

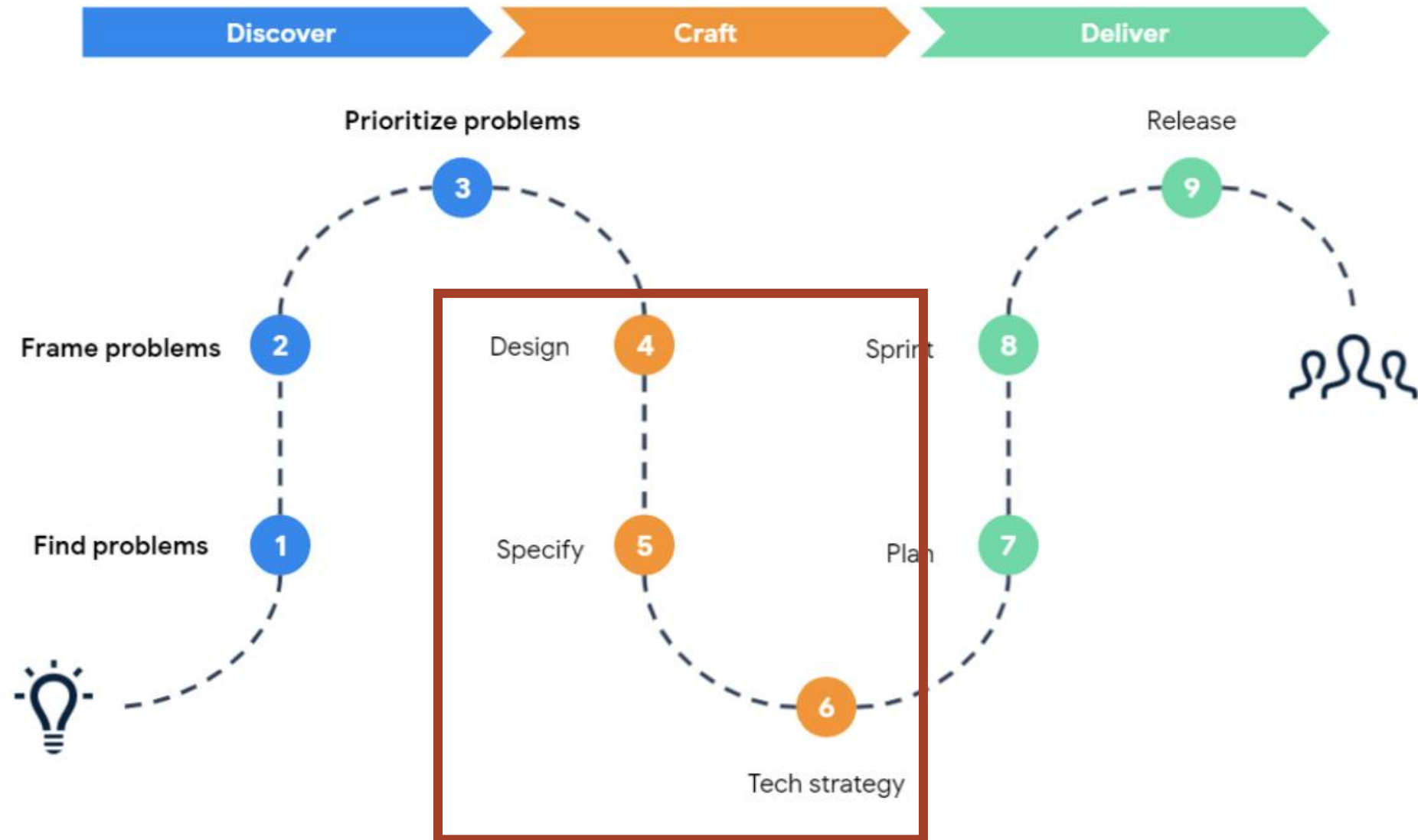
# From ideas to users - Craft

REQUIREMENT ENGINEERING | Engenharia de Requisitos

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2023/24

# From ideas to users



# Design

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# Craft – Design

## Goals?

- Usability, utility and desirability

## How?

- User journey maps
- Benchmarks
- Mockups and Prototypes
- User tests
- Decision Docs

