

DUSTIN YOUNSE

DESIGN SYSTEMS AREN'T HARD

But they are complex.
And also hard.

OPENJS 2020

WHO'S THIS GUY?

@milsyobtaf from the internet

**I've worked on large websites
since 2008**

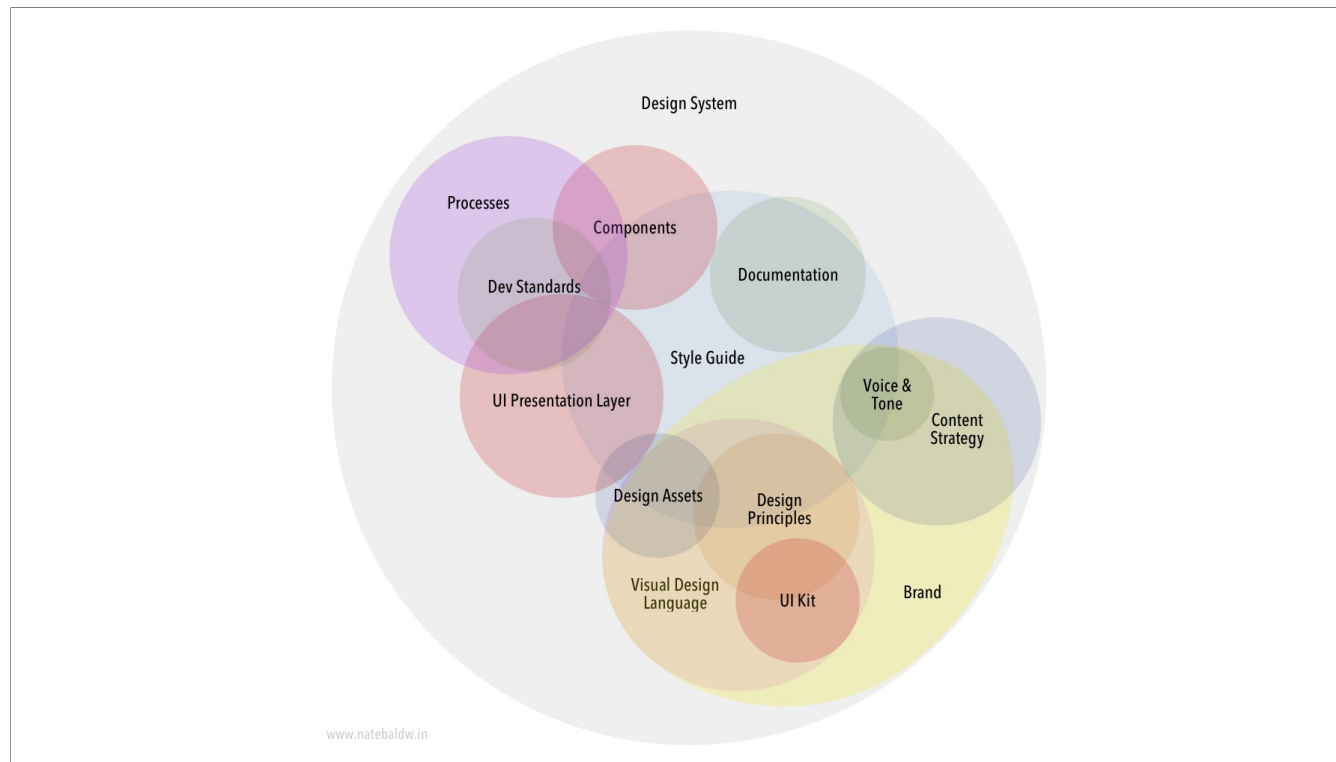
**I've worked with "design systems"
since we called them "swatches"
and "style tiles"**

**Currently in Design Engineering at
Indeed, a job that comes with the
greatest laptop sticker**



WHAT IS A DESIGN SYSTEM?

You might be asking yourself - what exactly is a design system?



I first saw this graphic in a talk at the Artifact Conference last fall. It really drove home how many different definitions there are to the term “Design System”, and how complicated it can be. Each of those circles represents an artifact, and a team that made that artifact. In fact, if you look at this and squint your eyes a little bit, it almost seems to resemble a company’s org chart...

