DUSTIN YOUNSE

DESIGN SYSTEMS AREN'T HARD

Howdy! And welcome to Design Systems Aren't Hard. But they are complex. And also hard.

ABOUT ME

@milsyobtaf from the internet

I've worked on large websites since 2008

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

Currently working in Design Engineering at Indeed, a job that comes with the best laptop sticker

My name is Dustin Younse, and I'm milsyobtaf most places on the internet, except for Flickr, where someone stole the name from me. Not that I'm bitter.

I've been working on large websites since 2008, and as part of that work I've been using "design systems" since the days when we called them "swatches" or "style tiles".

I'm currently working in Design Engineering at Indeed, a job that comes with the best laptop sticker
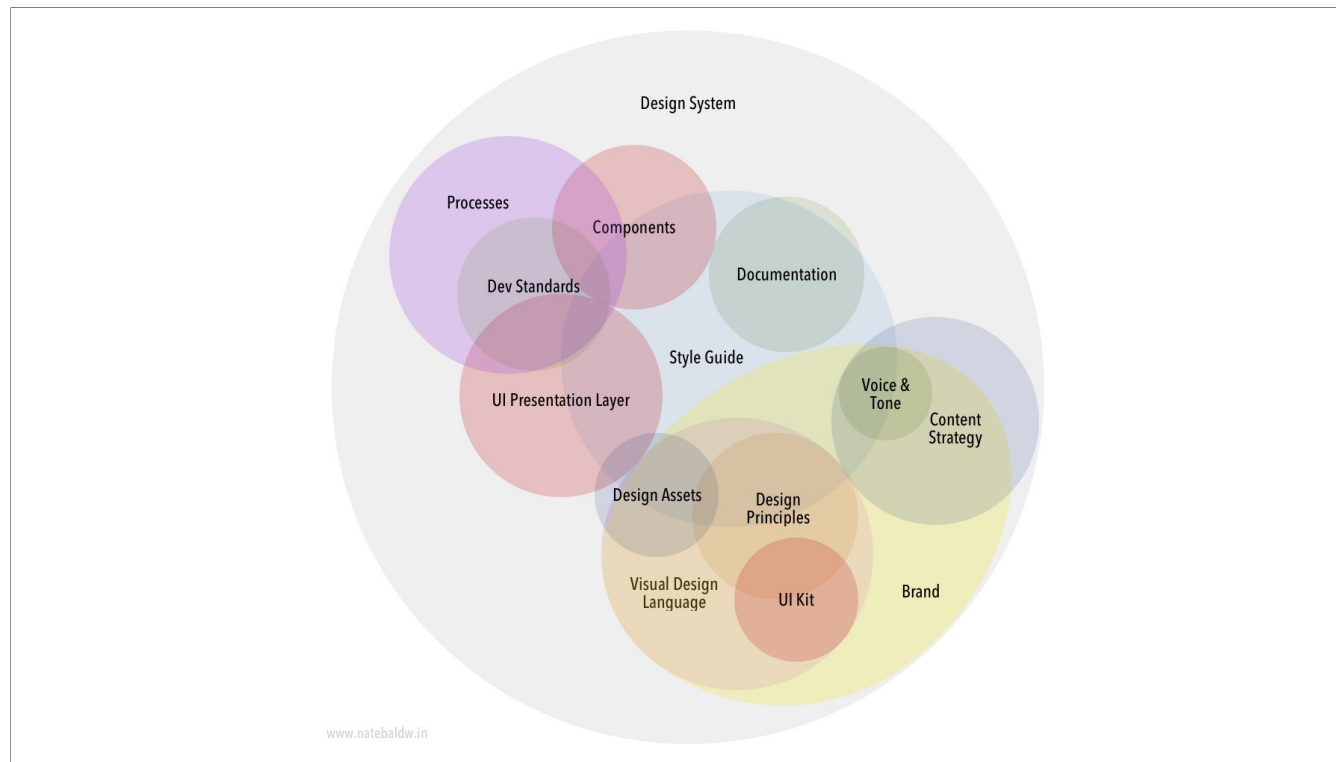
DESIGN SYSTEMS AREN'T HARD

But they are complex.
And also hard.

Howdy! And welcome to Design Systems Aren't Hard. But they are complex. And also hard.

