



# User Experience Design

Joseph C. Caswell, Technical Solutions Consultant, TPM, Inc.

The road to a user-focused DriveWorks configurator

# Overview

High level process for anyone with a new or existing DriveWorks implementation.

What is UX/UI Design and why should you care?

The importance of Accessibility

The Design Process Roadmap

Tools of the trade

# What is UX Design?

Designing from the perspective of the user

- User journey to solve a problem, not just the interface
- Create products that provide meaningful and relevant experiences
- Integrate branding, design, usability, accessibility, and function

"UX designers help make technology easier to understand and more enjoyable to use"

Google UX Team

# What is UX Design?

Holistic design of the experience from cradle to grave

Analogous to an engineer designing a car

- What size, what region, what price, what features, etc
- How does it make the driver/passenger feel

# What is UI Design?

Specific design of controls and layout

UI Design is the process of making interfaces with a focus on looks or style.

In DriveWorks this is the look, layout, and functionality of the form controls

Analogous to an engineer designing a door handle, steering wheel, etc

Text Box

Numeric Text Box

Combo Box

Measurement Box

 m

Spin Button

Date Picker

**Label - Heading 1**

**Label - Heading 2**

Label - Control Caption

Label - Control Font

[Hyperlink1](#)

☐ Option Button 1

☒ Check Box 1

# Why should you care about UX?

Ease of use is the best way to retain users

## User Adoption

User acceptance is the #1 reason for DriveWorks implementations to encounter serious roll-out difficulties, if not outright fail.

# Why should you care about UX?

Failing to plan is planning to fail

## Planning can save time and effort

Any planning work – no matter how crude – will make future execution efforts smoother.



# Why should you care about UX?

Intuition is the best training

## Less Training and Support

A good UX can mean that you don't have to train on how to use it: it should be intuitive

## Less Rework or rejections

Inform and guide users to make the right choices

# Why should you care about UX?

Attractive interfaces entice, and good experiences retain

## Drive More Sales

Modern interfaces are attractive, and can be a great selling point

Users are more likely to continue to use interfaces that are easy, and they can trust to get the job done

Rebuild trust and re-engage frustrated customers with a new, intuitive design

# Why should you care about UX?

Recap

User Adoption

Planning can save time and effort

Less Training

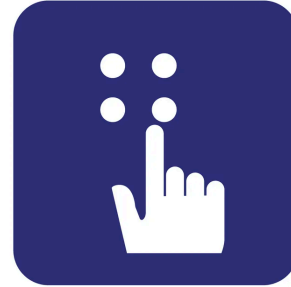
Less Support

Drive More Sales

# Accessibility

Ensure everyone can use your product, regardless of their abilities.

UX design is all about making your product easy to use, and so that includes making sure you are not excluding your users.



# Accessibility

Everyone benefits from accessibility.

⬆️ Elevators

🦯 Curb cuts

A Large print

🌐 Color contrast



“When UX doesn’t consider ALL users, shouldn’t it be known as “SOME User Experience” or... SUX?”

— Billy Gregory, Senior Accessibility Engineer, The Paciello Group

# Accessibility

Readability and simplicity are key

- Use large, easy to read fonts
- Use high contrast colors

The five boxing wizards jump quickly	The five boxing wizards jump quickly	The five boxing wizards jump quickly	The five boxing wizards jump quickly
The five boxing wizards jump quickly	The five boxing wizards jump quickly	The five boxing wizards jump quickly	The five boxing wizards jump quickly
 High Contrast Grayscale	 Low Contrast Grayscale	 High Contrast Color	 Low Contrast Color

# Accessibility

Don't rely on color alone to denote meaning

First Name	<input type="text" value="John"/>	First Name	<input type="text" value="John"/>
Last Name	<input type="text" value="Doe"/>	Last Name	<input type="text" value="Doe"/>
Email	<input type="text" value="john@email"/>	Email	<input type="text" value="john@email"/>
Password	<input type="password" value="****"/>	Password	<input type="password" value="****"/>
	<input type="submit" value="Submit"/>		<input type="submit" value="Submit"/>
NORMAL		COLOR BLIND (DEUTERANOPIA)	



