

Imagine IoT

3.1 Introduction to Design Thinking



openSAP



What is design thinking

...and how does it help you here?

Introduction to Design Thinking

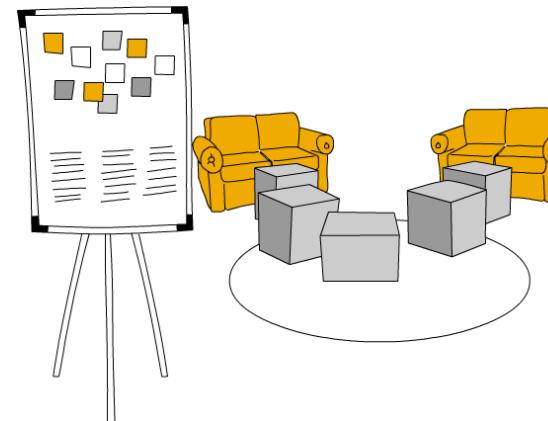
Definition

Design thinking means creating innovation by combining ...

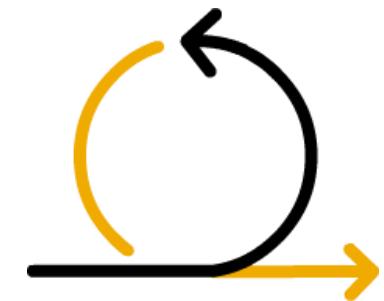
Diverse people



Creative space

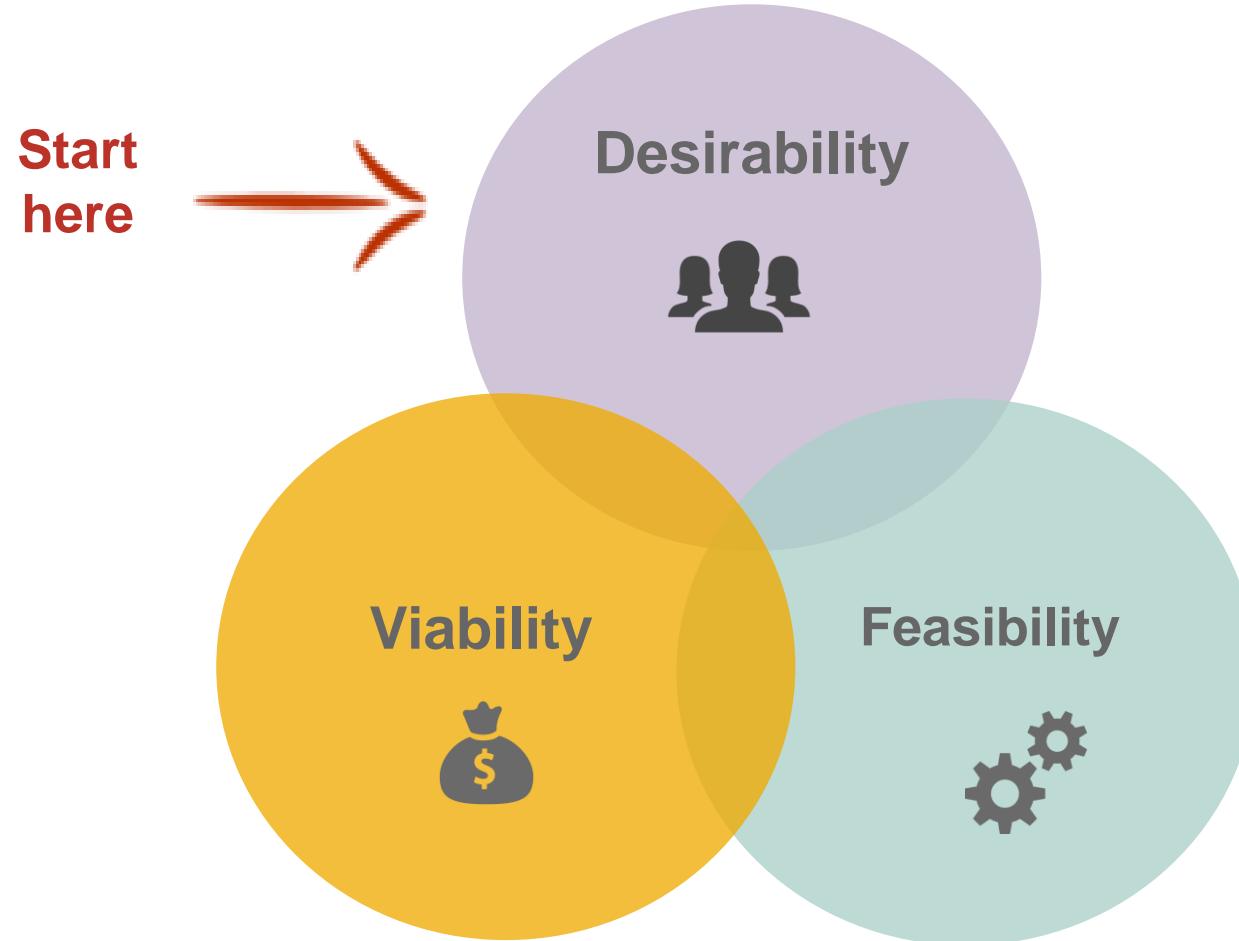


Iterative approach



Introduction to Design Thinking

DVF diagram



design thinking

vs.

problem solving

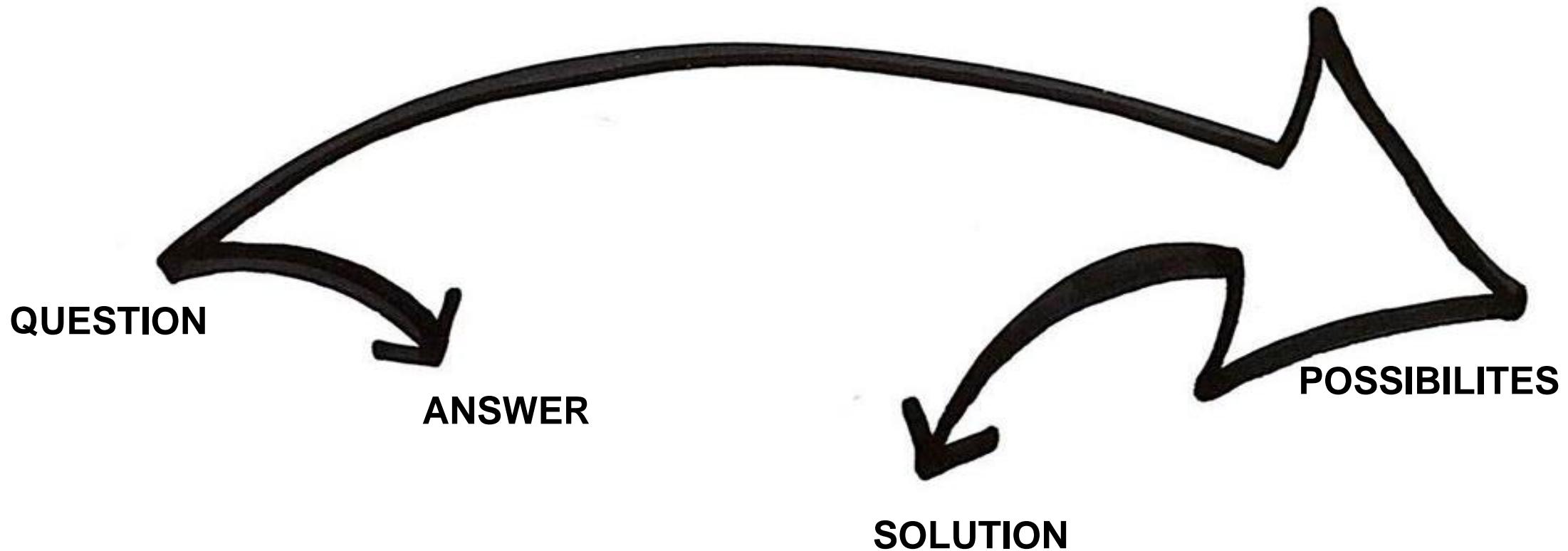
Introduction to Design Thinking

Design thinking vs. problem solving (1)



Introduction to Design Thinking

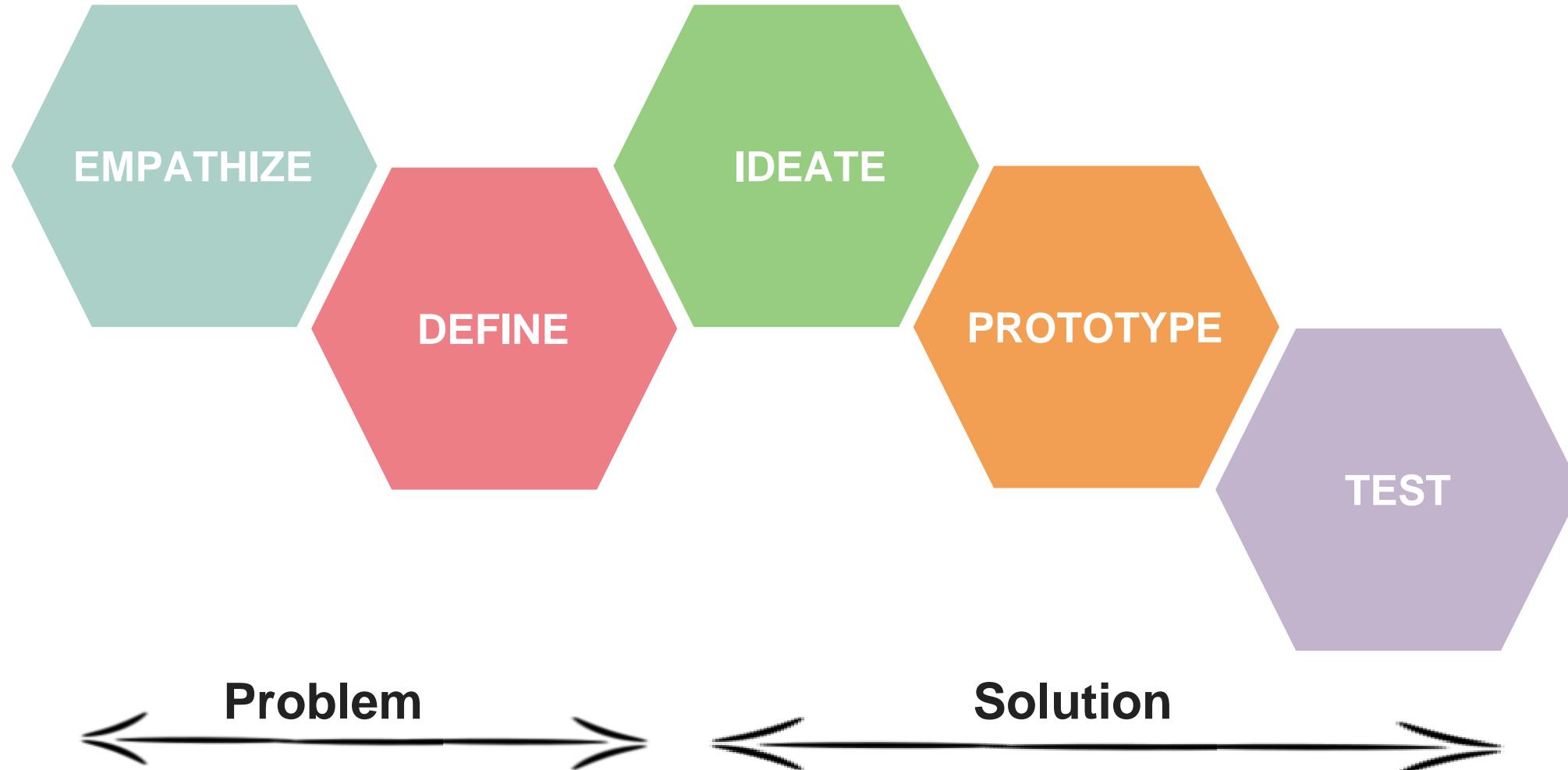
Design thinking vs. problem solving (2)



How do you get started ...actually DOING design thinking?

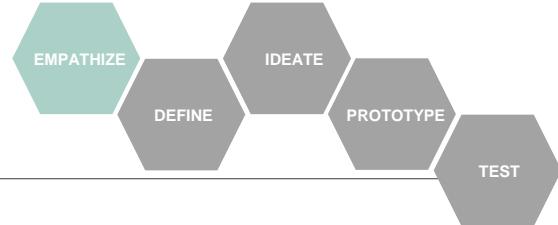
Introduction to Design Thinking

A 5-step iterative process



Introduction to Design Thinking

3 ways to empathize



Immerse

Walk in user's shoes.



Observe

See user in action.



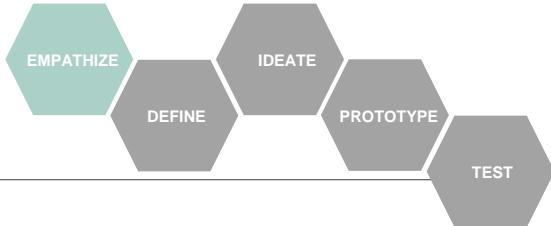
Engage

Let the user tell his/her story.



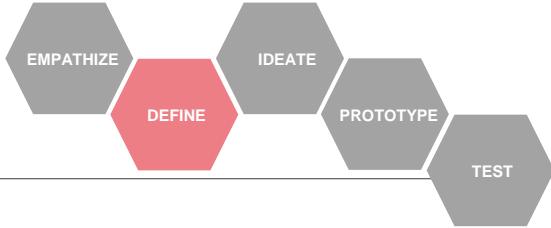
Introduction to Design Thinking

Story map



Introduction to Design Thinking

Persona



What is a persona?



Personas are fictional characters based on real data to represent user types.

Why do I need a persona?



"We work with personas so our developers don't develop for themselves."

-SAP user researcher

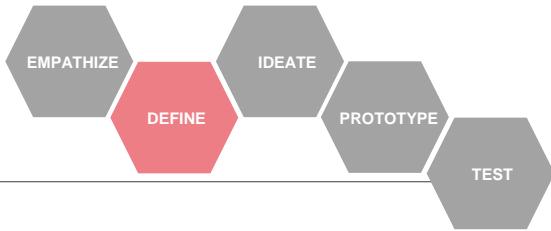
What are the persona's characteristics?

- ✓ Name
- ✓ Background
- ✓ Job title/role
- ✓ Job responsibilities
- ✓ Main goals
- ✓ Needs
- ✓ Pain points
- ✓ Stakeholders
- ✓ Competencies



Introduction to Design Thinking

Persona template



Name: Jack

Background:
34 years old; Married; Bachelor of Accounting; 10 years' working experience; manage AR team with 8 staffs and several company codes; Less travelling; Good communication skill.