**Organizations which design systems ...
are constrained to produce designs
which are copies of the
communication structures of
these organizations."**

CONWAY'S LAW

Products tend to resemble the communication of teams that build those products

Your website is a *manifestation*
of your organization's *problems*

"UNCLE" DAVE RUPERT'S LAW

Put another way, products tend to reflect the communication *problems* of the teams building that product

WHAT *ISN'T* A DESIGN SYSTEM?

A FIGMA LIBRARY

A Figma library, or a UI Kit built with some other tool, is a representation of the visual look of buttons and links and menus. Often this might represent one team very well, but might not be perfectly suited to another team at the same company.

WHAT *ISN'T* A DESIGN SYSTEM?

A REACT COMPONENT LIBRARY

A React component library is a great way to share code easily, allowing teams to build functional prototypes and entire production products with minimal custom code. But it doesn't always reflect the flow of a customer through the product usage cycle very well.

WHAT *ISN'T* A DESIGN SYSTEM?

AN EXTERNAL WEBSITE PROMOTING YOUR DESIGN SYSTEM

We all love to ooh and ahh over the latest publicly released design system - Oh look at what Material is doing here! Check out this neat feature in Lightning! Have you seen the theming built into Polaris? But these are only frozen snapshots in time of the system in use inside the company. Sometimes the public version can lag by months or years what teams actually use.



THESE ARE ARTIFACTS - NOT THE SYSTEM

While each of these artifacts *represent* the system, they are not the system itself.

SO... WHAT /S A DESIGN SYSTEM?

A solid pink rectangular block that serves as a background for the title text.

AN AGREEMENT ON HOW DIGITAL PRODUCTS ARE MADE

That's all. A design system is an agreement within your team, or your department, or your company, on what your products are, what they look like, and how they work.

DESIGN SYSTEM AGREEMENTS

User Interface Design: *how a digital experience looks*

Interaction Design: *how a digital experience feels*

Content Strategy: *how a digital experience sounds*

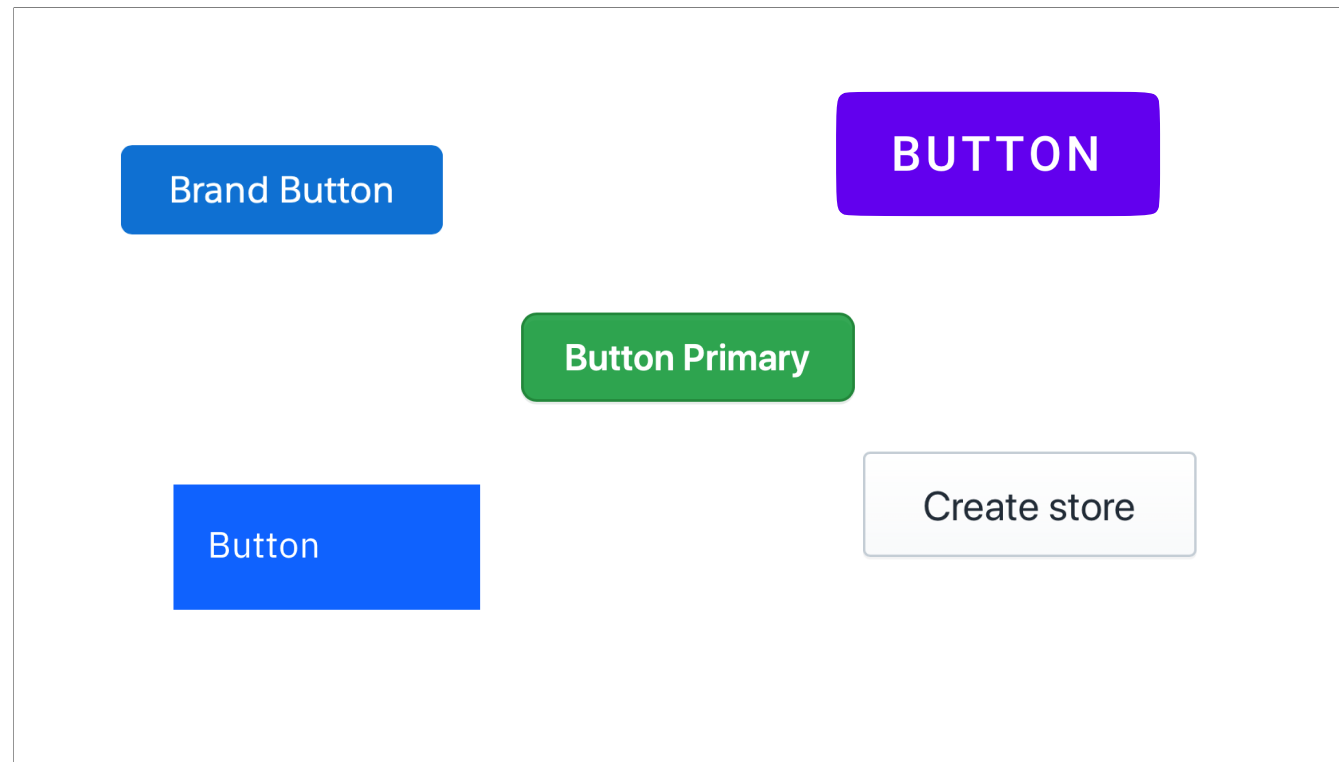
Documentation: *how a digital experience is crafted*

