

## GOV.UK Has It. Google Has It. IBM, Too. Do You?

Hey 🙋

The [British Government](#) has it.  
[Google](#) has it. [IBM](#) has one, too.  
[Quickbooks](#), [Mailchimp](#)... The list goes on. Why do these companies invest their resources to build design systems? What do they know that other companies don't?

I will use the examples above to teach you more about them, and hopefully, convince you why your team should build one. Finally, I will dive into the unique atomic take on the traditional design system that we prefer at NerdCow.

Ready for the atom of knowledge?



## What is a design system?

If you clicked the links at the top and observed the contents, your intuition might be suggesting the answer. You are probably right on the surface of it. Crudely speaking, a design system is a set of rules - as you would expect from a system. It manifests itself in all business undertakings that involve digital content creation. But what kind of rules are they? Who does make these rules?

Wait. First, to avoid unnecessary exits to Wikipedia here is the full definition of a design system:

**A design system is a set of standards widely accepted by an organisation to efficiently manage design at a scale while creating a shared language and visual consistency across different pages and channels.**

In other words, it makes everyone understand what things should

look like and sound like when produced by and for your organisation.

Shall we proceed? 😊

## What are its benefits?

The array of benefits depends on your situation. Creating and maintaining a design system requires a dedicated team. It constantly evolves, just like your business. Additionally, you need to train people how to use it.

Nonetheless, for the sake of completeness, and before I discourage you, I enlist all the benefits which outweigh the holdbacks tenfold.

→ It makes design and development a breeze by providing elements that can be easily replicated and repurposed. Need a button? Done. No more reinventing the wheel.

- It shifts the focus to larger and more complex problems. The foundation of the design consists of reusable parts that free up your valuable resources to follow up on more complex work.
- Cross-functional teams can speak the same language. Whether your team goes remote, or a new person joins the crowd, the design system reduces wasted design and development time around the miscommunication.
- It helps your company look the same across all channels that it operates. It provides a single source of standards that make your brand visually cohesive.

There is one trap that awaits the brave travellers. We saw a couple of companies fall for it, so it's only fair I warn you. It seems to be a tendency to betray the design system when faced with time

pressure or what looks like a one-off project. It's not a wise long-term strategy. It might signal a missed opportunity to increase efficiency within the team.

## **What does it consist of?**

There are two essential parts to a design system:

- the design repository
- the people who manage it

### **The design repository**

As mentioned earlier, the design system goes beyond the scope of aesthetics. In the examples above, you will see sections such as the brand foundations, product guidelines, and marketing guidelines. You might not have a need or resources to build these up at once. It takes time, so don't be too hard on yourself. Baby steps, remember!

Usually, we divide the design

repository into three categories:

- **Style guide.** It focuses on branding and content recommendations. Some companies choose to incorporate it into the component library. Check [MailChimp's style guide](#) here.
- **Component library.** It's a collection of reusable user interface elements described in the finest detail. Designers and developers frequently use it to learn about the implementation of specific UI elements. [Here's Google's.](#)
- **Pattern library.** A pattern is effectively a group of components and layouts. Here, you will find content structures and templates that can be reused and adapted e.g. page headers or pricing tables.

While these categories are intertwined, I would pick the

component libraries as a starting point. Primarily for the reason of getting things done in the shortest time possible. Once you build individual components, you can put them to good use and accelerate your business growth.

### **The people who manage it**

A tool is only as good as the hands that wield it. It takes time, effort and purpose to continually maintain a design system and to make sure it doesn't become outdated. From my experience, you need at least 1 designer and 1 developer to write guidelines, create visual examples and provide code snippets.

### **What do atoms have to do with it?**

You could have assumed by now that design systems are the domain of rather larger organisations. Perhaps you are right. They truly shine when





applied to more complex scenarios. However, I am of an opinion that we can cherry-pick useful parts, and thus keep their scope to the minimum. That alone significantly reduces the required resources to manage them.

Take websites as an example. They are rather straightforward tools in comparison to the capabilities of the modern software engineering world. In fact, it's not uncommon to classify them as marketing tools rather than software applications.

For these reasons, we simplified the typical design system by taking out sections that we don't need and introducing a new naming convention.

If you remember the contents of a typical design system you will remember the components and patterns, and their meaning. We took a more scientific approach and replaced both terms with the following categories:



- **Particles** . These are the smallest bits of a website user interface that never change e.g. colours, brand assets, and typography.
- **Atoms** . If we join a couple or more particles we get an atom that represents a basic interface component such as a button or a bullet list.
- **Molecules** . Fused atoms make up a molecule that has a bit more complexity to it. Great examples of these are quotes and form fields.
- **Organisms** . Finally, the most complex of all, organisms which represent a combination of particles, atoms and molecules e.g. accordions, paginations or popups.

We take it even further and glue organisms together to build interface templates such as page headers or navigations - both for

different screen sizes!

The last reason why we do this is to fit the designing process into the agile development approach. You can only be agile if everyone in the company follows the method. We call it “agile web design” 😎.

Here’s a direct link to [NerdCow’s atomic design system](#).

There’s so much more to this, but I realise this guide is already lengthy. If there’s any particular side to our approach that you’d like to know about, ping me an email and I will get back to you.

Thanks!



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