The Problem

Convert PayPal's TPX products and tools into modern, powerful customer offerings

In the past, PayPal's internal products and tools have consisted of legacy standards with fragmented elements. The goal was to create engaging and powerful products that users can come to expect to behave and perform in a uniform fashion. That should be the case regardless of who the owner of the product is or what the purpose of the product is.

The Solution

By focusing on being customer champions, TPX needed to standardize the user experience with a unified design system for our suite of products and applications.

The goal of this effort will cover the following:

- Ensure consistencies in products and applications
- Create common elements to be used uniformly across all of TPX
- Establish proper implementation of design system to provide a uniform user experience
- Provide a central place for collaboration of new tools and features for the entire suite of products
- Have the design system be based on an existing framework and UI control library to ensure fast implementation and reduced drift between designs and developed products.

Staffing Challenge

Devise a customer driven user experience product design solution
with the constraints of the team and staffing challenges.

Typical UX To Engineer Ratio

PayPal TPX UX to Engineer Ratio
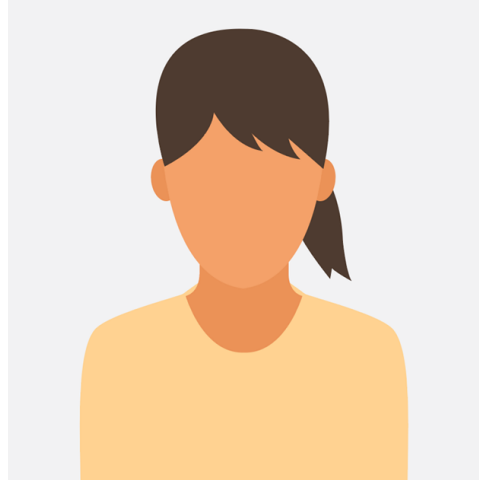
X15

1 UX Designer To 10 Engineers

1 UX Designer To 360 Engineers

Stakeholder Personas

Product Manager

Responsible for product expertise, driving discovery, and developing goals and objectives.

Engineering Manager

Responsible for technology leadership, development goals, and organizing development resources.

Engineer

Responsible for converting UI/UX requirements into coded presentation layer, contribute to design system.

UX Designer

Responsible for creating design system, user interfaces, user experience and assist with discovery.