A design system is an agreement of how a given product should look, how it should feel, and what it should sound like. All of these agreements should be documented, so in the future you can recreate that digital experience.



DESIGN SYSTEMS TAKE TIME

It takes time for an organization to reach an agreement, on big things, but also on small things. You might be surprised at how long it can take to agree about something as -



- straight forward as a button.

Here we have five different primary buttons from five different design systems. They are all very similar, but have distinct differences. On the web, the button is one of your primary interaction points with a customer, and it can be a source of much frustration when building a design system.



DESIGN SYSTEMS TAKE TIME AND THEY TAKE MONEY

So we know a good design system will take time. More time than you think. Time is money, so it probably won't be cheap. You might start asking yourself -

WHY BOTHER WITH A DESIGN SYSTEM?

Why bother at all?

DESIGN SYSTEMS ARE ALL ABOUT SCALE

Interface Design *at scale*

Interaction Building *at scale*

Content Creation *at scale*

A well considered design system can give you incredible returns in the form of scale.

DESIGN SYSTEMS ARE ALL ABOUT SCALE

When everyone on your team knows *how* a thing should be built, they can just *build it*.

Whether you are dealing with designers or developers or anyone in between, they just want to know how and why to do a thing.

DESIGN SYSTEMS ARE ALL ABOUT SCALE

When everyone on your team knows *how* a thing should be built, they can just *build it*.

#1 Support Request: How do I do X?

The number one question my team receives: how do I do X?

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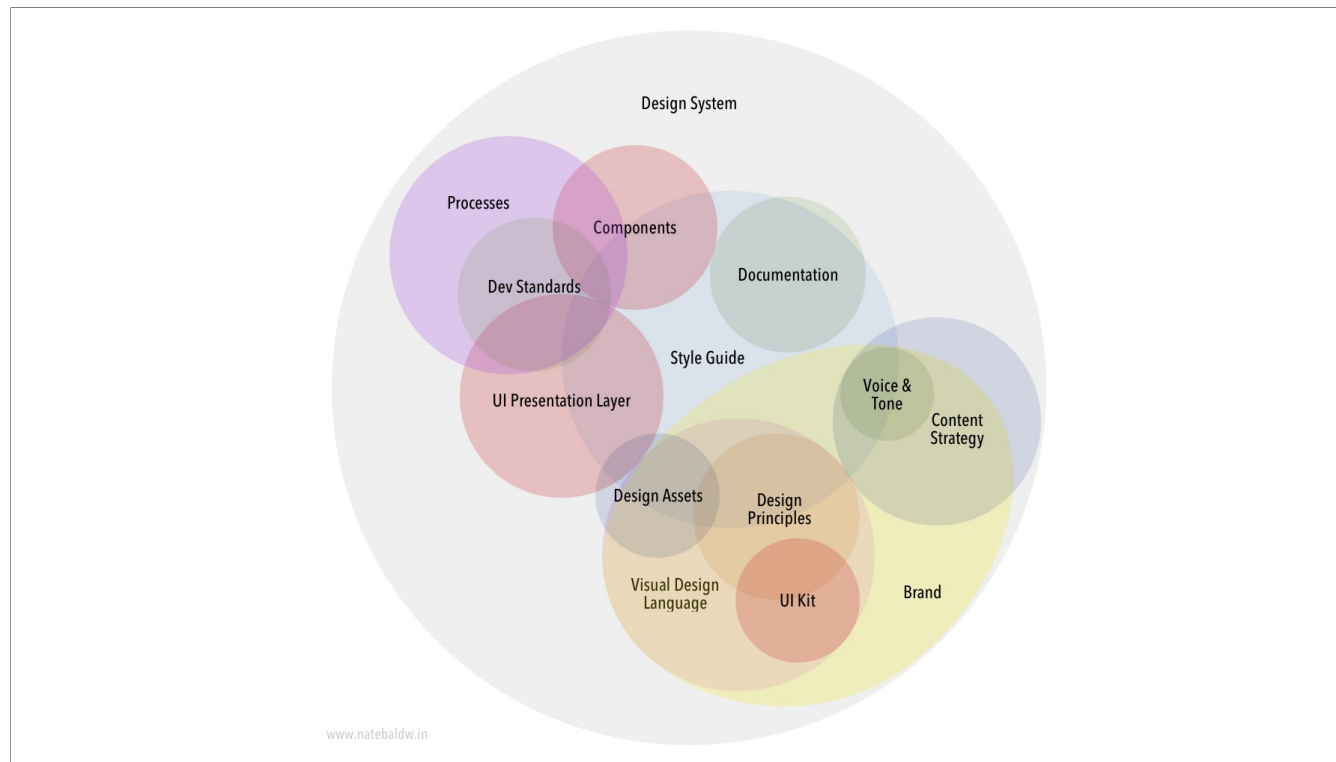
#1 Support Request: How do I do X?