# Accessibility

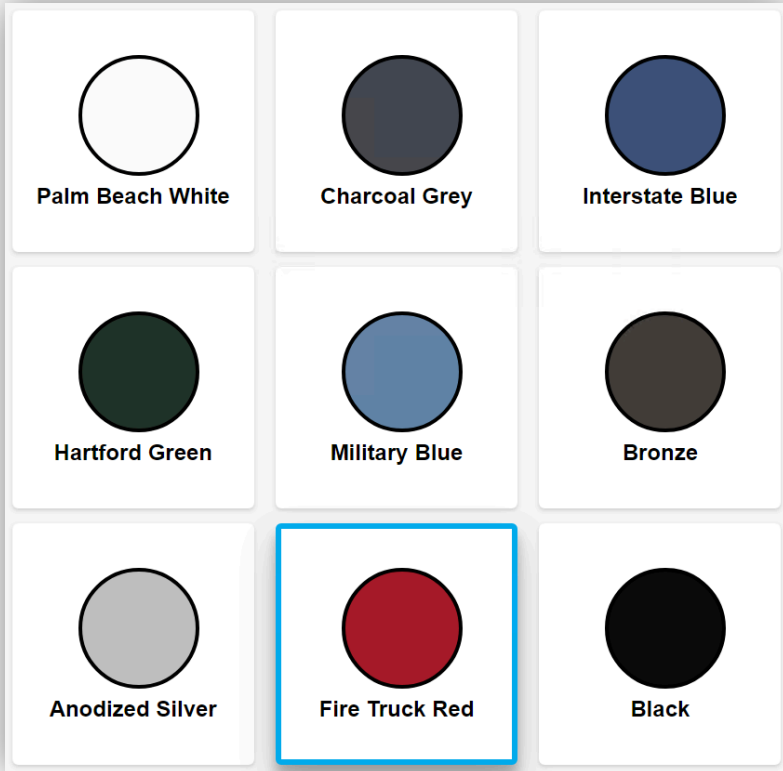
Don't rely on color alone to denote meaning

First Name	<input type="text" value="John"/>	✓
Last Name	<input type="text" value="Doe"/>	✓
Email	<input type="text" value="john@email"/>	✗
Password	<input type="password" value="****"/>	✓
<input type="button" value="Submit"/>		
NORMAL		

First Name	<input type="text" value="John"/>	✓
Last Name	<input type="text" value="Doe"/>	✓
Email	<input type="text" value="john@email"/>	✗
	enter vaild email address	
Password	<input type="password" value="****"/>	✓
<input type="button" value="Submit"/>		
COLOR BLIND (DEUTERANOPIA)		

