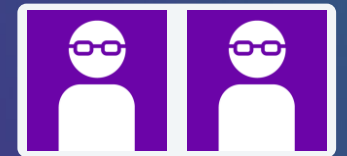


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UX and visualization design: Tips, tricks and best practices

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UI



Designing the Product

UX



Designing the Experience

Agenda

- Introduction
- UI/UX development overview
- Visual design guidelines

Design direction for effective and usable solutions

When starting a project, we need to start with as much information as possible



What problem are we solving?

How does it affect the user?

What are the requirements?

Is the delivery mechanism browser, mobile, on-premise, or all of these?

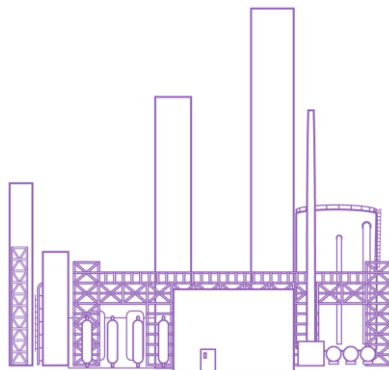
...

User experience

We want the user to experience consistency and predictability across the solution

What and Why

- Design guidelines are a set of principles and recommendations that are used to ensure consistency and best practices in the design of a solution.
- It is a common language used to communicate cohesively across different teams with the goal of building well-designed intuitive products
- It's important to apply design principles that ensure clarity, consistency, and ease of use.



Benefits

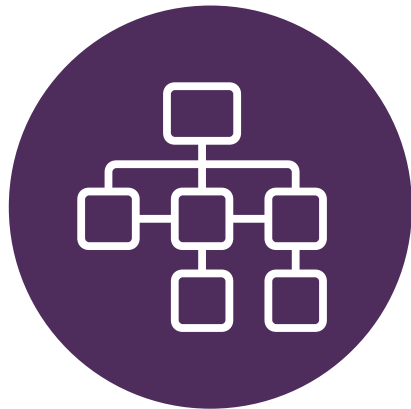
- Eliminate inconsistencies.
- Save time
- UI and visual consistency
- Behavioral consistency
- Increased design and development efficiency
- Reduced effort in maintaining multiple applications



Project development overview

Operational systems development can be divided into 4 key components

**Information
Architecture**



**User
Experience**



**User
Interface**



Development

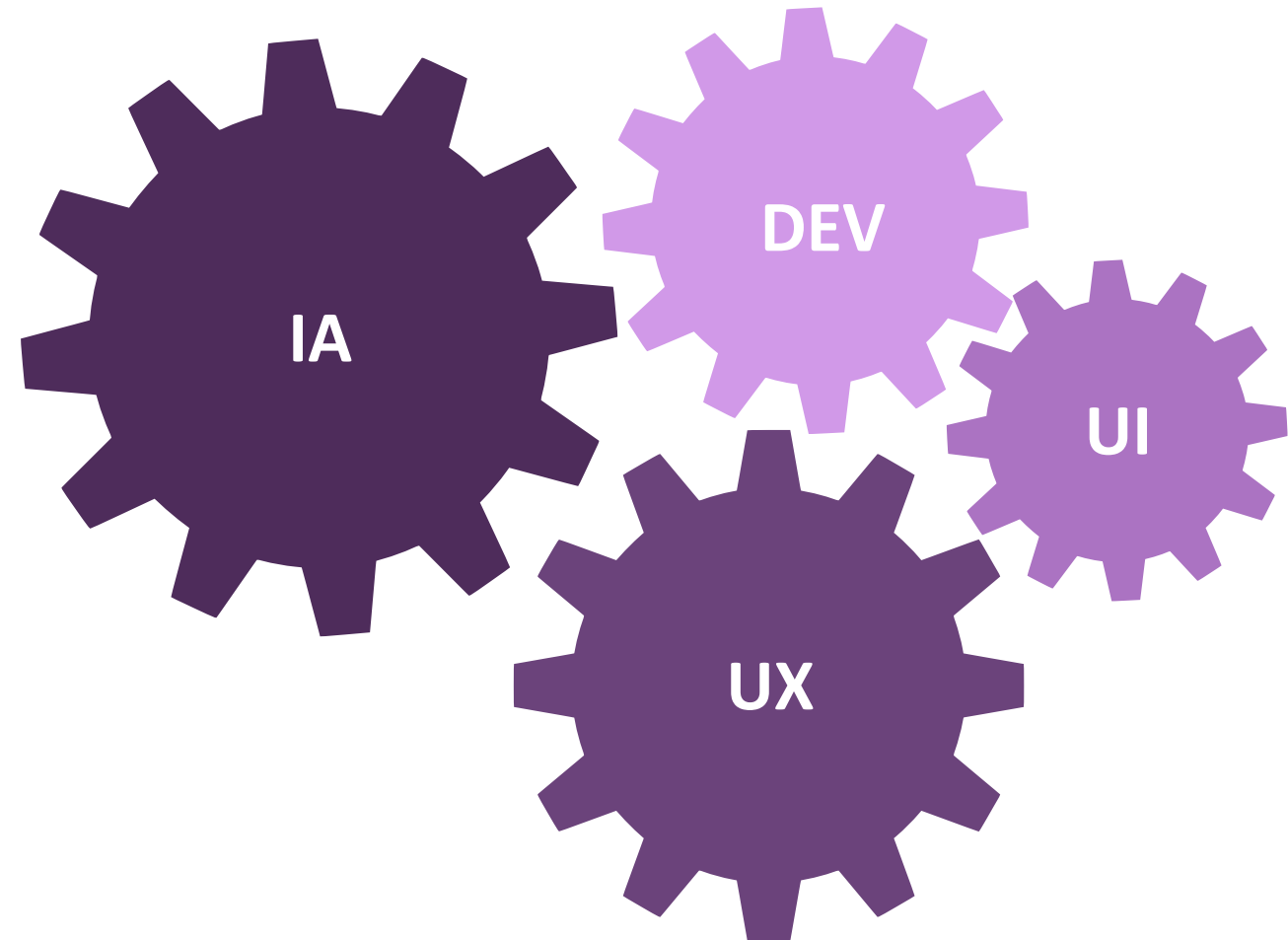


Project development overview

Collaboration

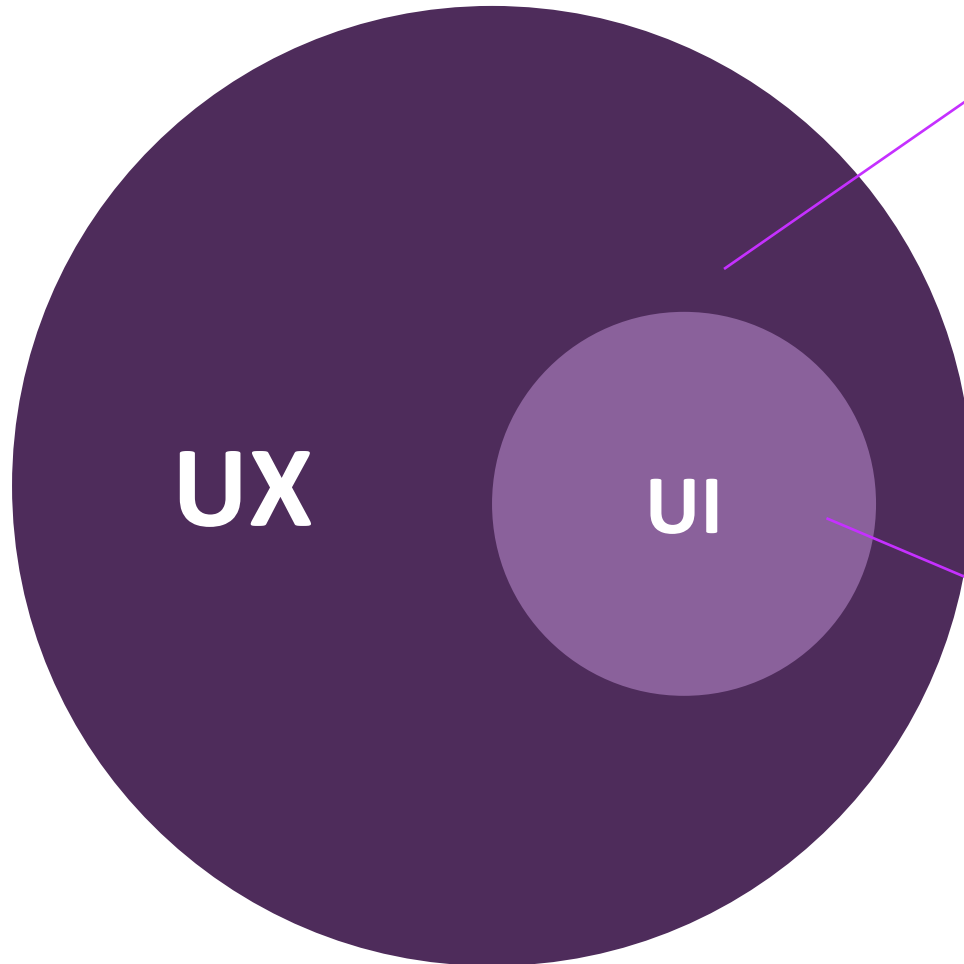
- The team collate the data gathering and resource handling as the very first task
- Once data handling has been confirmed, work can start on interpreting the findings by gathering User Personas, Information Architecture, product expectations, potential pain points, inspiration, and feedback.
- Development Team assess the feasibility of proposed ideas in alignment with both Information Architecture and UX.
- When alignment is achieved, the creation of style design and data visualization can be developed.

The role of UX is to be the bridge between all production streams as well as the customer



UX scale

UX encompasses UI



User Experience (UX)

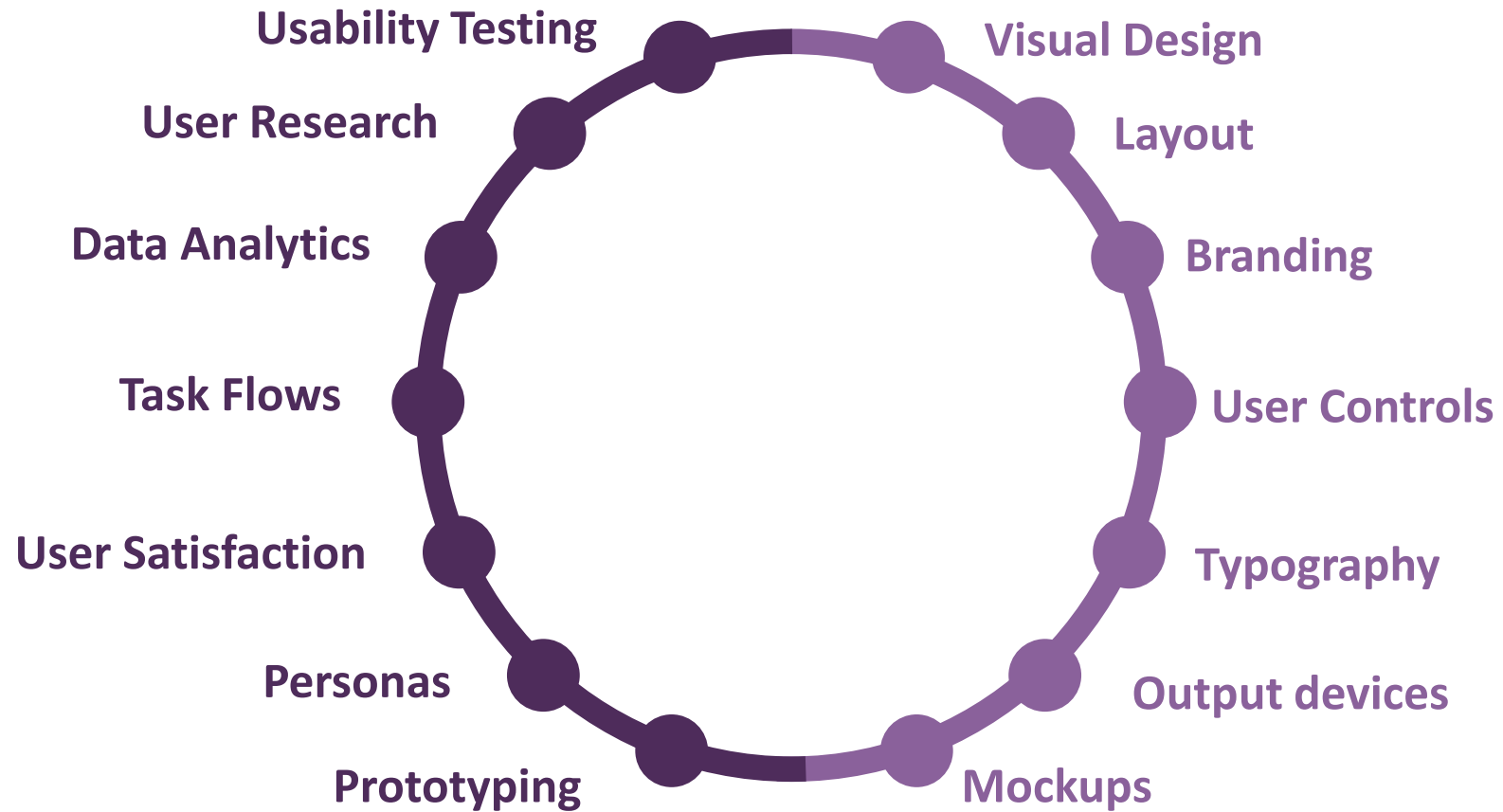
Provides the users' overall experience with the brand, product or service

User Interface (UI)

Provides interaction between users and computer systems, software and applications.

UX and UI

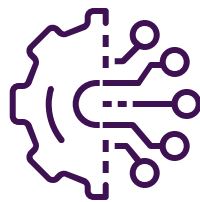
What is the difference



Design principles

Fundamental ideas about the practice of visual design

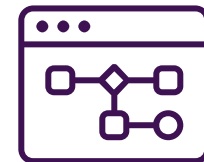
Give context



Keep it simple



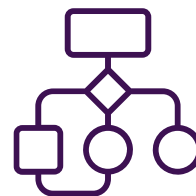
Don't lead users to a dead end.



Spend your time solving business problems.



Use the smallest number of user flows.



Enable users to anticipate the system.

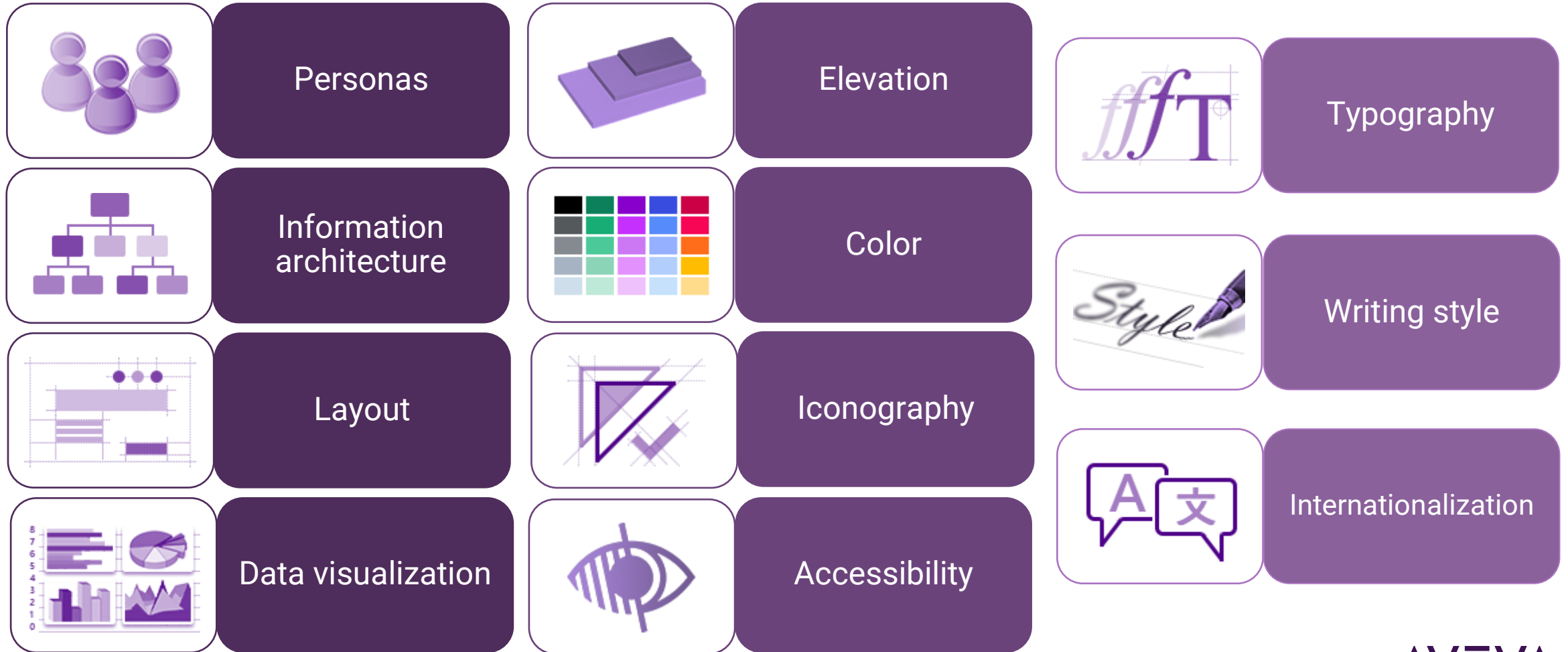


Rely on existing User Experience and User Interface conventions.