Job Title / Role: Receivables Manager

"For me, I would like to improve efficiency and effectiveness of receivables management."

JOB RESPONSIBILITIES

- Main tasks and frequency
 - Oversee daily dunning & collection activities
 - Handle significant overdue receivables / exceptional customer payment behaviour
 - Assist clients/account manager with resolving questions regarding invoices
 - Manage accounts receivable team performance
 - Improve process automation of receivables management

NEEDS

- I need to reduce non-value added activity.
- I need real-time insight of AR performance.
- I need better collaboration cross functions.

MAIN GOALS

- Reduce Days Sales Outstanding (DSO)
- Reduce overdue receivables and bad debt losses
- Reduce receivables processing cost/time
- Improve visibility of cash inflow

PAIN POINTS

- Late insight into critical customer receivable situation
- Excessive time is spent on non-value added activity such as report generation, cross checking report etc.
- Lack of intelligence to support improving AR performance.
- Insufficient collaboration cross functions that cause long collection cycle time and low customer satisfaction.

STAKEHOLDERS

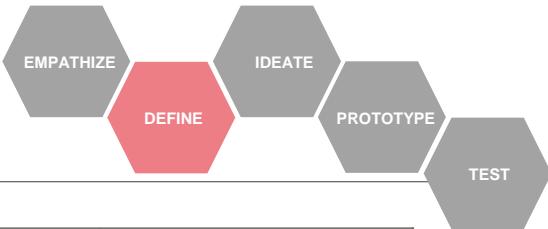
- CFO
- Accounts Receivable Accountant
- Collection Specialist
- Cash Manager
- Sales representative
- Client

COMPETENCIES

Casual User	Power User
Proactive	Reactive
Work in team	Lone Fighter
Global focus	Local focus
Innovative	Conservative

Introduction to Design Thinking

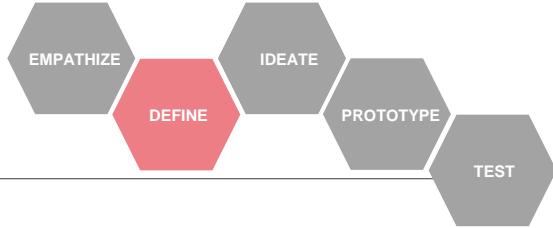
User experience journey



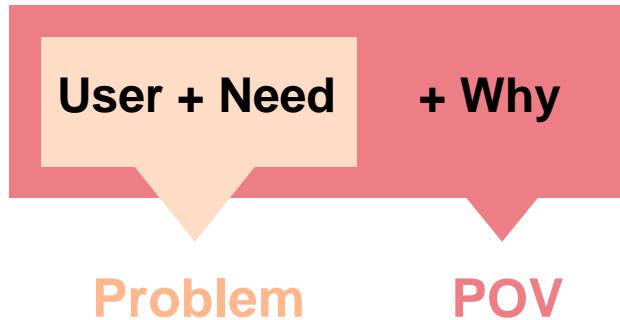
ACTIONS	► Enter coffee shop ► Line up to order	► Look at menu ► Make a choice	► Order coffee	► Wait ► Pay for coffee	► Wait ► Receive coffee	► Take coffee ► Add milk & sugar	► Find seat ► Drink coffee
MINDSET	► "A line again" ► "Aaaahhh I need coffee, now!"	► "Should I take tea instead? ► "Well no a café latte as usual"	► "Yeees! I can't wait"	► "What?! 5\$?"	► "Wow this took forever"	► "No sugar, I am on a diet" ► "Today is a cheat day"	► "Finally, I can enjoy my coffee"
FEELING	(😊)						
TOUCH P.	► Coffee shop flyer	► Menu board	► Barista	► Cashier ► Credit card ► Loyalty card	► Coffee mug ► Barista	► Coffee mug ► Milk ► Sugar	► Coffee mug ► Seat

Introduction to Design Thinking

Point of view (POV)

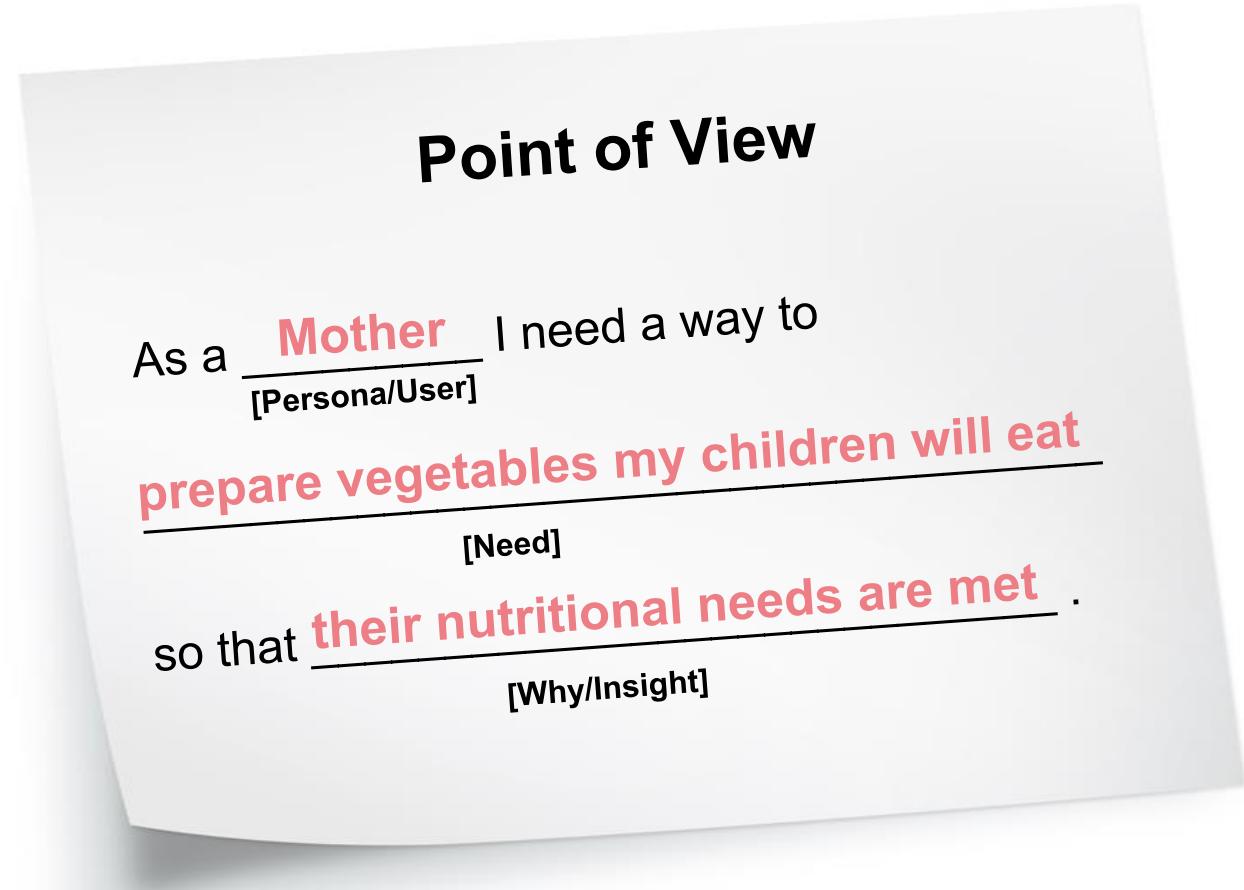


What is a POV?



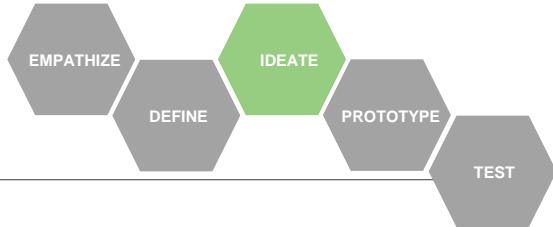
Why create a POV?

- To help focus on the problem to solve
- To fuel brainstorming
- To be something you revisit and reformulate as you learn by doing



Introduction to Design Thinking

Brainstorming



1 Person

Stay on
the
topic



Encourage
wild ideas



Be
visual



Go for
quantity



Multiple People

Defer
judgement



Build on
other's
ideas

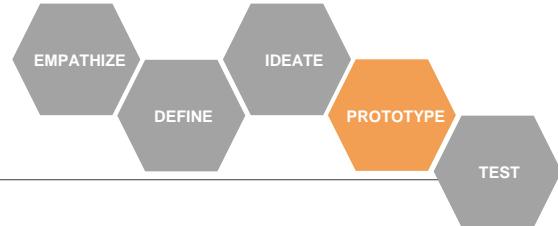


One
conversation
at a time



Introduction to Design Thinking

How to prototype



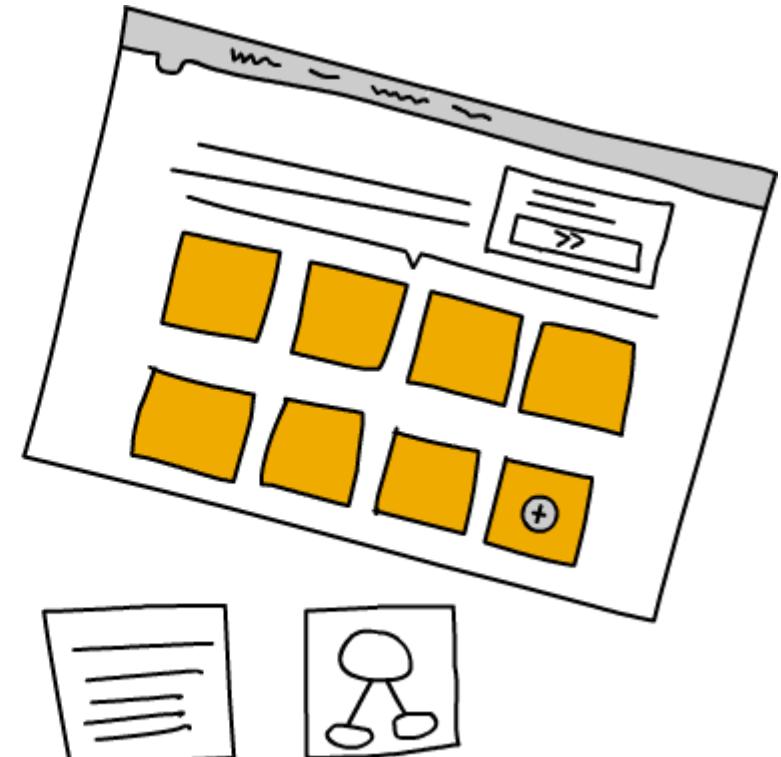
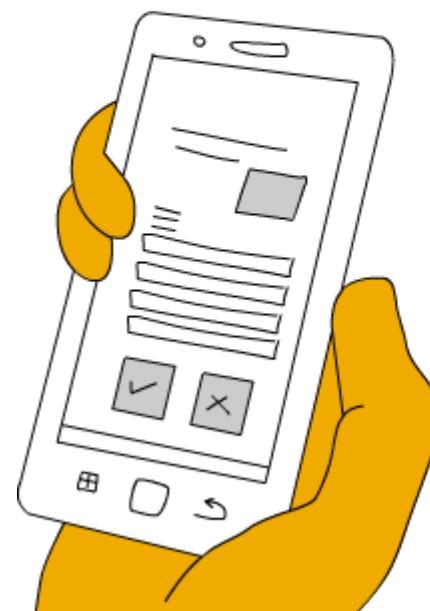
What is prototyping?

Prototyping is the iterative generation of artifacts intended to answer questions that get you closer to your final solution.

How to prototype?

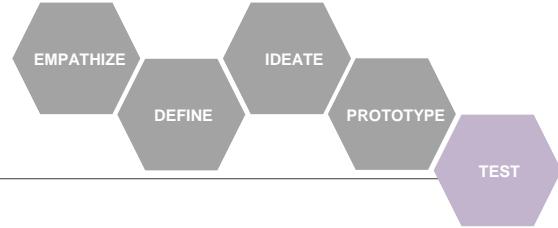
Why prototype?

- To ideate and problem solve
- To communicate
- To start a conversation
- To test possibilities
- To manage the solution-building process



Introduction to Design Thinking

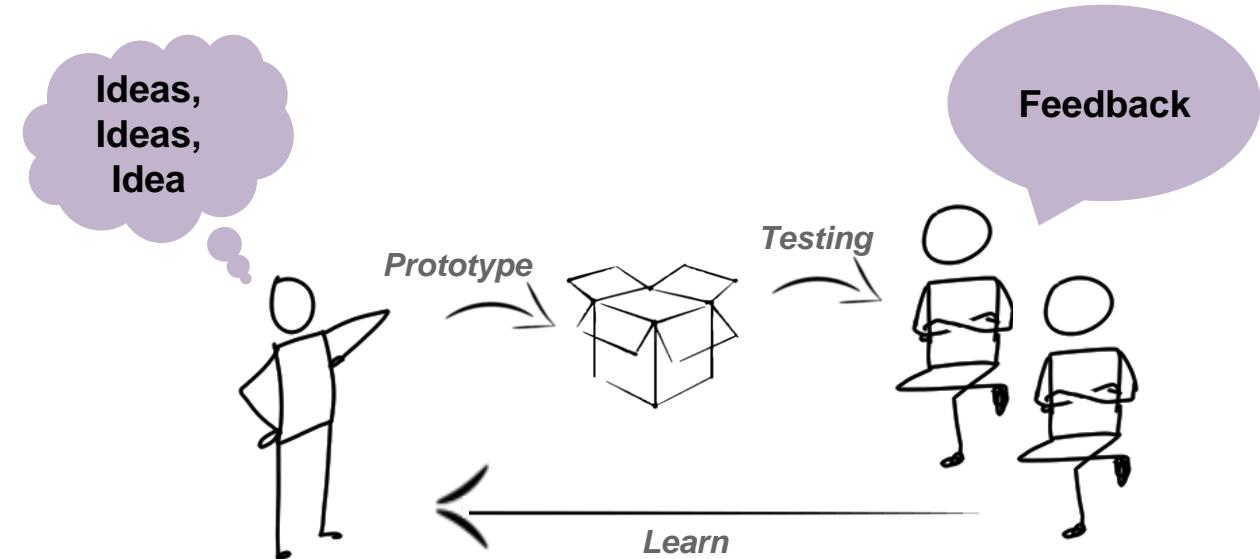
Testing



What is testing?

Testing is the mode in which the low-resolution artifacts are put into practice by placing the prototype in the appropriate context.

How to test?



Why test?

