OCTOBER 31, 2022

ISSUE 43

126.7 MHz

The Official Newsletter of the Flight Deck

A New Term

John Burtt, Ben Lin, Vidhi Gokani, and Janvi Ganatra

This term, the four of us co-ops are completely fresh to the Flight Deck. John and Ben will continue work on the Maintainer application that helps with the aircraft maintenance planning. Vidhi and Janvi are working on the product team for Dispatch, a cloud-based mission planning platform for the Air Force. Over the past month, the four have been in the process of onboarding, starting off with the Communitech Basecamp, where they learned all about design thinking. John and Ben followed that up with a personal project, a To-Do app, to become familiar with the technologies and structures that Maintainer uses. Janvi and Vidhi have been connecting with users and working on improving the UX/UI of YFR planning and reporting features in Dispatch.

We all hope for a wonderful term!

Meet the CO-OPs

Ben Lin
Full Stack Developer

Hi! I'm Ben and I'm going into my 4th year of Computer Science. I like to dance in my free time: I am part of a competitive dance team and also direct a team with UW Hip Hop club. One of my personal goals for the rest of the term is to eat/drink less sugar!!!

Vidhi Gokani
Product Manager

Hey! I'm Vidhi and I'm going into my second year of Systems Design Engineering. In my free time I love to bake, read and meeting new people.

John Burtt
Full Stack Developer

Hello, I'm John and I'm going into my 2nd year of Computer Engineering. In my free time I enjoy playing basketball on my intramural team and during open gyms and playing video games.

Janvi Ganatra
Product Manager

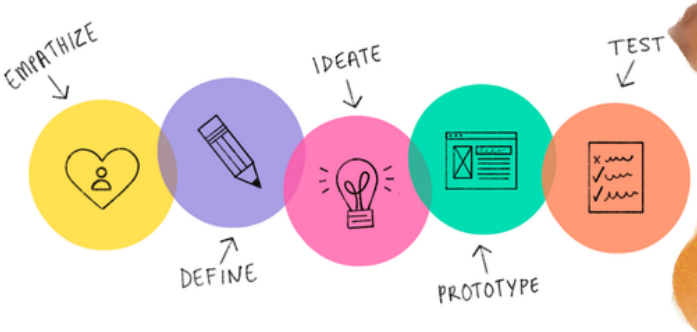
Hi! I'm Janvi and I'm going into my second year of Systems Design Engineering at UW. When I'm not studying or designing, I enjoy reading (91/100 books read so far this year!), water-colour and acrylic painting, baking and seeking new experiences!

Design is more than you think

By: Vidhi Gokani, Product Manager

What is the first thing you think of when you hear the word “design”? Most people think of art or decoration or colour. In reality, design is everywhere around you and most of the things you use were designed to be as user friendly as they are. My perception of design has drastically changed over the past few years through my interest in the field deepening.

A common process in which products are designed are through the design thinking process. This involves an iterative process where you empathize with users, define a problem, ideate and prototype a solution, and test the prototype. This process creates a mindset to follow to ensure that those creating something have thought it thoroughly and have considered many different perspectives and research to be able to create the optimal solution. This works not only on new products but also on existing products requiring to be refined.



Design, especially experience design is becoming more important than ever. According to an article by Forbes, the design industry is rapidly growing. The article also states that there will be a 20% growth this year for design software. Something recent and important that has happened in the design world recently is Adobe, a software company which creates graphic design software acquired Figma, a web-based design tool widely used by designers for $20 billion dollars.

As someone newer to design, I was unsure what to expect doing design work for the Air Force. After our first 2 days of work, I realized working with the Air Force was a big change of environment for me, being exposed to so many new facts, terms and ideas. A good transition for this was Communitech running a 4 day design basecamp focused on implementing design thinking through applying it to a case study. The goal of this basecamp was to practice design thinking through ideating a solution to improve Trader Joe’s self checkout. Going through this process with all of us new co-ops, it was a great learning experience and bonding activity.