#2 Support Request: Why do I do X?

The number two question my team receives: why do I do X?

**A DESIGN SYSTEM IS A *SERVICE*
NOT A *PRODUCT***

**YOU NEED TO *ANSWER QUESTIONS*,
NOT WRITE CODE**



Looking back at this graphic - what would you guess is the most important artifact that makes up a design system? A Style Guide? A UI Kit?

**IF YOU ONLY HAVE THE TIME
OR THE MONEY FOR ONE ARTIFACT,
*WRITE DOCUMENTATION***

Documentation is the single most important piece of the puzzle.

DESIGN SYSTEM DOCUMENTATION

If a Design System is made up of agreements, you need to write those agreements down.

If you can answer 80% of the questions teams have about building products, you just got 80% of your time back to focus on the hard stuff.

DESIGN SYSTEM DOCUMENTATION

If a Design System is made up of agreements, you need to write those agreements down.

If you have the budget, hire a Service Designer.

A Service Designer thinks about people and infrastructure. They are the personification of documentation and customer support. They can help drive adoption of new design systems and new visual languages in ways that no amount of code or design can.

DESIGN SYSTEM DOCUMENTATION

If a Design System is made up of agreements, you need to write those agreements down.

If you have the budget, hire a Service Designer.

Should change as often as necessary.

Don't let your design system documentation be captive to product road maps or semantic versioning arguments. If there is a new agreement on how something is done, update the documentation first. Code and pixels can come later.

DESIGN SYSTEM HELPS *EVERYONE*

ACCESSIBILITY AT SCALE

Buttons that work as buttons

ACCESSIBILITY AT SCALE

Buttons that work as buttons

Links that work as links

ACCESSIBILITY AT SCALE

Buttons that work as buttons

Links that work as links

Animations that respect *prefers-reduced-motion*

ACCESSIBILITY AT SCALE

Buttons that work as buttons

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INCLUSION AT SCALE

ACCESSIBILITY AT SCALE

Buttons that work as buttons

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INCLUSION AT SCALE

Form fields that accept accented characters

ACCESSIBILITY AT SCALE

Buttons that work as buttons

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INCLUSION AT SCALE

Form fields that accept accented characters

Right-to-left text presentation that just works

Design systems can help increase the accessibility and inclusion of your websites and products.

First and foremost, they give ready to use accessible and inclusive patterns to your product teams. Design systems will not magically make your product accessible or inclusive, however, they take care of the easy to solve problems and give you and your product team time to focus on the truly hard work.

IF YOU DO NOTHING ELSE

If you do nothing else -

A large, solid pink rectangle occupies the upper half of the image. Centered within this rectangle is the text "WRITE DOCUMENTATION" in a bold, white, sans-serif font.