- To refine prototypes and solutions
- To learn more about your user
- To refine your POV

A lot of information

Let's recap...

Introduction to Design Thinking

Recap of the process

EMPATHIZE

Walk in your user's shoes!

DEFINE

Create a persona, user journey, and POV.

IDEATE

Come up with lots of ideas to solve your POV.

PROTOTYPE

Build a tangible prototype.

TEST

Get feedback on your prototype from your users.

Imagine IoT

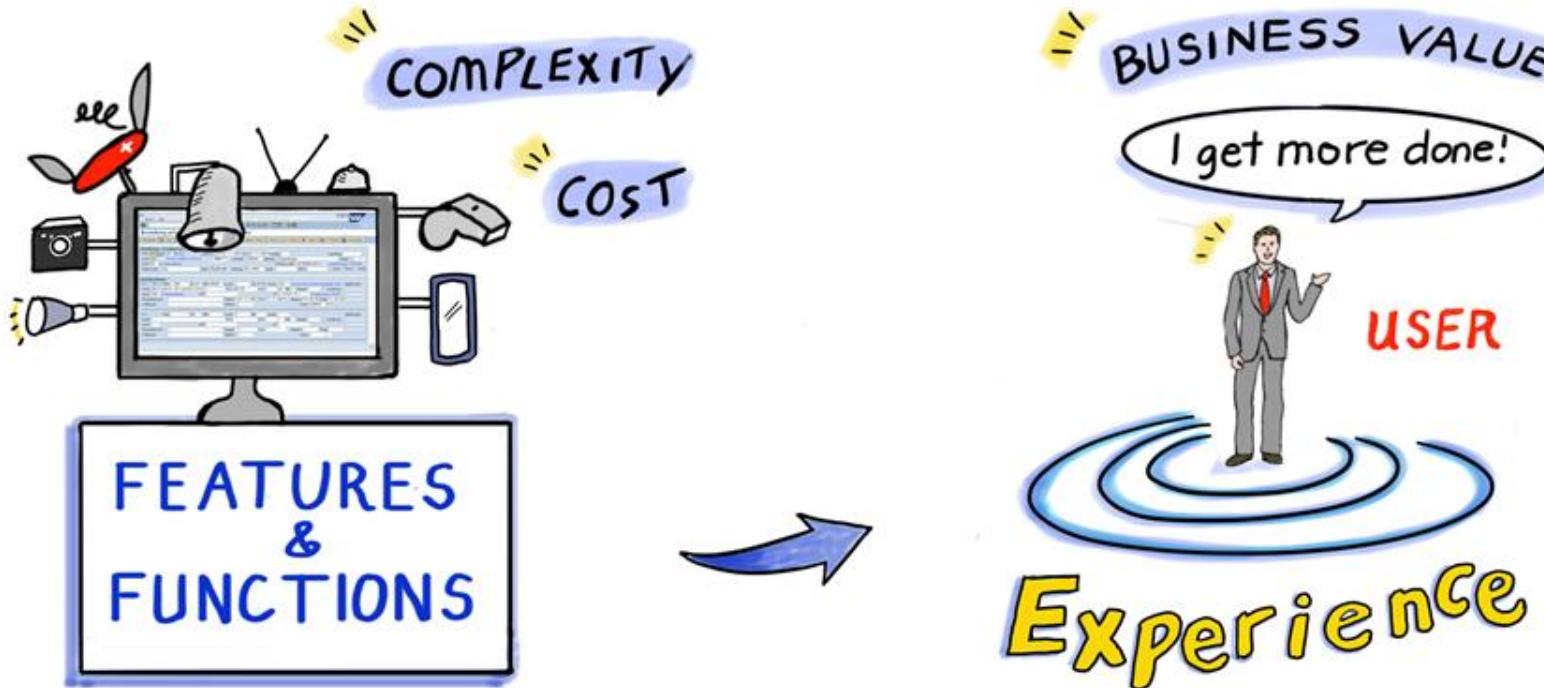
3.2 User Experience and SAP Fiori Design Guidelines



openSAP

User Experience and SAP Fiori Design Guidelines

What is user experience (UX) and why it matters



Monetary Value

- Gain productivity
- Save training costs
- Decrease user errors
- Decrease change requests

Human Value

- Increase user satisfaction
- Increase customer loyalty
- Increase solution adoption
- Strengthen relationships

User Experience and SAP Fiori Design Guidelines

SAP Fiori UX



User Experience and SAP Fiori Design Guidelines

SAP's approach to UX

NEW & RENEW

DELIVERING **SAP FIORI UX** ACROSS SAP SOLUTIONS



EMPOWER

CUSTOMERS TO INNOVATE
THROUGH DESIGN

Education &
Best Practices

Tools & Technologies

UX Design Services



Pointing Device Evolution



User Experience and SAP Fiori Design Guidelines

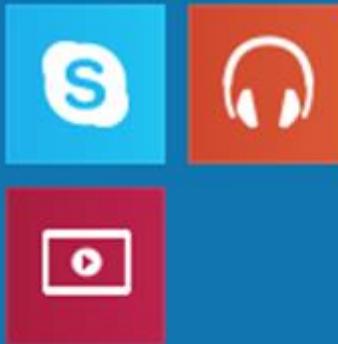
Mobile first



Start with the design for mobile first



Username



Windows
Feedback

Community Fundrais...

Bath Half Marathon 2015 - Last Call fo...



1



Documents



Pictures



Downloads



File Explorer



PC settings



About iTunes



All Apps

Search everywhere



Weather



Sam Robson, Ben
Hawkes and
Mike Goldsmith
also commente...



20
Tuesday

Calendar



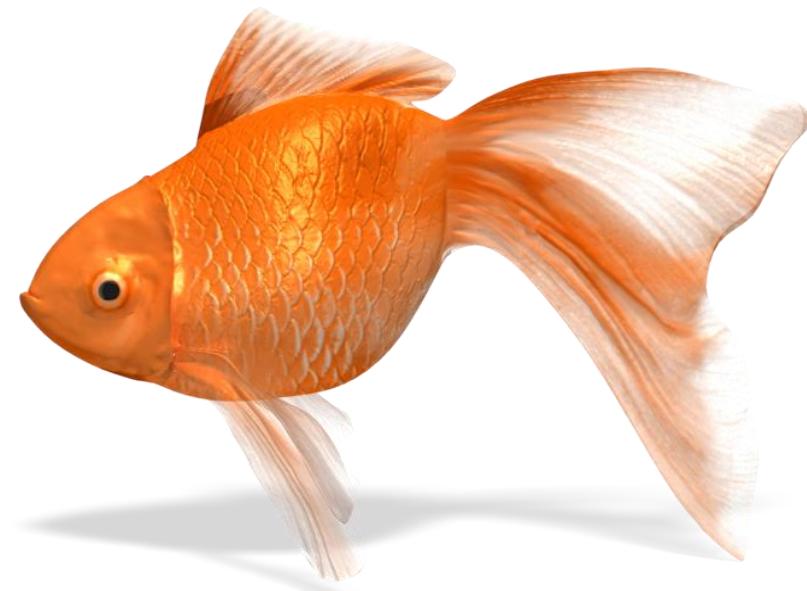
PC settings



User Experience and SAP Fiori Design Guidelines

Attention span

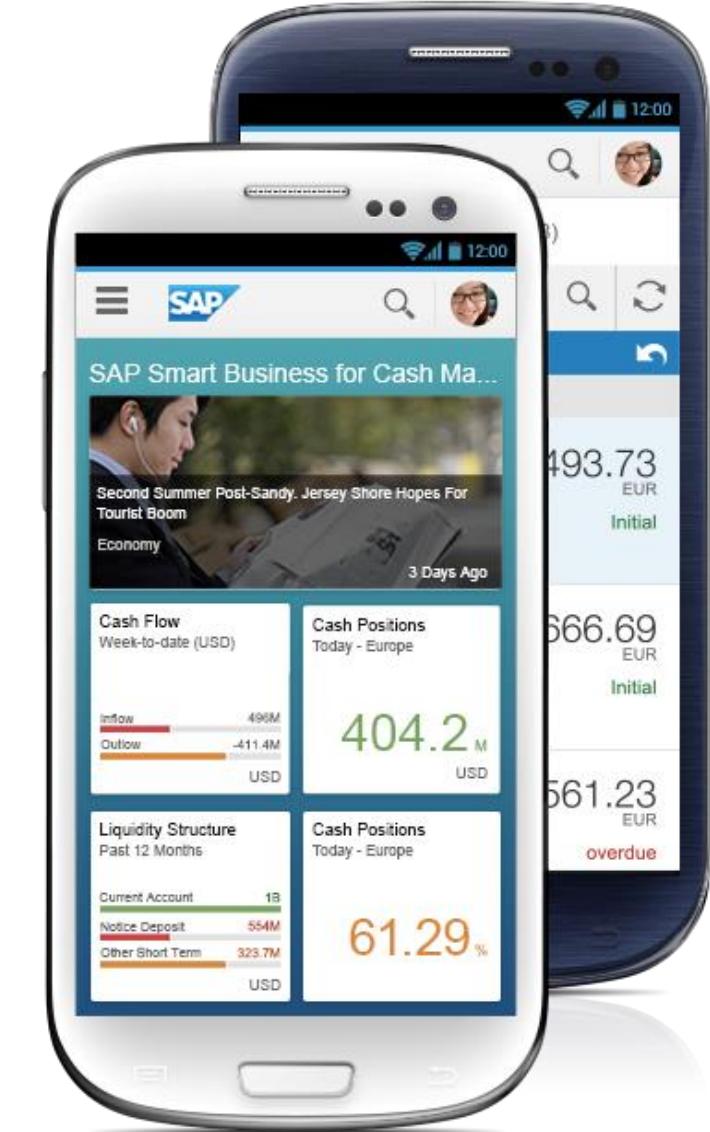
9 sec



8 sec



A USER INTERFACE
IS LIKE A JOKE.
IF YOU HAVE TO
EXPLAIN IT, IT'S
NOT THAT GOOD.



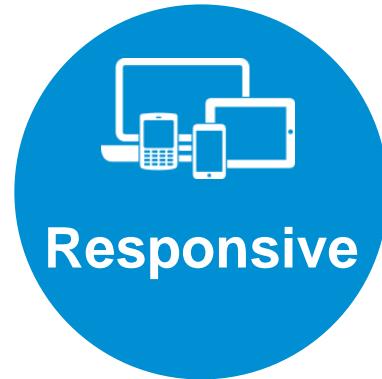
User Experience and SAP Fiori Design Guidelines

5 SAP Fiori principles

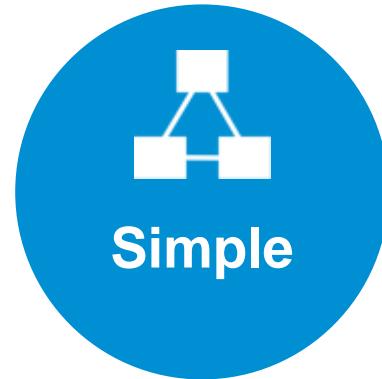
Stable principles ensure meaningful evolution regardless of technology and visual changes.



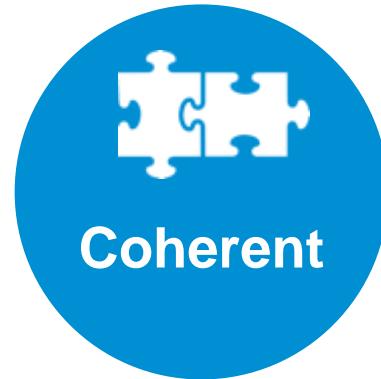
Role-Based



Responsive



Simple



Coherent



Delightful

Designed for you, your needs, and how you work

Supports how and where you work, at any time

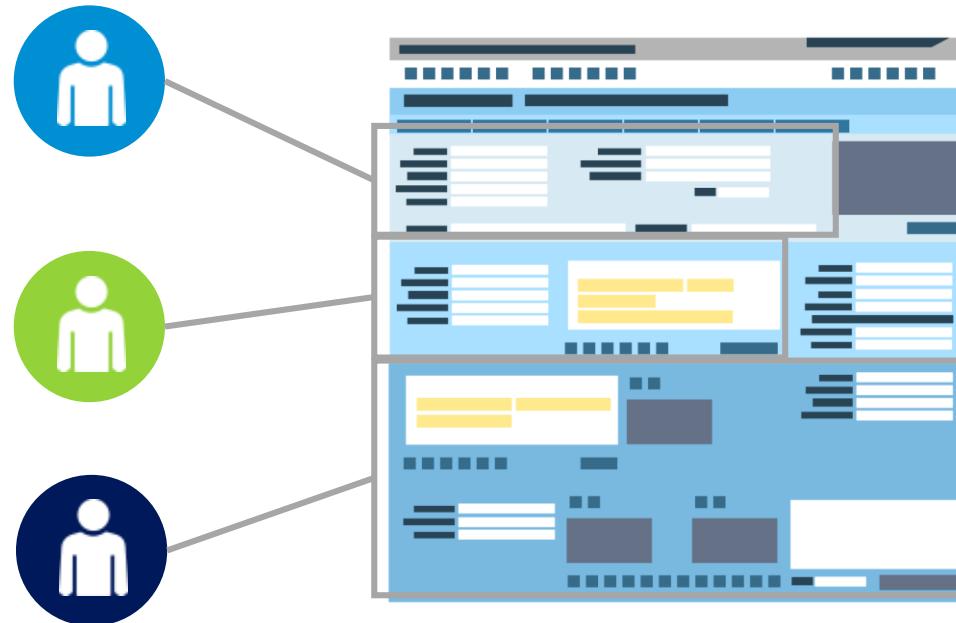
Focuses on what's important

Provides one fluid, intuitive experience

Makes an emotional connection

User Experience and SAP Fiori Design Guidelines

Role-based



Disaggregate apps for each role into granular, relevant tasks and activities

User Experience and SAP Fiori Design Guidelines

Simple



Complex transactions broken down into logical units of work or activities



User Experience and SAP Fiori Design Guidelines

Responsive/adaptive

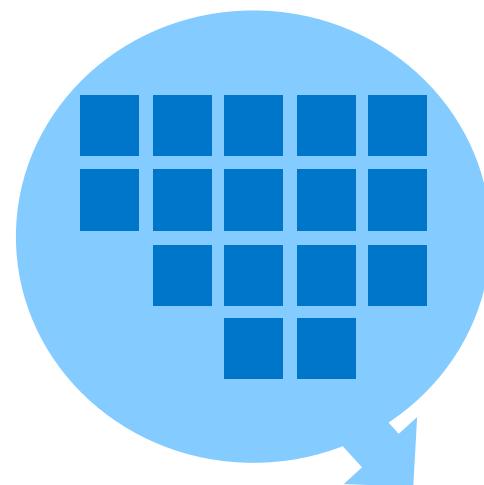
Support how and where users want to work