User Personas

Business Team Person

Works with products and applications to perform business functions, gather information and report information and results.
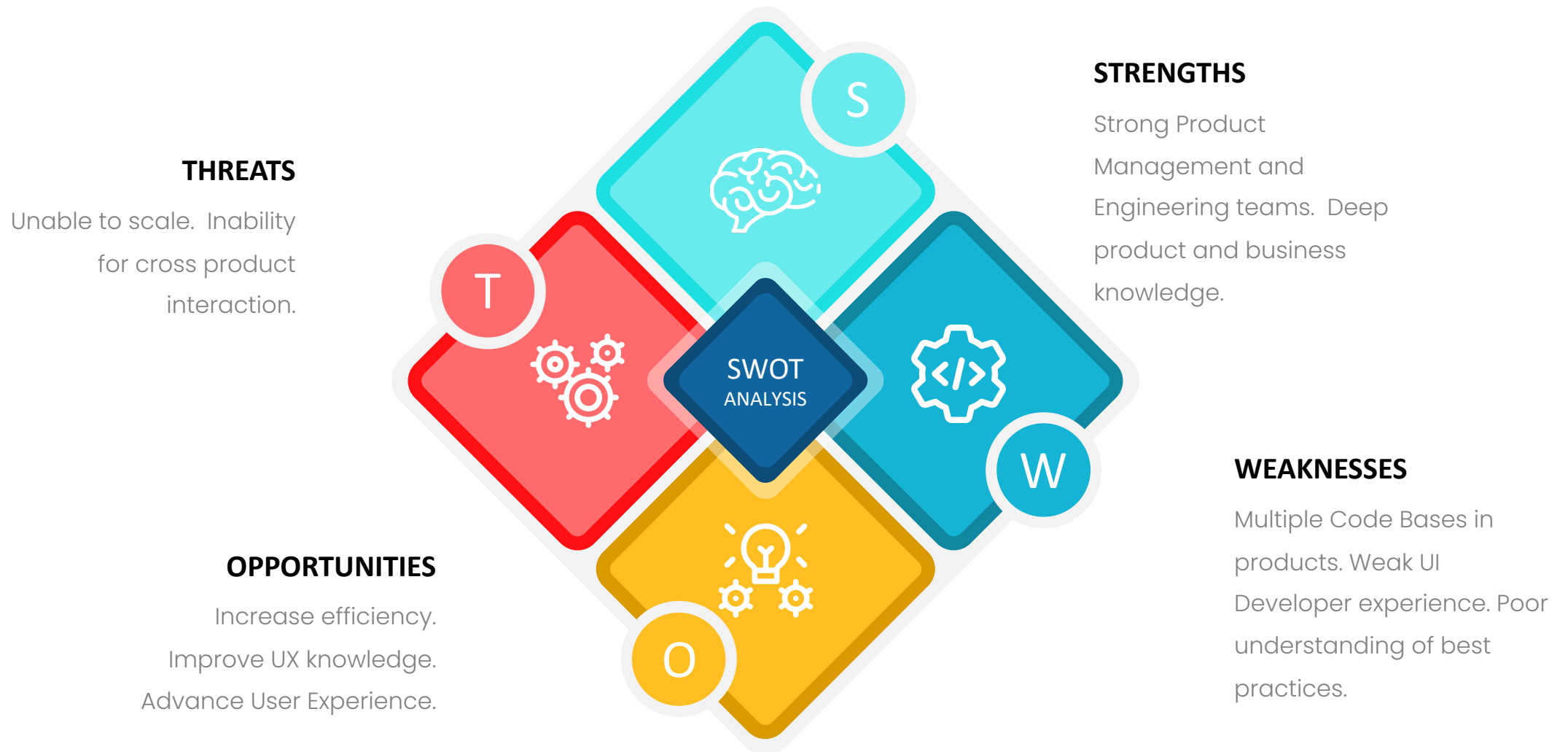