A day trip in Nova Scotia

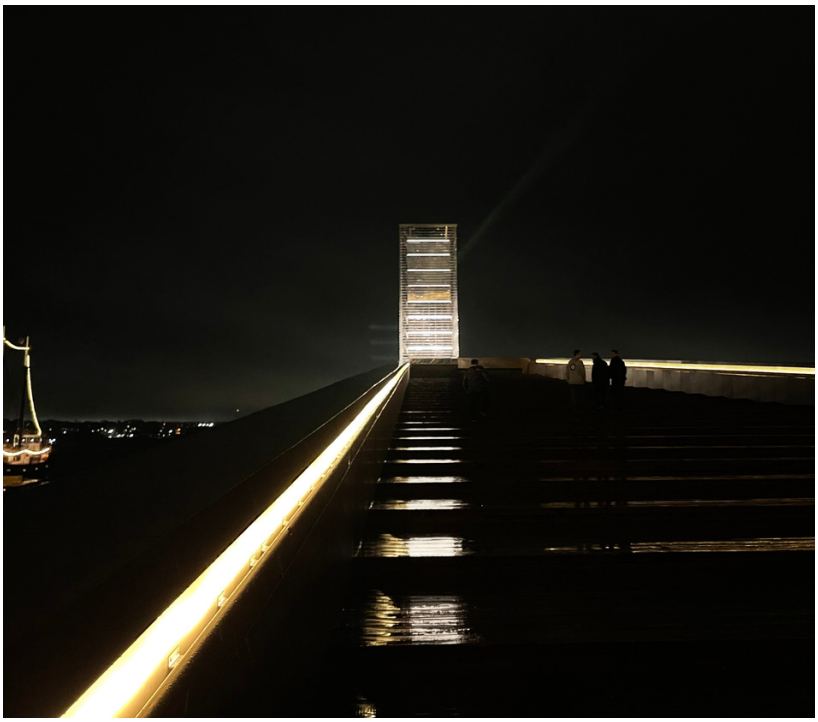
Ben Lin, Full Stack Developer

After meeting more techs on the third day in Greenwood, we decided we would take some time to sightsee in Nova Scotia. The 5 of us (Ali, Jason, Doug, John, and I) squeezed into Doug's Dodge Charger and set off for the city. (I, being the smallest one there, had to take the middle seat.) Though we had departed, we weren't sure where to go, so Doug and Jason took us to Peggy's Cove. Unfortunately, on the way there, a large rock smashed into the windshield of the car and caused some serious damage. Aside from that, the trip was peaceful and we slept most of the way there.

Before we got to Peggy's Cove, we stopped by the SR111 Peggy's Cove memorial and paid respects to the victims of Swissair Flight 111, which crashed into the Atlantic Ocean in 1998. There were some nice trails and views of the Atlantic Ocean and the Peggy's Cove lighthouse. After visiting the memorial, we drove a short distance to Peggy's Cove.

The quiet little town of Peggy's Cove is a popular tourist destination for visitors of Nova Scotia. We parked near the lighthouse and went out onto the rocks to enjoy the views of the Atlantic Ocean. This coastal region was very rocky and beautiful. Watching the waves from the Atlantic crash into the shore was very therapeutic: I felt like I could stay there for hours but after a bit of time we left to get into the city of Halifax.

Our first task in the city was to get some food. Our first choice was, for some reason, only closed on Wednesdays, so per one of the tech's recommendations, we visited Tarek's Cafe. It was a lively spot serving Lebanese cuisine in the north end of Halifax. The food was delicious and the servers were very friendly.
We then visited the harbourfront at night and the views were amazing. There was a large wooden boardwalk with beautiful lighting and art installations. It was a dark and rainy night as well so the reflections of the lights on the ground were amazing. The whole time I felt like I was in Gotham City due to the ambiance of the rain. It started raining harder so we decided to get back in the car.



We then visited Citadel Hill to see the views of the city from above. When we reached the top, it was foggy and rainy and the ambiance was very nice. We then started to head back home to Greenwood.

