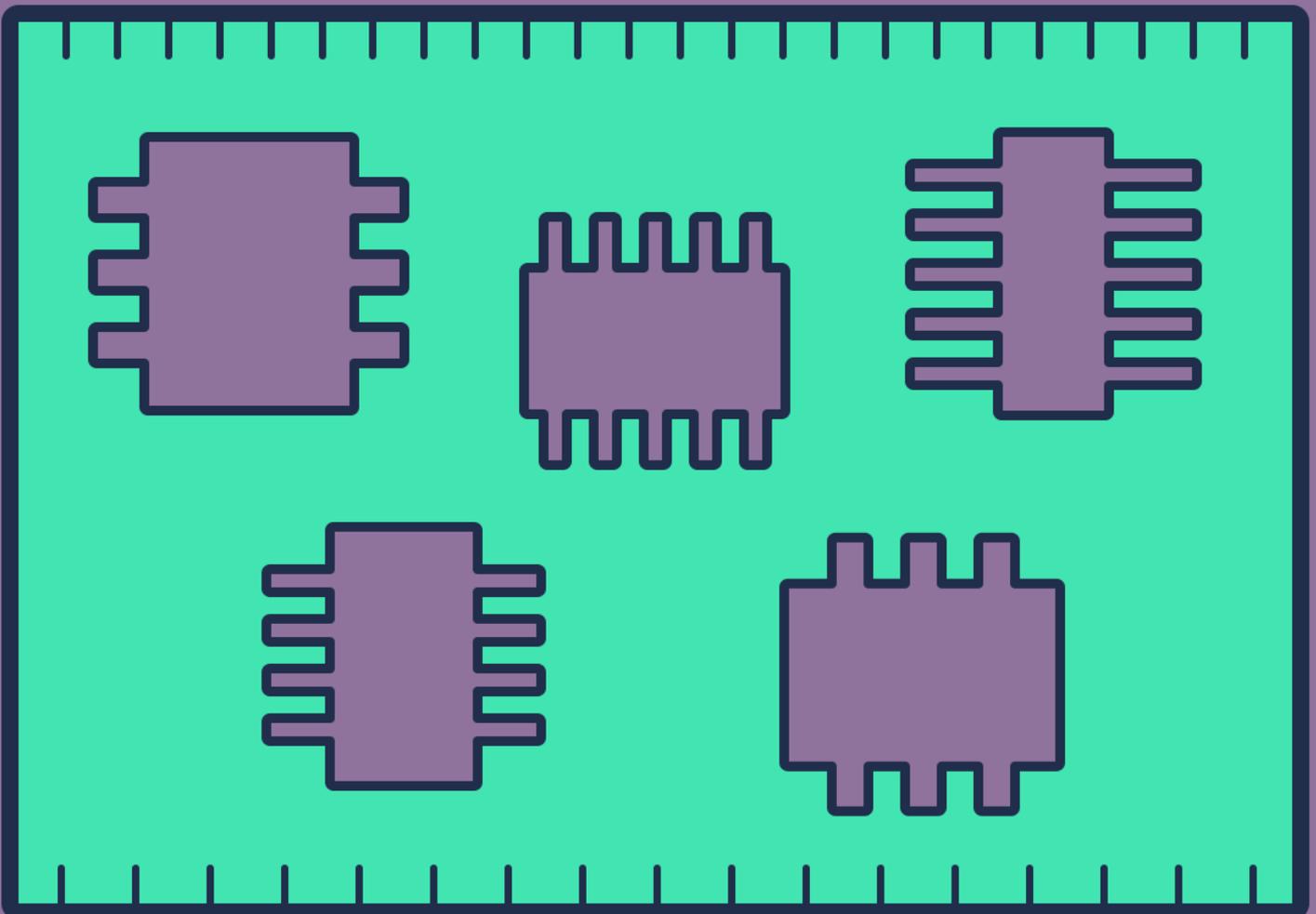


Standardize Your Component Libraries with Component Templates



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STANDARDIZE YOUR COMPONENT LIBRARIES WITH COMPONENT TEMPLATES

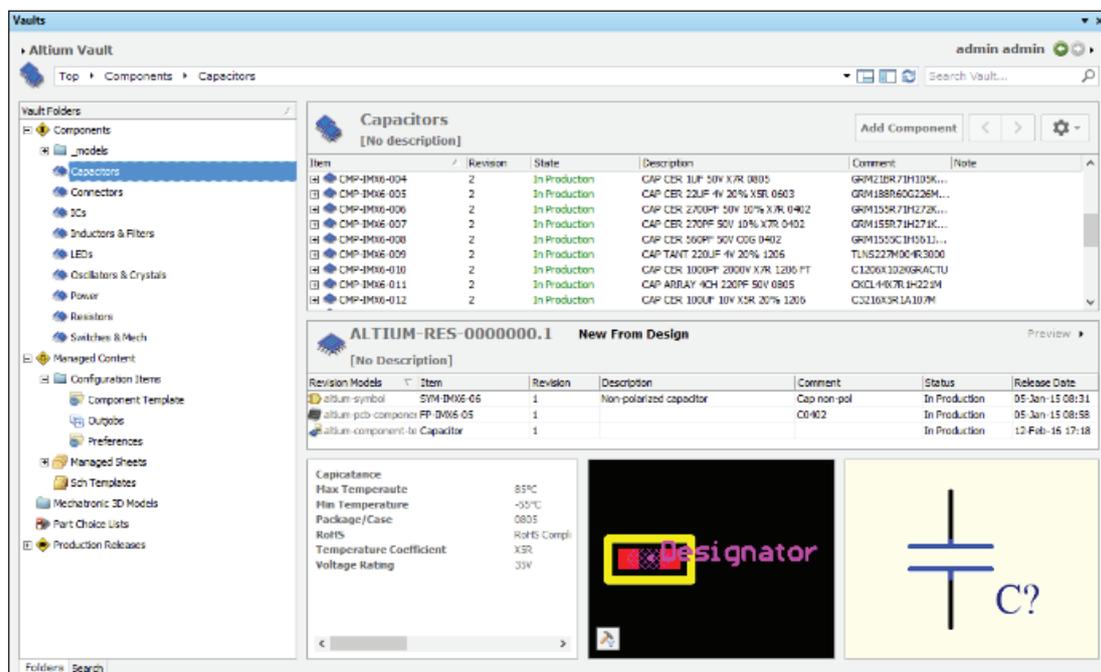
INTRODUCTION

Electronic Designers often consider how to find the easiest and fastest way to build something out of nothing. In this fast-paced age, time is always of the essence. It's all about finding the right solution to make the everyday drudgeries of design work into less of a burden so that you can concentrate more on the important (and interesting) parts. Perhaps one of the most tedious jobs in the ECAD world is library management. Building one from scratch is a monumental undertaking. So when a design team takes on this task, how do they keep everyone on the same page when it comes to organizing parameters and formats for each of the items in a given library?

Creating parts can be straightforward, but managing those parts in a library, alongside a number of others, can be a bit more of a challenge - especially when dealing with inconsistent data. For example: when creating new parts, How does a user know that they're abiding by the protocols of the company's part formatting? How do they know if they have the latest part schematic or footprint? In PCB design, it's easy to venture off the realm of uncertainty. Without a guide, the whole data structure can end up in an anarchic state.

THE DAILY GRIND

To understand library management, let's first look at the daily routine of a librarian. When a librarian creates a part, the first thing they have to look for is the correct schematic drawing and footprint for the part they're creating. Finding the right element can be overwhelming, especially when working with an extensive database. This is every librarian's recurring nightmare. Also, depending on the type of component that's being created, there are unique parameters that need to be a part of it. This requires extra time on the librarian's part, to refer to the company's guidelines and provide the necessary details for these parts. Not all part requests are of the same component type. Going back and forth in search of the "bucket list", users typically waste a lot of time and effort in constructing a simple part.



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THE PATCH UP

To help designers mitigate this grueling ordeal, a preset format for an item should be available for the users. This form automatically fills in the necessary information, so that no user has to recreate the same thing each time it is used. Imagine a common drawing template. All of the borders are pre-drawn, and the parameters are displayed. So whoever has to use this template can just fill in the necessary field and start right in with their work. In this example, the company requires all of their generic components to have specific parameters, which would be very crucial in the design stage. Having these fields then helps them determine the “perfect” part for the design.