WHAT IS A DESIGN SYSTEM?

If you ask ten different people who work on design systems, you'll get ten different answers.

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I first saw this graphic in a talk at the Artifact Conference in 2019.

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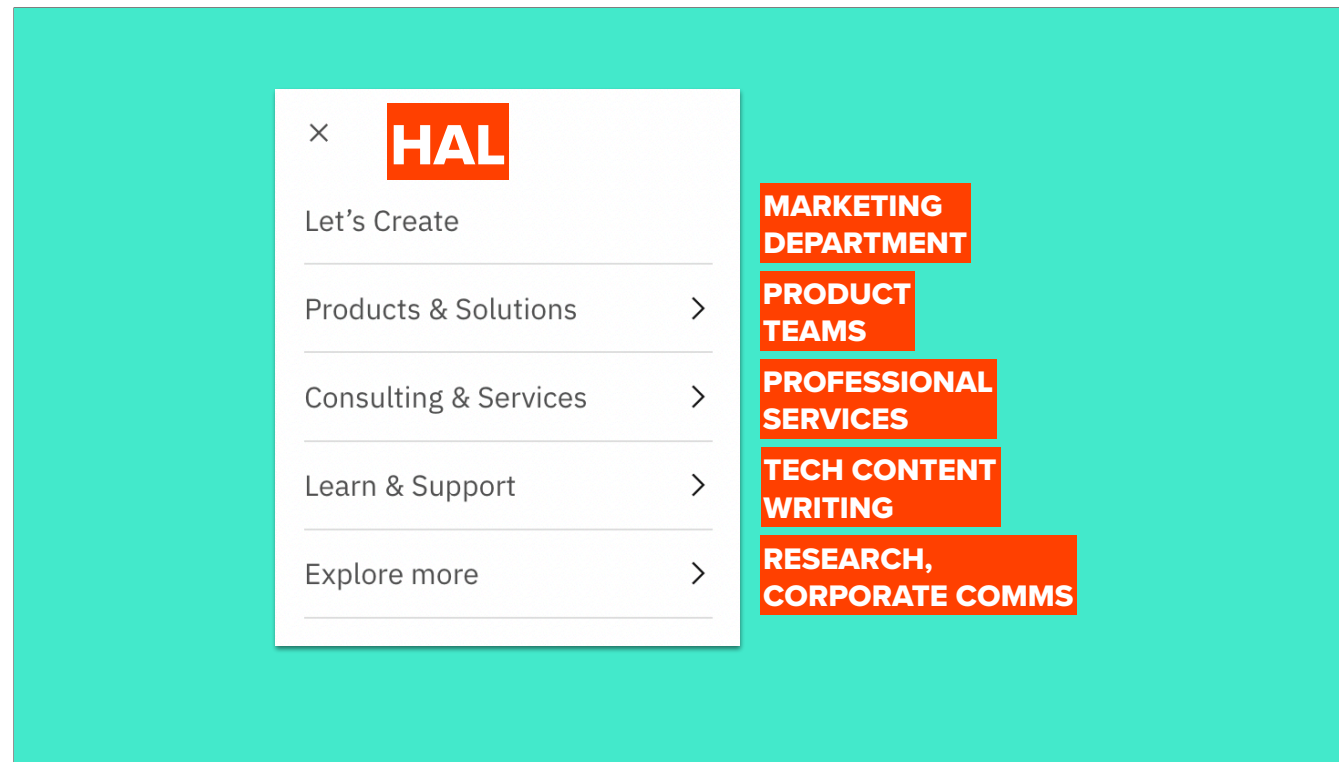
Organizations which design systems ... are constrained to produce designs which are copies of the communication structures of these organizations."

CONWAY'S LAW

Conway's Law is one of my favorite thought technologies.

In essence, it says that products tend to resemble the communication of teams that build those products.

If you look at the primary navigation of any company, you can often make an educated guess about their internal structure.