Executive Leadership

Works with products and applications to gather information for strategy decisions and measuring results and checking status of business.
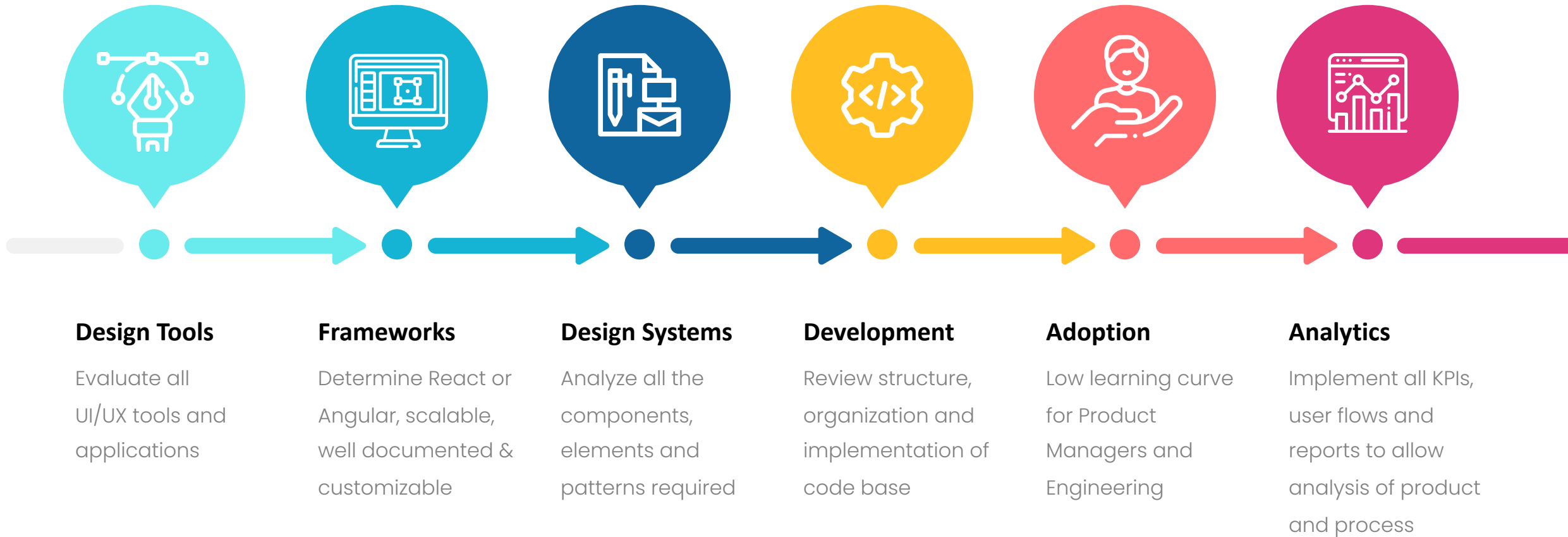
Technical Team Member