# User Journey Mapping

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Design

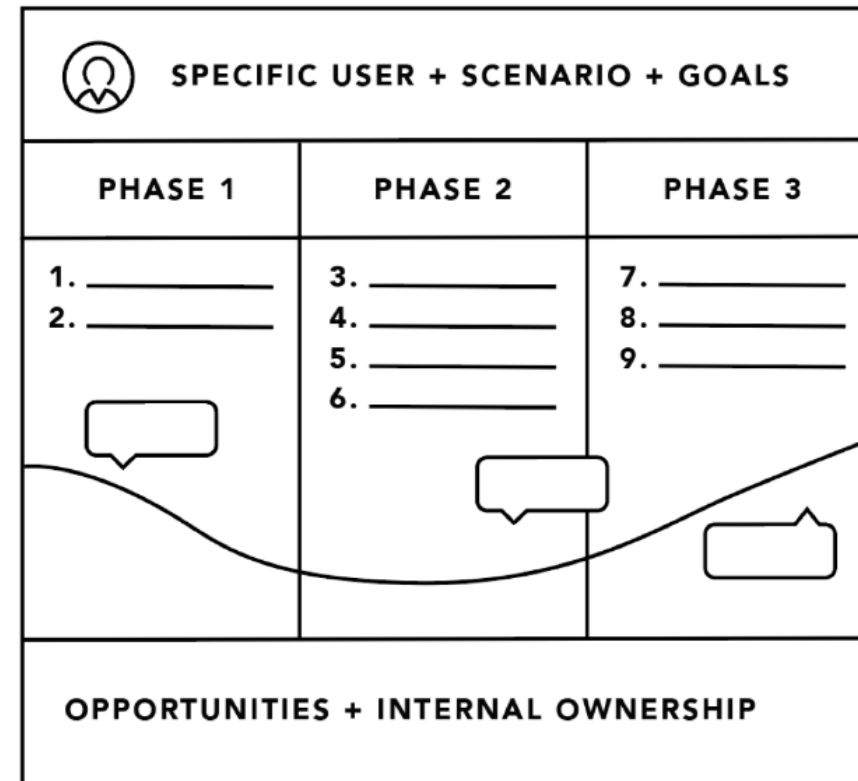
# Craft – Design – Use journey map

A journey map is a visualization of the process that a user does to accomplish a specific goal.

Key components:

1. Actor/Persona
2. Scenario + expectations
3. Journey phases
4. Actions, mindsets and emotions
5. Opportunities

## CUSTOMER/USER JOURNEY MAP



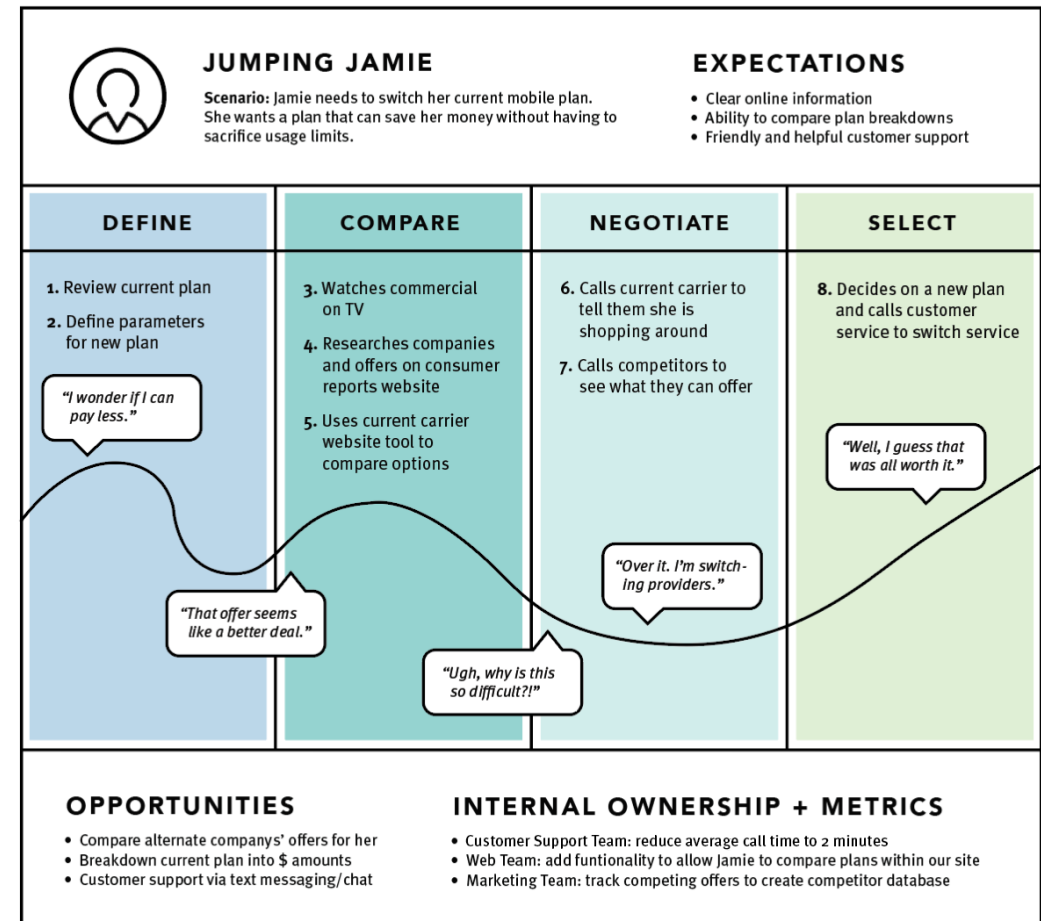
# Craft – Design – Use journey map

**1.Actor/Persona** - Represents who experiences the journey,

**2.Scenario + expectations** - describes the situation addressed and is associated with an actor's goal or need and specific expectations

**3.Journey phases** - different high-level stages in the journey. Provide organization for the information in the journey map (actions, thoughts, and emotions)

## CUSTOMER JOURNEY MAP *Example (Switching Mobile Plans)*



# Craft – Design – Use journey map

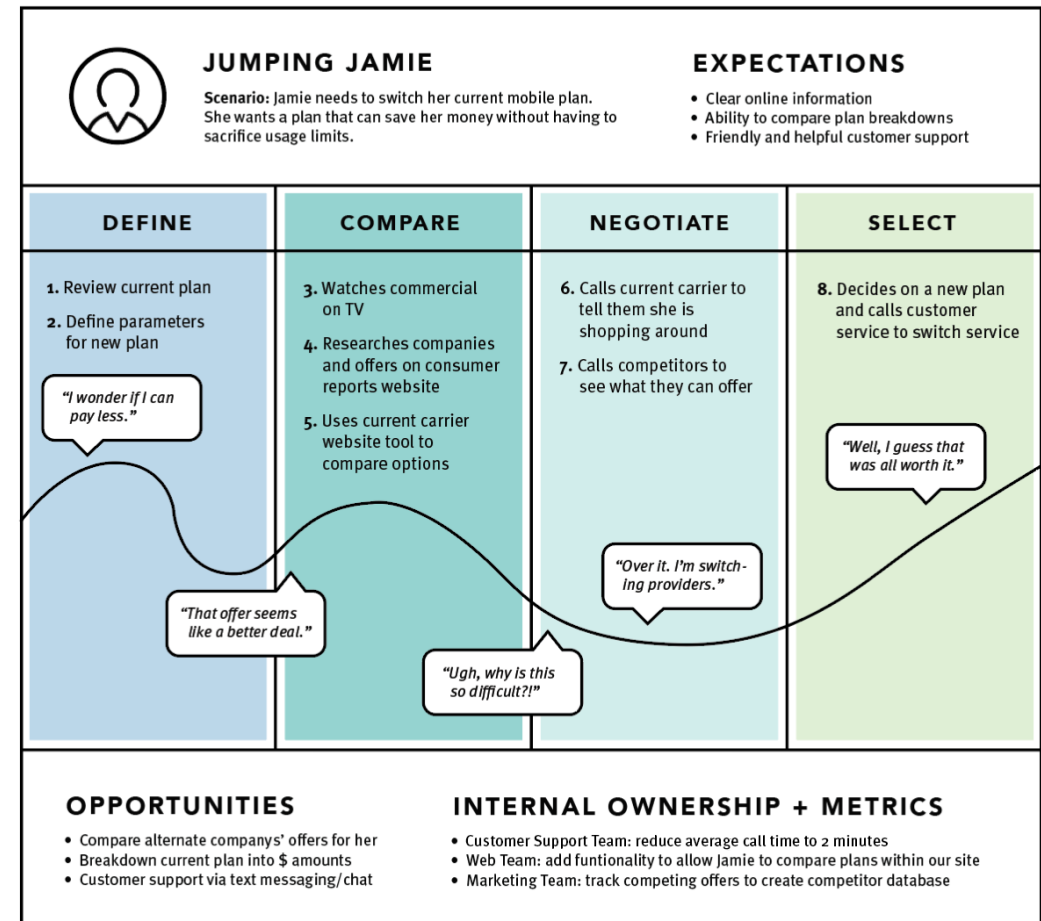
## 4. Actions, mindsets and emotions:

- **Actions** - behaviors and steps taken by users
- **Mindsets** - users' thoughts, questions, motivations, and information needs in the journey stages.
- **Emotions** - signaling the emotional “ups” and “downs” of the experience. Contextual layer of emotion that tells us where the user is delighted versus frustrated.

## 5. Opportunities - insights gained from mapping, they speak to how the user experience can be optimized

- What needs to be done with this knowledge?
- Who owns what change?
- Where are the biggest opportunities?
- How are we going to measure improvements we implement

## CUSTOMER JOURNEY MAP *Example (Switching Mobile Plans)*





# Benchmarks

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# Craft – Design – UX Benchmarks

**UX Benchmarks** are comparative performance evaluation measured against competitors, industry, or past performance.

Its goal is to identify a baseline or benchmark from which to set goals and measure performance.

They can use multiple sources

- Product data
- Competitive analysis
- Stakeholders
- Industry standards

**Scenarios where it can be used:**

- Evaluating the results of a UX audit
- At the beginning and end of a redesign
- Before and after usability testing
- Competitive benchmarking against competitors
- Setting goals to beat industry standards
- As part of early research for a new product
- Defining a project's business goals—conversion rate, completion rate, user engagement, eCommerce metrics, etc.

# Craft – Design – UX Benchmarks

The benchmarks make use on the content produced on the discovery phase and refine it into clear measure points.

## UX Benchmarks From Product Data

- Data analysis collected on user research

## UX Benchmarks From Competitive Analysis

- Makes use of competitive analysis conclusions
- In this phase a prototype replica of competition's website can be built so that tests can be conducted.

## Stakeholder UX Benchmarks

- Normally align with the product KPI's like Increase sales/conversions rate.

## Industry-Standard Benchmarks

- Companies must use industry standards as the bare minimum for performance. If the product is performing below average, you're likely not meet customers' expectations.
  - Overall UX performance
  - Desktop Web
  - Mobile Web

# Wireframes, Mockups and Prototypes

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Design

# Craft – Design – Mockups and Protoypes

**Wireframe:** blueprint or schematic that helps communicate the structure of your app or website to the relevant stakeholders.

**Mockup:** high-fidelity render of your design that showcases how the finished product will look.

**Prototype:** A prototype is an early model of a product that focuses on functionality and gives your stakeholders a taste of the final version.

# Craft – Design – Mockups and Prototypes

	Wireframe	Mockup	Prototype
Purpose	Communicate structure and get early feedback	Showcase design	Showcase design and functionality
Fidelity	Low	High	High
Functionality	No	No	Yes
Skill requirement	Low	High	High
Resources	Minimal	Design tool	Design tool
Time needed	Very low	Medium	High
Product cycle stage	Discovery	Design	Design/Specify