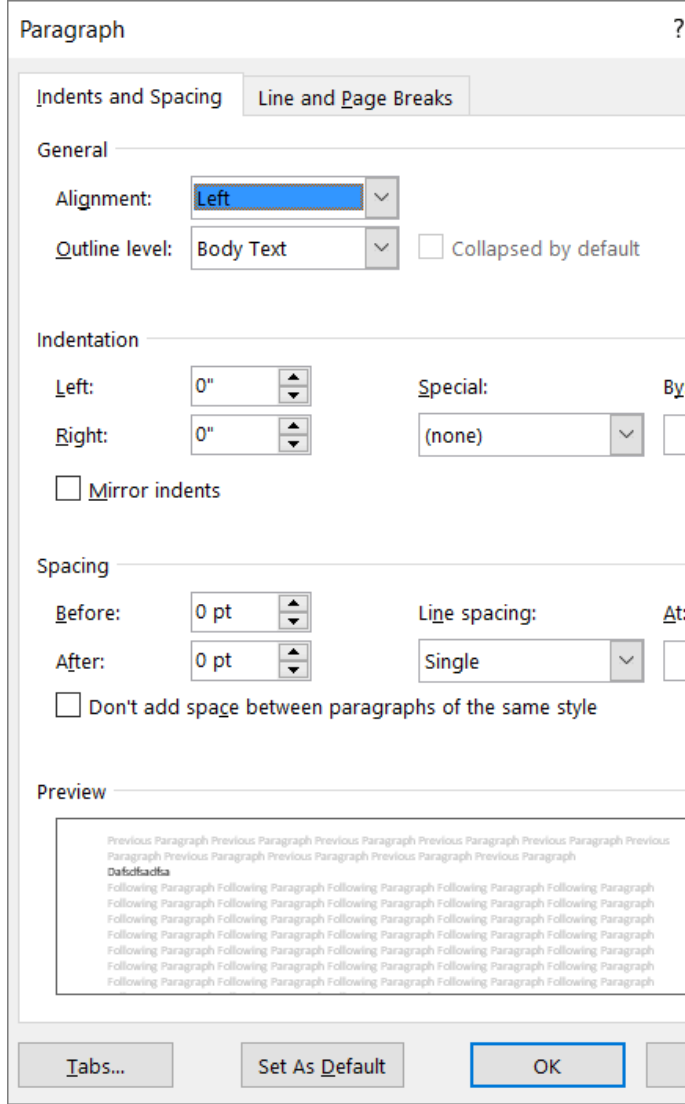
# Accessibility

Don't rely on color alone to denote meaning



## Layout

- Ensure adequate spacing between elements
- Group like items together
- Spread controls out over multiple pages or tabs
- Every element has a purpose

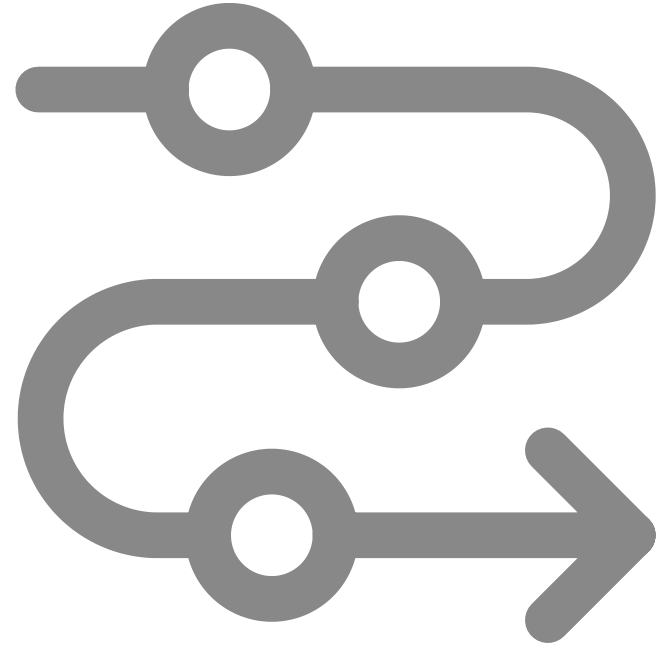


# The Design Process

# Design Process Roadmap

1. Identify
2. Research
3. Plan
4. Conceptual Design
5. Wireframe
6. Prototype
7. Implement

↻ Feedback loop



# 1. Identify

Goals, Priorities, Audience, Resources

# 1.1 Identify Goals

Aimless Effort without goals may be wasted

Answer the why: What are you trying to accomplish?

- Reduce user input errors
- Reduce training time
- Reduce manual work
- Increase sales
- Retain/increase users

Quantify and qualify your goals

# Priorities

Priorities dictate focus

- Of your goals, which are the most important?
- Are there known issues that need to be addressed first?
- Is this more important than what you are currently working on?