Responsible for technology leadership, development goals, and organizing development resources.

Existing Status Analysis

STRENGTHS

Strong Product Management and Engineering teams. Deep product and business knowledge.

THREATS

Unable to scale. Inability for cross product interaction.

SWOT ANALYSIS

WEAKNESSES

Multiple Code Bases in products. Weak UI Developer experience. Poor understanding of best practices.

OPPORTUNITIES

Increase efficiency. Improve UX knowledge. Advance User Experience.

Areas For Analysis

Design Tools

Evaluate all UI/UX tools and applications

Frameworks

Determine React or Angular, scalable, well documented & customizable

Design Systems

Analyze all the components, elements and patterns required

Development

Review structure, organization and implementation of code base

Adoption

Low learning curve for Product Managers and Engineering

Analytics

Implement all KPIs, user flows and reports to allow analysis of product and process

Design Tools Analysis

Criteria	Weight	UXPin		InVision		Figma	
		Avg. Score	Weighted Score	Avg. Score	Weighted Score	Avg. Score	Weighted Score
Easy collaboration with team with comments and version control	50	5.0	250	4.0	200	4.0	200
Integrate UI controls and frameworks for easy handoffs	50	5.0	250	2.0	100	3	150
Interaction design with variable inputs	40	3.5	140	3.0	120	3.5	140
Strong support and active community	30	3.0	90	5.0	150	4.0	120
Powerful and scalable design system creation and maintenance	20	4.0	80	4.0	80	3.5	70
Total Score			810		650		680

Considerations: In order for the UX team to scale, finding an easy way to ensure the design elements match the coded UI controls and tokens was a critical feature. We also needed the ability to be able to have real text fields and data inputs to ensure we could put some logic into the designs to really test the various use cases and user journeys long before a line of code is ever written. This helps us do a lot more UX research before engaging the engineering team for the development and programming. The features behind the UXPin Merge technology allows us to easily import and support many of the most popular frameworks.

Framework and UI Control Analysis

Criteria	Weight	Microsoft Fluent		VMWare Clarity		Google Material	
		Avg. Score	Weighted Score	Avg. Score	Weighted Score	Avg. Score	Weighted Score
Full library of UI controls and elements. Ensure all the UI elements are able to be used in conjunction with each other	50	5.0	250	4.0	200	3.0	150
Strong open source community	40	3.5	140	3.0	120	4.5	180
Can utilize both React and Material javascript libraries	40	4.5	180	2.0	80	2.5	100
Clear and detailed style guide and documentation	40	4.0	160	4.0	160	4.0	160
Easily scalable and customizable to put the PayPal look and feel to help build the TPX Design System	30	4.0	120	4.0	120	3.5	105
Total Score			850		680		695

Considerations: We will need to find a framework that can work with both Angular and React, but have React be the primary solution. We also need powerful data tables in the UI controls, as a great deal of the data that is displayed tends to be very detailed and complex data tables that have multiple layers of data and information.