Foundations

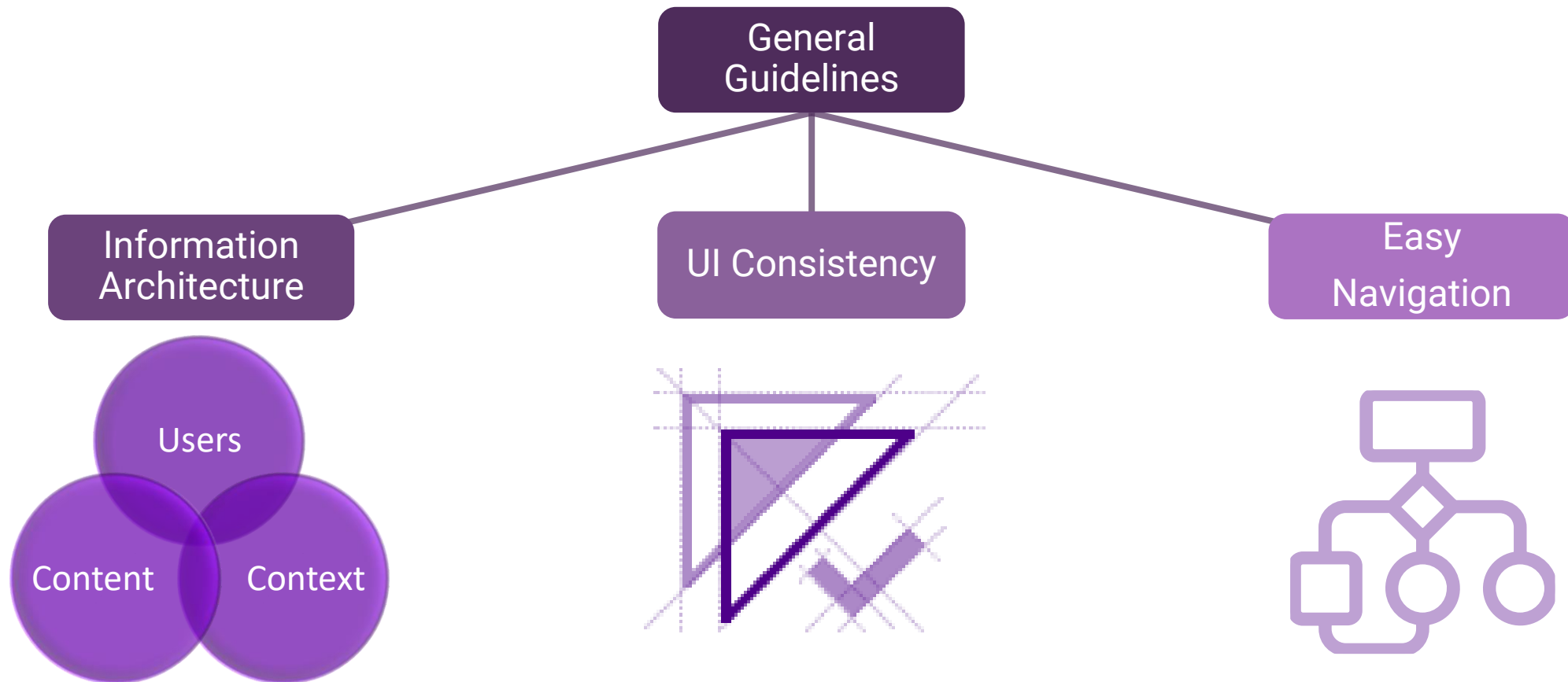
Common concepts to all design practices



UI/UX development overview

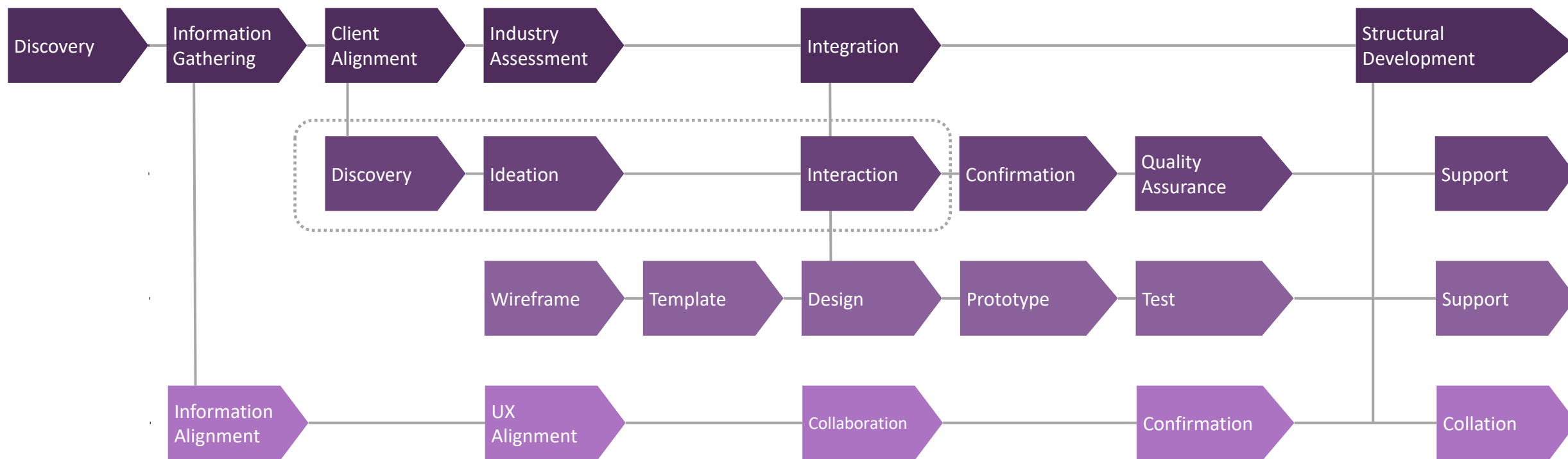
UI/UX design best practices

Create additional value in the solution by reducing user fatigue, by reducing clutter, creating consistency, building alignment and balance in the displays and making things easy to find.



Project development process


4 main streams of productions



UX process

3 fundamental steps

1




Understand

To align with the customers' needs and establish the challenges

Discovery

2



Formulate

To interpret the data integration type and form into visuals

Visual Development

3



Validate

To initiate a design that addresses all requirements from the customer

Implementation

UX process

1



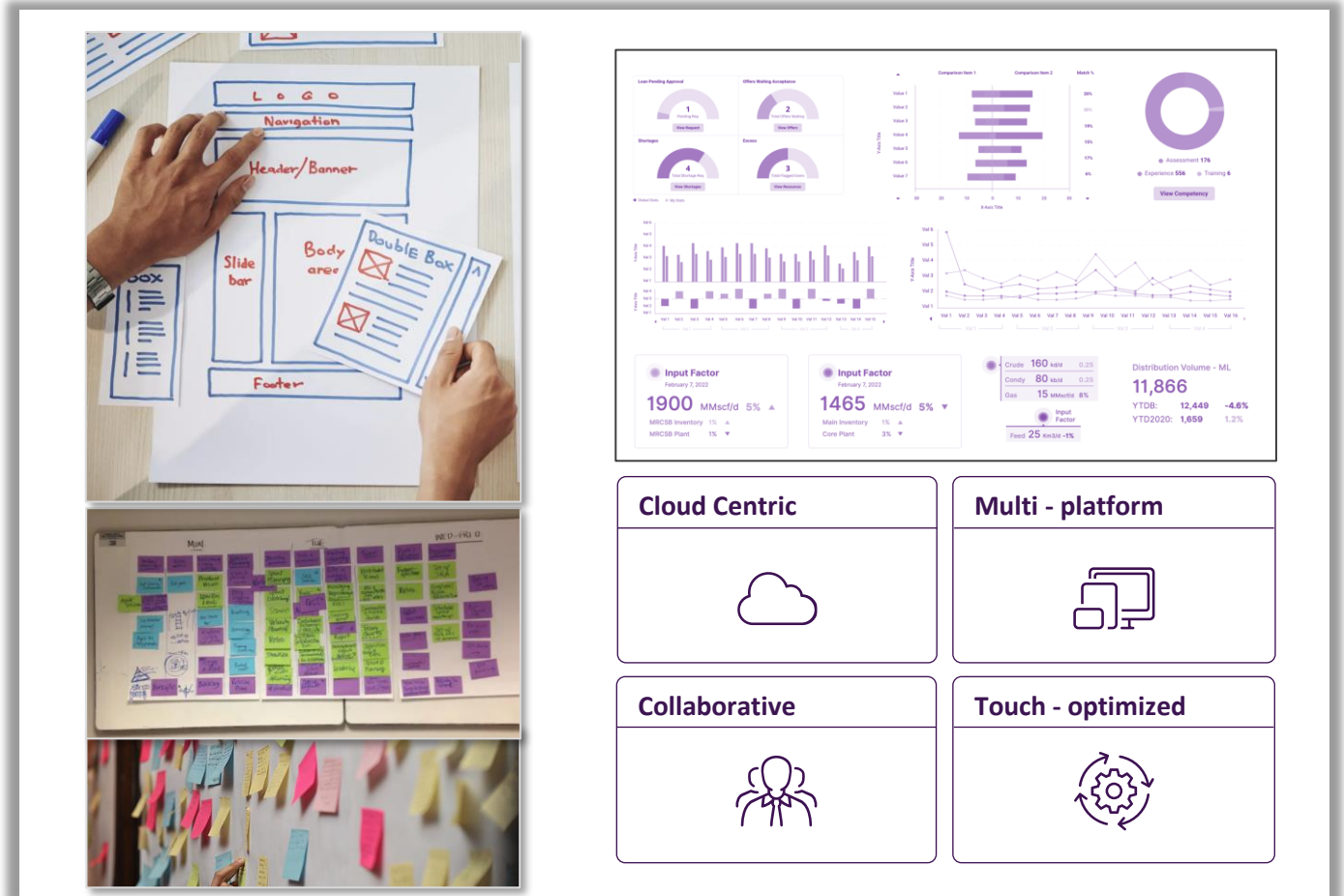
Understand

Method

- Gather Stakeholder requirements
- Interview End Users
- (Voting sessions / Surveys)
- Inspiration for Data Visualisation Types
- Establish constraints

Tools

- Figma
- Mural
- Power Point



Cloud Centric

Multi - platform

Collaborative

Touch - optimized

UX process

2



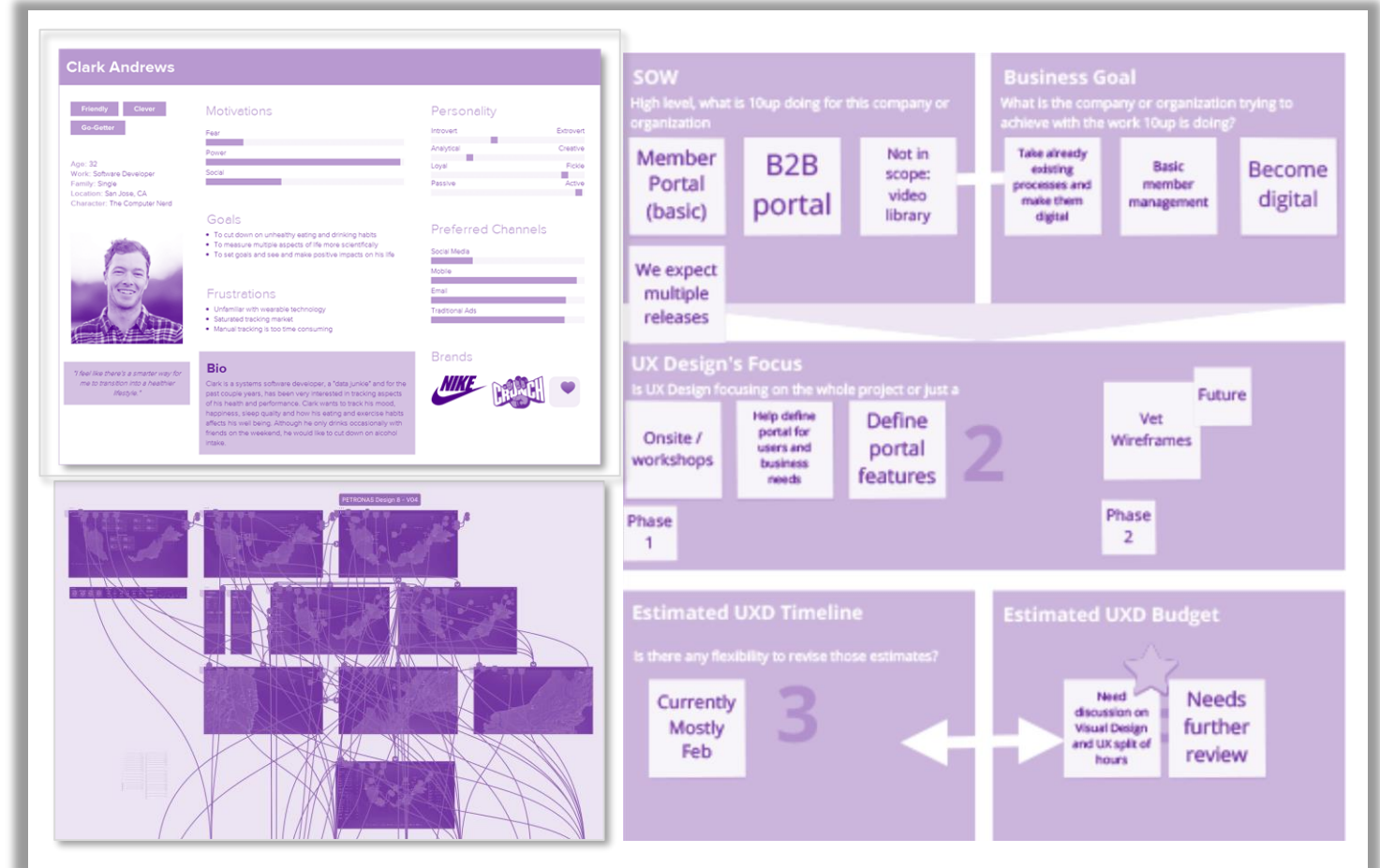
Formulate

Method

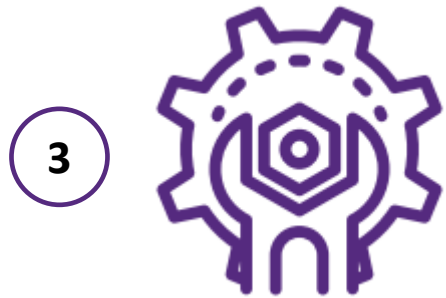
- Analyse findings
- Outline Work Domain
- Develop User Personas
- Devise User Flows
- Discuss concepts

Tools

- Mural
- Figma
- Adobe Photoshop
- Adobe XD



UX process



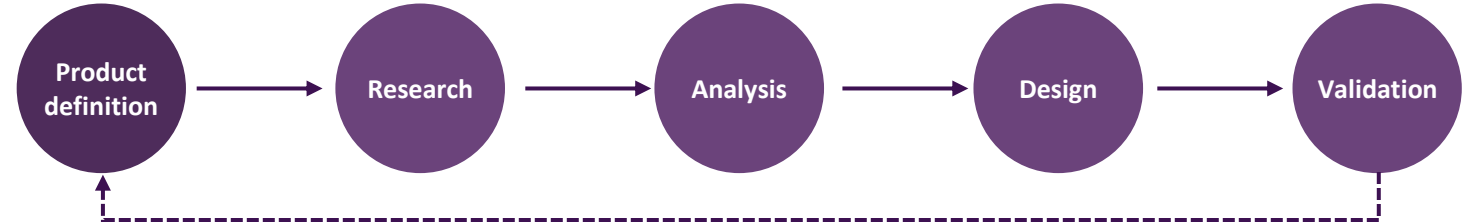
Validate

Method

- Present options
- Share prototypes
- Gather feedback
- Input realistic data
- Revisit steps as necessary