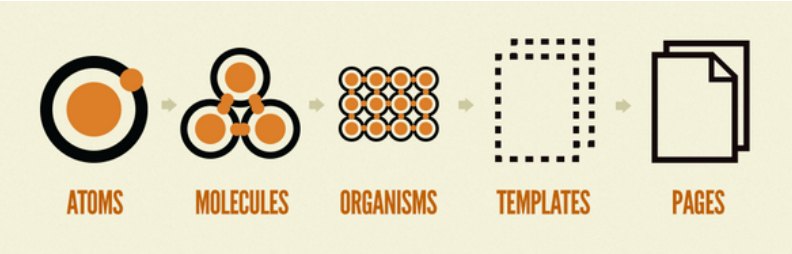
Building a Design System

By: Janvi Ganatra, Product Manager

During my first few weeks designing for Dispatch, our cloud-based flight admin software, I noticed a lot of my time being poured into going back and forth between consolidating various sources. This led me to initiating a design system for Dispatch, with the goal of compiling all of these resources into one space that is easily accessible and organized.

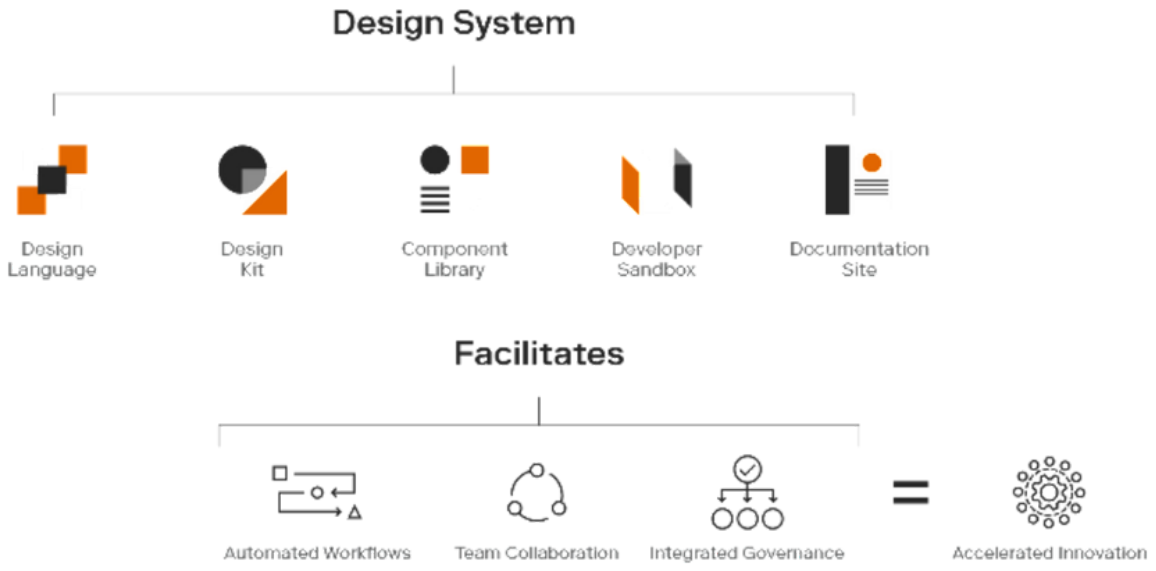
So... What is a Design System?

Essentially it is a compilation of reusable elements with a set of standard practices. These elements can be assembled together to build pretty much anything for digital products.



From Brad Frost's Atomic Design methodology, 2013

For Dispatch, I started with creating a design kit on Figma with a components library that is growing as we go. However, many parts go into building a design system including a style guide, pattern library, design principles, brand identity, documentation and best practices... the list goes on and on. These systems take time and resources to build and are meant to always be evolving.



The Value of a Design System

You might be wondering, why invest all this time and effort into creating one in the first place? Here are some reasons why:

Efficiency
Design work can be done quicker by using UI components and elements that are all in one place and ready to use instead of recreating them each time. As a result, designers can put their time and energy into solving more complex problems.

Collaboration
A design system creates a unified language for cross-functional teams to communicate in, this fosters an environment for strong collaboration and minimizes miscommunication.