This isn't necessarily a bad thing, if the different groups talk to each other and share a common goal and design language. But often, this divisions are forced to compete with one another for internal resources and external visibility. And that competition leads to -

Your website is a _manifestation_ of your organization's _problems_

Websites tend to reflect the communication _problems_ and internal competition of the teams at the company
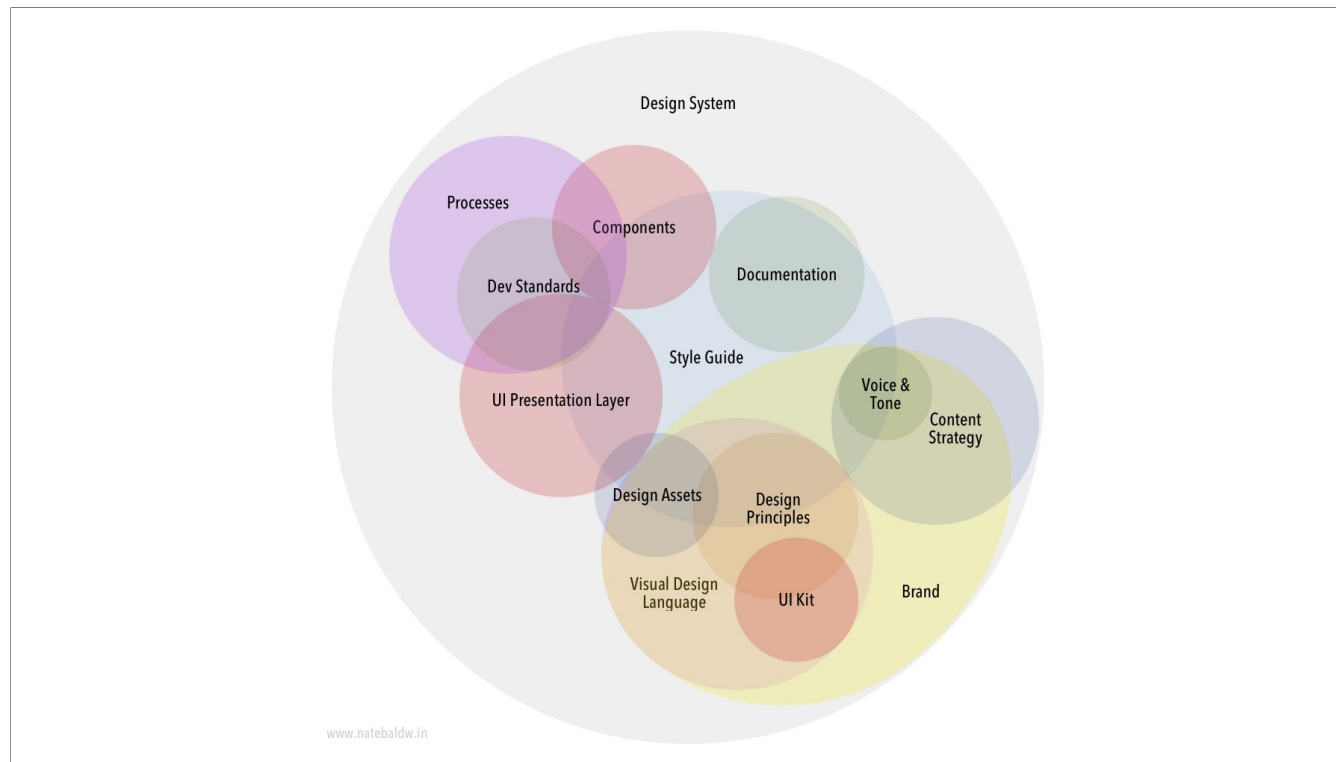
Each of these artifacts comes from a different team communicating (and not communicating) with other teams.
Design teams, engineering teams, product managers, content teams, everyone *knows* that their work is the most important.
None of these circles is a design system, each of these circles is simply an *artifact.*
Let's think about it from another angle -

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 each of these components lives in a vacuum, detached from the actual end product.
It doesn't reflect the flow of a customer through the product 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,

and here's a dirty little secret - sometimes the public version can lag by months or years what product teams actually use, if it's even the same system at all.

THESE ARE ARTIFACTS - NOT THE SYSTEM

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

SO... WHAT *IS* A DESIGN SYSTEM?

Now we have some ideas of what a design system isn't, which might help us answer the original question - what is a design system?