Re-Evaluate UX Process

Create Partnerships with Engineering

In order to scale the UX process, the design system needs to be based on existing framework and UI controls

Educate Teams On UX Best Practices

Create training, documentation and video tutorials on how to utilize all of the tools and software to ensure best practices

Create easily adoptable process

Create an easy to understand and easy to apply process that allows Product Managers more control and input with the user experience in product design

DesignOps 2.0 Process

Discovery

Define

Design Spike

Design

Develop
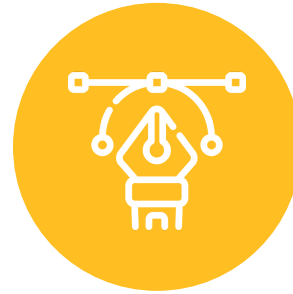
Evaluate

- Identify Stakeholders
- Collect Data
- Conduct User Research

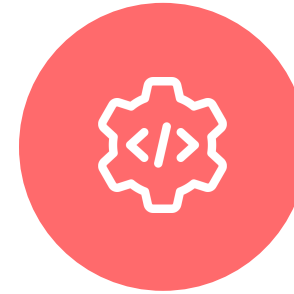- Define the users
- Define the scope
- Document requirements

- Ideate
- Evaluate
- Repeat

- Wireframes
- High Fidelity Mockup
- Deliver Designs

- Development process
- QA Testing
- UX Review

- User Testing
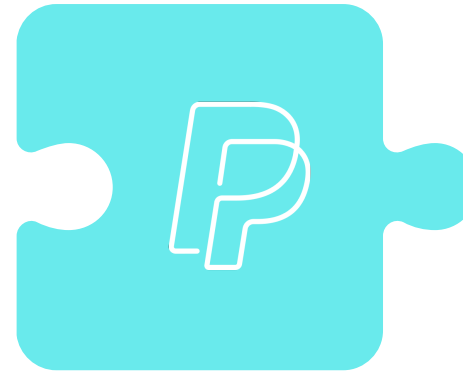- KPI Evaluation
- Analytics

Design System

Documentation

Create tutorials, user guides, technical documents and user testing findings
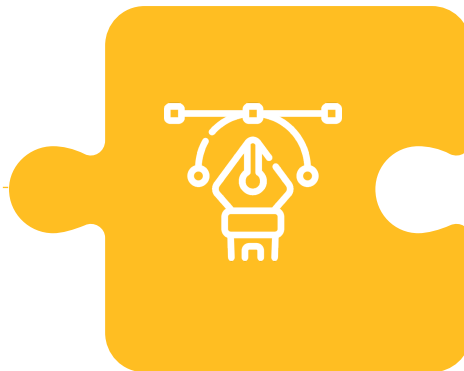
PayPal Branding & Style Guide

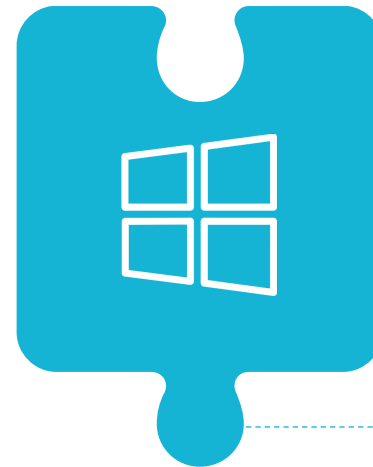Implement PayPal style guide within all the UI controls and areas of framework

UXPin | Merge

Utilize UXPin with Merge technology to create UI/UX elements based on coded framework UI controls
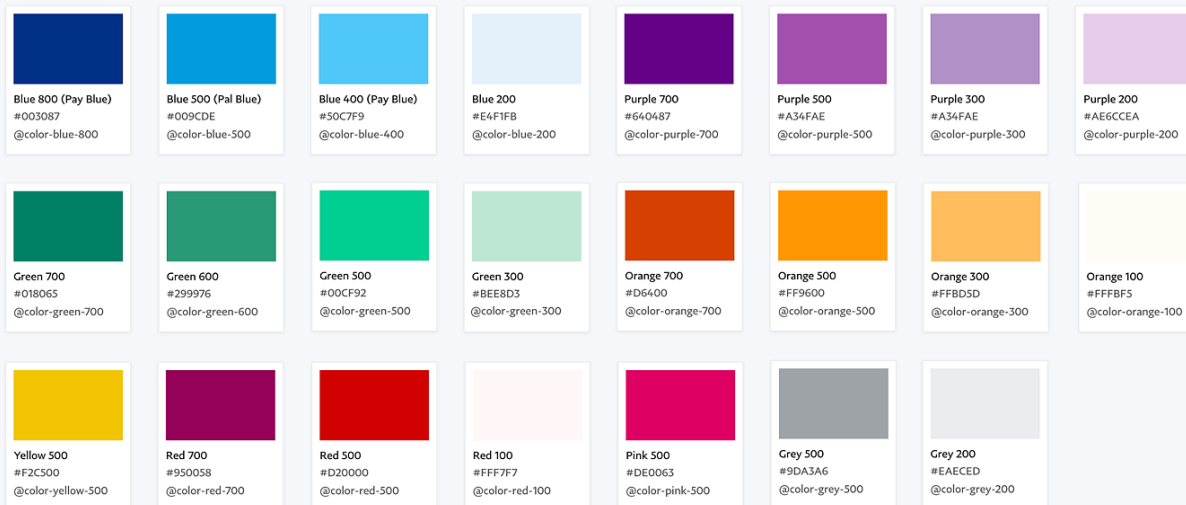
Mircrosoft Fluent

