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Creating Value from Sensor, Device and Equipment Data

Cards - SkySpark's All-New Data Presentation Option

Creating value from IoT device data requires four primary functional layers: connecting to data sources, storing data, performing analytics, and presenting results to users.

In this issue of the Insider, we focus on some of the newest presentation features including an exciting new addition we call **Cards – which make it easy to create customized dashboards of operational data and performance metrics.**



Let's take a look! →

Cards...

Create Customized Dashboards of Operational Data and Performance Metrics

Cards – our latest data visualization addition – bring easily configurable dashboarding to SkySpark. Yes, you read that right – now you can create dashboards that provide easy-to-understand summaries of key operational metrics **with both live** and static data and descriptive information.

Virtually any data in SkySpark can now be formatted to display in the user-friendly "cards" format. As seen in the example above, you can include images, formatted text, icons, charts, gauges, and numerical data – all of the visualization widgets available in SkySpark Apps can be used in cards.

Once defined, cards can be assembled into "tiles" with SkySpark's View Builder tools to create summary displays for users of all types. That's how the example on page 1 was created.

AND make no mistake, **cards can display live**, streaming data from sensors and control systems. In the view on page 1, which is included in the latest SkySpark Demo project, the gauge and temperature values show live, updating values.

As seen here, cards can display information with formatted text

larget	Gaithersburg RTUs		
rule	AHU Group Cool and Heat		
date	31-Mar-2021		
duration	0.25h		
priority	med		
help	A group of AHUs have at least of another unit is in heating mode other to maintain temperature s	. These units ma	
	Recommended Actions	Gaithersburg I	RTU-1
	Check control sequences.	Washington DC	
	Priority: Medium	ahu	¥
	Phoney. Mediani	directZone	v
		disMacro	SsiteRef SnavName
		dxCooling	*
		elecHeating	1
		elecRef	Gaithersburg ElecMeter-Hvac
		equip	4
		equipRef	Gaithersburg RTUs
		hvac	1
		navName	RTU-1
		rtu	4
		singleDuct	4
		siteRef	Gaithersburg
		variableAirVolume	1
		bom	22-Mar-2021 Mon 1:31:41PM UTC

Cards can include graphical elements. Here is a simple card with one graphical element – a gauge which can show <u>live</u> or static values



Cards...

Enabling a New Range of Possibilities for Data Presentation in SkySpark[®]

This sample card uses bar charts to compare consumption across a portfolio of sites



Here we see an example of how graphic images can be used in cards



The real magic happens when you use SkySpark's "View Builder" to assemble cards into dashboard views that provide quick, easy-to-digest summaries of essential information including interactive controls to enable users to select items like date range shown below

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Select 🔻 🔍 Las	st Month			demoSiteCard	
				🔲 tile1	
Short Pump	Current Weather	Current Demand	Current Zone Temp	ille2	
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area 17,122ft* yearBuilt 1936	temp 61°F humidity 83%RH			(x) Vars • site input Refeate> default	
Sparks	Work Orders	Energy Benchmark	Occupancy Schedule	dates input Span lastMonth	
Last Month	Open	Last Month	Currently: Occupied	$f \times$ Actions	
39	6	Carytown Gaithersburg Headquarters Short Pump	eccupied 10:00AM - 9:00PM		

Cards add a whole new range of possibilities to SkySpark. *It's just another way SkySpark advances data visualization and presentation.*

Notifications

Automated Delivery of Sparks, KPI's, Reports and Cards

Another notable enhancement in the latest update to SkySpark are new features that streamline the setup of automated notifications – automatically emailing essential information to users based on their specific areas of interest or job responsibilities.

Notifications in SkySpark are based on the concept of "subscriptions to topics" – users subscribe to topics of interest with easy selection boxes.

Topics can include individual sparks, digests of sparks, KPI's, reports, creation or changes made to Arcs (workorders) – virtually anything that can be displayed in an HTML-style email. Plus, emails can include hyperlinks to SkySpark views and text-based **Cards** described earlier in this document.

Not	ifications
HVAC Inspection Issues	Subscribe
Monthly KPI Summary	
My Daily Spark Digest	
TestNotification	
	Ok Cancel



	📑 🛛 su 🗸
Logged in as su	New_York / en-US
Change Password	
Change Locale	
Preferences	
Notifications	
Logout	

Users access their notification options from the user menu

Notifications can be triggered (sent) based on pre-defined schedules, the occurrence of events, or initiated by user actions.