AN AGREEMENT ON HOW
DIGITAL PRODUCTS ARE MADE

An agreement.
That's all.
A design system is an agreement within your team, or your department, or your company,
an agreeement of 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*

I see four primary agreements in a given design system.
A design system is an agreement on how a given product:
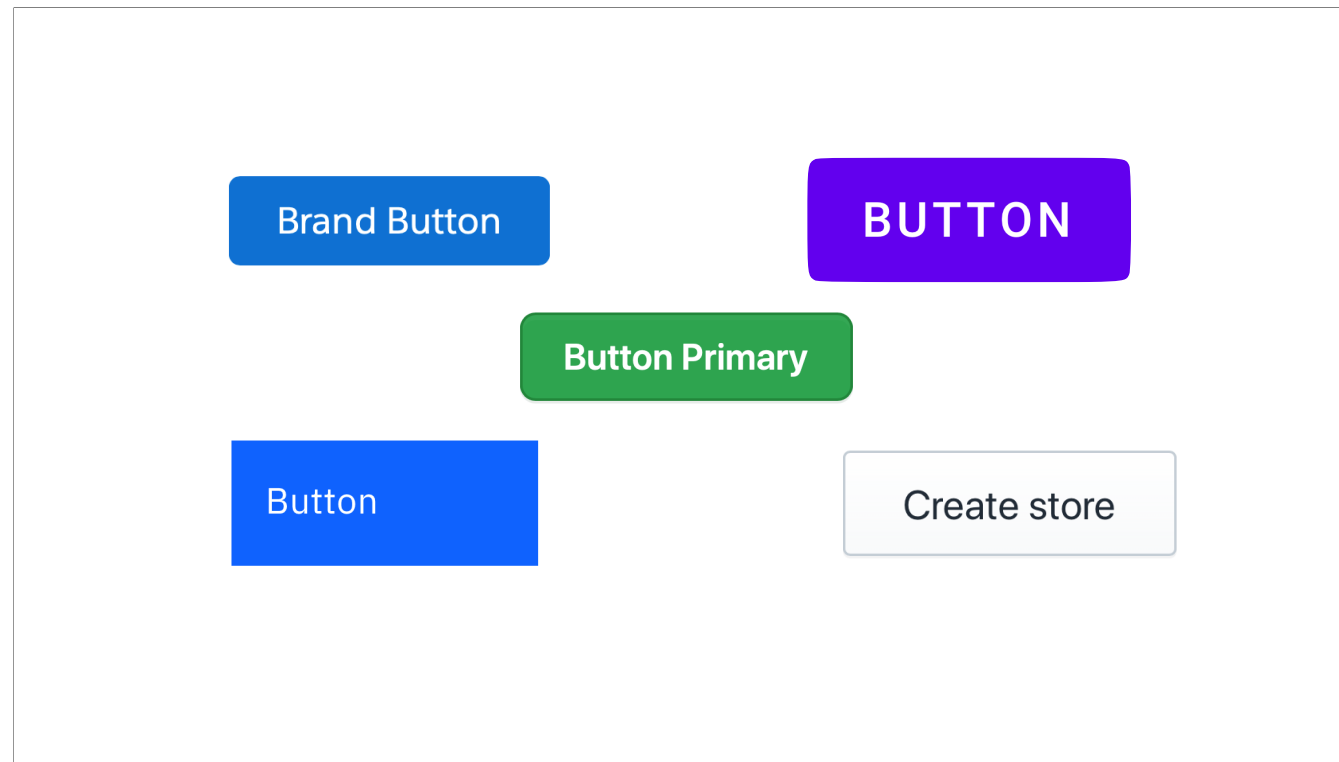should look,
how it should feel,
and what it should sound like.
And all of these agreements should be documented, so in the future you can recreate that experience.

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.

My team started to build a single core button a year and a half ago - we're still working on it.

And we're up to three core buttons.

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?

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?
#2 Support Request: Why do I do X?

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

By removing the tedious work, you free up your teams to dive deeper than before.

Think about it this way - If you stop designing headers and footers for each page, you can focus on increasing the impact of what happens in the middle of the page.

DESIGN SYSTEMS HELP *EVERYONE*

There's a bit of a magic involved with design systems.

If you use them correctly, they are not just a tool for your designers or your developers.

Design systems are capable of helping everyone.

