar with 'Views' and 'Variables' sections.

Item	Qty	Price	Total
Item 1	3	\$94.01	\$282.03
Item 2	4	\$59.65	\$238.60
Item 3	2	\$85.40	\$170.80
Item 4	5	\$89.34	\$446.70
Item 5	3	\$47.33	\$141.99
Grand Total			\$1,280.12

Optional Data Bindings

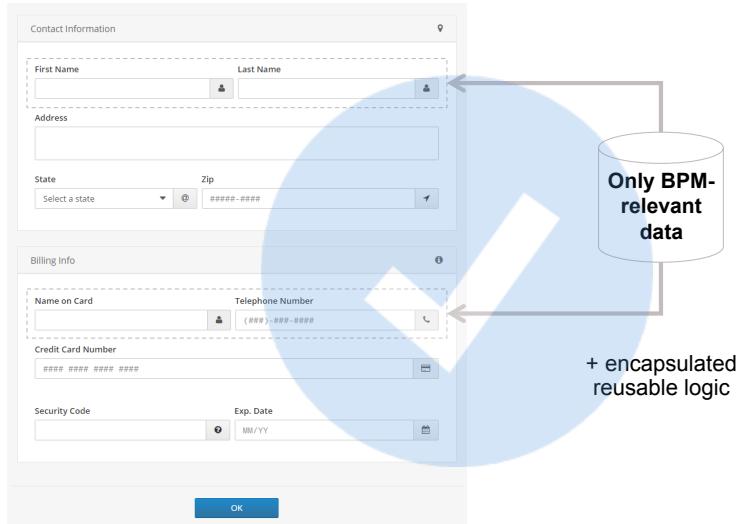
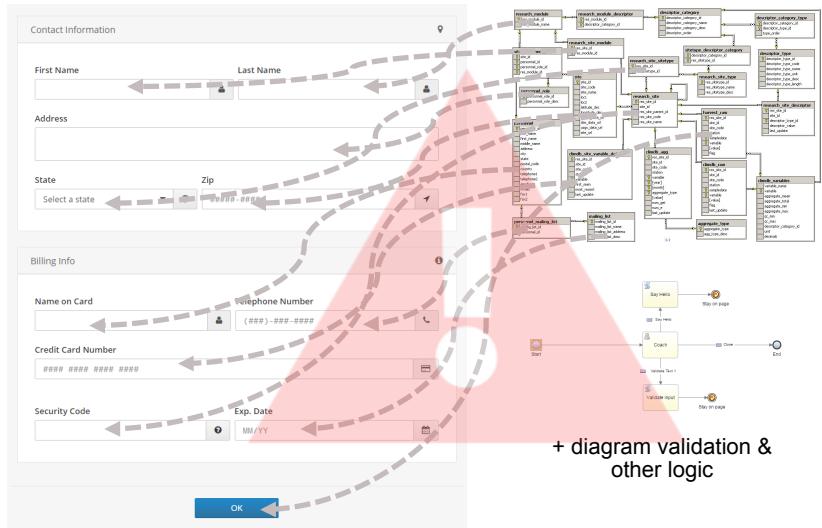
Only bind controls to data to:

- Attach UI service data to control
- Auto-sync control state & data

SPARK UI Controls *work the same* with or without data bindings! (behavior, events, methods)

→ *Greatly reduces:*

- *Coach view & Human Service complexity*
- *# associated artifacts*



Low dependencies → Lightweight

Pure HTML5/CSS3/JS

- Cross browser compatibility
 - Modern browser required
(Firefox, Chrome, Safari etc.)
- + specialized dependencies needed
 - E.g. Charts
- No reliance on foundational libraries (Angular JS, jQuery)
- Requires Coach NG (obviously)

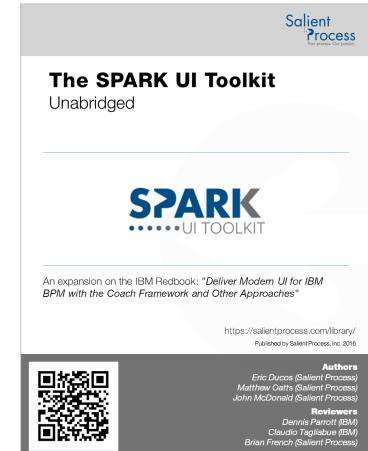
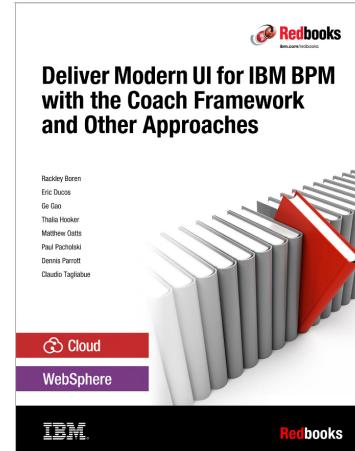


Reference

- Salient Process Support Site:
<https://support.salientprocess.com/spark-ui-controls>
- IBM Redbook (SG248355)
- Salient Process - Unabridged Reference
- Salient Process - Knowledge Base



Scan for SPARK UI Unabridged Reference



A screenshot of the Salient Process support website. The header includes links for SUPPORT HOME, SPARK TOOLKITS, LEARN, GET HELP, REGISTER, and a search bar. The main content area is titled "SEARCH SUPPORT" and includes sections for "ASK A QUESTION", "HOW-TO VIDEOS", and "KNOWLEDGE BASE". The "HOW-TO VIDEOS" section has a "Watch Videos" button.

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InterConnect 2017

Call to Action:

InterConnect Lab 1868: Introduction
to using Spark UI Toolkit for IBM
BPM user interfaces

Evaluate SPARK UI toolkit:
[https://support.salientprocess.com/
registration/](https://support.salientprocess.com/registration/)