# Craft – Design – Mockups

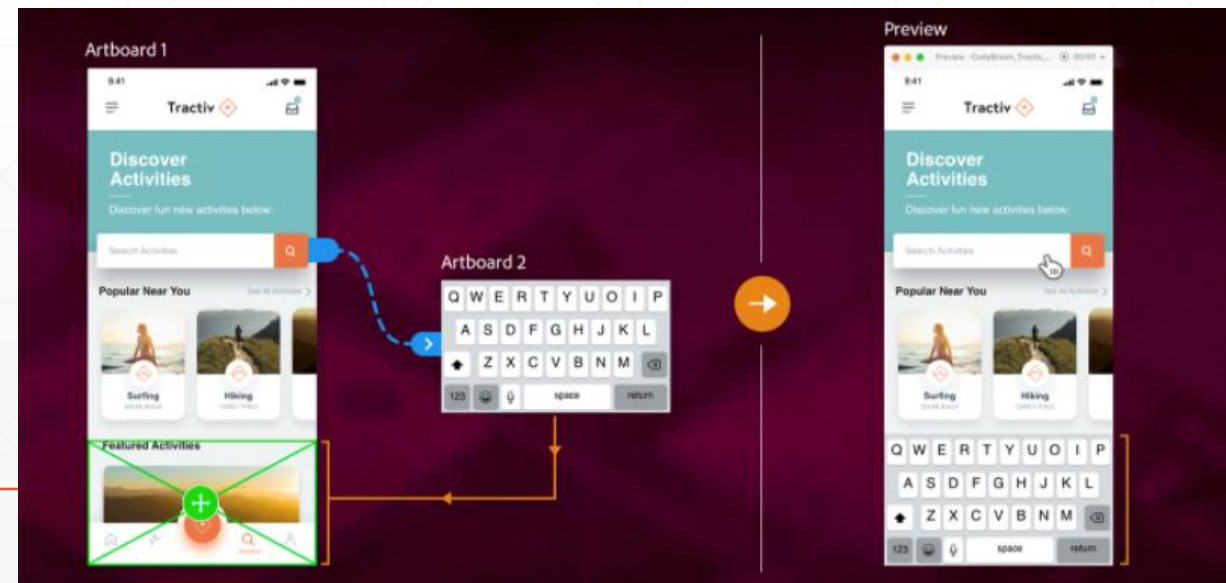
**Mockup** is a visual representation of the product idea, regardless of how its look and feel like will be at the end.

They help bridge the gap between ideation and development, improving overall communication without adding significant costs.

Provide a bare minimum to help visualize and discuss the product idea or design.

The different between with the high-fidelity is the maturity. The high-fidelity are tested and accurate in terms of UI being ready to be developed

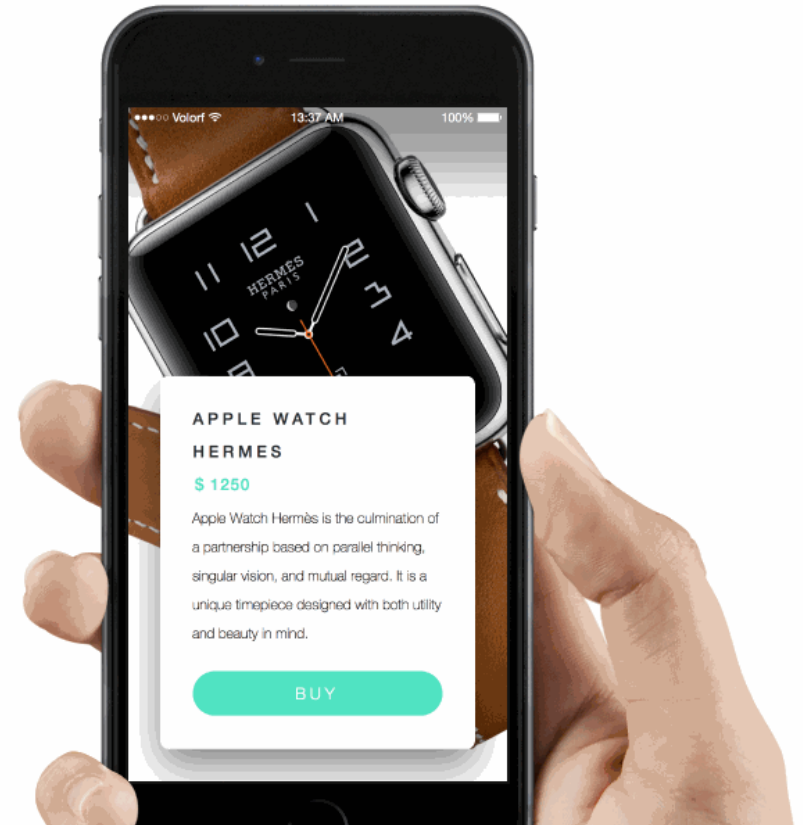
- Help to communicate what the final product to look like, keeping stakeholders aligned