ACCESSIBILITY AT SCALE

Buttons that work as buttons

Design systems are incredibly powerful tools for accessibility.

They can give you buttons that work as buttons.

ACCESSIBILITY AT SCALE

Buttons that work as buttons

Links that work as links

They can give you links that work as links

ACCESSIBILITY AT SCALE

Buttons that work as buttons

Links that work as links

Animations that respect *prefers-reduced-motion*

They can give you animations that respect your users.

And it can do all of these things at scale.

ACCESSIBILITY AT SCALE

Buttons that work as buttons

Links that work as links

Animations that respect *prefers-reduced-motion*

INCLUSION AT SCALE

Design systems are incredibly powerful tools for inclusion.

ACCESSIBILITY AT SCALE

Buttons that work as buttons

Links that work as links

Animations that respect *prefers-reduced-motion*

INCLUSION AT SCALE

Form fields that accept accented characters

They give you form fields that allow accented characters.

ACCESSIBILITY AT SCALE

Buttons that work as buttons

Links that work as links

Animations that respect *prefers-reduced-motion*

INCLUSION AT SCALE

Form fields that accept accented characters

Right-to-left text presentation that just works

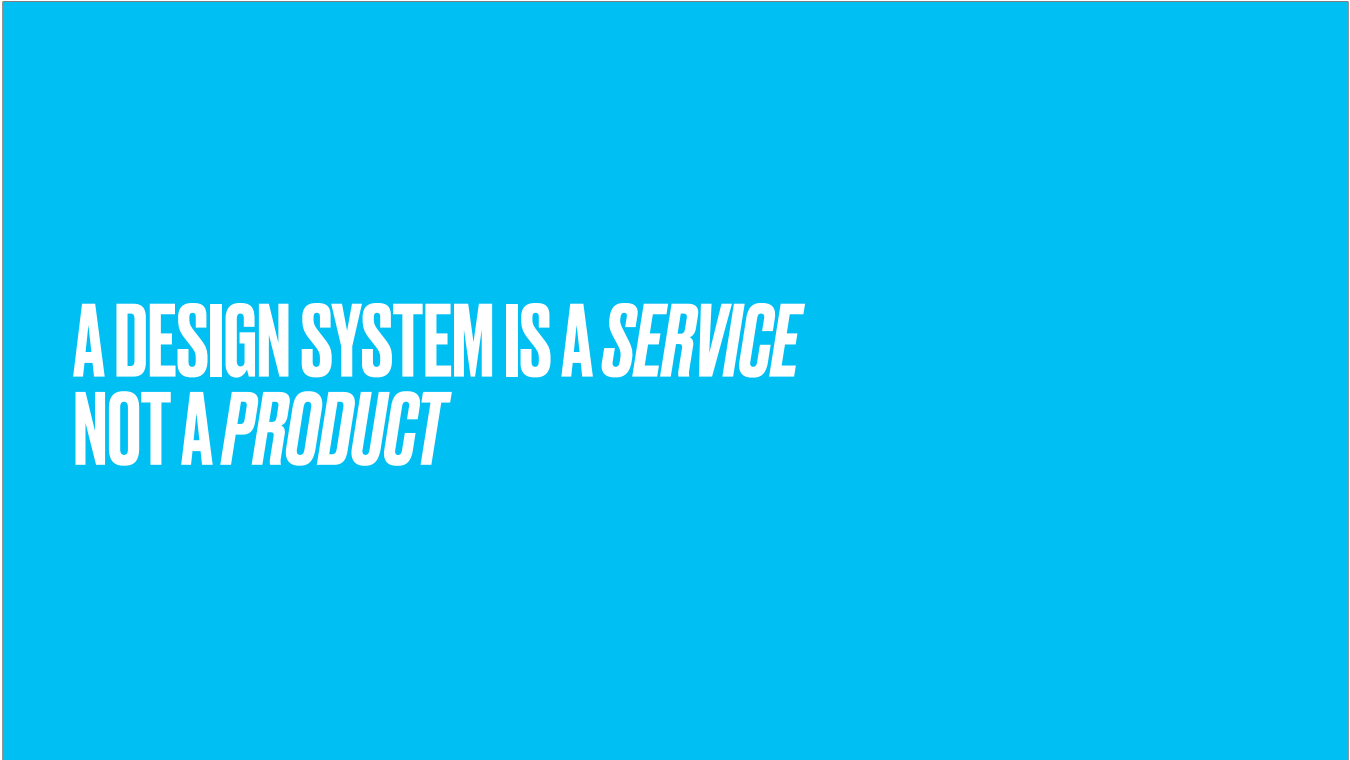They can give you right-to-left text for international markets.