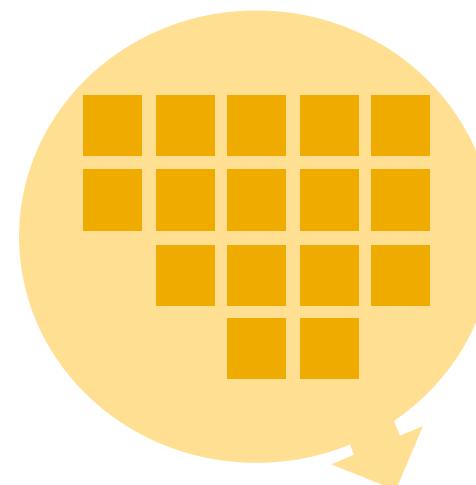
User Experience and SAP Fiori Design Guidelines

Coherent

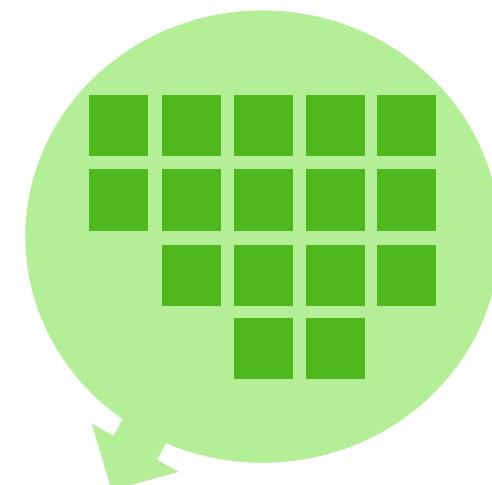
Finance



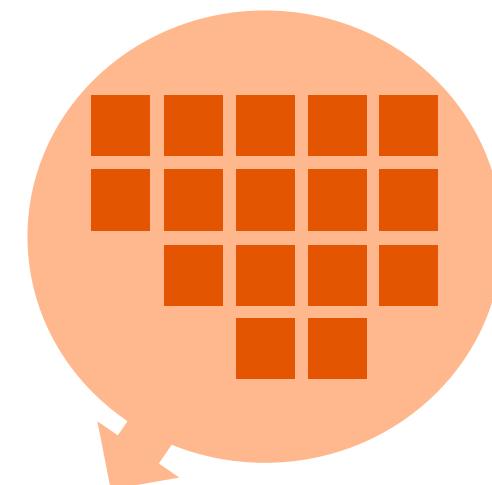
Human Resources



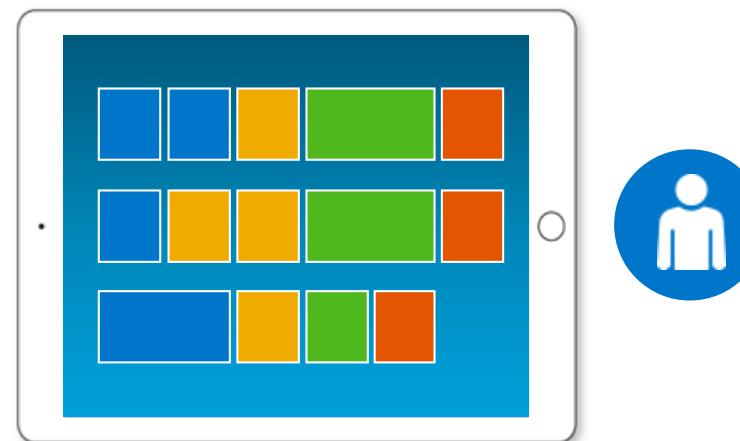
CRM



Procurement



**Provides only the relevant tasks
and activities for an end user
through the SAP Fiori launchpad**

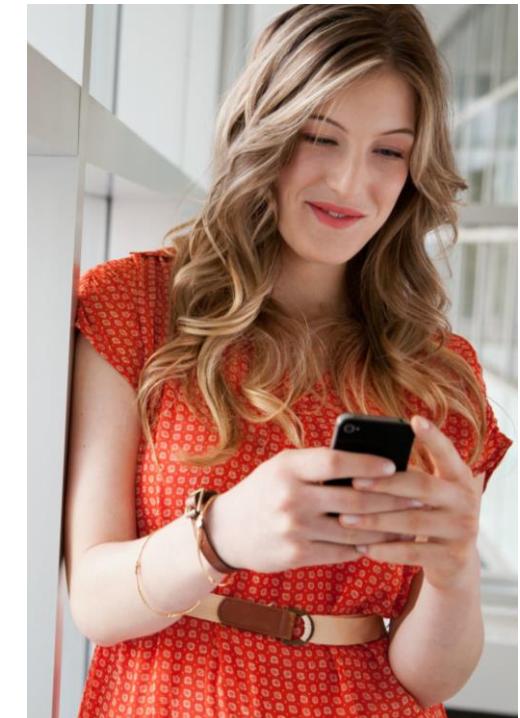
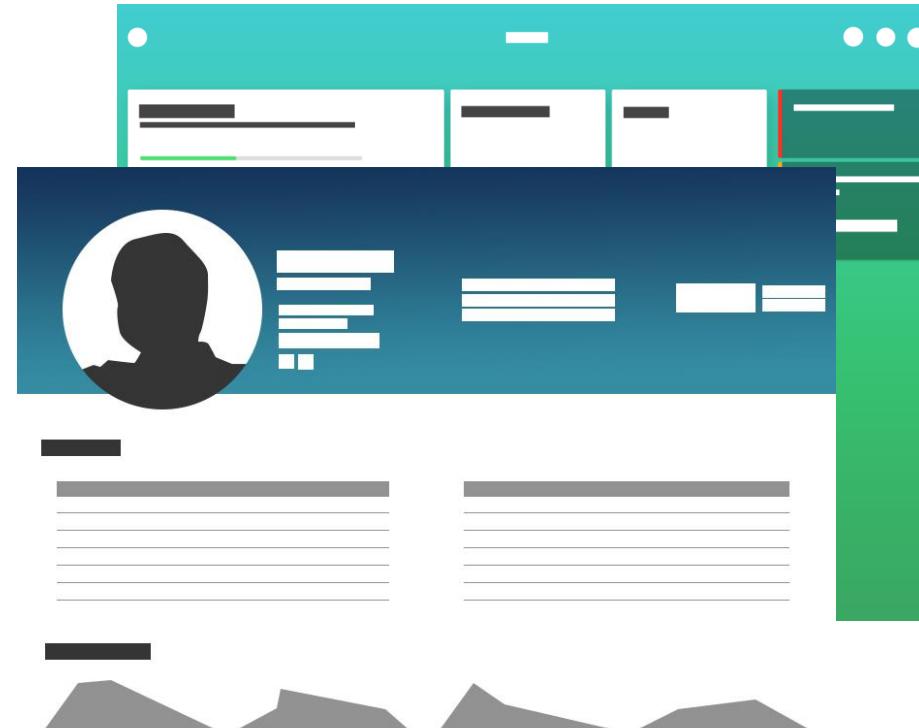
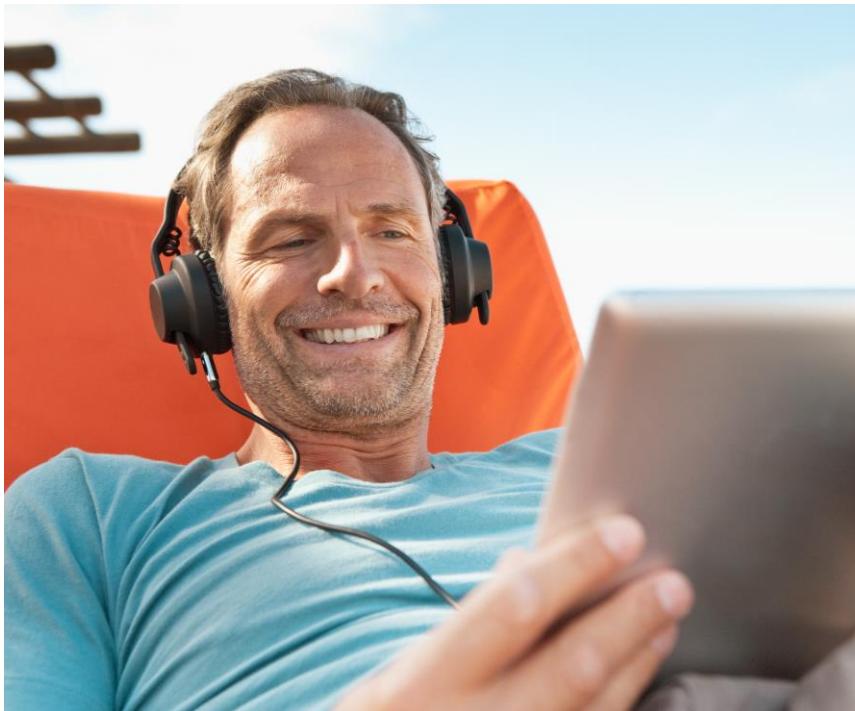


User Experience and SAP Fiori Design Guidelines

Delightful

Enjoyable for all users

Build an emotional connection



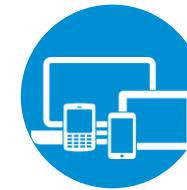
User Experience and SAP Fiori Design Guidelines

What is the SAP Fiori user experience?

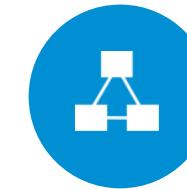
SAP Fiori Principles



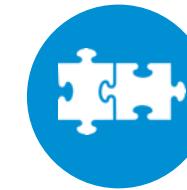
Role-Based



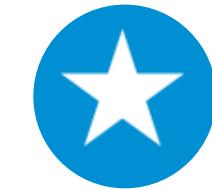
Responsive



Simple



Coherent



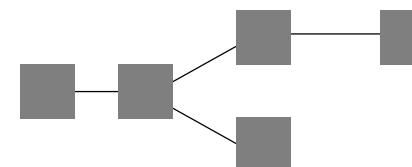
Delightful

SAP Fiori Design

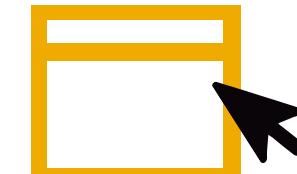
Visual Design



Information Architecture



Interaction Patterns

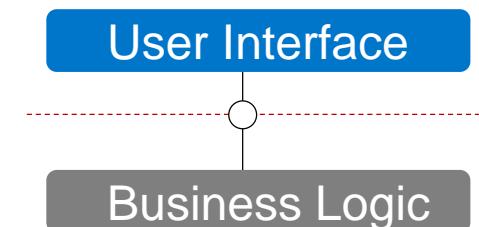


<http://experience.sap.com/fiori-guidelines/>

SAP Fiori Technologies



OpenUI5



Other
Technologies*

*SAP's preferred way to build SAP Fiori is using SAPUI5



Thank you

Contact information:

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Imagine IoT

3.3 The Importance of Prototyping

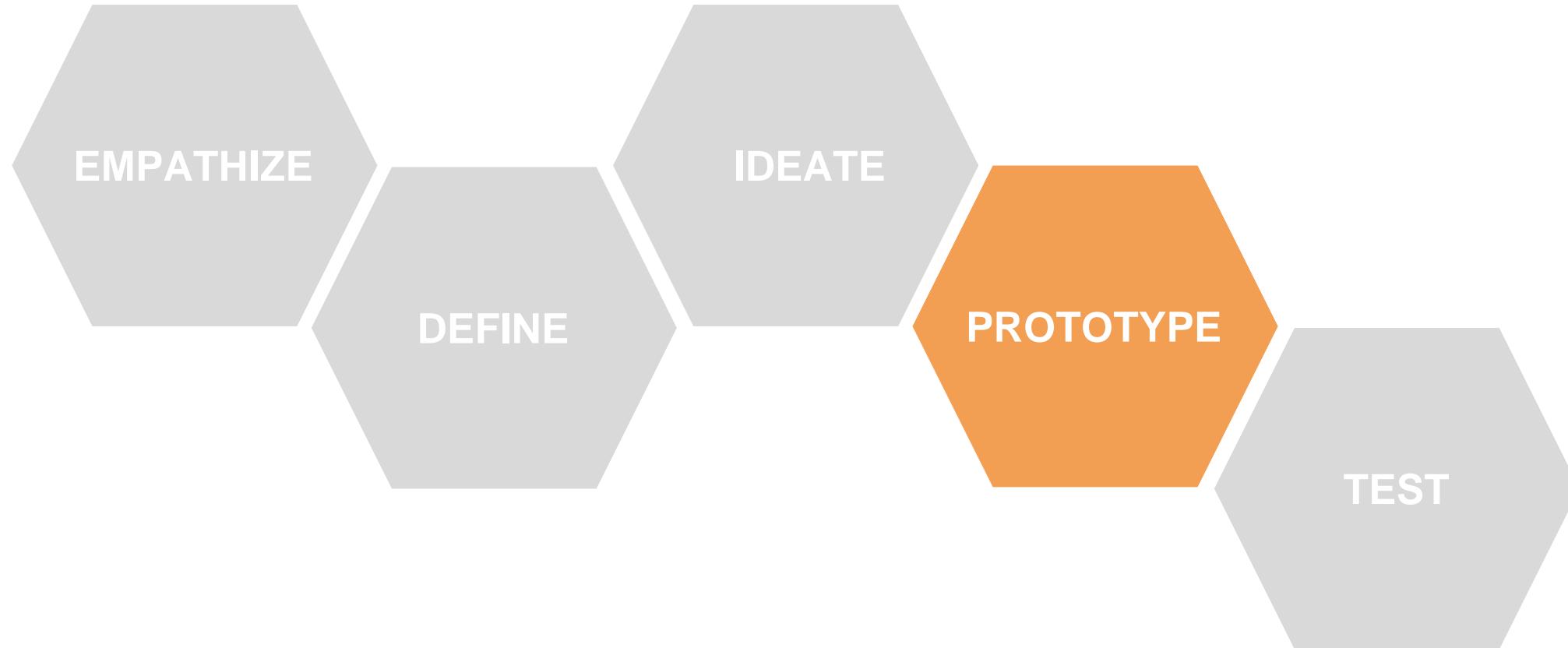


Before we get started

let's recap...

The Importance of Prototyping

Recap from design thinking



Prototyping

What is it and why is it so valuable?