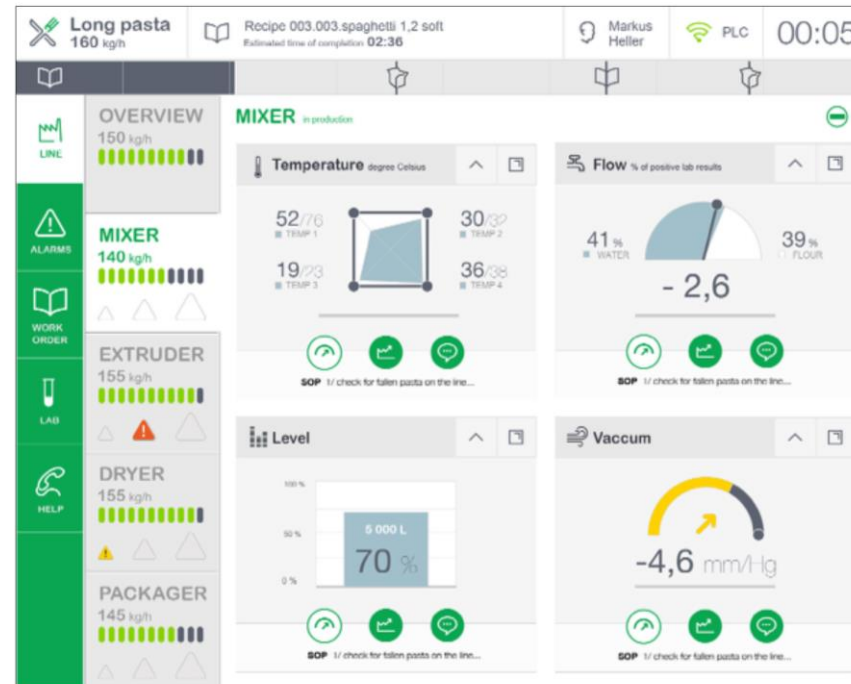
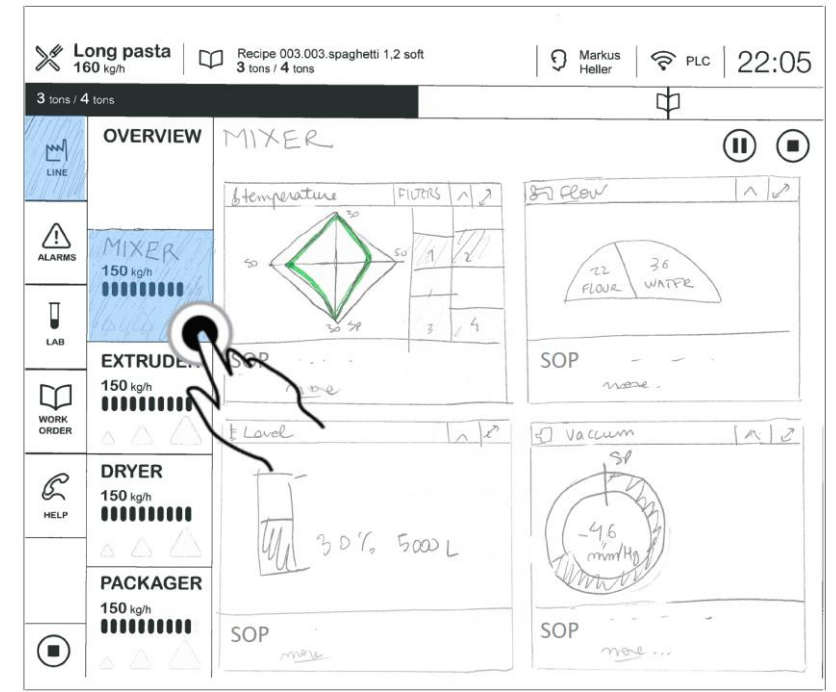
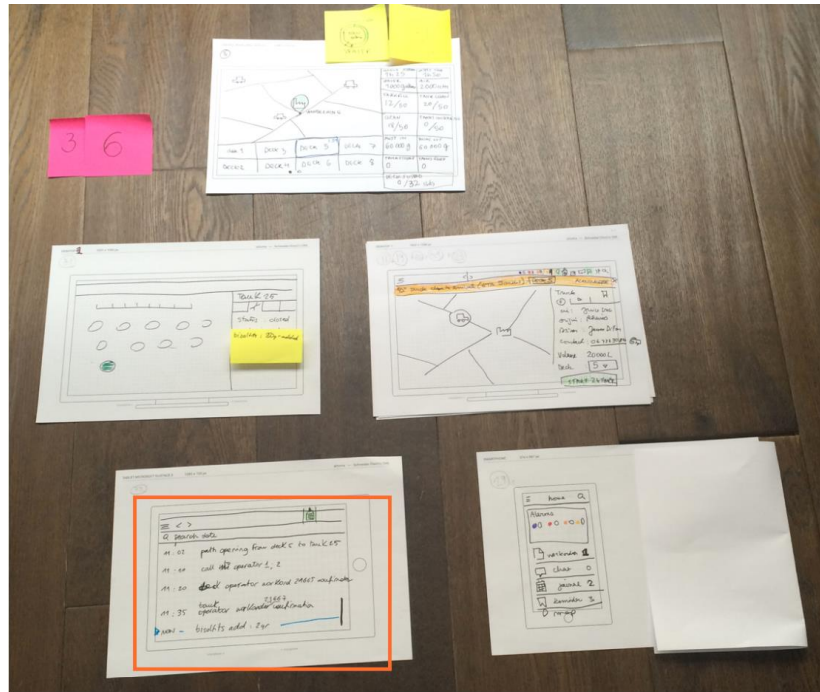
Tools

- Mural
- Figma
- Adobe Photoshop
- Adobe XD



UX process

Example



User modelling

Feedback from the end user through the 3 key processes

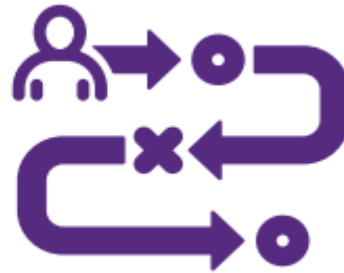
1

User Personas



2

User Journeys



3

User Testing



User modelling

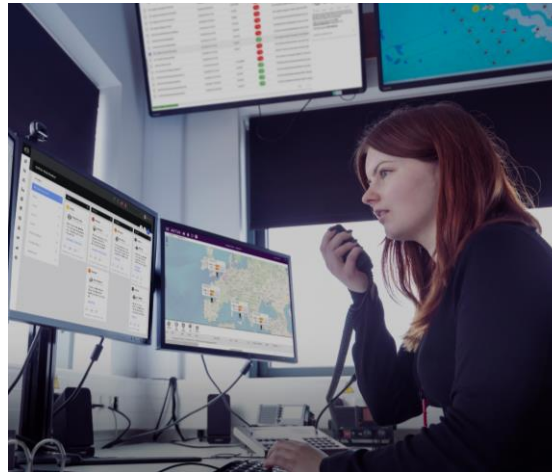
A User Persona is a semi-fictional character based on the current (or ideal) customer.



Operations and
Maintenance



Subject Matter Experts



Casual Users and
Business Management



Navigation model

The navigational model must be created before the navigation can be implemented

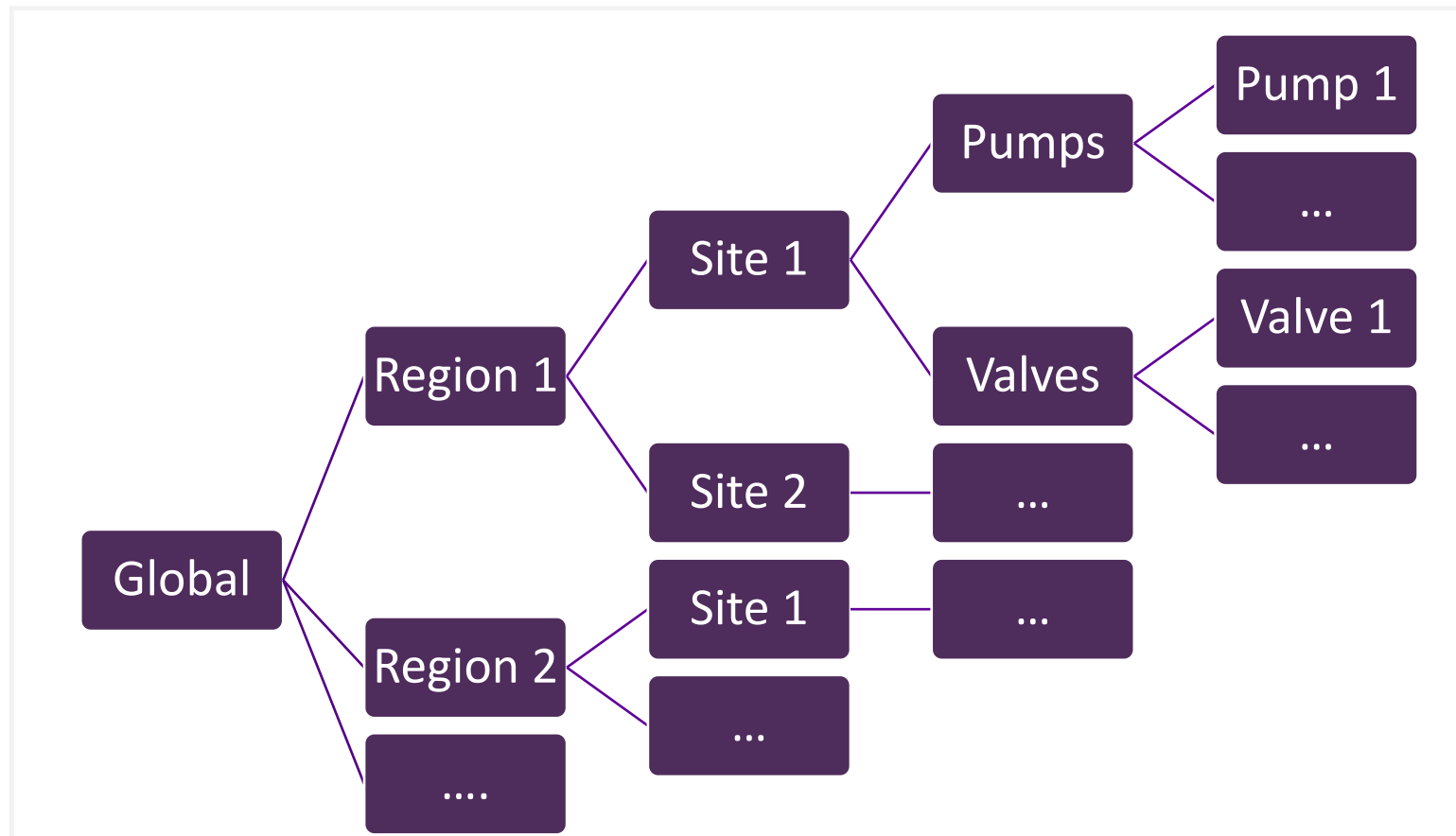
- The asset model is key to defining the navigation hierarchy for the solution and presenting KPIs and Visualizations at the appropriate level of the model in context.
- The model could be Geographic, asset based, or process based. There are multiple types of Navigation models

1 - Asset model

2 - Action-based model

3 - Process model

...



Navigation model

The navigational model must be created before the navigation can be implemented

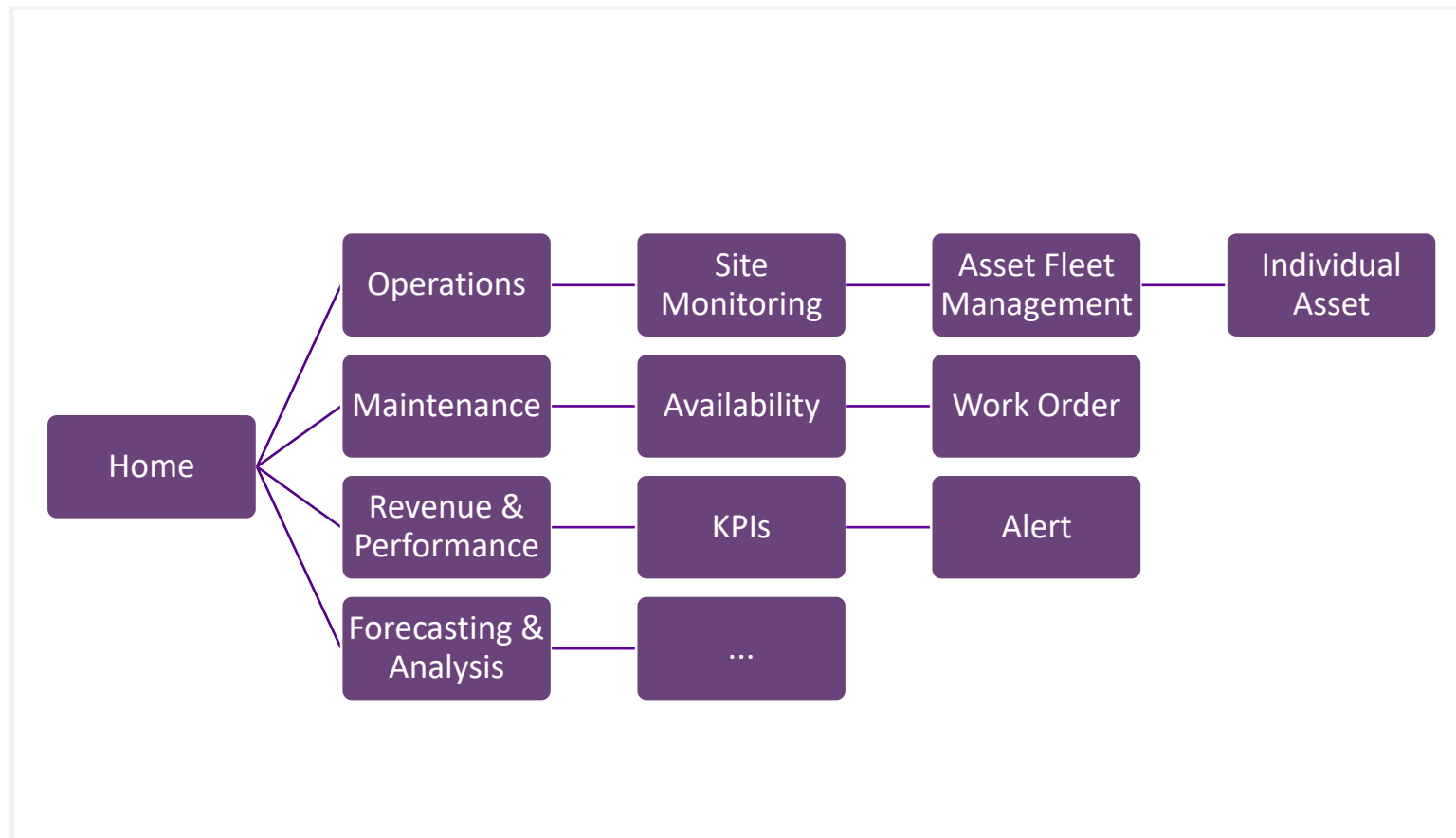
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Navigation model