# Audience

Define who your audience is, and what you plan on improving for them

- General Public
- Sales Team
- Internal Designers
- Administrators
- Anonymous users



# Resources

No resources, no progress

- Who is going to be working on this project?
  - Do they have the skills and time to do so?
- Other departments
  - Marketing
  - IT
  - Manufacturing
  - Sales

# 2. Research

Users, Competitors, Alternatives

# Users

User Personas document crucial info

## Sales



 TPM

 Desktop

 English

 USD

### Role

- Generate new sales
- Continue existing sales
- Maintain customer relationships

### Motivation

- Win more sales

### Challenges

- Getting quotes to customers efficiently and timely manner

### Previous Solution

- Filling in info into an Excel sheet

### Solution Goals

- More automation in getting quotes to customers

### Other

- Other

# Users

Why should they use your configurator?

- "It is an improvement over their existing solution because..."
- "This will save them time/effort/money because..."

# Competitors / Alternatives

What's the other guy up to?

- Research the competitors and compare their sites
- What are the existing solutions?

# 3. Plan

Timeline, budget, resource allocation

# Planning

Failing to plan is planning to fail

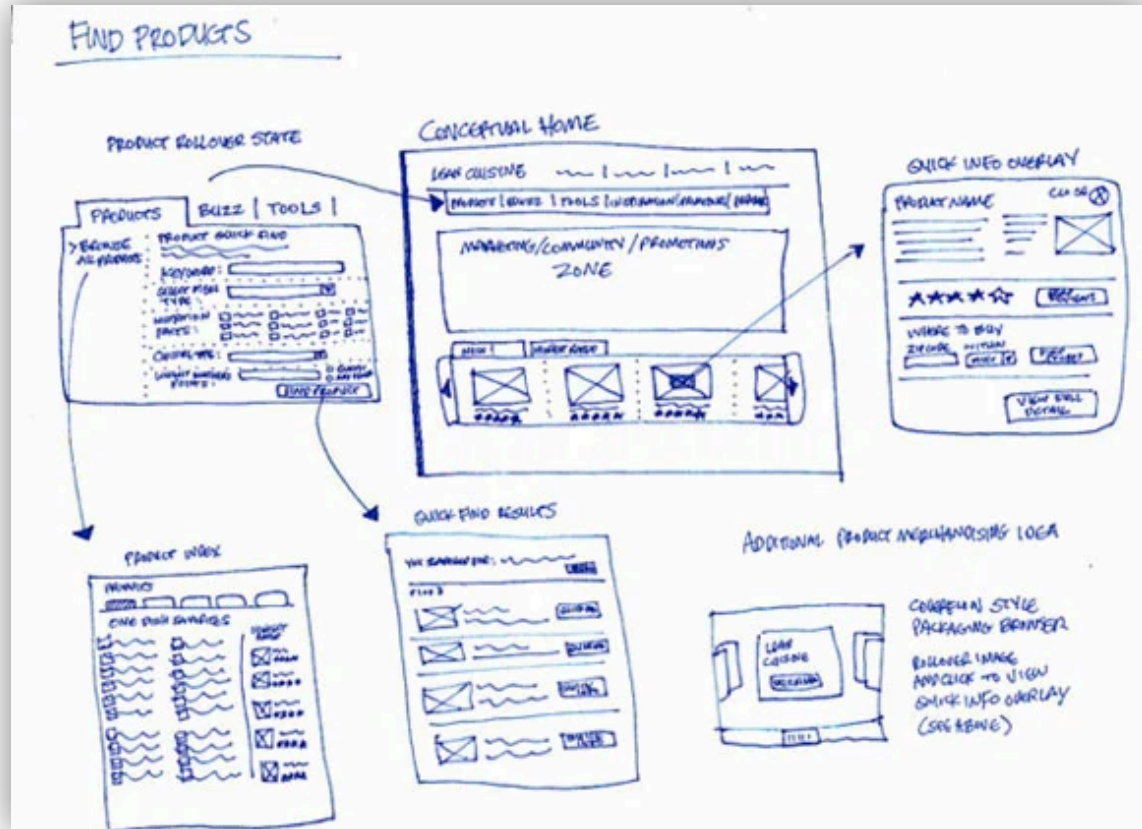
- Incremental changes, or a complete redesign?
  - Separate project for the UI?
- Who will be working on what
  - Other departments
    - Marketing, graphic design, IT
    - Outsourcing
- Timeline, budget, resource allocation