Utilize Fluent framework and UI control system for the code that supports the design system

Design System Styles

Rich & In-Depth Color Palettes

There are various color palettes to fit the dozens of use cases outlined in the discovery process
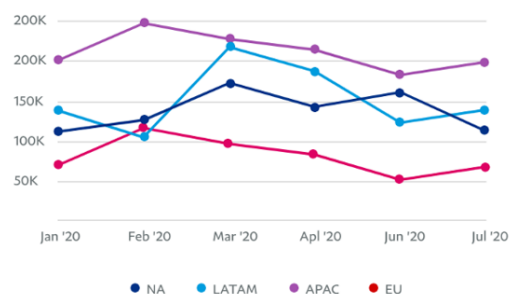
Data Visualization Styling

Vivid and engaging data visualization library with dozens of reports, charts and graphs all done to match the feel of the Design System

Token Based

Tokens were used to organize the various versions of the color palettes.

Design System Controls

Individual UI Controls

These are made up of a very detailed and rich set of UI Controls with property controls
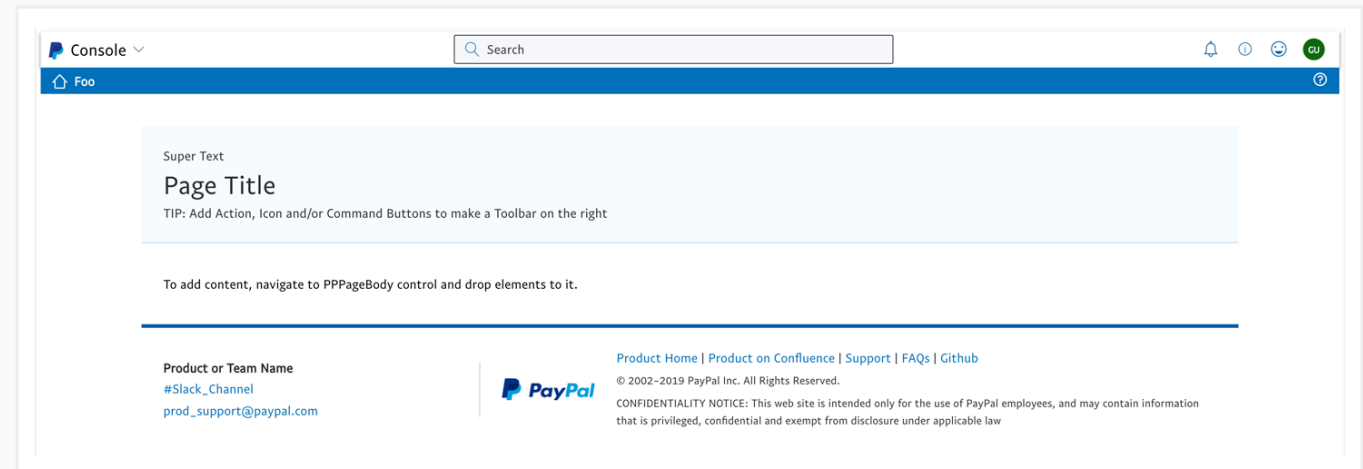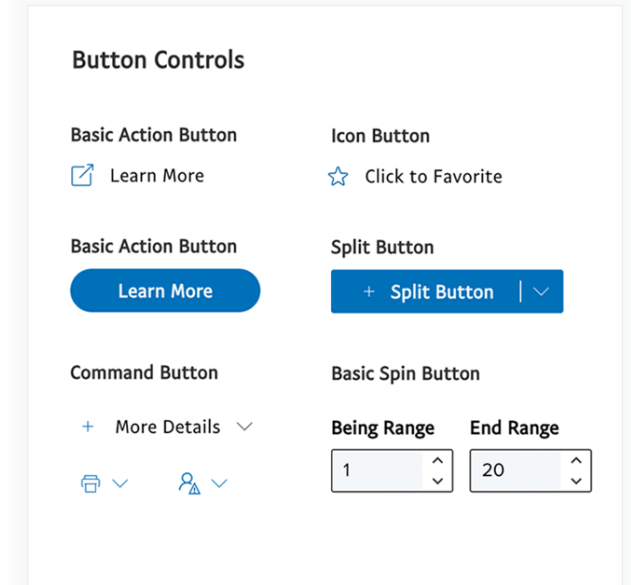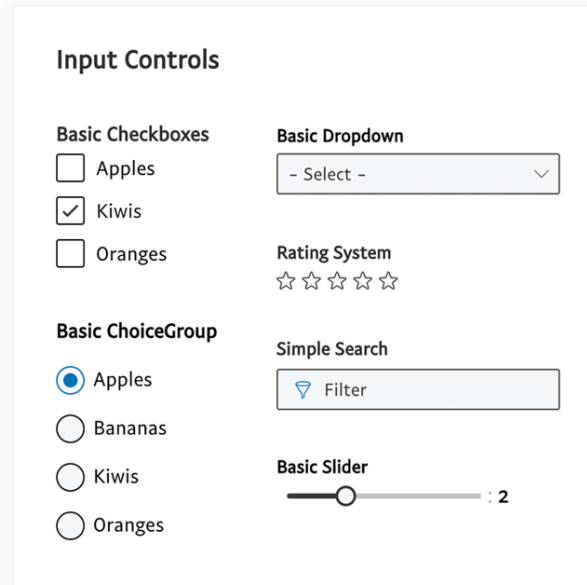
Page Level UI Controls

These are made up of several individual UI Controls combined together to make a page level design pattern in a control

Enterprise Level UI Controls

These are made up of several Page Level and Individual Level UI Controls to make up full page templates for general use cases

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Input Controls

Basic Checkboxes
- ☐ Apples
- ☑ Kiwis
- ☐ Oranges

Basic ChoiceGroup
- ◉ Apples
- ○ Bananas
- ○ Kiwis
- ○ Oranges

Basic Dropdown
- Select -

Rating System
☆ ☆ ☆ ☆ ☆

Simple Search
▽ Filter

Basic Slider
━━━━○━━━━━━ : 2

Button Controls

Basic Action Button
⬈ Learn More

Basic Action Button
Learn More

Command Button
+ More Details ⌄
🖶 ⌄   👤 ⌄

Icon Button
☆ Click to Favorite

Split Button
+ Split Button | ⌄

Basic Spin Button

Being Range	End Range
1	20

P Console ⌄

🔍 Search

⌂ Foo

Super Text

Page Title

TIP: Add Action, Icon and/or Command Buttons to make a Toolbar on the right

To add content, navigate to PPPageBody control and drop elements to it.