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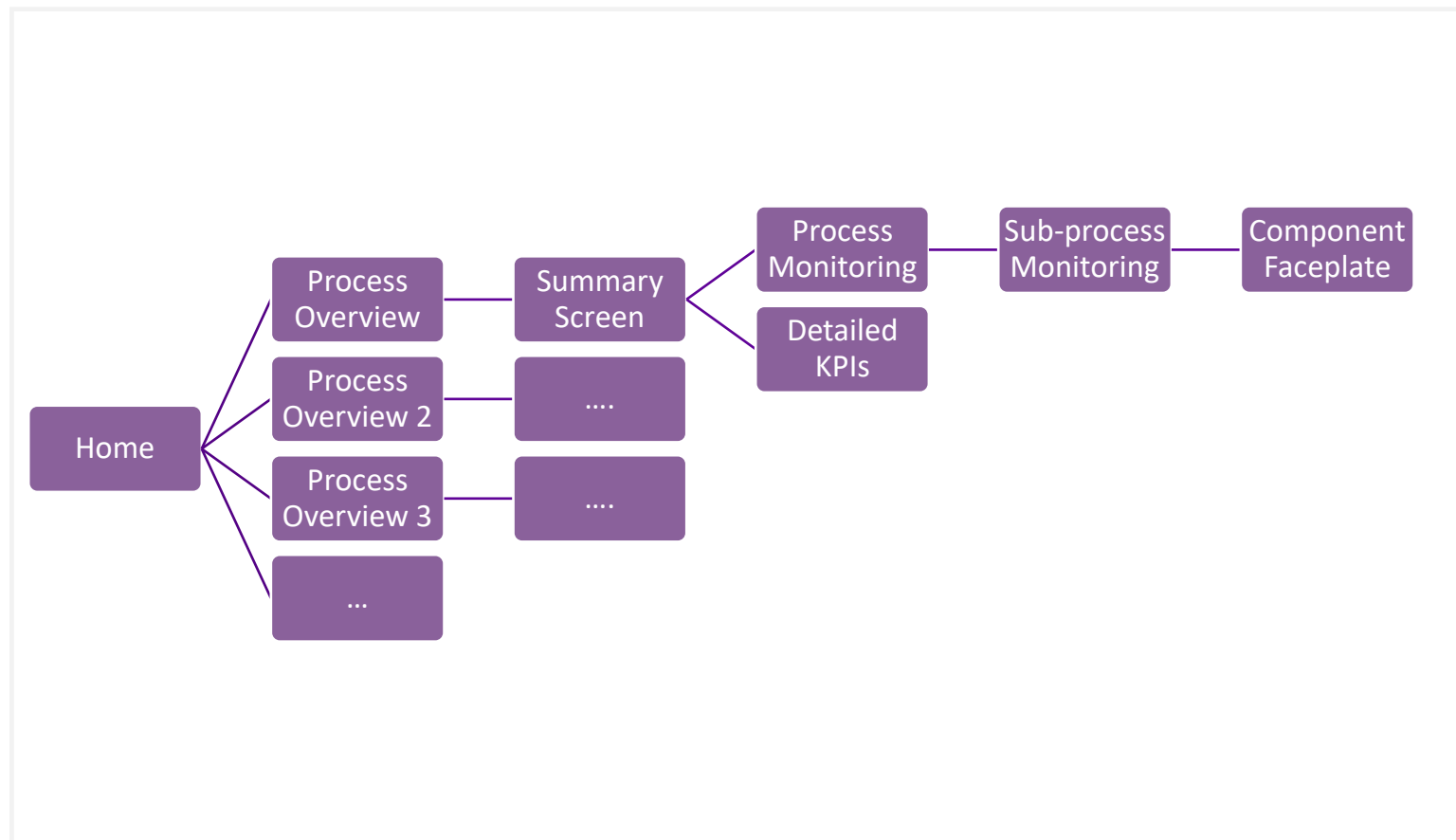
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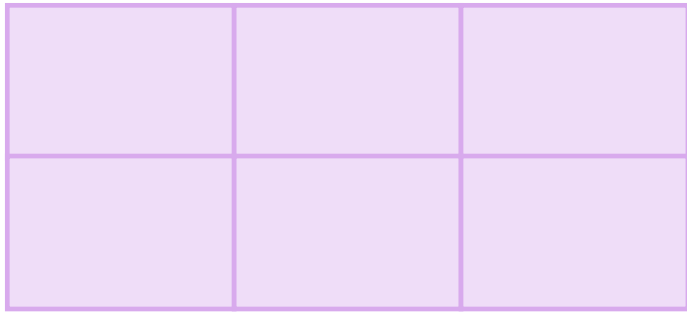


Visual design guidelines



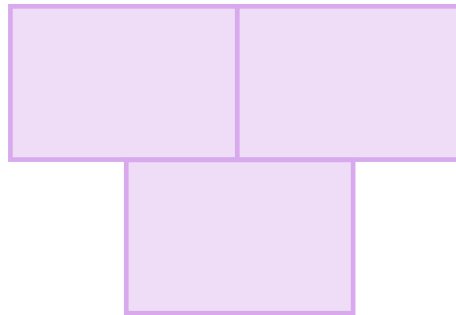
Type of Displays

Command Center



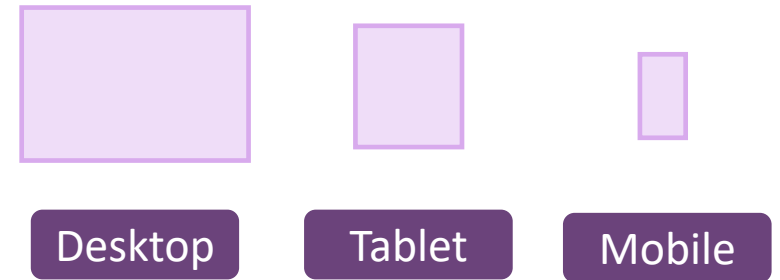
Large Structured Team

Remote Operations Center



Subject Matter Experts

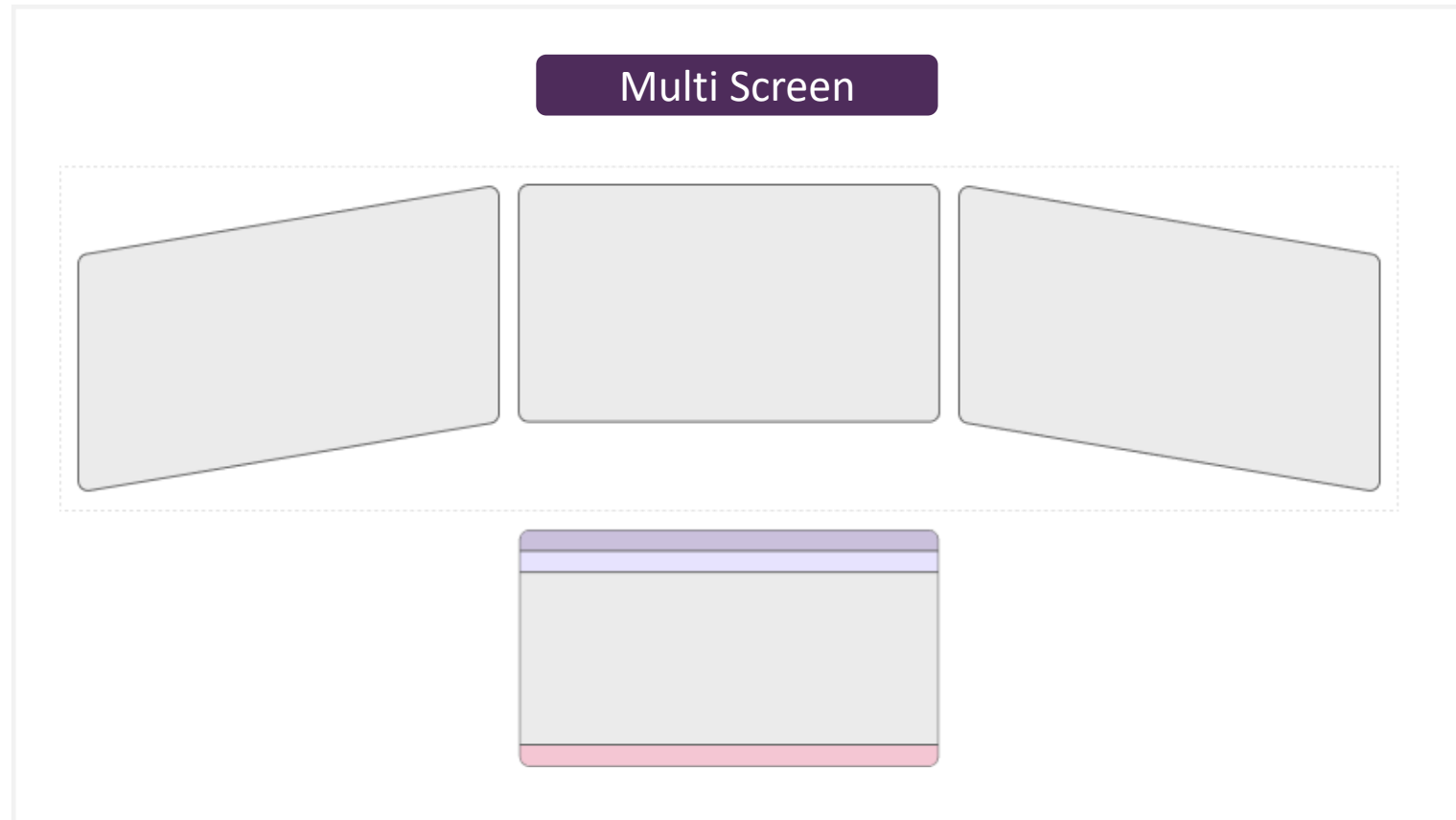
Casual User



Individual Contributor

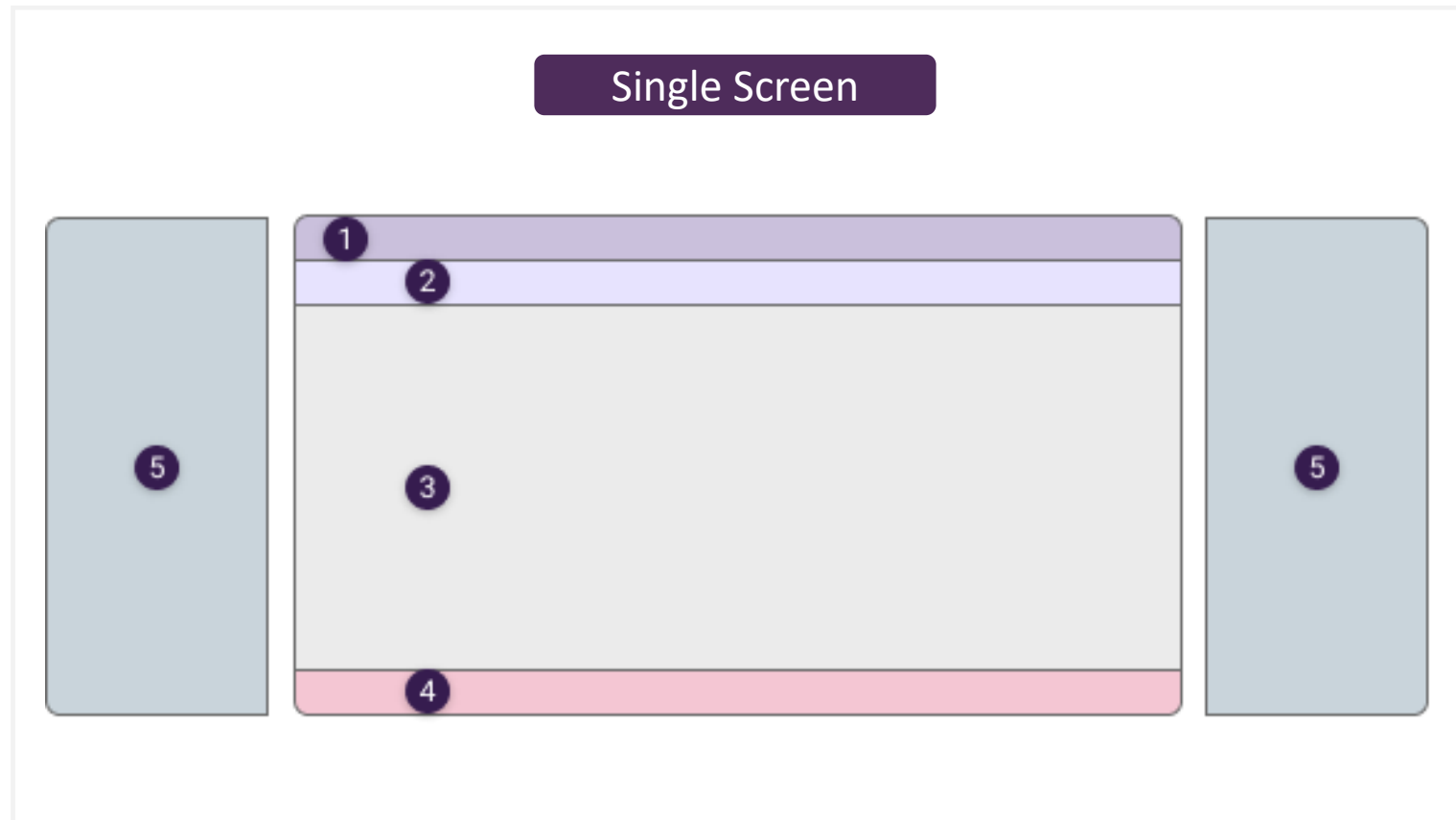
Different Layout Structure

- 1 Header
- 2 Navigation Bar
- 3 Body
- 4 Footer
- 5 Side Panels
- 6 Navigation Footer (Mobile only)