—-

It can be hard to provide business cases for design systems.
Accessibility and inclusion are excellent side benefits that can help sell the project to leadership.

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.

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

I've come to a strongly held belief about design systems -

They are not a product. They cannot be treated like a product in any of the standard ways.
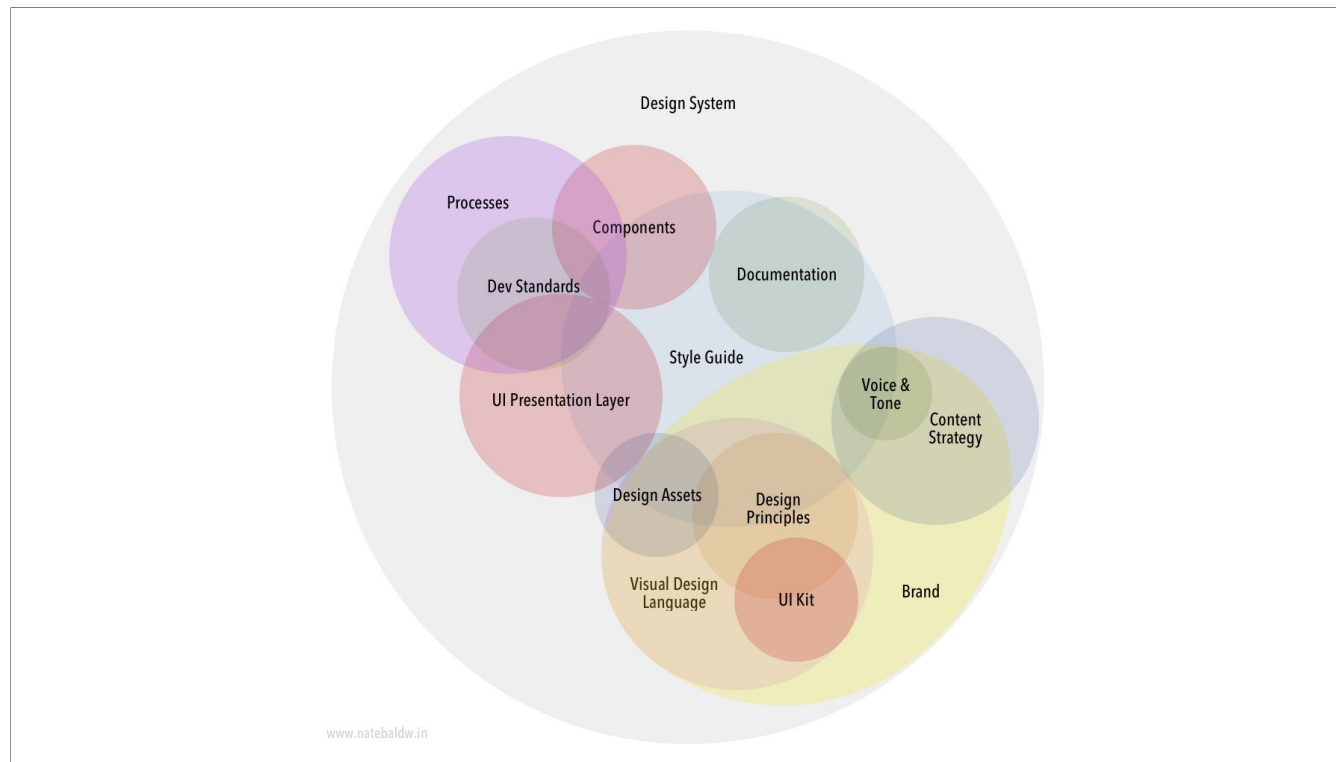
Treat your design system like a service that is continually improved.

Make a button. Later, make that button better.

Press publish, and now everyone gets that improved button.

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

When you are building a design system your primary output is answers to questions, not code, not pixels.