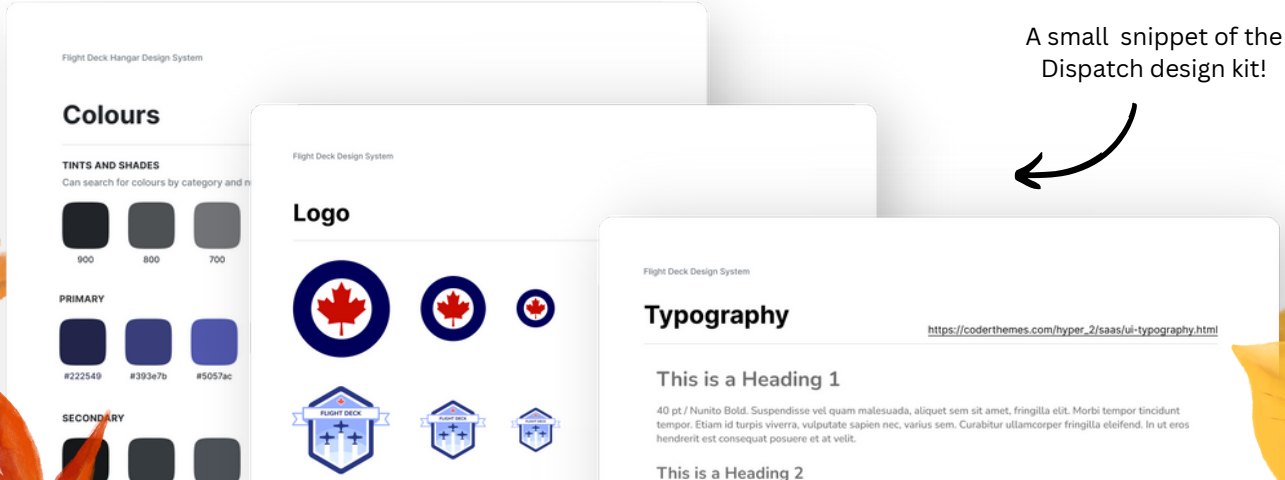
Consistency
Design systems act as the single source of truth, this promotes overall visual consistency throughout a product

Overall, design systems are a great tool being adopted by many companies worldwide such as Google, Apple, Microsoft, etc. These companies have robust systems, however I've learned that implementing any scale of a design system is valuable to product development and the workflow of the team behind the scene.

Quick Tips

Finally, here are some quick pointers for starting a design system.

- Figma is a great tool for putting together UI elements and creating components, there are lots of great templates available online as well
- Reviewing existing design systems is good for inspiration and helpful for determining what to include in your own. Here's a popular one - Material
- Finally, this is the article that first introduced me to the concept of design systems and goes into more details about some of the things I mentioned



A small snippet of the Dispatch design kit!

Tech's Corner: Code Smells

John Burtt, Full Stack Developer

A code smell, for those of you unfamiliar with the term, is not a bug or error, rather a violation of the fundamentals of developing software that decreases the quality of the code. Knowing the different kinds of code smells and how to identify them is crucial to having a successful career in software development and getting your pull requests approved. This is because clean code is easier and cheaper to maintain. One example of a kind of code smell is duplicated code.

If you find yourself using the same code in multiple functions in your project, then that code should be in its own function. This ties into our next example of a kind of code smell which is bloaters. Bloaters are files, methods or classes that are so large in size that they have become difficult to work with. For developers, it is often harder to create a new method than it is to add to an existing one. However, moving sections of the code in these oversized methods into new functions makes it easier for other developers to read and understand what your code does. Another example of a kind of code smell is a data class. A data class is a class that only has getters and setters for accessing its fields and cannot independently operate on the data that they own. One last example of a kind of code smell is comments, more specifically comments that make your code hard to read. Swagger is a tool that reads your API's structure and automatically writes meaningful and interactive API documentation so you don’t need to worry about writing comments that could possibly make your code less readable. To detect code smells automatically, you can use a tool like SonarQube, which scans your code and gives you a detailed report of what needs to be improved. My first task as a full stack developer at the Flight Deck was to go through one of the directories in the maintainer project, identify code smells and refactor the code such that the issues are addressed.

Tasks like this are oftentimes given to newly on boarded developers as getting rid of code smells is easier than implementing a new feature would be and it gives them a chance to familiarise themselves with the code.

Want to be featured in our newsletter, recommend 'Friday favourites' or just want to chat?

Contact us at
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