Name	Type	Visible	Read Only	Required	Default Value	Description
ComponentType	ComponentType	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
PCBLIB	PCBLIB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
SCHLIB	SCHLIB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Comment	Text	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Description	Text	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Capacitance	Text	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Min Temperature	Celsius(C)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	-55°C	
Max Temperature	Celsius(C)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	85°C	
Package/Case	Text	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	0805	
RoHS	Text	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	RoHS Compliant	
Temperature Coefficient	Text	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	X5R	
Voltage Rating	Volt(V)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	35V	

THE NEXT ITEM IN LINE

Companies often want to use their own, internal part number to keep track of the parts being used in projects. To have a well-organized database of components, new items must automatically acquire the next available part number. On a case by case basis, some establishments prefer having a unique part naming scheme, depending on the component type.

In this scenario, the library already contains five pre-made capacitors. When a user wants to add five more new capacitors, the internal part number is automatically incremented to the next item number available. This ensures components do not overlap or skip optimal itemization of the library.

Item	Description	Lifecycle	Revision Status	Release Date
FF-MKHS-05.1		In Production	Up to date	2015-01-05 08:...
FF-MKHS-06.1		In Production	Up to date	2015-01-05 08:...
FF-MKHS-07.1		In Production	Up to date	2015-01-05 08:...
FF-MKHS-08.1		In Production	Up to date	2015-01-05 08:...
SM4-R4HS-06.1	Non-polarized capacitor	In Production	Up to date	2015-07-09 08:...
UM4-R4HS-4L.1	Polarized capacitor	In Production	Up to date	2015-07-09 08:...

Component	Models	System Parameters	Template Parameters										
Folder/Path	Name	Type	PCBLIB	SCHLIB	Comment	Description	Capacitance	Max Temperature	Min Temperature	Package/Case	RoHS C...	Temperature Coefficient	Voltage Rating
Component1...	ALTUM-CAP-0000005							85°C	-55°C	0805	X5R		35V
Component1...	ALTUM-CAP-0000007							85°C	-55°C	0805	RoHS C...	X5R	35V
Component1...	ALTUM-CAP-0000009							85°C	-55°C	0805	RoHS C...	X5R	35V
Component1...	ALTUM-CAP-0000010							85°C	-55°C	0605	RoHS C...	X5R	35V

CONCLUSION

Library management is a tough and often underappreciated job. They provide the rest of the design team with the support that eases the repetitive work of parts creation - but in so doing, they often take on a lot of tedious and repetitive work themselves. Fortunately, Altium Vault is designed to mitigate this tedium, by administering component templates that can pre-fill necessary parameters and provide librarians with a comfortable setting for spreadsheet entry.