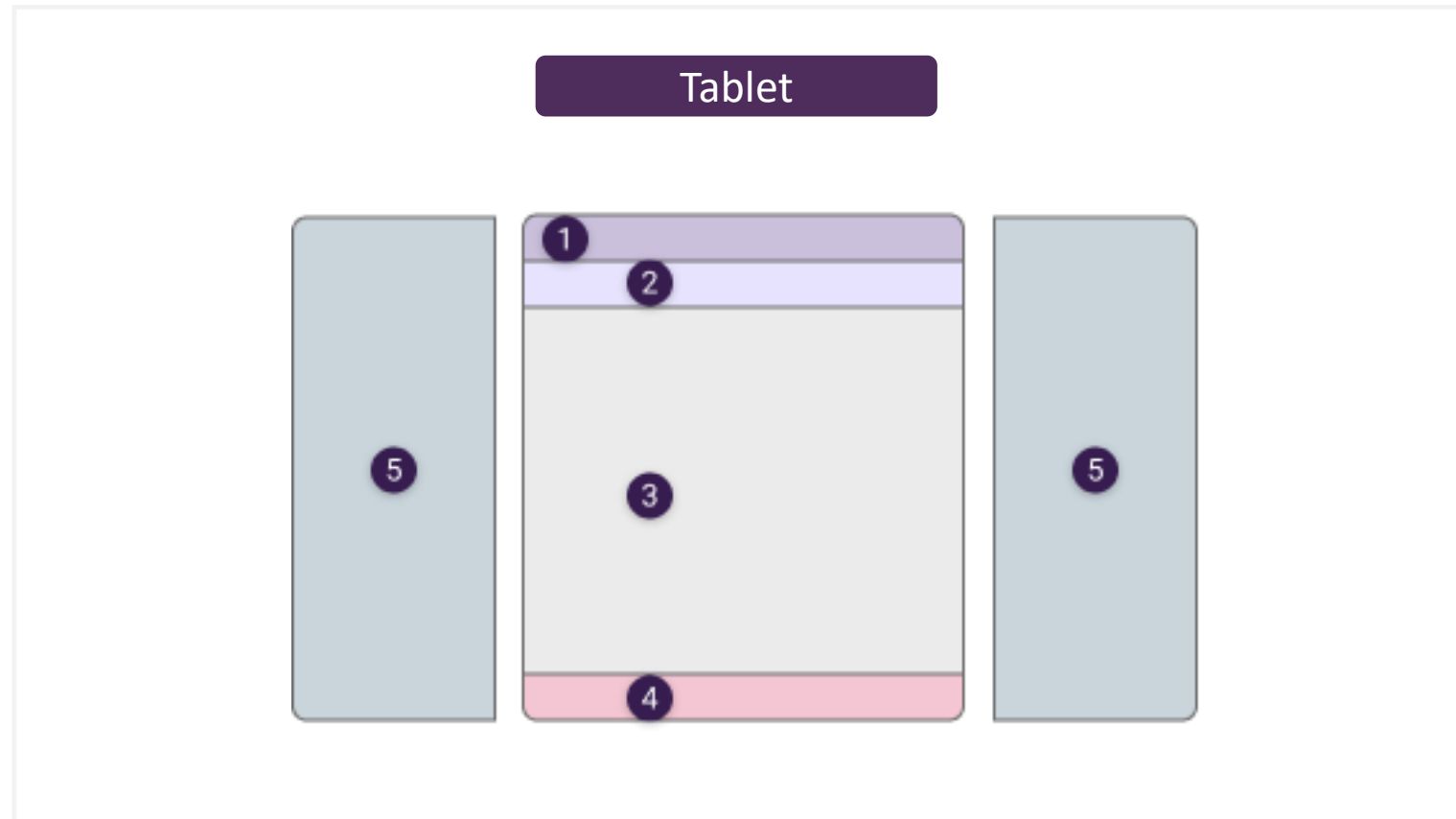
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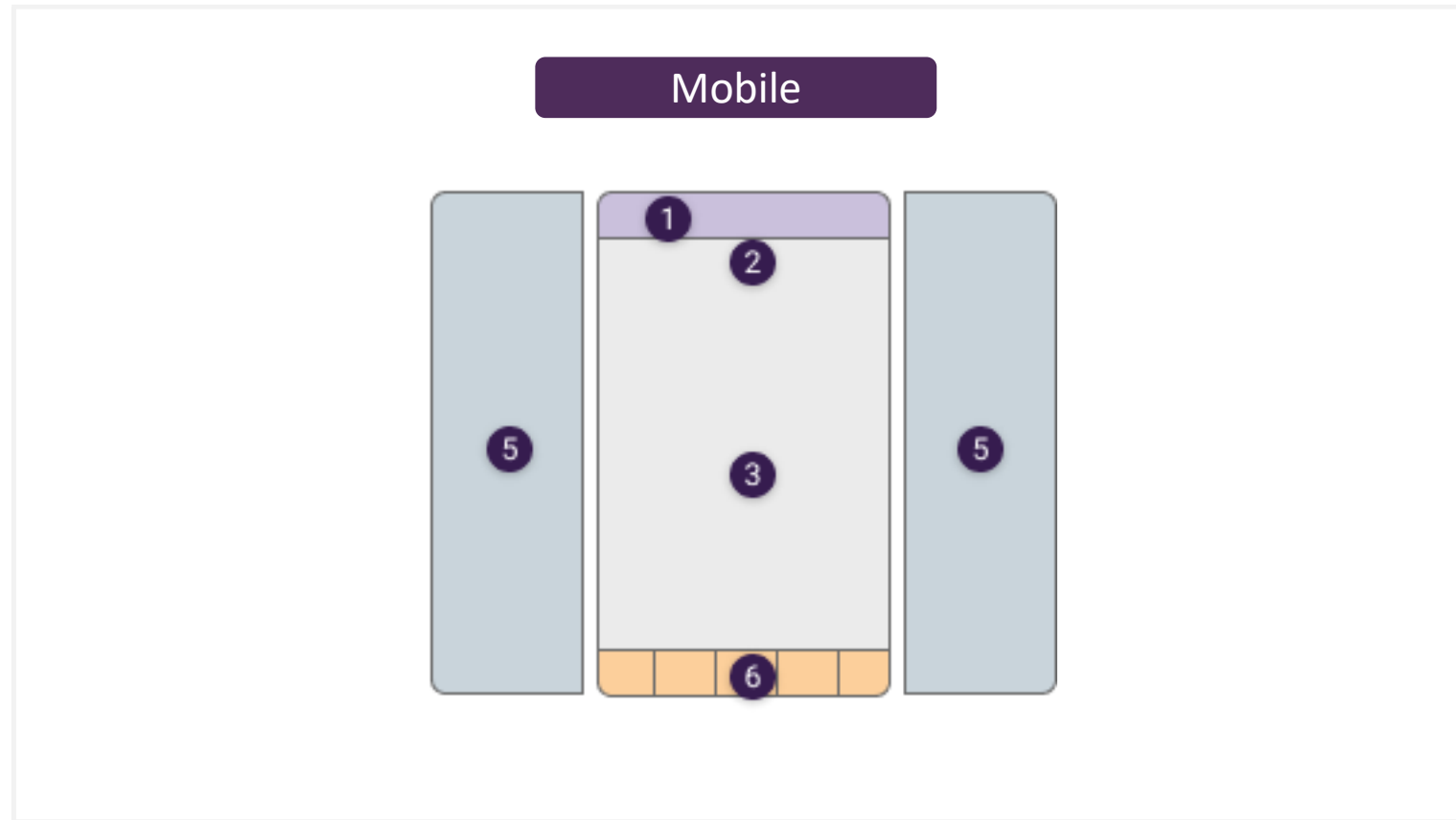
Different Layout Structure

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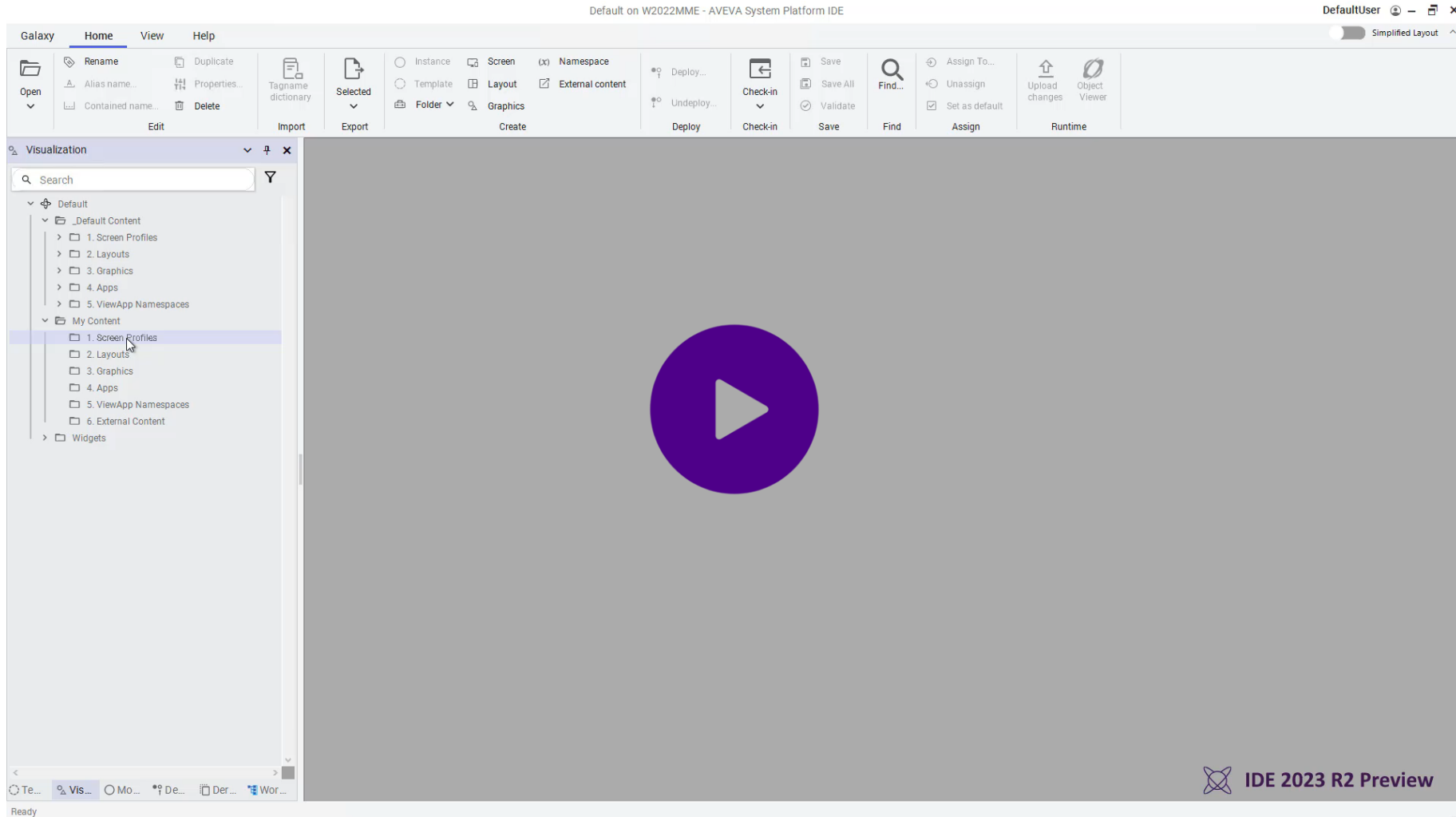


Different Layout Structure

- 1 Header
- 2 Navigation Bar
- 3 Body
- 4 Footer
- 5 Side Panels
- 6 Navigation Footer (Mobile only)



Screen profiles and layouts (video demo)



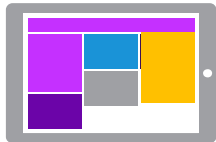
Form factors

The design was always to focus on supporting all form factors

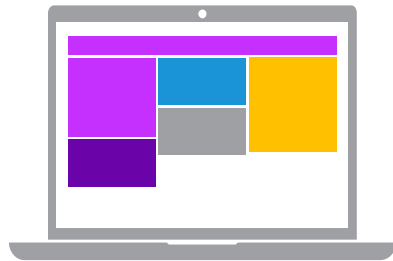
Mobile



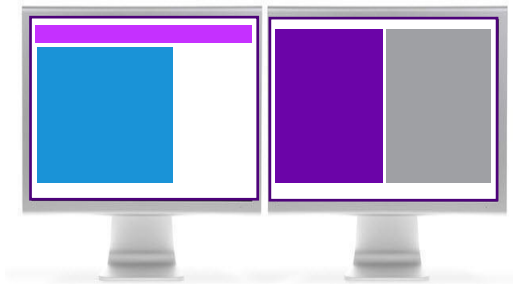
Tablet



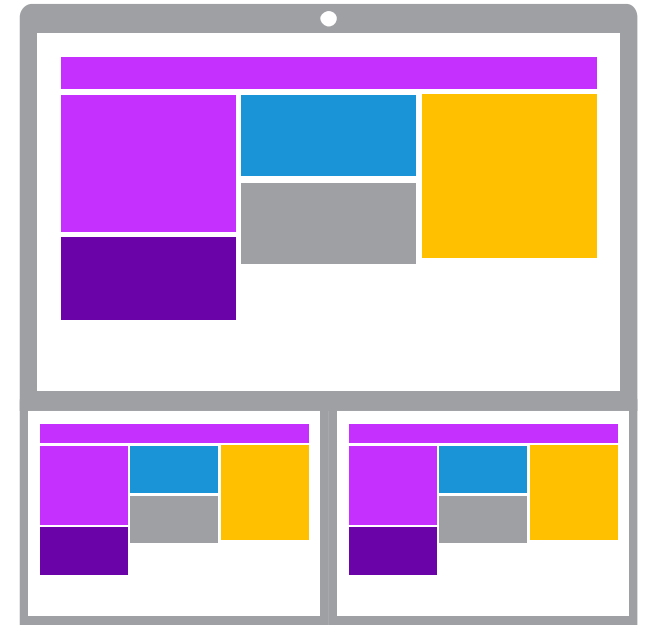
Laptop



Dual

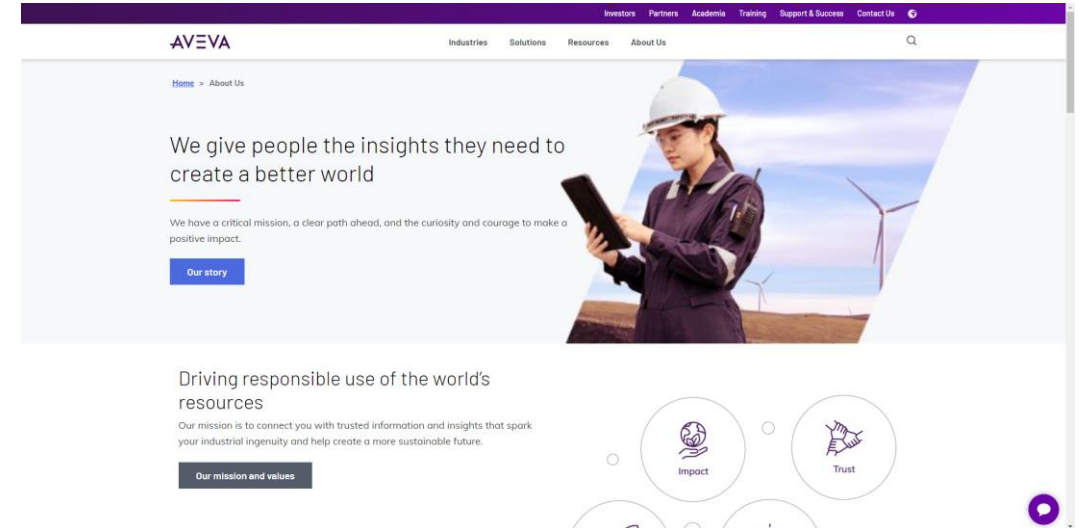
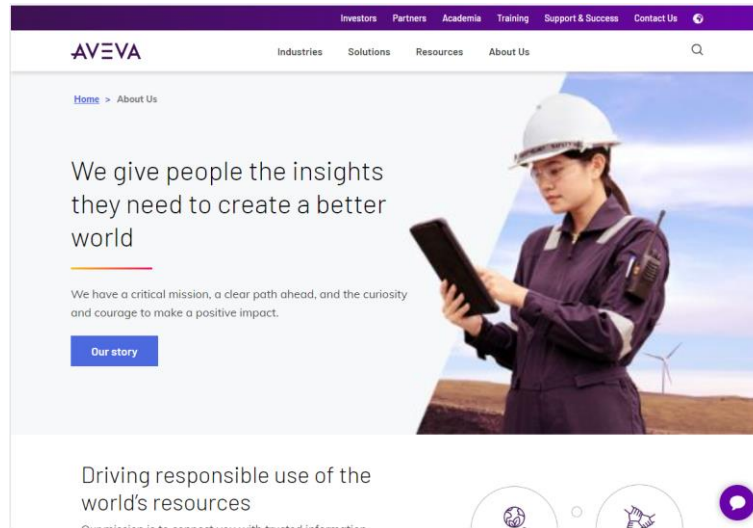
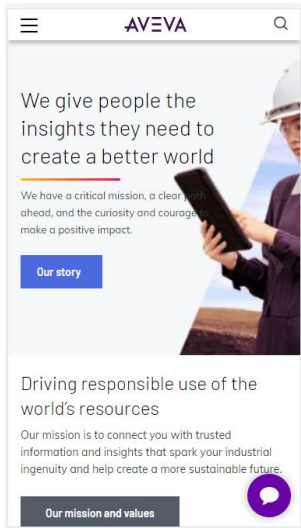


Video Wall



Use a design for each form factor.....

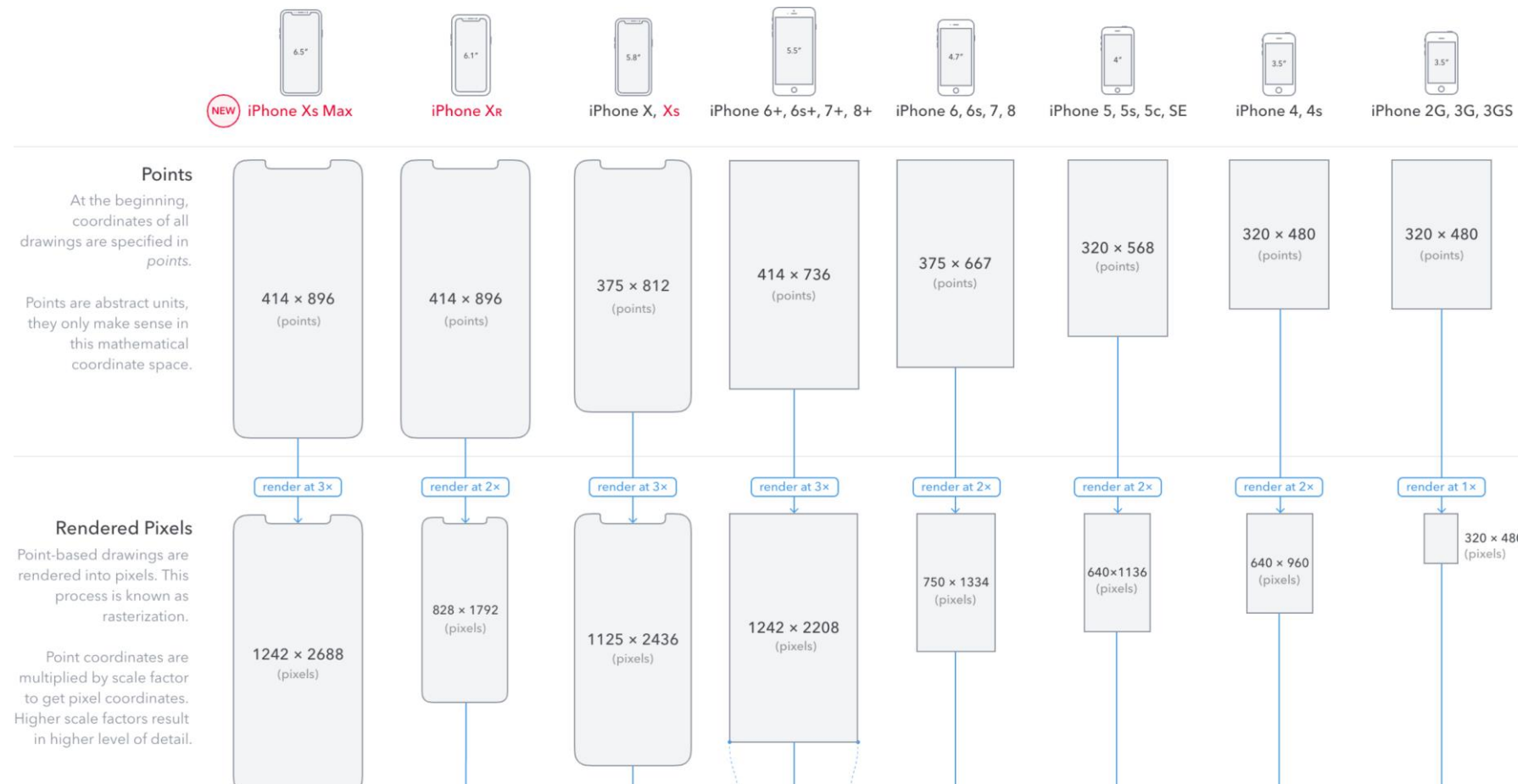
Typically there are three formats: Phone (portrait), Tablet (landscape) (optional), Desktop (Landscape) Single Screen.