The Importance of Prototyping

Definition of prototyping

Definitions

“A **prototype** is an early sample, model, or release of a product built to test a concept or process or to act as a thing to be replicated or learned from.” - **Wikipedia**

“A **prototype** is worth a thousand meetings.”
- **Twitter**



The Importance of Prototyping

Benefit of prototyping

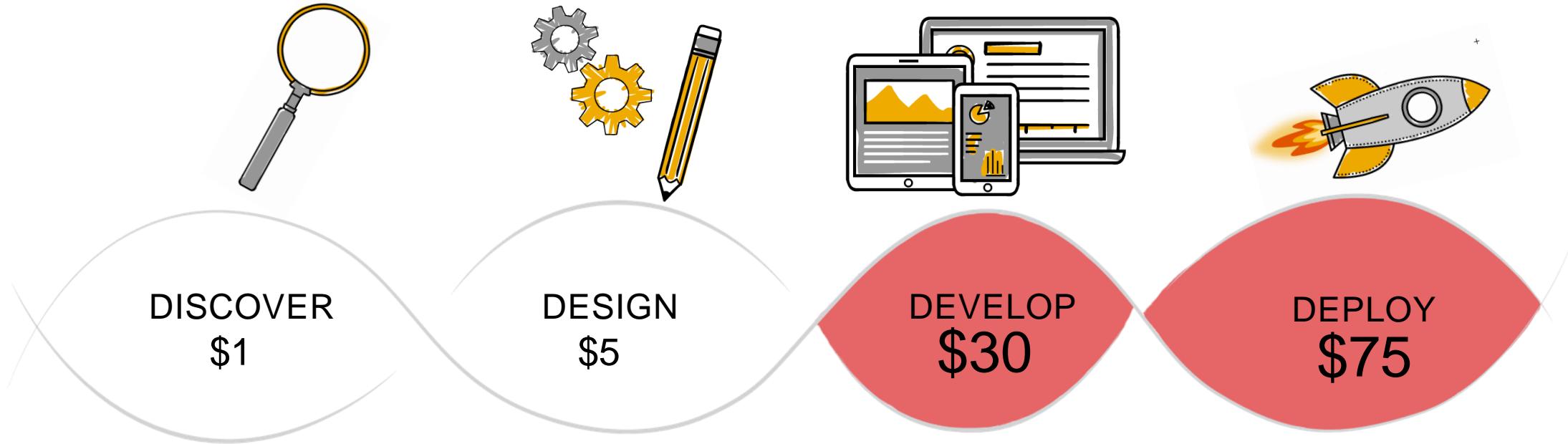
Why prototyping?

1. Prototypes make your designs better.
2. Prototypes facilitate communication.
3. Prototypes enable user input and usability assessment.
4. Prototypes help assess technical feasibility and reduce development time.



The Importance of Prototyping

Cost factor



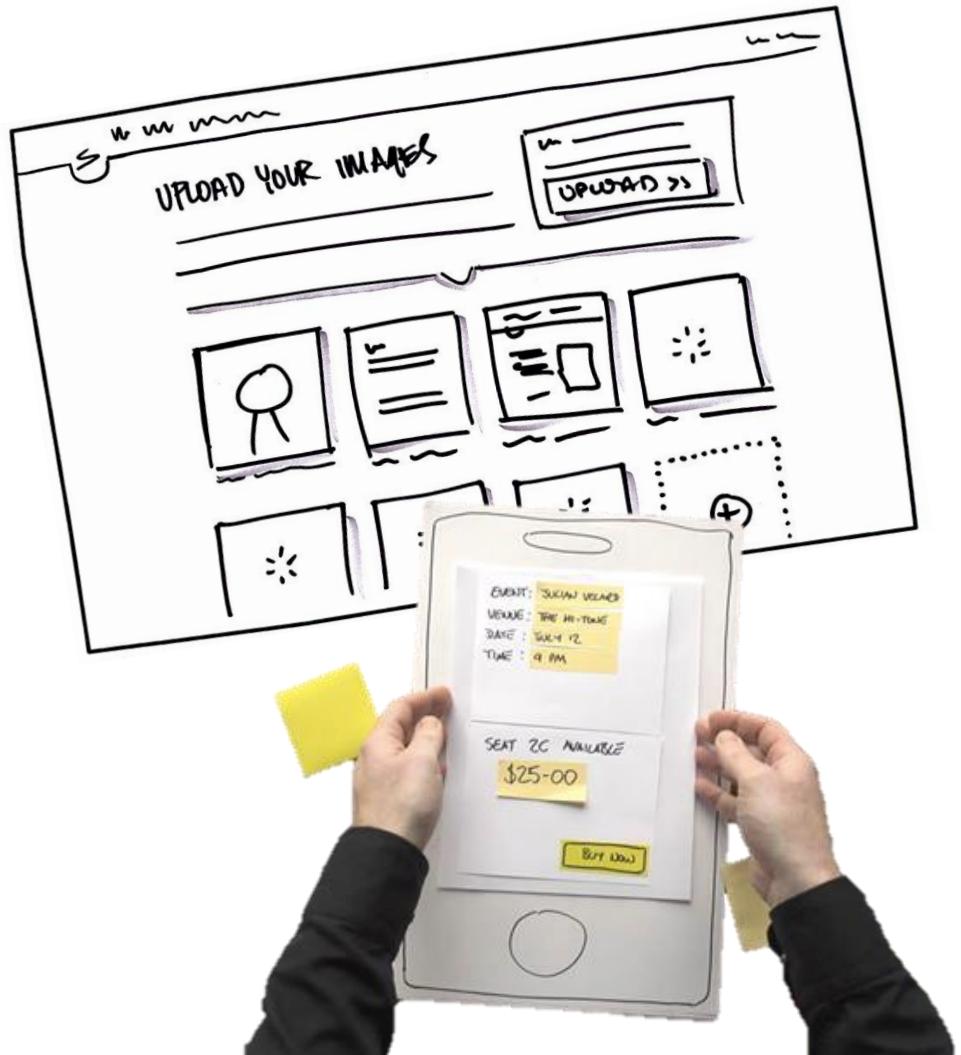
Fixing UX in development is an expensive problem.

Different kinds of prototypes

When should you pick which type?

The Importance of Prototyping

Wireframes: low fidelity prototypes



What is it?

A simple sketch of a user interface

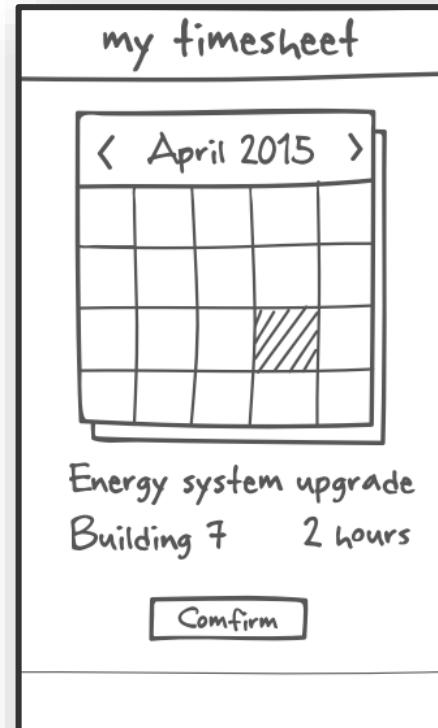
Advantages

- Quick to create and share
- Inexpensive
- Easy to understand
- Minimally detailed
- Confirmatory

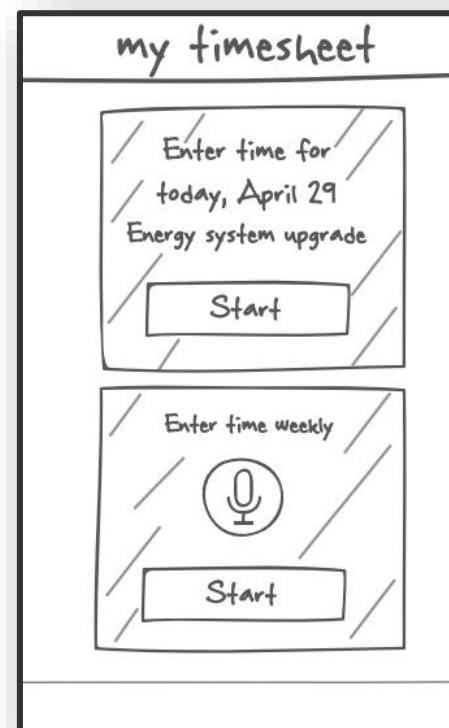
The Importance of Prototyping

Explore many ideas for the same problem

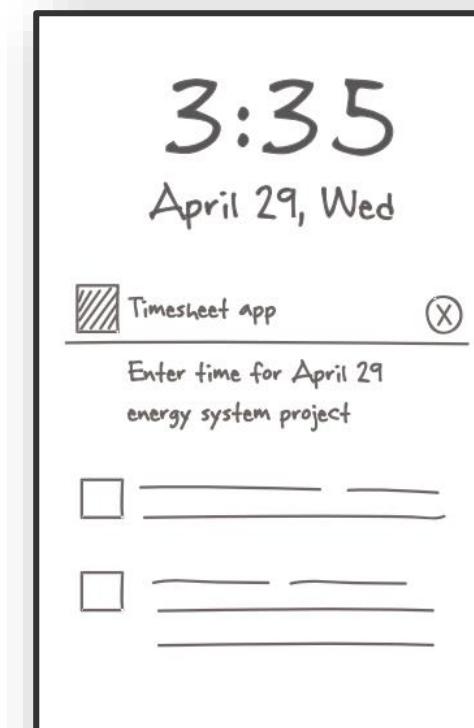
Option 1



Option 2

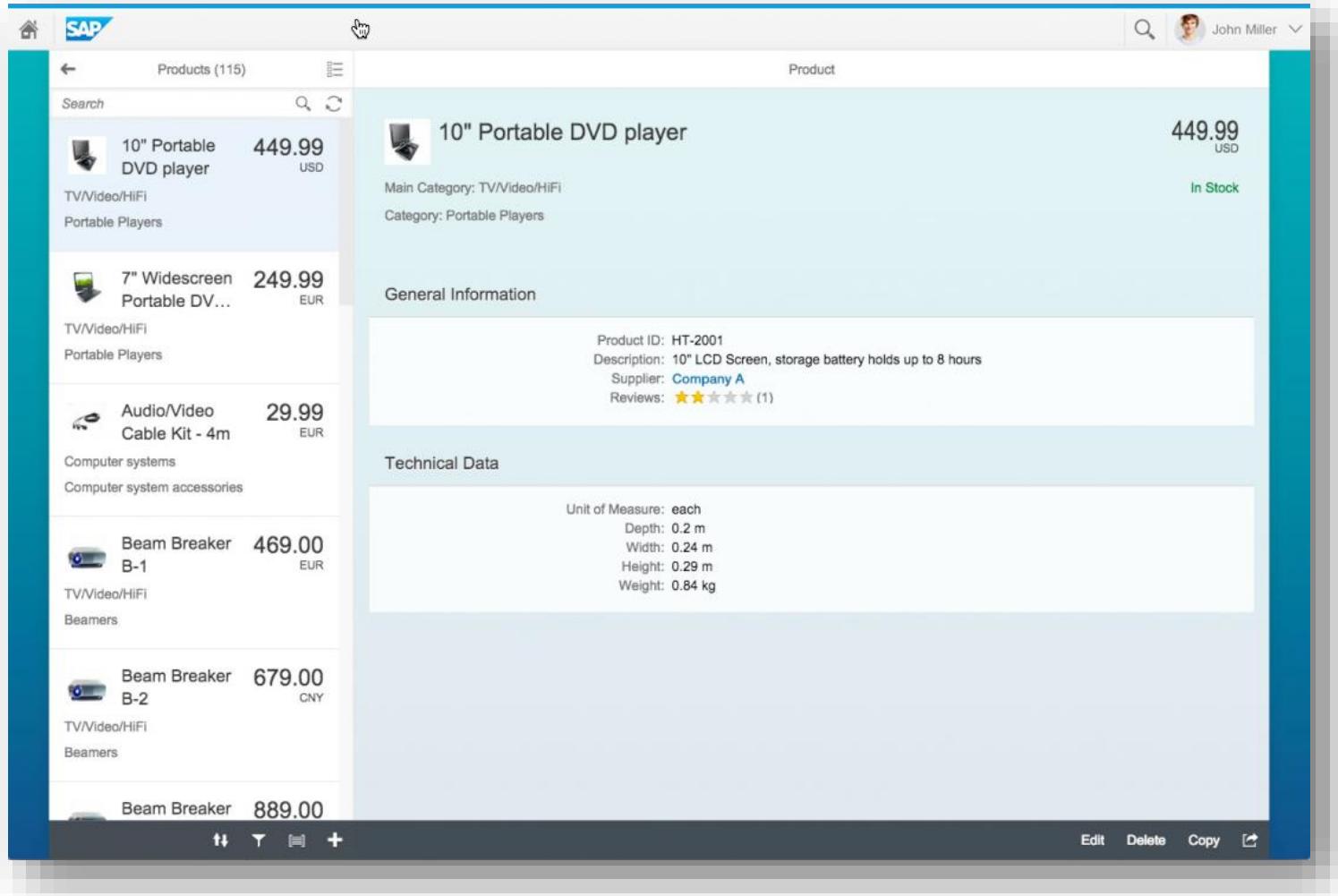


Option 3



The Importance of Prototyping

High-fidelity mockups



The screenshot shows a SAP application interface for managing products. On the left, there's a sidebar with a navigation bar and a list of products categorized by type (e.g., Portable Players, TV/Video/HIFI, Computer systems). The main area displays a detailed product page for a "10" Portable DVD player". The product card includes the name, price (449.99 USD), category (Portable Players), and a small image of the device. Below the card, under "General Information", are details like Product ID (HT-2001), Description (10" LCD Screen, storage battery holds up to 8 hours), Supplier (Company A), and Reviews (2 stars from 1 review). Under "Technical Data", it lists Unit of Measure (each), Depth (0.2 m), Width (0.24 m), Height (0.29 m), and Weight (0.84 kg). At the bottom of the product card, there are buttons for Edit, Delete, Copy, and a share icon.

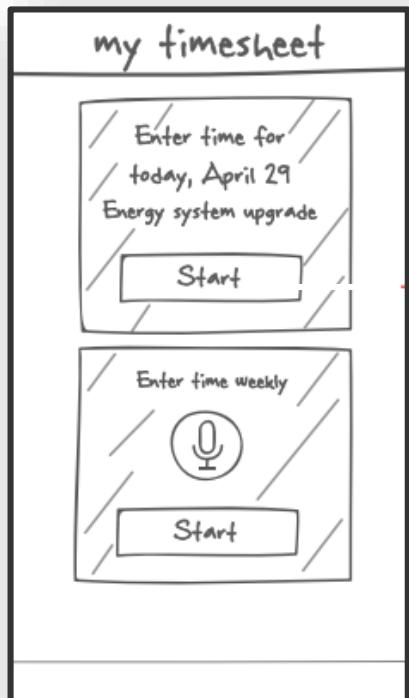
What is it?