Product or Team Name
#Slack_Channel
prod_support@paypal.com

PayPal

Product Home | Product on Confluence | Support | FAQs | Github
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CONFIDENTIALITY NOTICE: This web site is intended only for the use of PayPal employees, and may contain information that is privileged, confidential and exempt from disclosure under applicable law

The Results

A rich and deep Enterprise Level Design System that is based on the foundation of fully customizable and extendable UI controls. This allows for non-designers to be able to build mockups and prototypes with very little training and learning curve.
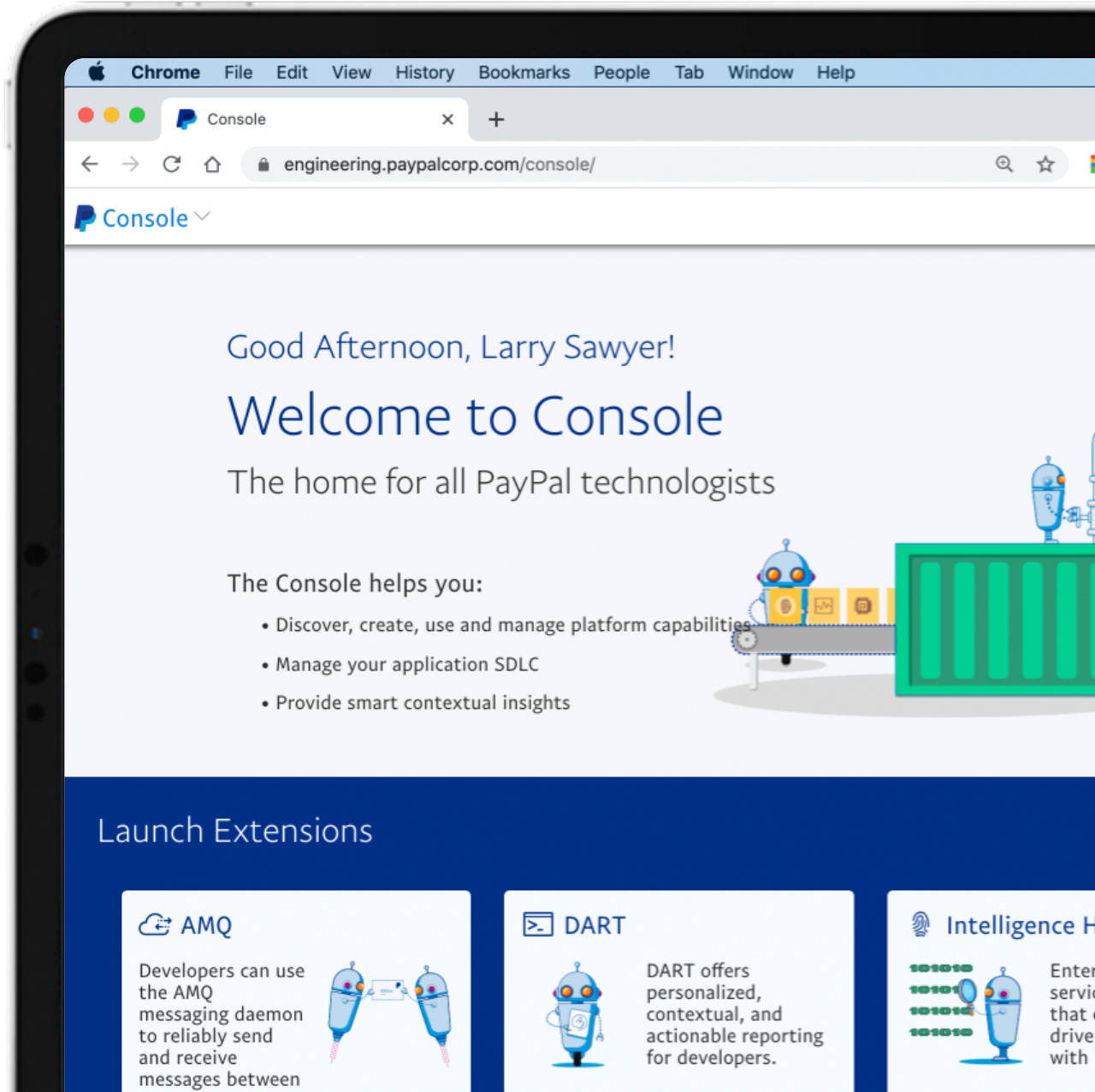
Interactive Controls