- If you are familiar with website design - every website has this.

Understanding pixel density

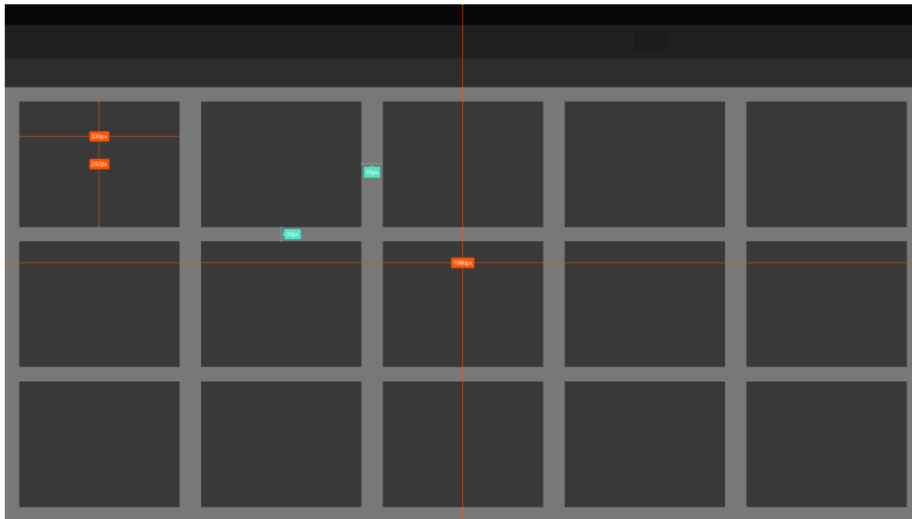
In general, phones compensate for different screens - so you design in one size, the phone then uses a multiplication factor to use pixels



How to accomplish...

Create design frames

Desktop



1920/1080

Top bar: 1920 / 44 px

Awareness bar: 1920 / 70 px

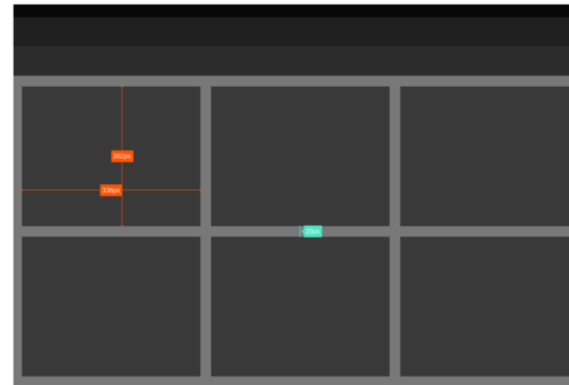
Navigation bar: 1920 / 60 px

Block: 336 / 262 px

Gutters: 45 px

Gutter high: 30 px

Tablet



1080/720

Top bar: 1080 / 24 px

Awareness bar: 1080 / 55 px

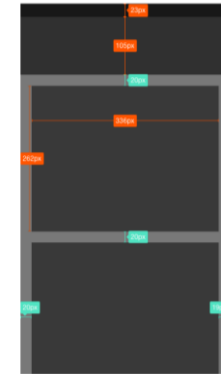
Navigation bar: 1080 / 55 px

Block: 336 / 262 px

Gutters: 20 px

Gutter high: 20 px

Phone



375/667

Top bar: 375 / 23 px

Awareness bar: in the menu

Navigation bar: 375 / 105 px

Block: 336 / 262 px

Gutters: 20 px

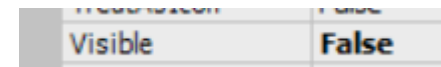
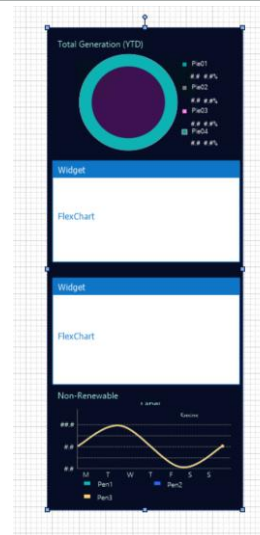
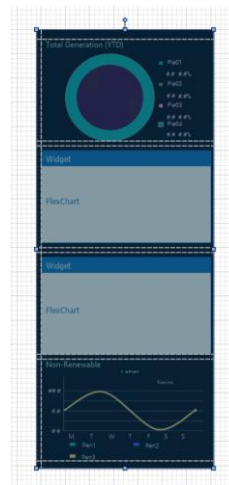
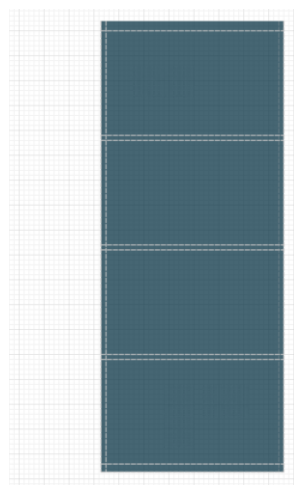
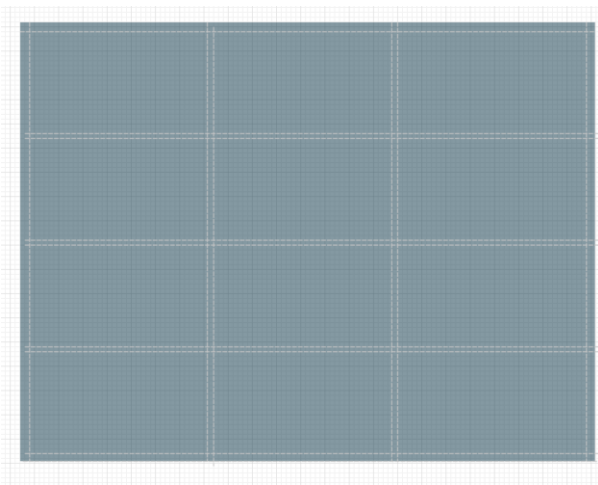
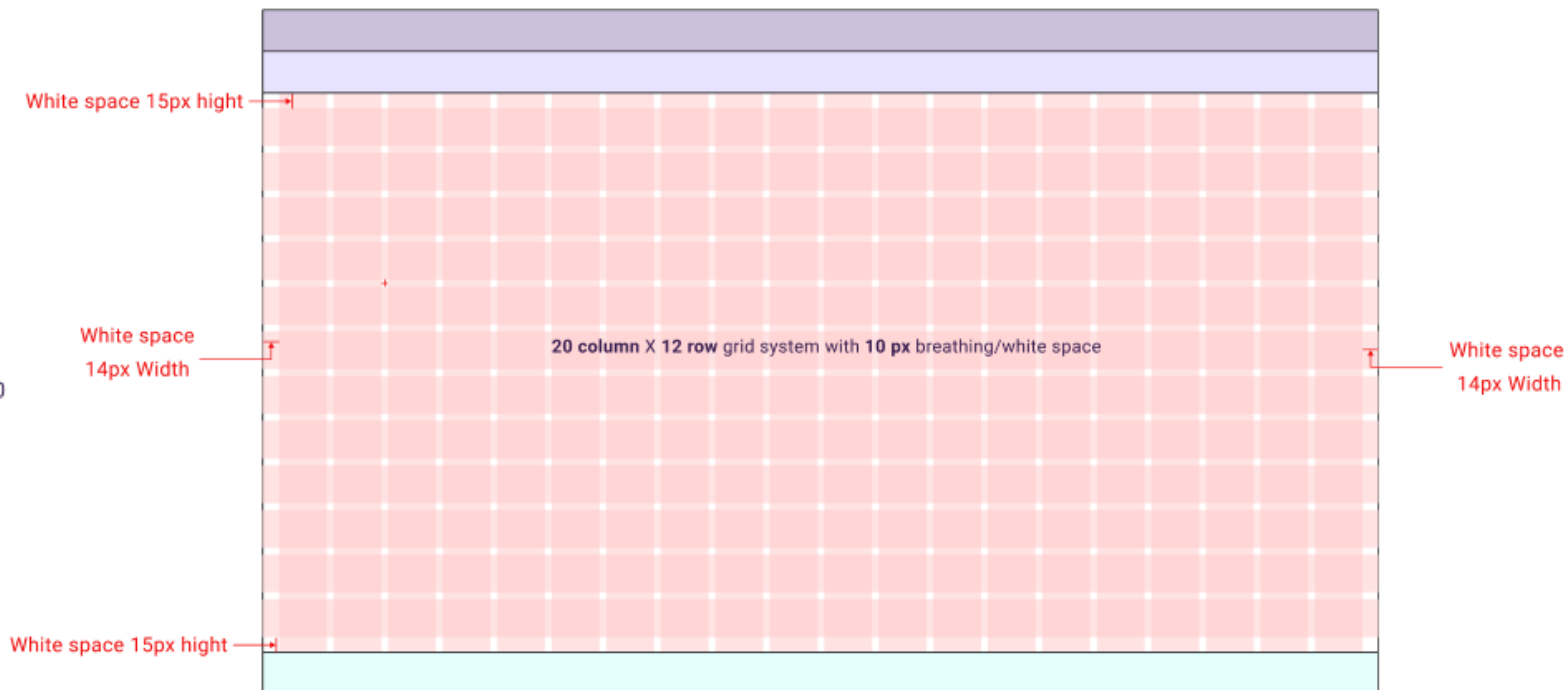
Gutter high: 20 + 19 px

Design grid

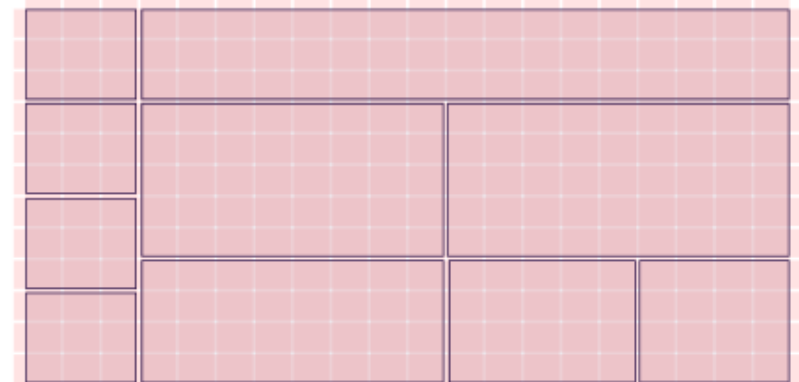
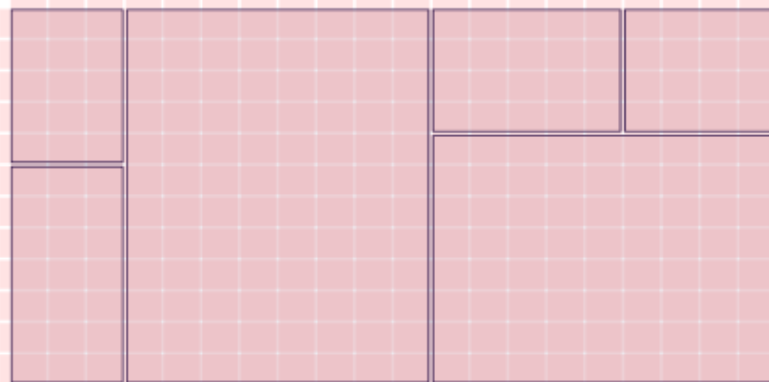
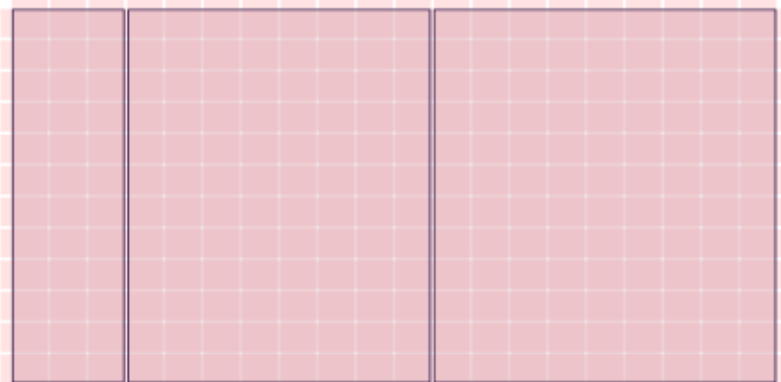
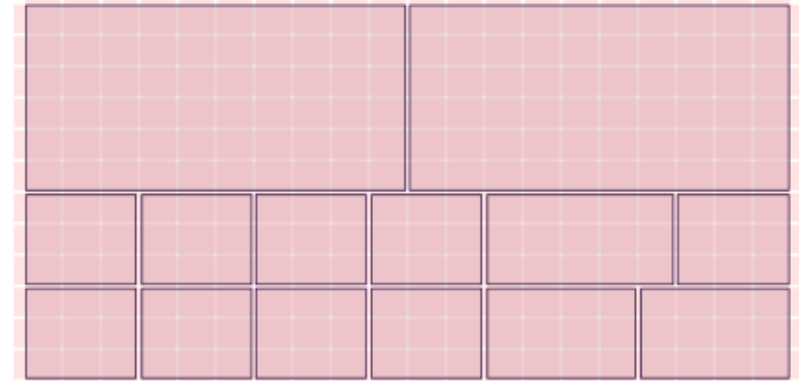
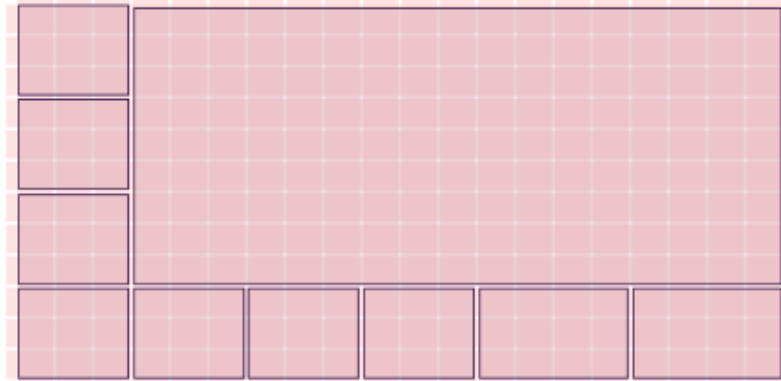
Layout size

1920 (W)x 1080 (H)