Like a wireframe, but with more detail and color

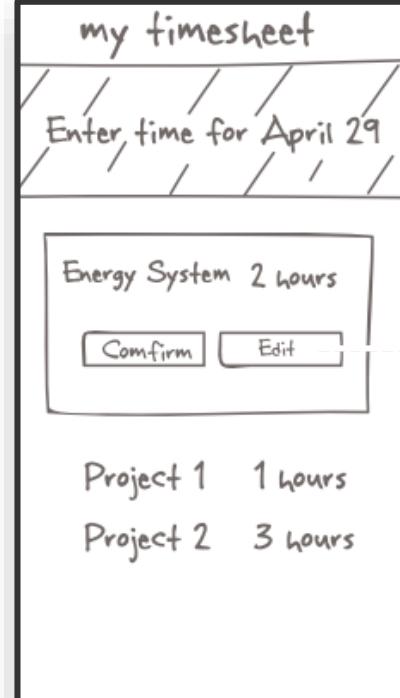
The Importance of Prototyping

Interactive prototypes: combining mockups in a flow

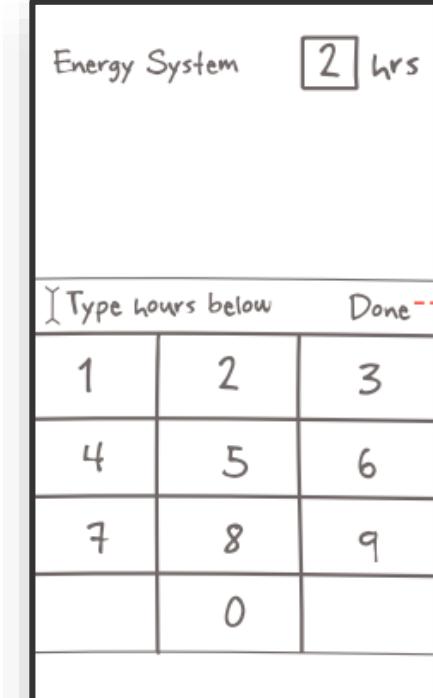
Initial screen



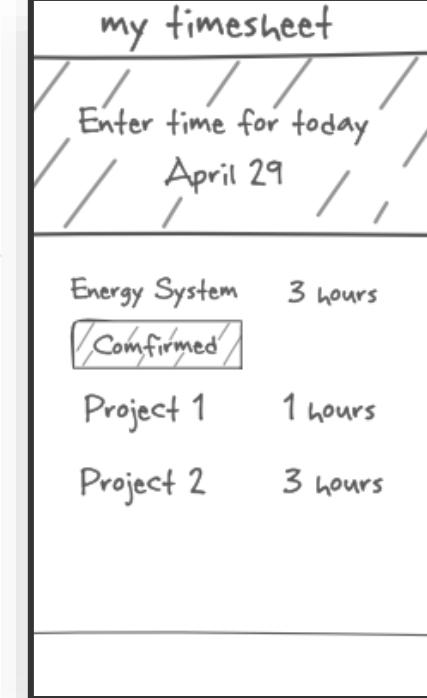
Time entries listed



Editing a time entry



Confirmation of action

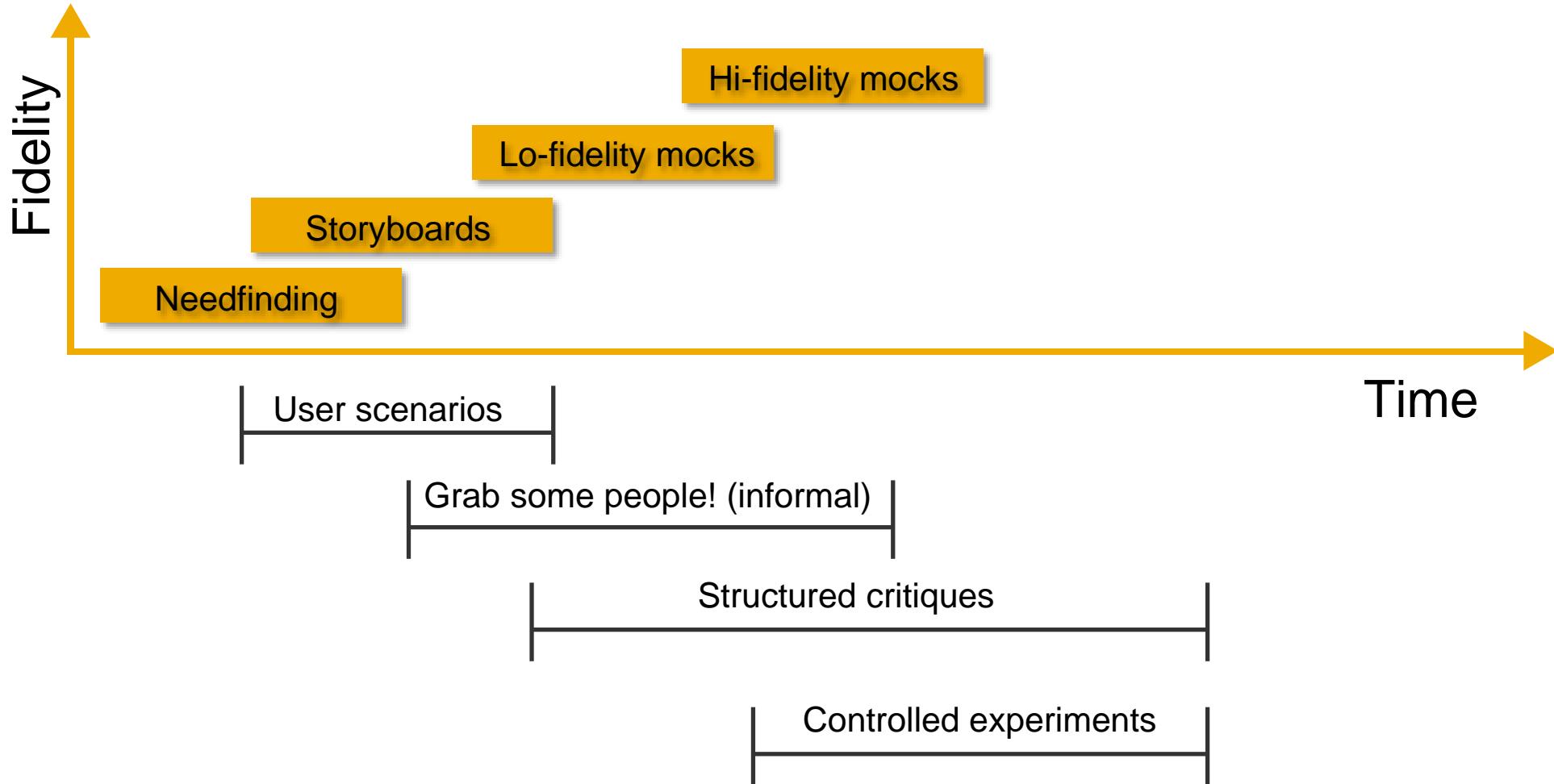


Prototyping + feedback

How does your prototype evolve over time?

The Importance of Prototyping

Form and feedback co-evolve



Your first mockup and prototype

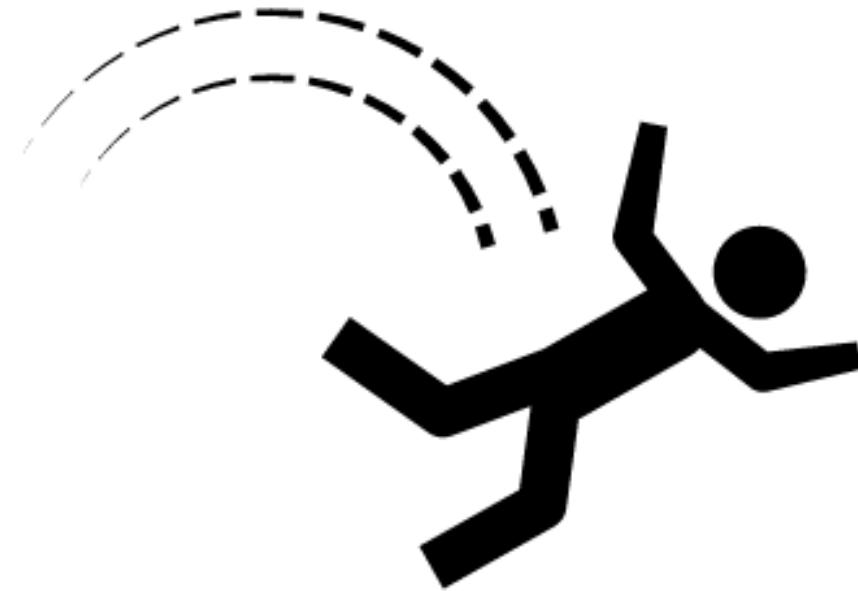
Key pitfalls to avoid

The Importance of Prototyping

Pitfalls in prototyping

Pitfalls

- Taking feedback as requirements
- Prototyping everything
- Ignoring feasibility



The Importance of Prototyping

Unit Summary and Looking Ahead



Unit Summary

- Prototyping as part of the design thinking process
 - Different kinds of prototypes
 - Form and feedback co-evolve
 - Key pitfalls
-



Looking Ahead

- Demo on how to prototype with a tool called “BUILD”



Thank you

Contact information:

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Imagine IoT

3.4 Prototyping 101 Using BUILD



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BUILD

What is it? How does it help you?

Prototyping 101 Using BUILD

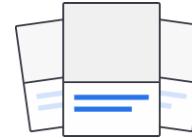
BUILD overview

BUILD

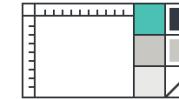
Everything you need to design enterprise apps



LEARN DESIGN
THINKING



JUMPSTART
WITH
GALLERY



CREATE
INTERACTIVE
PROTOTYPES

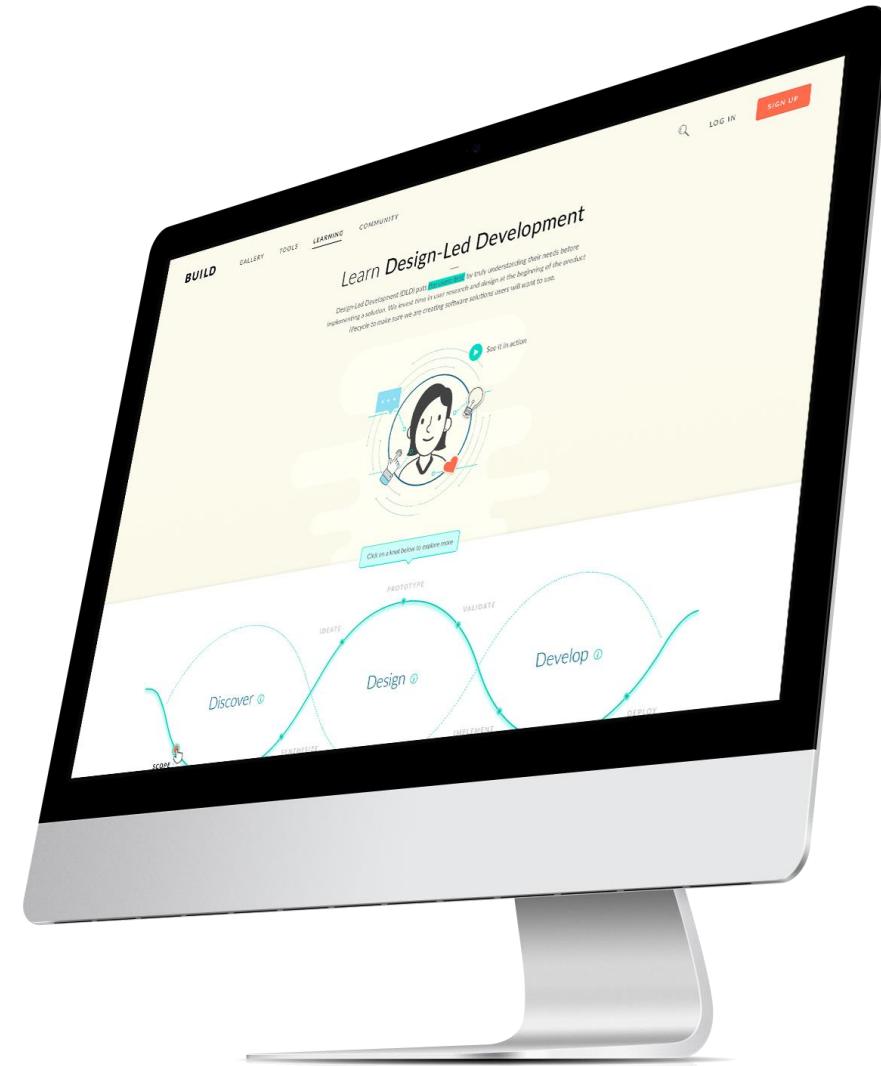


GATHER USER
FEEDBACK

Prototyping 101 Using BUILD

Learn Design Thinking

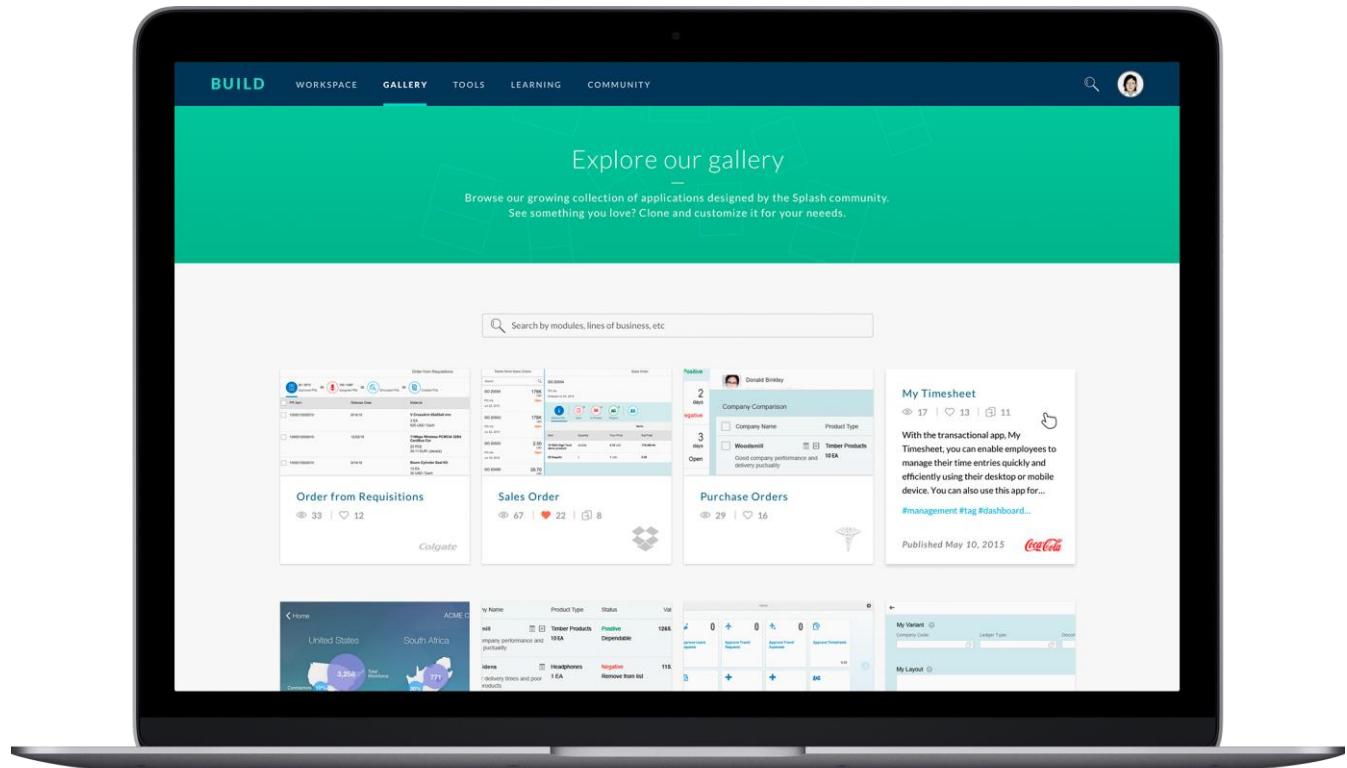
Learn Design Thinking principles using bite-sized guides and other design courses.