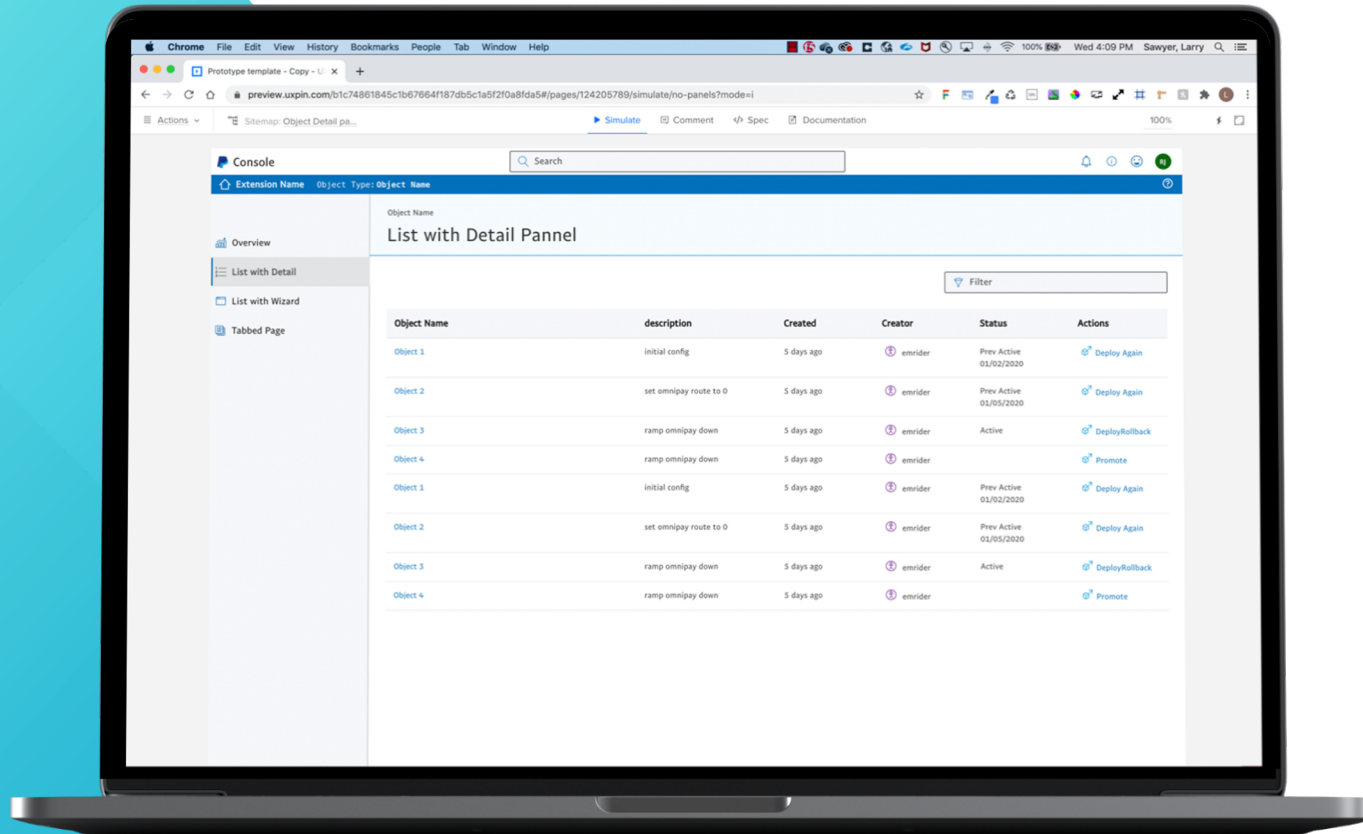All controls have fully customizable interactive elements based on the coded
UI Control

Interactive Inputs

All UI Input Controls are interactive and data and variables can be utilized to create a live, interactive mockup

More Results

Drag and Drop Designing

With the utilization of UXPin and their Merge technology, all UI Controls are simple drag and drop items in the design library

Robust Documentation

All UI Controls and Design Patterns have detailed instructions and information on how, when and why to use each UI Control or Design Pattern

Better Design Handoffs

Since all the entire design system is based on a rich library of UI Controls and a powerful framework, the learning curve from design to development is reduced greatly

The Numbers

68%

Reduction in time to create Product Designs with new design system

82%

Reduction in time for design hand-off to engineering teams

56%

Increase in user journey completion

37%

Reduction in time for product engineering and development

Thank You