Let's look back at this graphic - we see lots of important things on here.

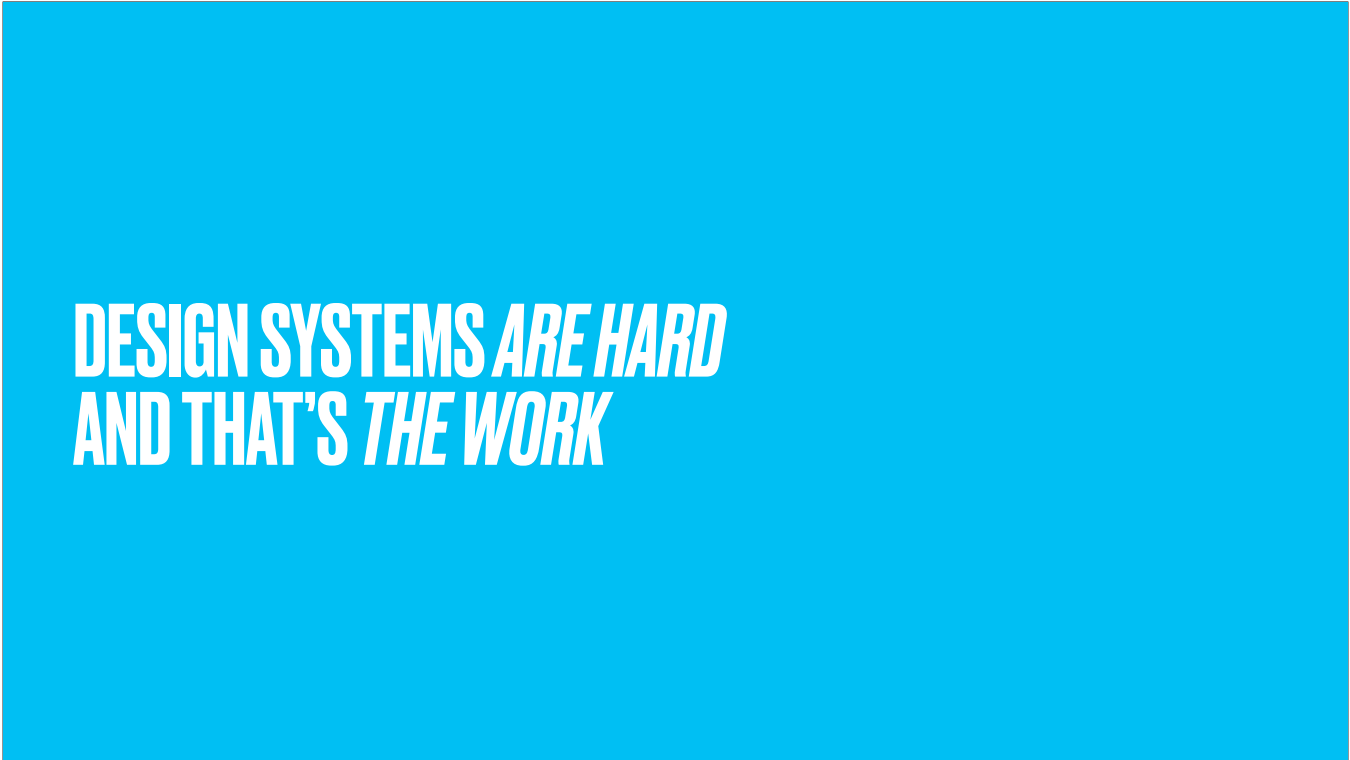Style guides.

UI Kits.

Where do you put your effort?

IF YOU ONLY HAVE THE TIME OR THE MONEY FOR
ONE ARTIFACT

WRITE DOCUMENTATION

Documentation is the single most important piece of the puzzle.
Write documentation. A lot of it. Be prepared to update it *regularly.*

DESIGN SYSTEMS *ARE HARD*

I guess it turns out that design systems are hard.

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

And that's ok. Because that's the actual work.

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

- **Conway's Law / Uncle Dave's Law**
- **Anatomy of a Design System**
- **How the Right Design System Streamlines a Large Organization's Digital Development**

- **Design Systems Slack**
- **Design Systems Podcast**
- **Design System Checklist**