# 4. Conceptual Design

The Big Picture

# Pen and Paper

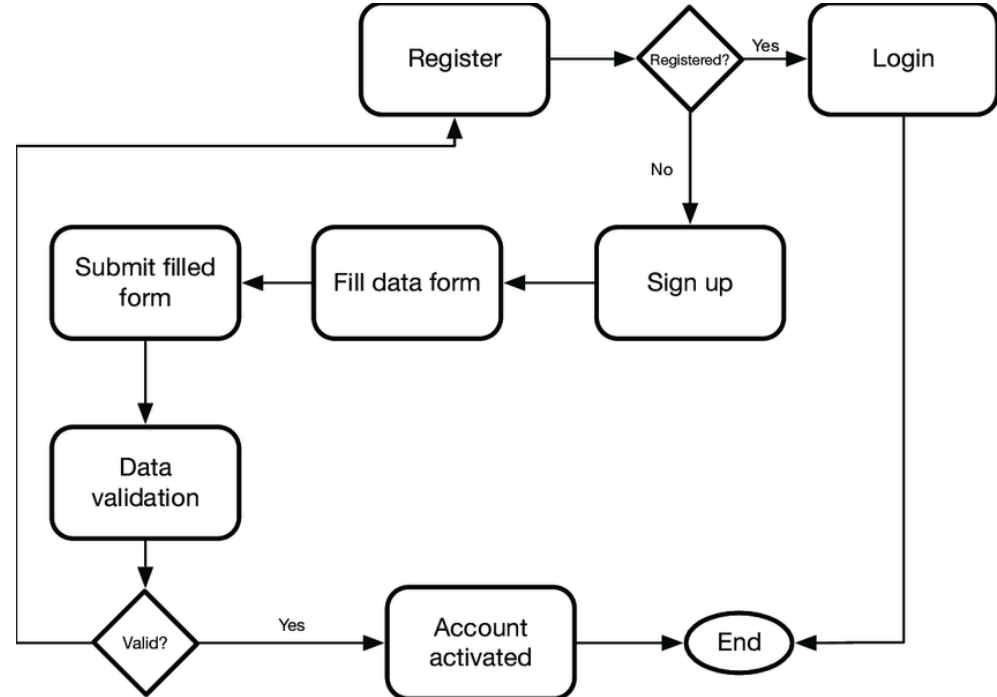


# Flow Diagrams

Hollistic map of the user experience

Pen and paper, LucidChart, PowerPoint, whatever you are comfortable with

- Map the flow of the user through the implementation
- States and transitions similar to specification flow
- Collect feedback from stakeholders
- ITERATE ITERATE ITERATE