# Craft – Design – Prototypes

Design with a focus on functionality, they help with:

- **Usability testing:** putting a working version on users' hands helps to understand if it is useable in an early stage.
- **Idea validation:** helps the team to work out exactly what is intended to achieve.
- **Collaborative designs:** Involving as many stakeholders as possible, helps to validate navigation, test the functionality, and focus on user flows.
- **Tempting investors/sponsors:** helps to prove that an idea is worth taking to the next step.





# User tests

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# Craft – Design – User tests

User testing allows to gauge the point of view of your customers aiding design revision.

Allows to see where the product falls short for the intended audience.

It tells where they get confused or frustrated.

## Usability Testing



# Craft – Design – User tests

**User testing** covers the entire range of user experiences a customer has includes all their perceptions, emotions, preferences, responses, and behaviors in response to that item, from when they obtain it to when they stop using it

**Usability testing** focuses on how and to what extent a customer uses your product to accomplish a specific goal. This plays a part in the user experience but is not the entire experience.

Usability testing is ideal during the early to mid-design phase of a product, prototype, or feature's life.

# Craft – Design – User tests

## User testing how?

- **Surveys** can be conducted to obtain accurate, quantitative data
- **Focus group**
- **A/B Testing** – this method split test subjects into groups and test different versions to determine preferences. Useful to understand which version best meets customers' needs, and better user experience. Also, useful to measure conversion rate changes

Can also be made user testing after developments have been started:

- **A/B Testing**
  - *example: splitting the traffic for 2 versions with the checkout button in different positioning on a screen*
- **Beta Testing** - great way to get a final approval/impact from customers before going to market.
  - *Normally done by a “feature flag”*

# Decision docs

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Design

## Craft – Design – Decision docs

Log of the decisions took along the way that explains the rationale so that can be iterated after if it is not generated the expected results.

Once consulted assumptions might be found and easily can be iterated to improve.