Prototyping 101 Using BUILD

Jumpstart with gallery

Jumpstart your process by leveraging SAP Fiori-inspired prototypes to create your own.

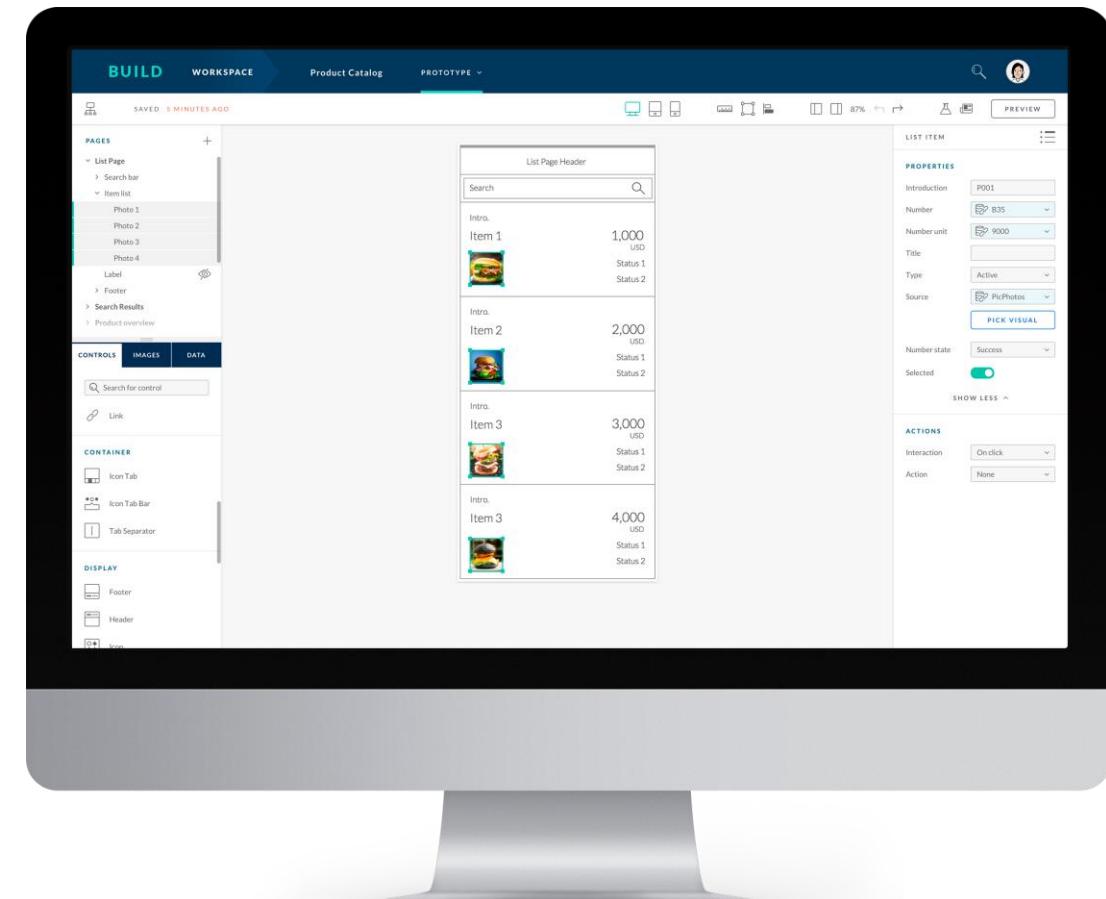


Prototyping 101 Using BUILD

Create interactive prototypes

Create interactive prototypes
—from low to high fidelity—
collaboratively.

Leverage Fiori UI controls and
add real sample data.

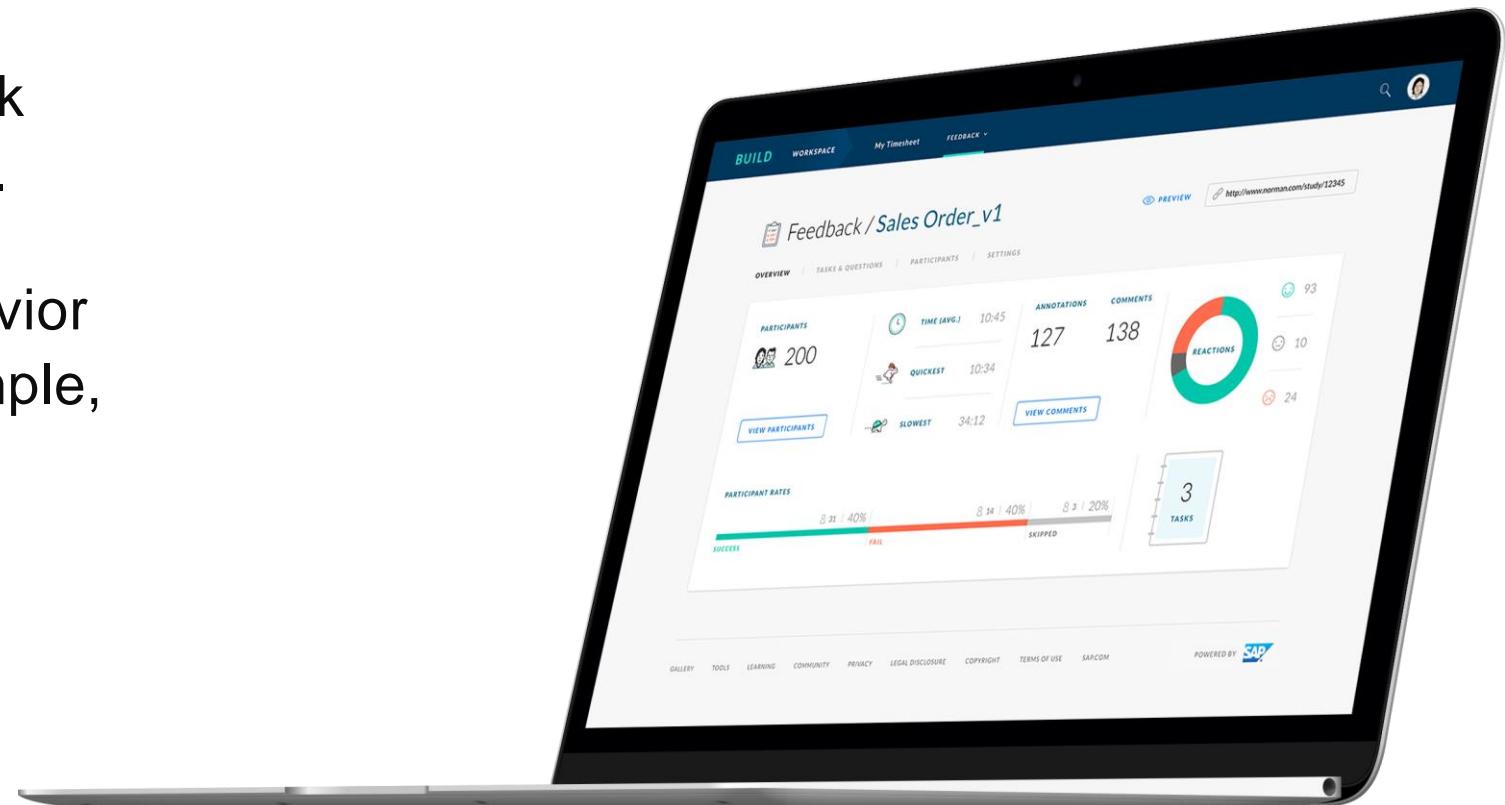


Prototyping 101 Using BUILD

Gather user feedback

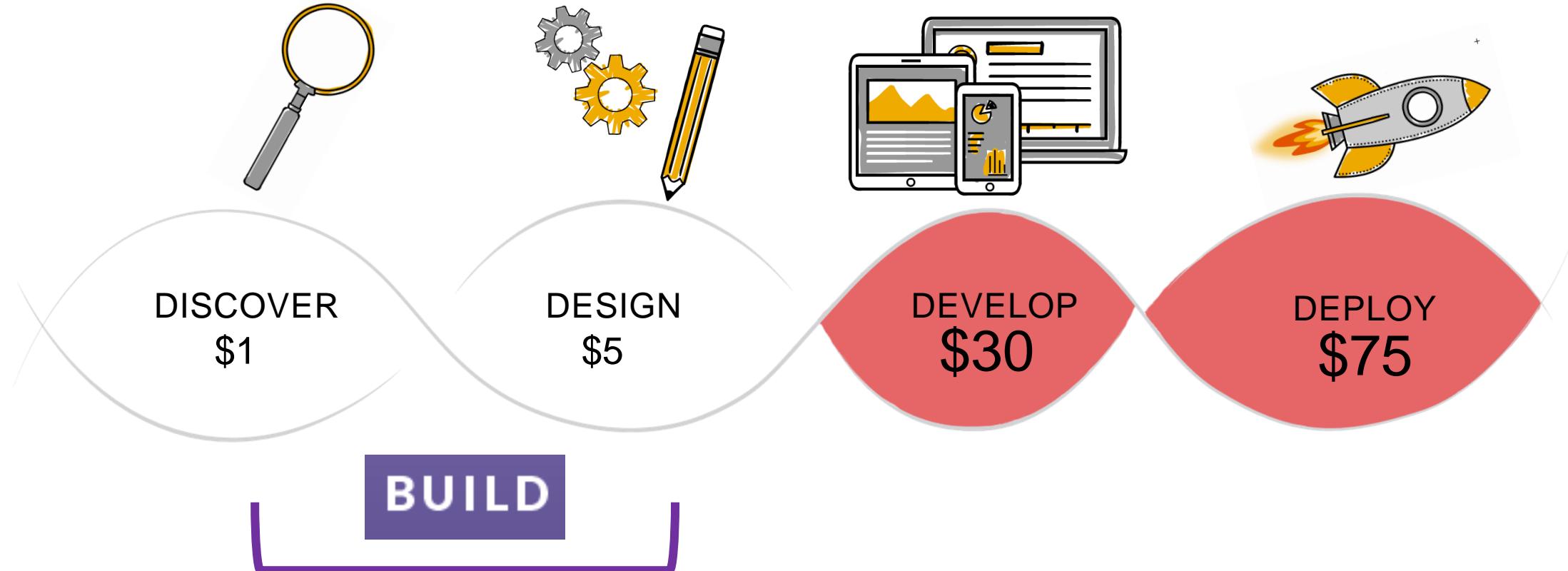
Gather remote feedback
with in-line annotations.

Learn actual user behavior
with analytics (for example,
hotspots).