WRITE DOCUMENTATION

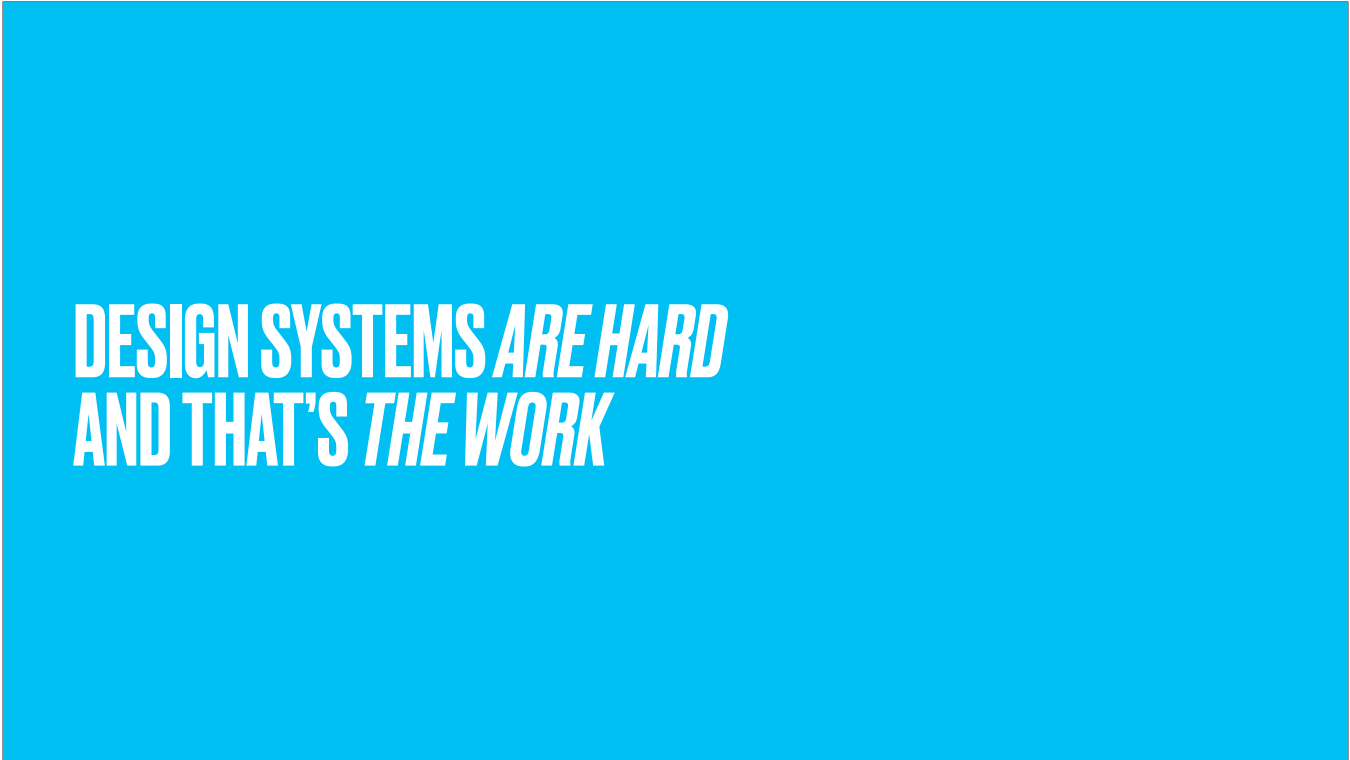
Write documentation. A lot of it. Be prepared to update it *regularly* -

WRITE DOCUMENTATION

HIRE A SERVICE DESIGNER

- And hire a service designer. Service designers

DESIGN SYSTEMS *ARE HARD*



DESIGN SYSTEMS ARE *HARD*
AND THAT'S *THE WORK*

I guess it turns out that design systems are hard, and that's ok. Doing the work up front to provide a unified method of working for your product teams will pay off in the long term by providing superior experiences to your end users. Don't pay for an easy developer experience by harming the user experience.

RESOURCES

- [Why Every Design System Needs a Service Designer](#)
- [Conway's Law / Uncle Dave's Law](#)
- [Anatomy of a Design System](#)
- [Design System Checklist](#)
- [How the Right Design System Streamlines a Large Organization's Digital Development](#)