Notifications



Below a notification is configured to be sent based on a schedule. In this example a daily digest of Sparks will be sent every day at 8 am to all users that "subscribe" to the topic – *My Daily Spark Digest.*

	Edit
Markers	notifyTopic task 👻
☑ dis	My Daily Spark Digest
observes	obsSchedule 💌
obsScheduleTimes	08:00:00 am - +
daskExpr	<pre>ruleSparksDigest(null, yesterday, null).notify(taskCur().dis)</pre>
_	<pre>ruleSparksDigest(null, yesterday, null).notify(taskCur().dis) e.g.1,15</pre>
_	
obsScheduleDaysOfMonth	e.g. 1, 15

Notifications can be sent in a wide range of formats including HTML, formatted text, text-based **"Cards"** and links that take users directly to views in SkySpark. And multiple topics can be combined into "groups" to provide further simplification for users.

We've only scratched the surface here – as you can see SkySpark's new notification features are highly flexible and configurable, and it's easy for users to subscribe to topics of interest.



Taking Analytics from *Identification to Resolution* with SkySpark's "Arc" Workflow Tools

200	oundry Insider
ianue No. 37	December 2010
In This Issue	Closing the Loop from
Closing the Loop -	Identification to Resolution
From Identification 16 Resolution - SkySpark's New Workflow Application	Driving Value from Analytics with SkySpark's All New, Fully
— ¬	Integrated Workflow Application
Ç e	Analytics Finds What Motors**, but we create financial value by addressing issues. That means there is a workflow process - from issue identification, through recolution, tracking and reporting.
Managing the Analytic	SkySpark has included a core set of easy-to-use workflow tools since the beginning But people need more
Lifeeyala with "arcs" Notes, Waskerdare and	Beine integrate with conventional CMMS and werk order systems. They find that gets from part of the wey $-$ but its costly and complex.
Televis Extendible - Creste Tour Own Custon Workflow	Our customers fail us they need the ability to easily create workflows that III they apocific and unique project needs and SkySpark new includes a full function workflow process system?
Processes and Document Types More Exciting New	Optimized for the management of data analytics results – those features take you beyond convertional asset management and workorder tools. And, as with virtually everything in Stylpark, these
SkySpark Feetures - Point and Click Tariff Entryi1	powstul workfow tools are fully customizable stabilitig you to meet your project-specific reads.
Jost Point and Click – SkySpark Tables are Now Customizable for More Informative Visualizations	And the pricing for this major new application suite? —That's easy - all of this functionality is included with SkySpans. Let's take a took! ψ

<u>Check out the Dec. 2020 issue of the Insider for details on the</u> <u>last major addition to SkySpark – the Arc Workflow Tools</u>

Explore more data visualization and presentation options with SkySpark's point and click table customization

Easily customize tabular information presentations to meet user needs

Just Point and Click -	State State State
	and the second s
SkySpark Tables are Now	Colore with
Customizable!	Brandward Gape I
Easily create customized tabular information	Notes (1)
presentations to meet user needs	Page 1 0
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With SkySpark's latest release you can now easily customize the pre mormaton view. Tables are customized using simple "styling rules" rocze ciklo (see image above right).	that are defined with a few
With SepSparks latest release you can now easily coatorsize the pre information wass. Takine are coatorsized using angle "System care and a latest latest language alone mpro- ting and a latest latest latest latest latest action of the latest lates	that are defined with a heat round colors, use bold test, fill se from a range of graphical cuetomizations.
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The Layers of the Stack:

Connect | Store | Analyze | Present

- Connectors to acquire data from external sources.
 SkySpark supports a variety of data acquisition connectors:
 BACnet IP, Modbus TCP, Obix, Haystack, SNMP, Sedona, OPC
 UA, MQTT, SQL, CSV import (manual batch or automated), and a REST API. SkySpark also includes a connector development toolkit.
- A database designed to store and normalize huge volumes of diverse data. Sensor, equipment and facility data come from different systems, via different protocols, with different naming conventions and schemas. SkySpark's Folio database has been designed from the ground up to address this unique combination of challenges and unify data so that operators deal with it as if it came from one system.
- The Analytics Engine to process rules, algorithms, calculate KPIs, perform data transformations, pattern recognition, advanced math and machine learning. SkySpark's high-performance analytics processing engine – Axon – excels at providing this layer of the stack.

Find the Dec. 2020 issue of the Insider here:

https://skyfoundry.com/file/429/SkyFoundry-Insider-Dec-20---All-New-Workflow-App-Customizable-Tables-and-More.pdf



Learn More About SkySpark[®] and How to Apply the Industry-leading Data Analytics Solution to Your Application

Join us for a comprehensive demonstration webcast

Find our calendar of upcoming sessions and other events here: <u>https://skyfoundry.com/calendar</u>

Or contact us at: info@skyfoundry.com

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