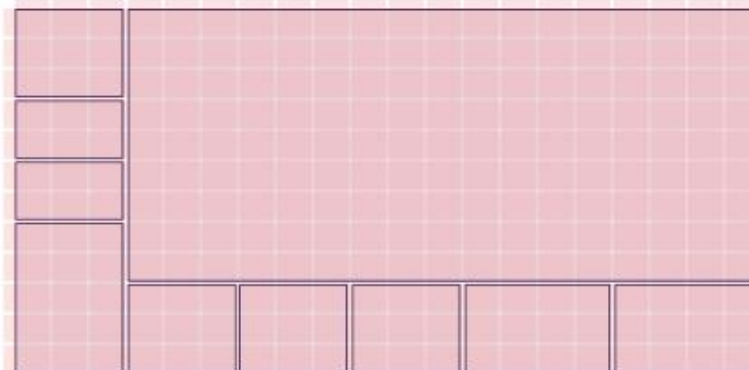
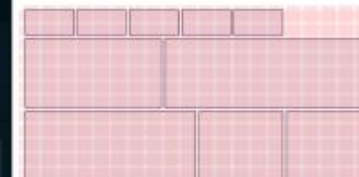
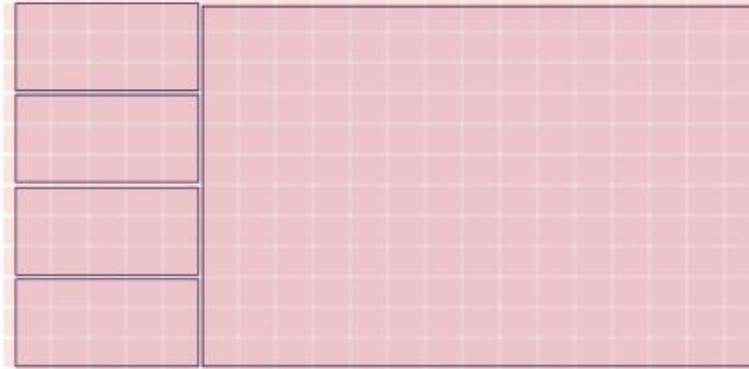
- 1 Header 1920 X 50
- 2 Navigation Bar 1920 X 50
- 3 Body 1920 X 930
- 4 Footer 1920 X 50



Body grid layouts (examples)



Single screen examples



Reusability & standardization



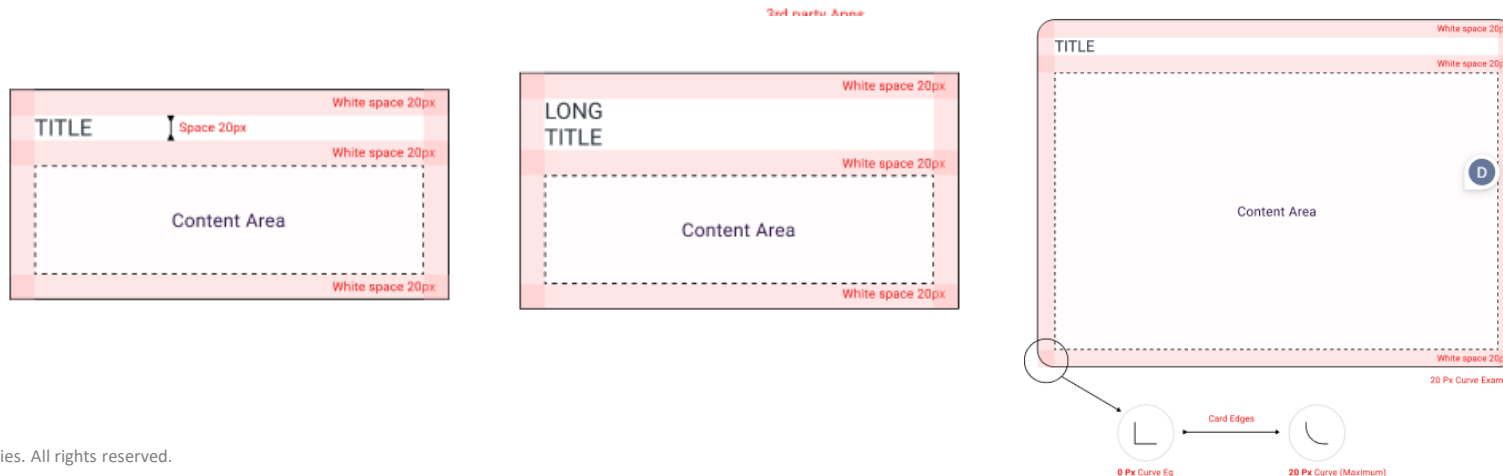
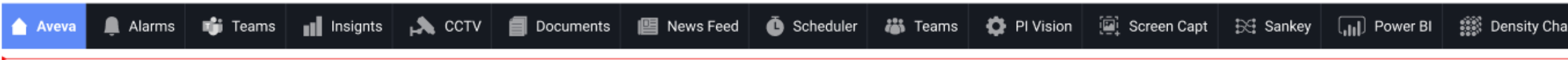
1 Header