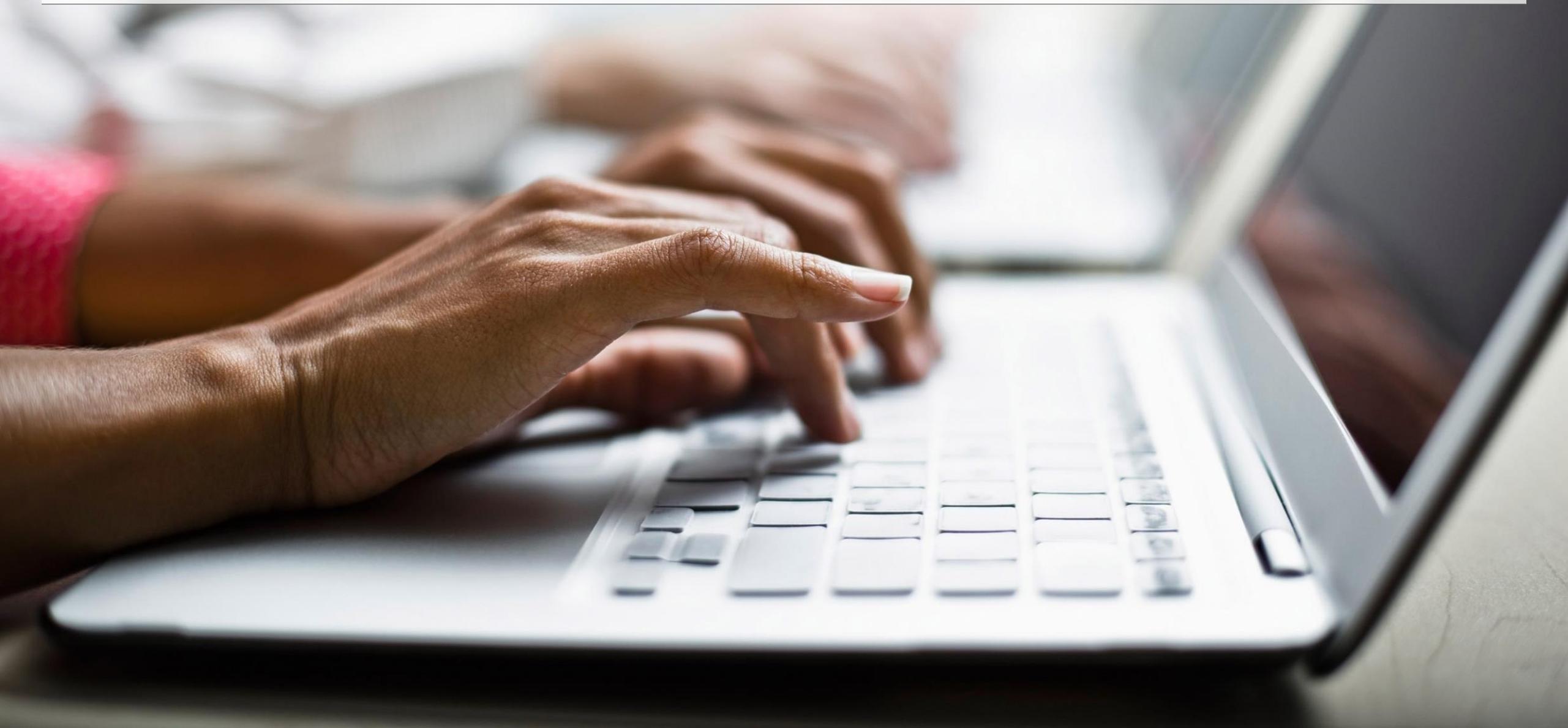
Prototyping 101 Using BUILD

Fail fast, learn fast, iterate



Prototyping 101 Using BUILD

Demo





Thank you

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3.5 Prototype Challenge: Create Your Own IoT Prototype



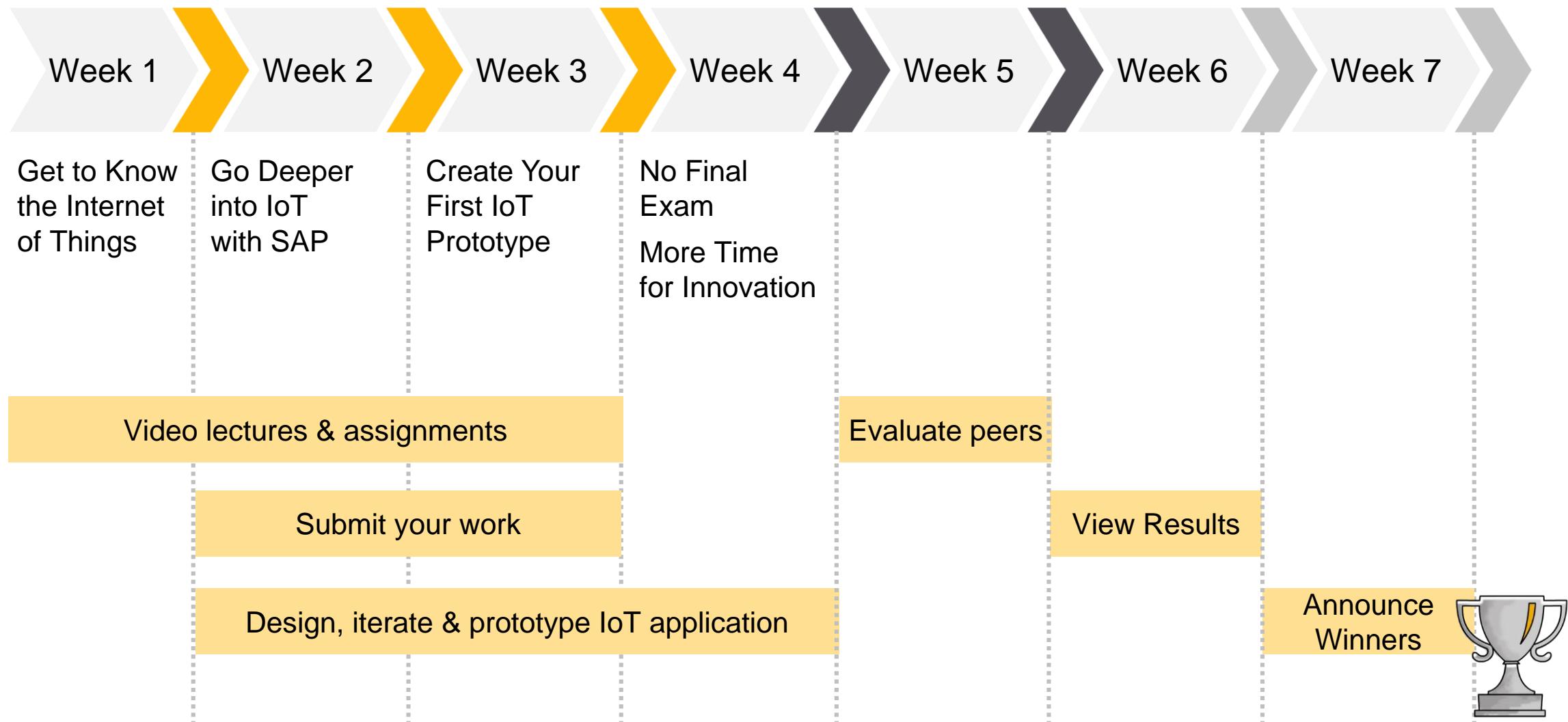
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Prototype challenge

What is it?

Introduction to IoT

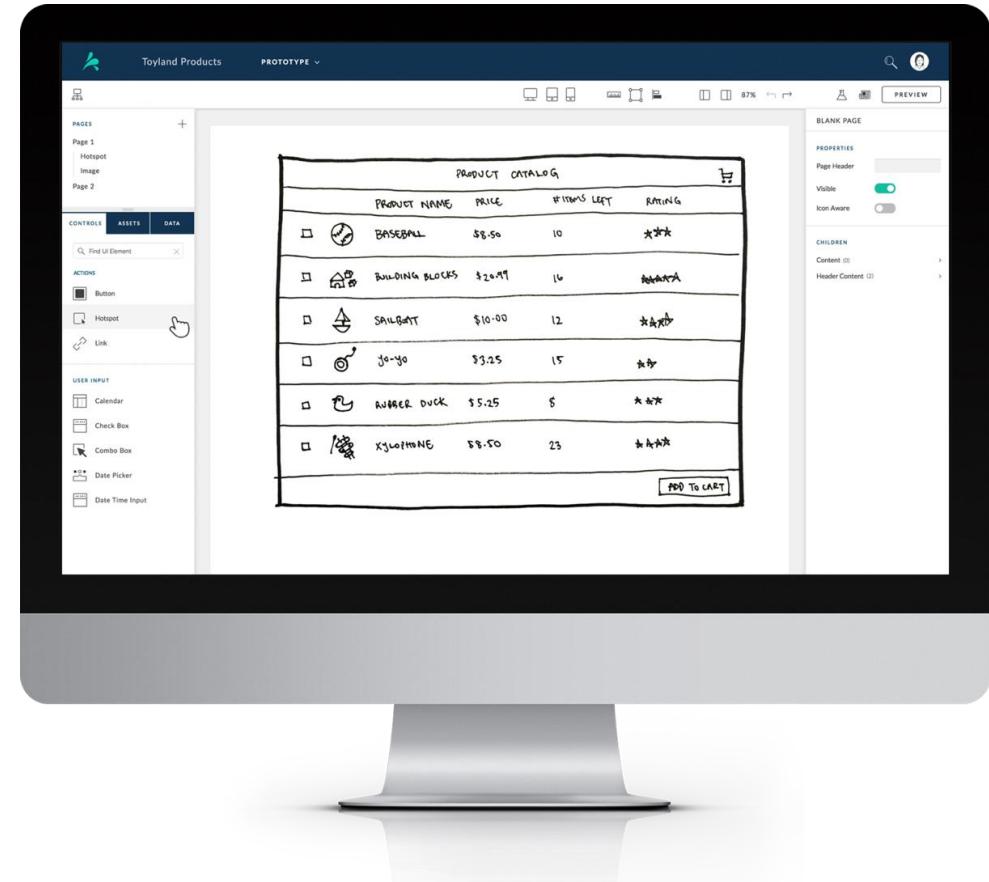
Course structure



Prototype Challenge: Create Your Own IoT Prototype

Overview

- ½ of final grade
- End-to-end hands-on learning experience
- Peer review feedback involved
- No coding required
- Points criteria separate from prize criteria



Prototype Challenge: Create Your Own IoT Prototype

Submission checklist

✓ **Story**

Make a case and tell your story like an elevator pitch.

✓ **Persona**

Explain the needs, goals, and pain points addressed.

✓ **User experience journey**

Map out the persona's mindset, actions, and touchpoints.

✓ **Point of view (POV)**

Include user + need + insight/surprise.

✓ **Mock-Up**

Create a user experience mock-up via BUILD or another way.

✓ **Peer review**

Share your prototype for others to evaluate and participate.

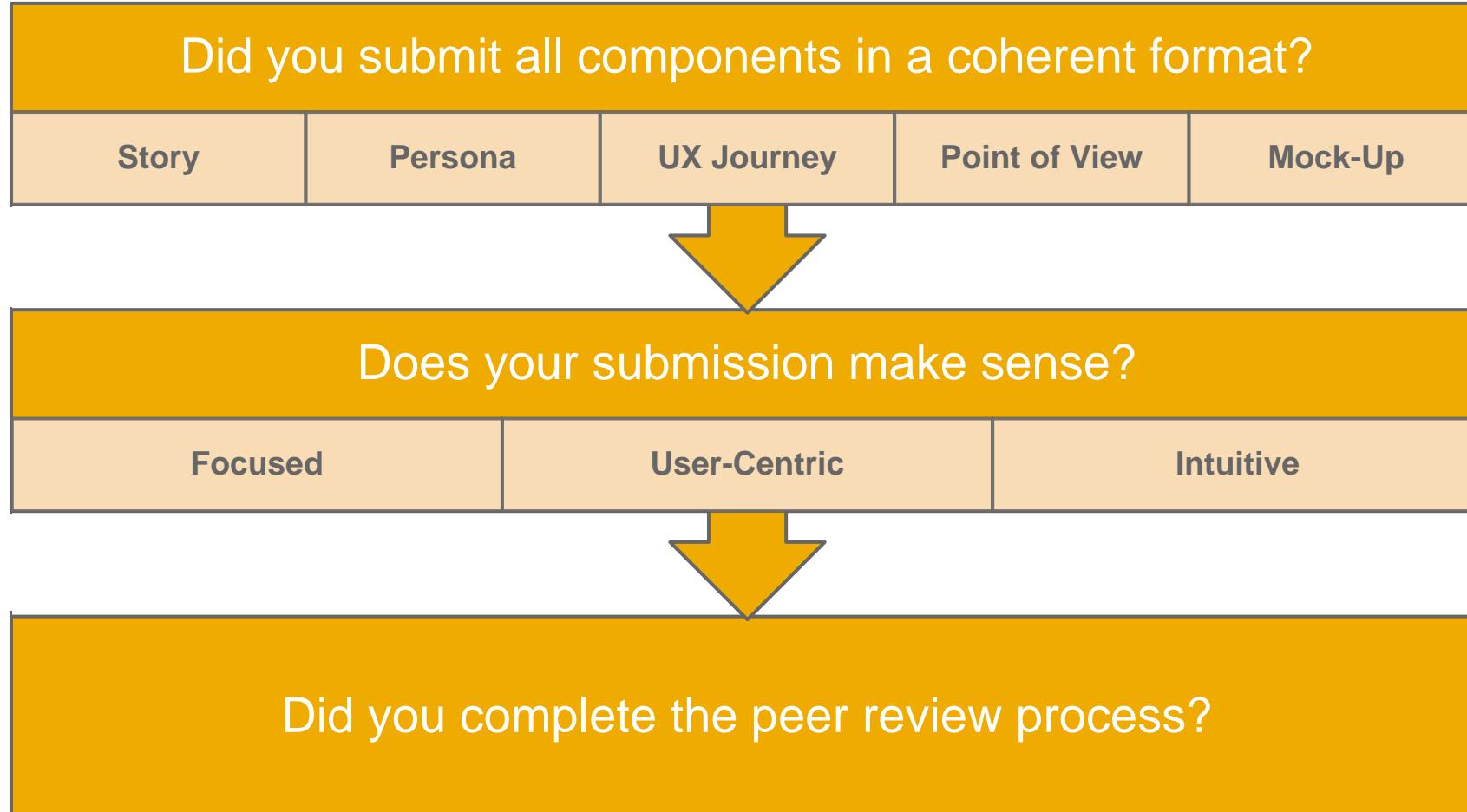


Rules and process

What are the rules and what should you expect from the process?

Prototype Challenge: Create Your Own IoT Prototype

Points criteria



Prototype Challenge: Create Your Own IoT Prototype

The deliverables



Format

PDF (design components and/or screenshots) and/or video



Language

English



Length

7 pages max (design components and/or screenshots)
or 7 minutes of video
or these 2 formats together where 1 page = 1 min of video



File format, size, and upload

Details in course section “Prototype Challenge”

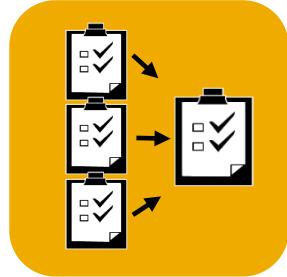


Anonymous participation

Possible

Prototype Challenge: Create Your Own IoT Prototype

Challenge points and selection of best submissions



Peer grade
(max 90 points)



Bonus points:
Writing good
reviews



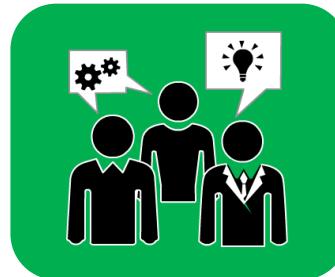
Bonus points:
Accurate self-
evaluation



Challenge
final points



Peers select
extraordinary submissions



Review by
board of experts



“Best of”
page created

Prototype Challenge: Create Your Own IoT Prototype

Prize criteria and process



Get flagged as extraordinary during the peer review process.



Additional top submissions will be showcased on a “best of” page on the course site.



Stand out, show more, and get further, but still adhere to the submission criteria.



Check out the FAQs for more details and post questions in the discussion forum if needed.



Top 10 will be determined by SAP experts and will each choose how SAP donates \$5,000 (for a total of \$50,000).



Thank you

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3.6 Examples of IoT Experiences – Facility Management App



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Product/Prototype

What is it & How does it work?

Process & Tools

... involved in creating this?

How did IoT shape this experience

... and what does the future of this experience look like?

Facility Management App

?



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