# Specify

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# Craft – Specify

## Goals?

- Translate business needs and solution in actionable items for engineers

## How?

- Flow charts
- Specifications
- Acceptance criterias



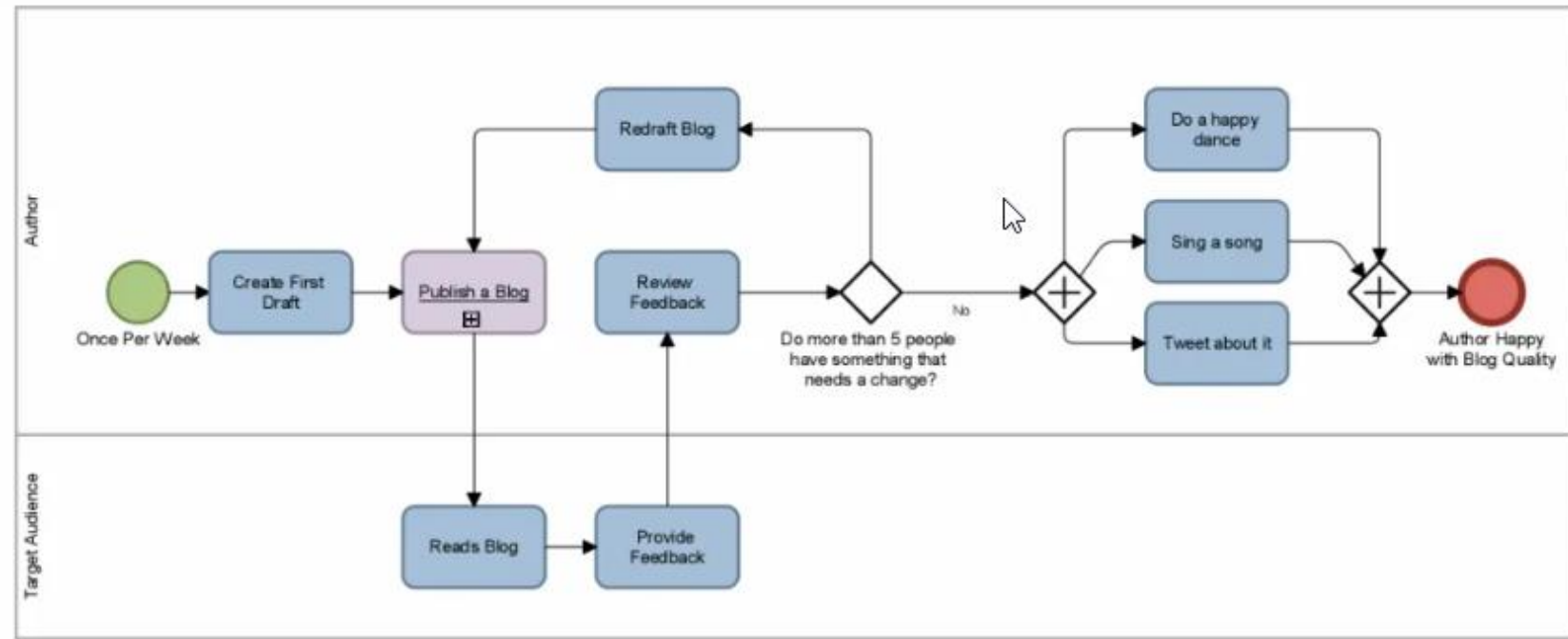
# Flow Charts

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Design

# Craft – Design – Flow charts

Flow charts helps to understand the data flow, creating a clear view for the information consumers



# Specifications

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Design

# Craft – Design – Specifications

**Specification** might have different formats and content, they should have all the information so that can be easily understood:

- **Summary** - outline of the product idea and gives a brief description to introduce the product and its overall concept
- **Business case** - benefits or advantages the product gives the company in the market
- **User stories** - short messages based on the product's end-user perspective
- **Functional specification** - describes the appearance and capabilities of the upcoming.
  - Data flows
  - High-fidelity mock-ups
  - Etc.
- **Important related links**

Once the specification is complete it **should be evaluated if**:

- It's complete
- It's consistent
- Describes what is intended
- Is measurable
- Is traceable
- Pre and post conditions are clear
- Others if there is any certification put in place.
  - Example if a company has a software with ISO 13485:2016, risk analysis is mandatory

# Acceptance criterias

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Design

# Craft – Design – Acceptance criterias

**Acceptance conditions** are the conditions that must be satisfied for the work to be accepted

- They can follow the scenario based-template:
  - Given (some given context or precondition),
  - when (I take this action),
  - then this will be the result
- Checklist

Acceptance criterias should be:

- Testable
- Leave no room for bad interpretation
- Clear and concise
- Understandable for everyone
- Provide user perspective

# Tech Strategy

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# Craft – Tech Strategy

## Goals?

- Design a simple and scalable technical solution

## How?

- Architecture diagrams
- Database diagrams
- API design



# Craft – Design – Tech Strategy

In this phase all the technical artefacts should be made:

- Architecture diagrams
- Database diagrams
- API design

This is out this class scope and it is taught on other classes of the course

# Templates

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# Templates

To manage all findings on the different phases it is very useful to track all knowledge into a single document.

For that using a template that will keep the conclusions of every investigation is extremely useful.

Such documents should always have:

- Document Owners
- Stakeholders
- Related documents
- Changelog
- Open points/actions
- Decisions

## Discovery template

- Problem/Opportunity Statement
- Supporting Evidences
  - Market Benchmark
  - Metrics (adoption, conversion, etc.)
  - Etc.
- Solutions
  - Solution alternatives with pros and cons
- Research plan
- Definition of success
  - KPIs, pricing, business model, expected results
- Constraints/Dependencies

## Craft template

- Functional requirements
  - User stories
- Non-functional requirements
- High fidelity designs
- Technical specifications
  - Solution alternatives with pros and cons
  - Interfaces, databases, API, impact analysis
- High level estimations
- Risks and Unknowns

# Disclaimer

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# Disclaimer

1. Depending on the product maturity there are some techniques that makes more sense than others
2. Depending on the product/company this techniques can potentially need to suffer mutations. Examples:
  - Example, new product that is going to replace as previous one and there are existing customers on the previous one.