# Flow Diagram Software

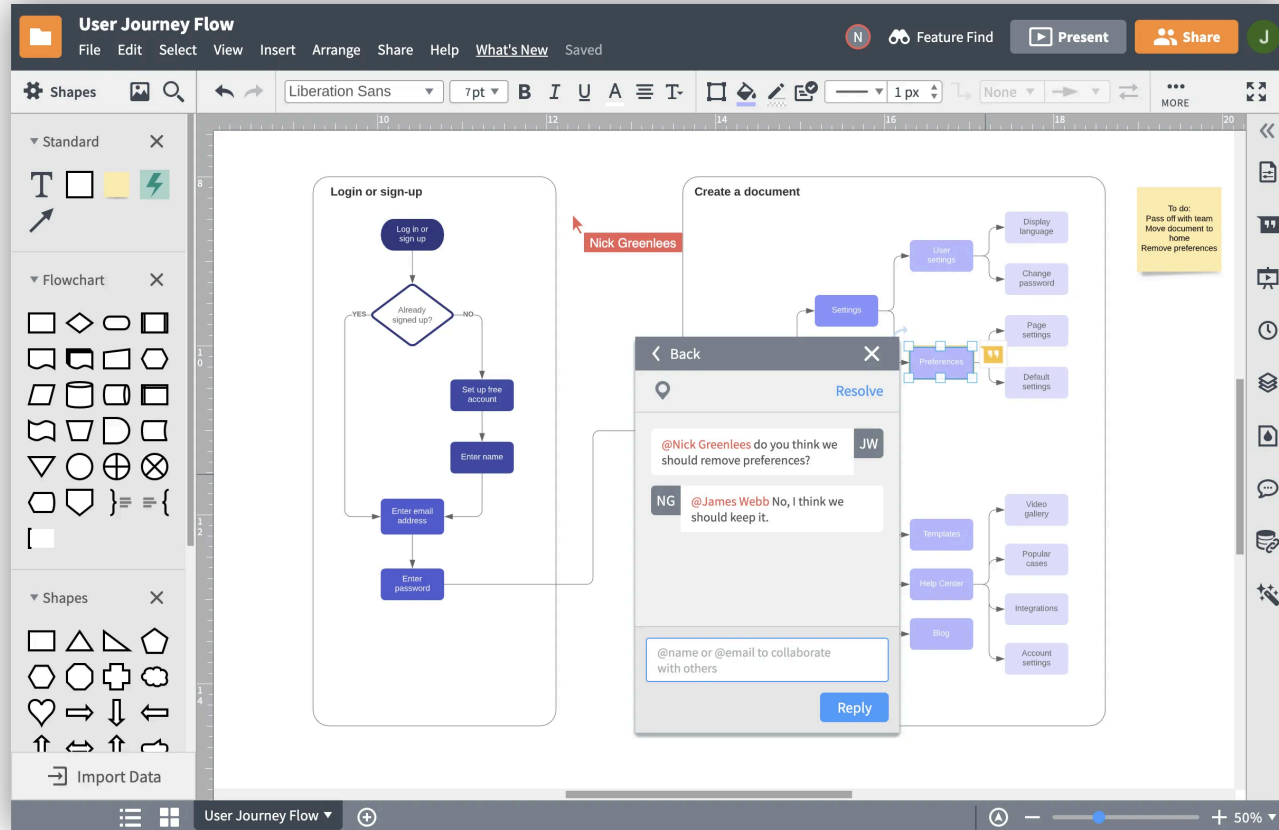


**Lucidchart**

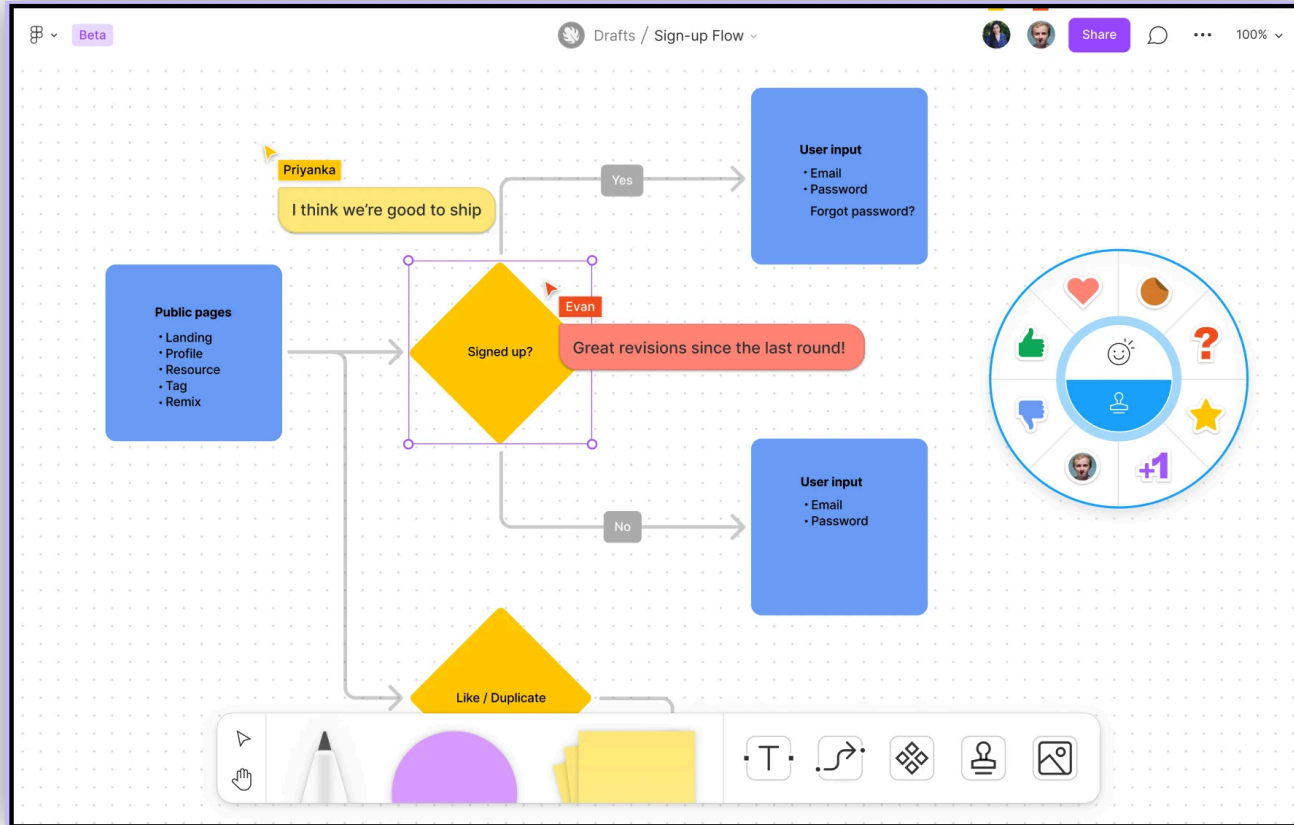


**Figma**

# Flow Diagram – LucidChart



# Flow Diagram – FigJam



# 5. Wireframe

# 6. Prototype



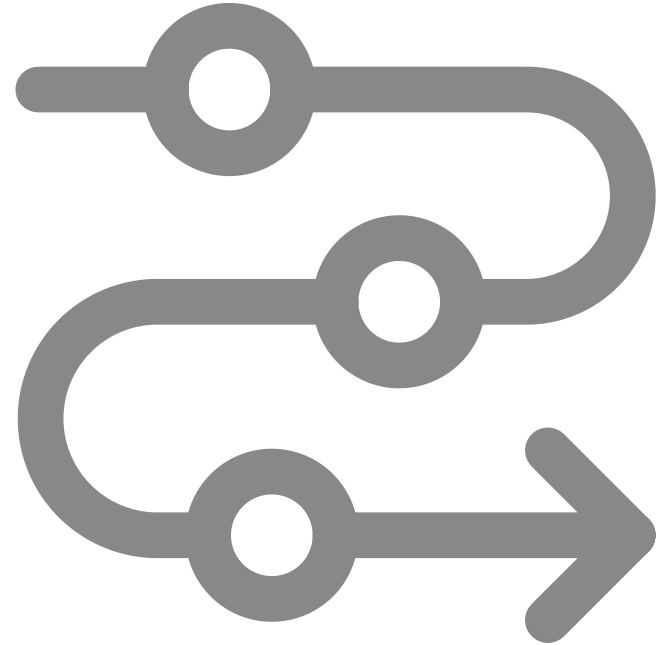
# Figma

# 7. Implement

# 8. Feedback loop

# Design Process Recap

1. Identify – Goals, Priorities, Audience, Resources
2. Research – Users, Competitors, Alternatives
3. Plan – Project, Timeline, Resources
4. Conceptual Design – Brainstorm, Sketch, Ideate
5. Wireframe – Quick low fidelity mockups
6. Prototype – High fidelity mockups
7. Implement – Build in DriveWorks
8. Feedback loop – Continuously improve



# Thank you!

Joseph C. Caswell