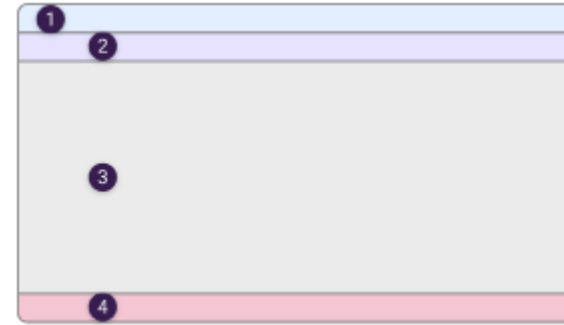
2 Navigation Bar



4 Footer



Reusability & standardization



1 Header



2 Navigation Bar



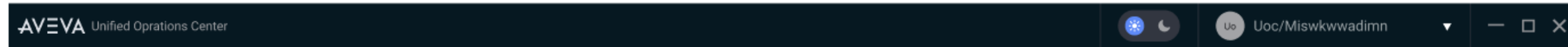
4 Footer



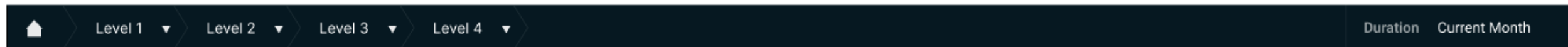
Reusability & standardization



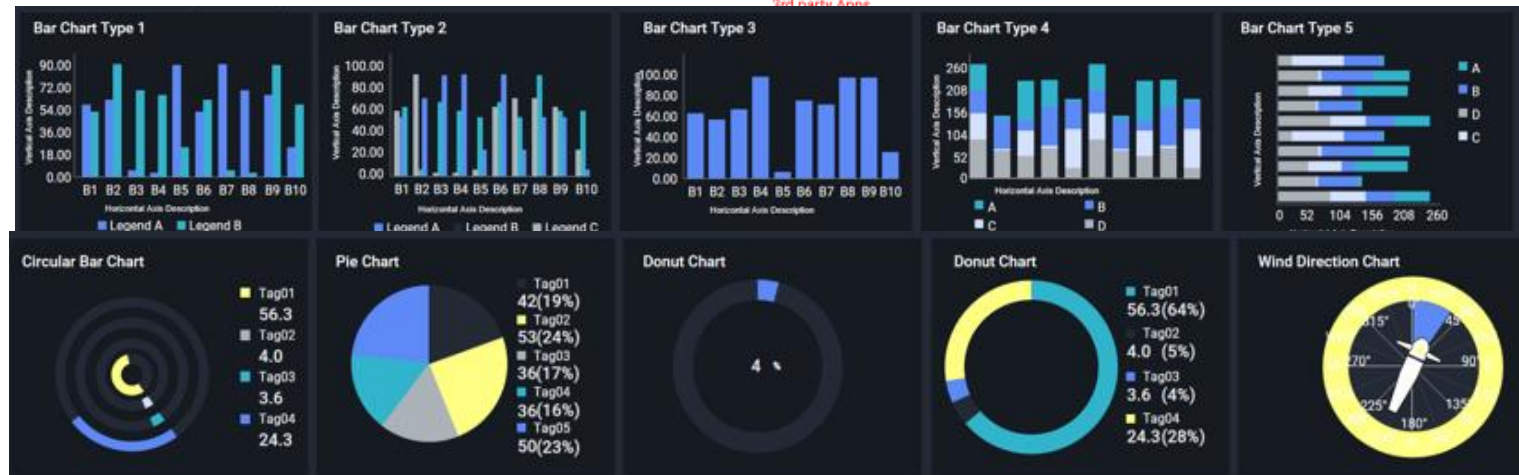
1 Header



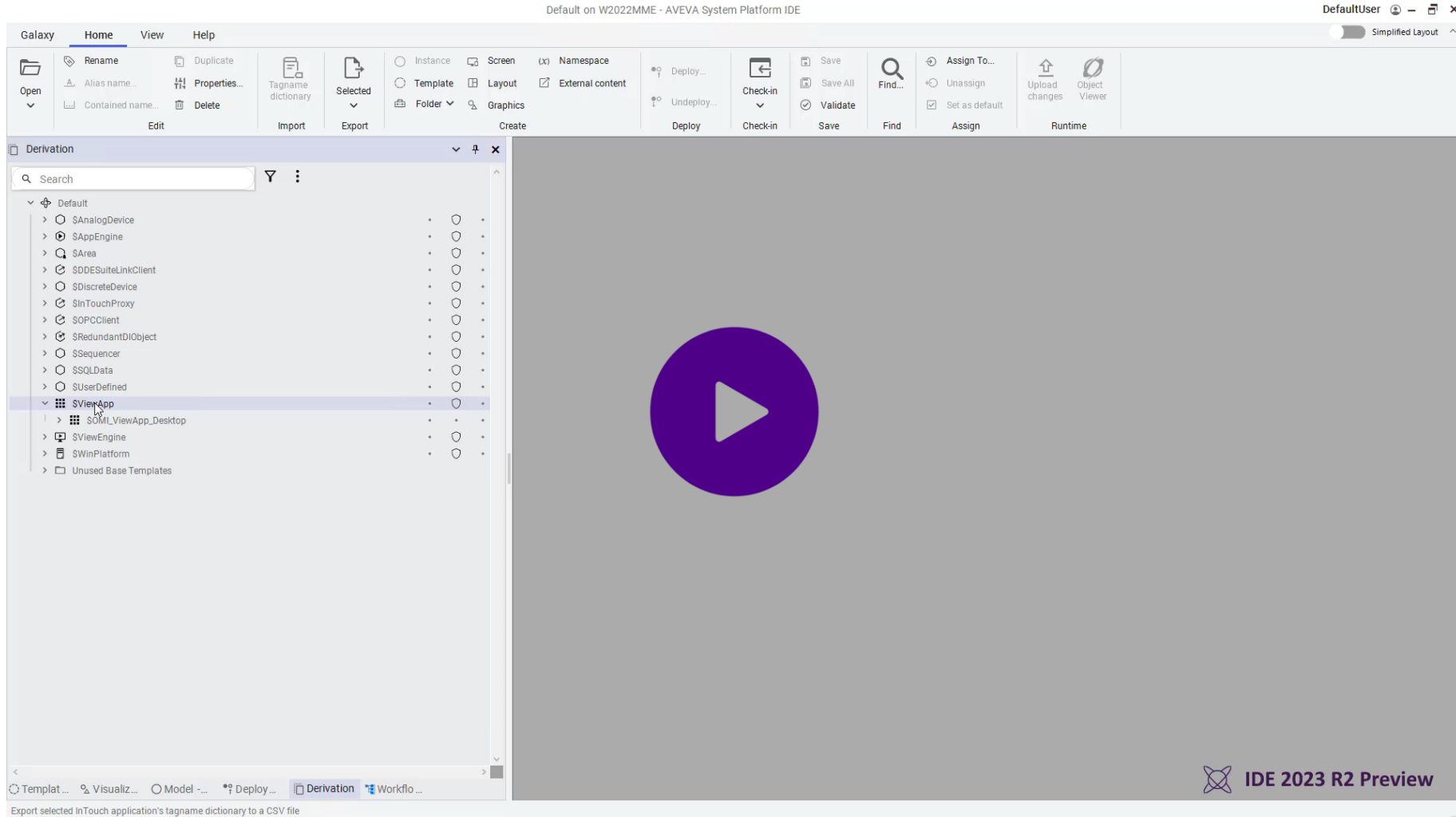
2 Navigation Bar



4 Footer



Using components



Themes

Light Theme



Dark Theme



Color palette & typography

Accent Color



Default



Intensity5



Intensity4



Intensity3



Intensity2



Intensity1



Default



Intensity5



Intensity4



Intensity3



Intensity2



Intensity1

Alerts



Warning



Alert

General



Background



Surface

Interaction



Selected



Button

Chart



Filled



Unfilled



Axis



Limits



Target

Text



Heading

Roboto 14px Regular



Title

Roboto 12px Regular



Descriptor

Roboto 10px Regular



Actual Value

Roboto 18px Bold



Tagname

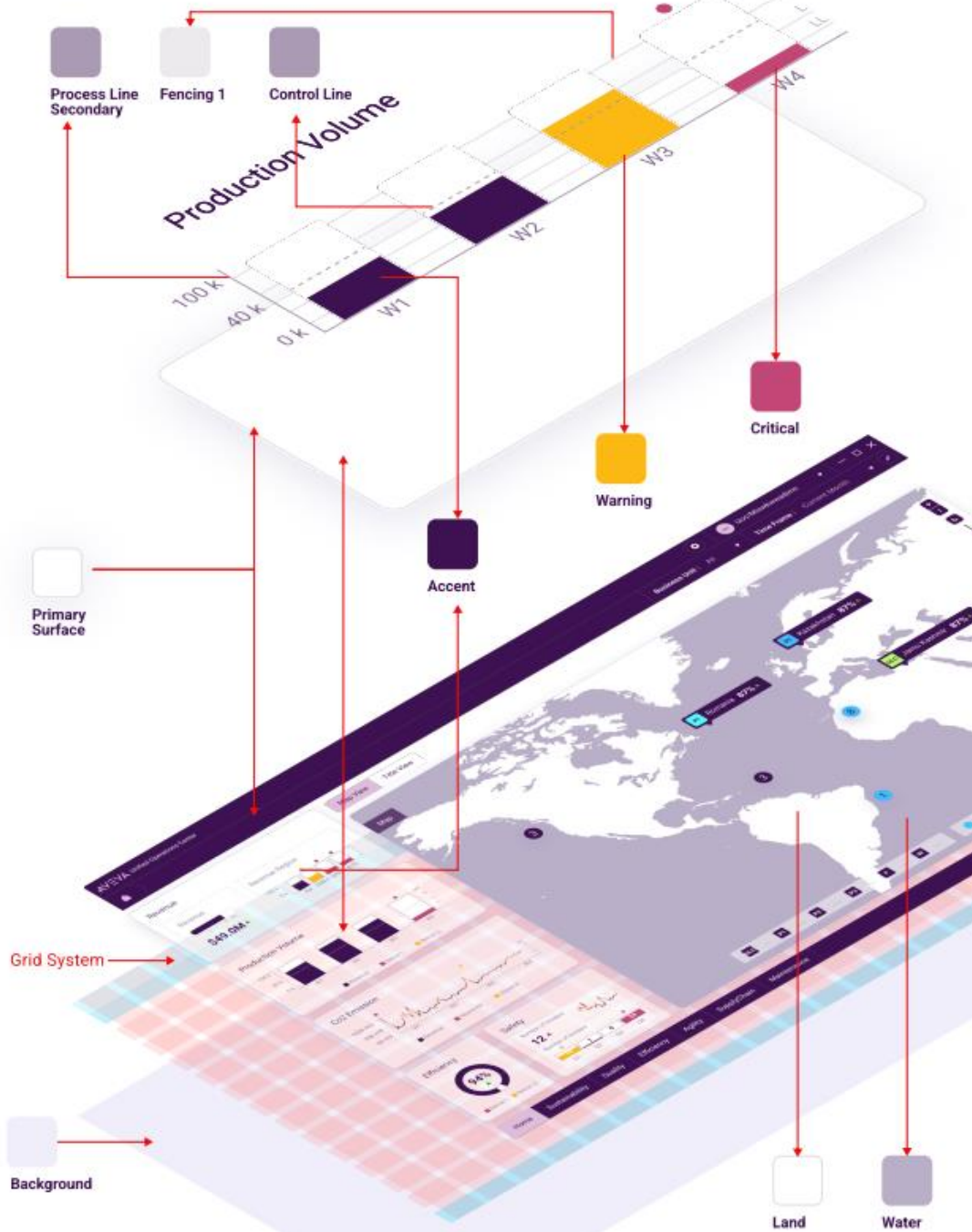
Roboto 12px Bold



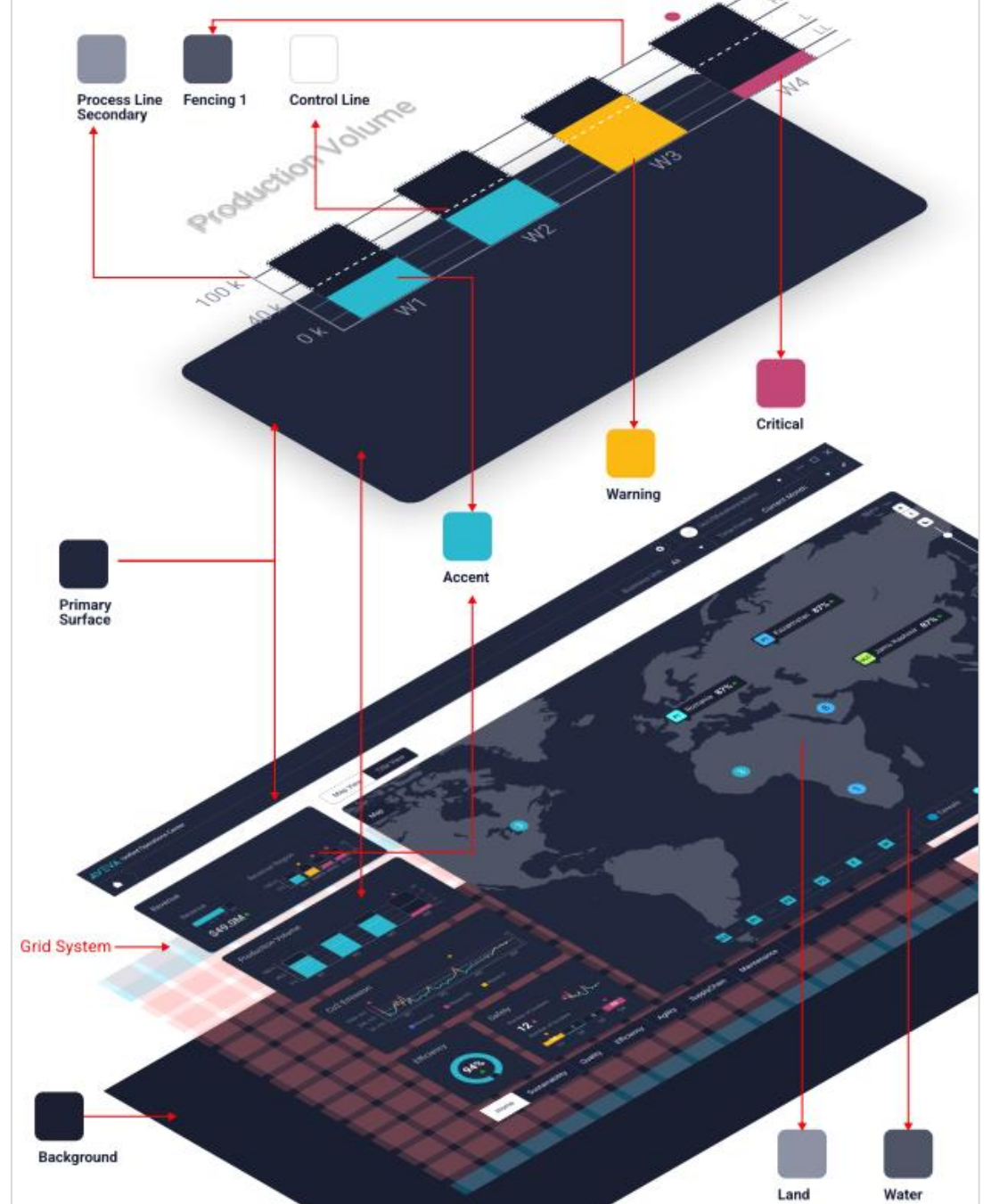
Setpoint

Roboto 18px Regular

Light Theme



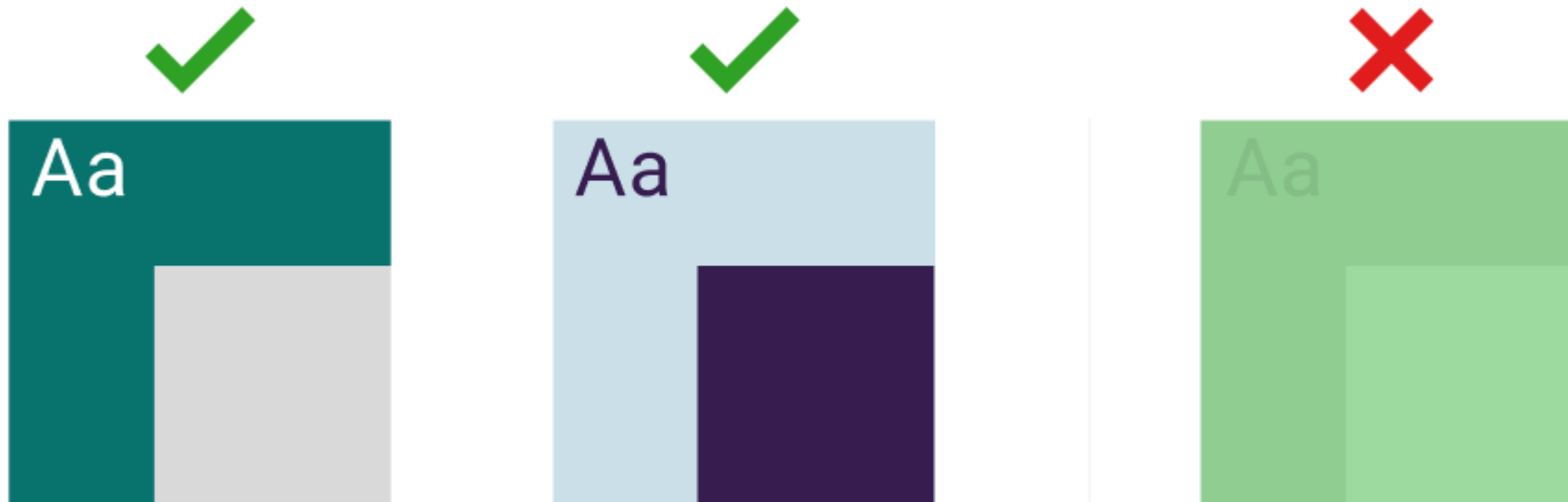
Dark Theme



Contrast

Make sure that elements and images have sufficient contrast to differentiate between them, regardless of the accent color or theme

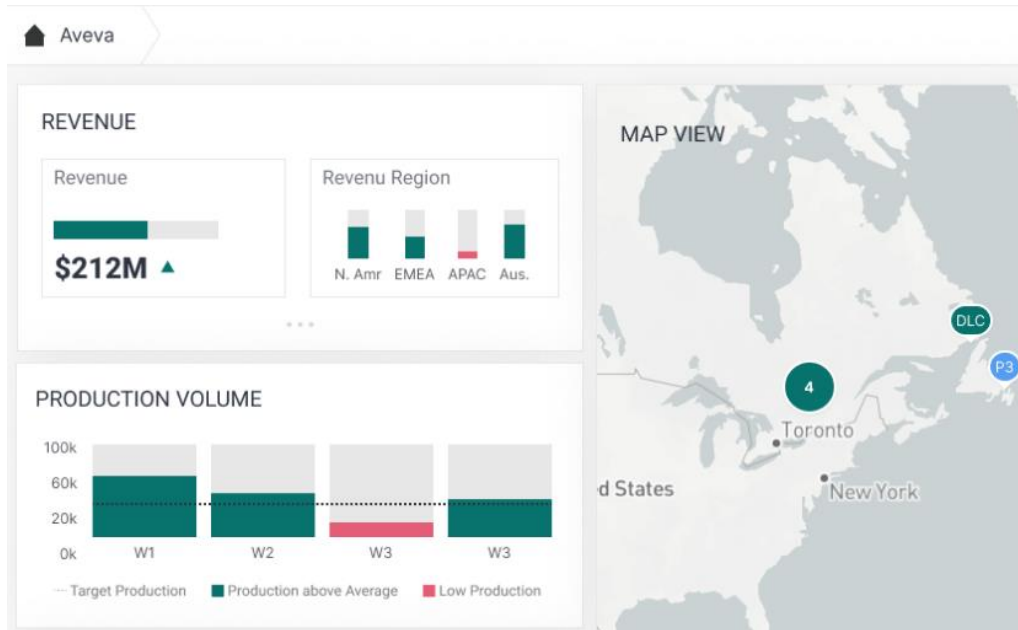
When considering what colors to use in your application, accessibility should be a primary concern. Use the guidance below to make sure your application is accessible to as many users as possible.



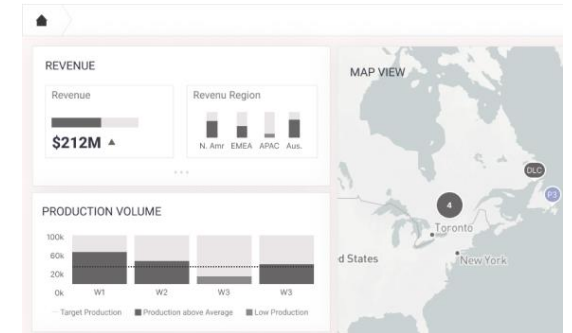
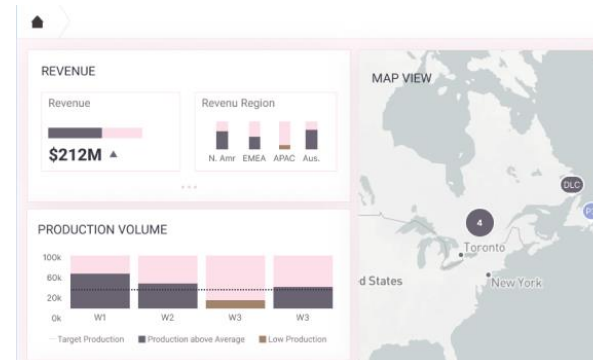
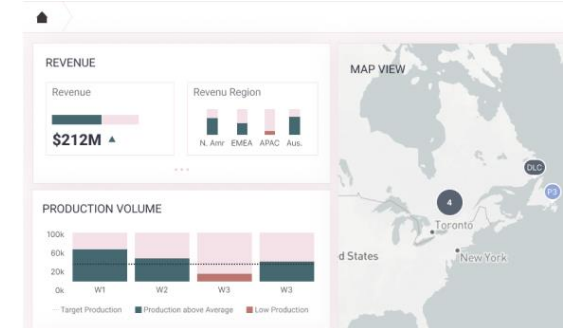
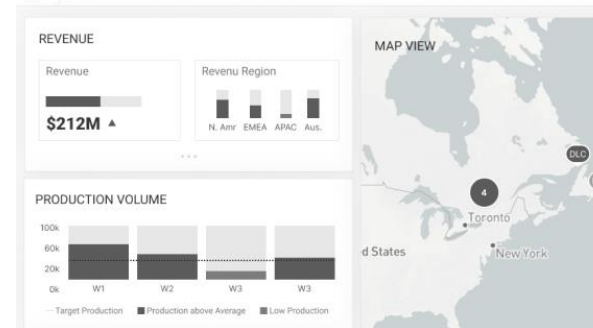
Note: Every Contrast should pass AAA or AA accessibility test

Color blindness

Standard View

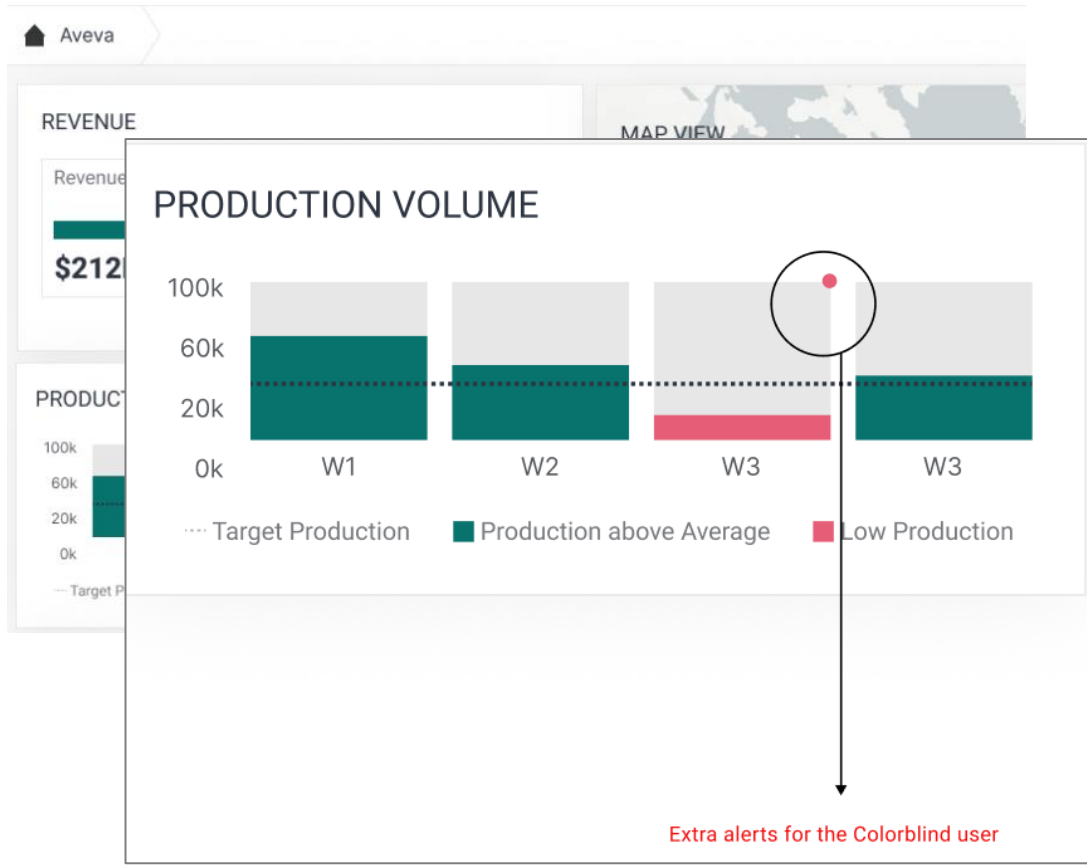


Some examples what colorblind user view

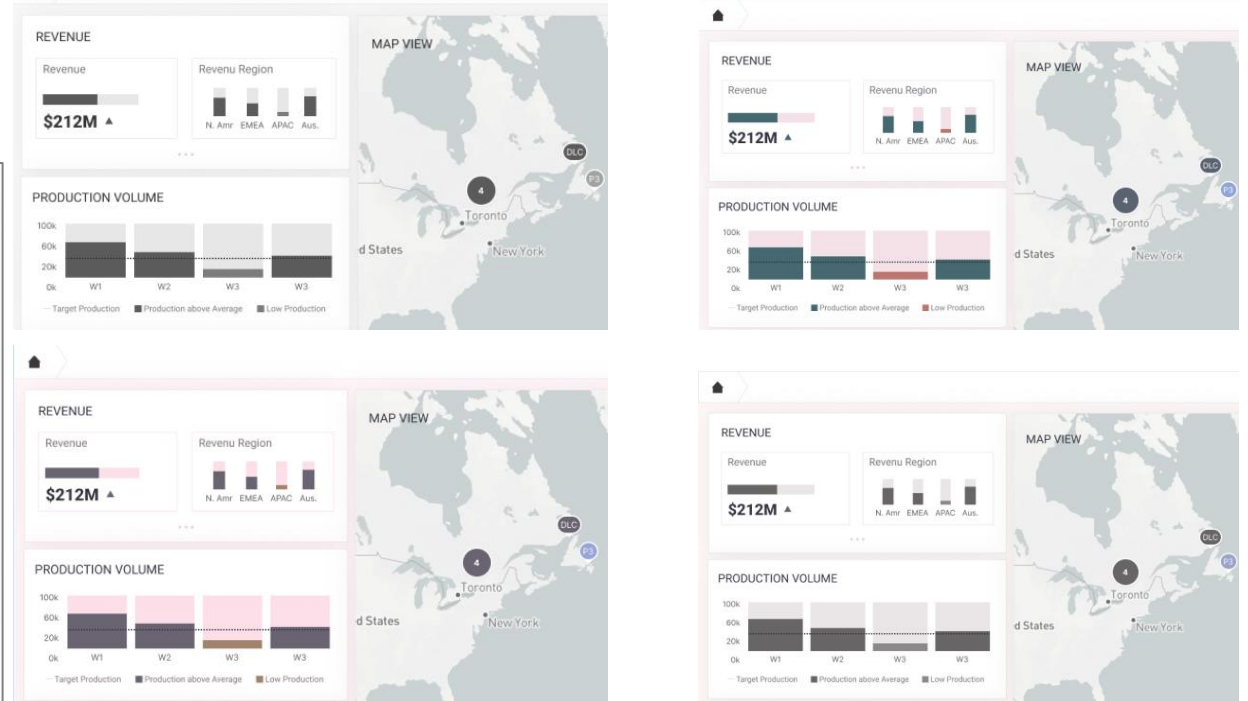


Color blindness

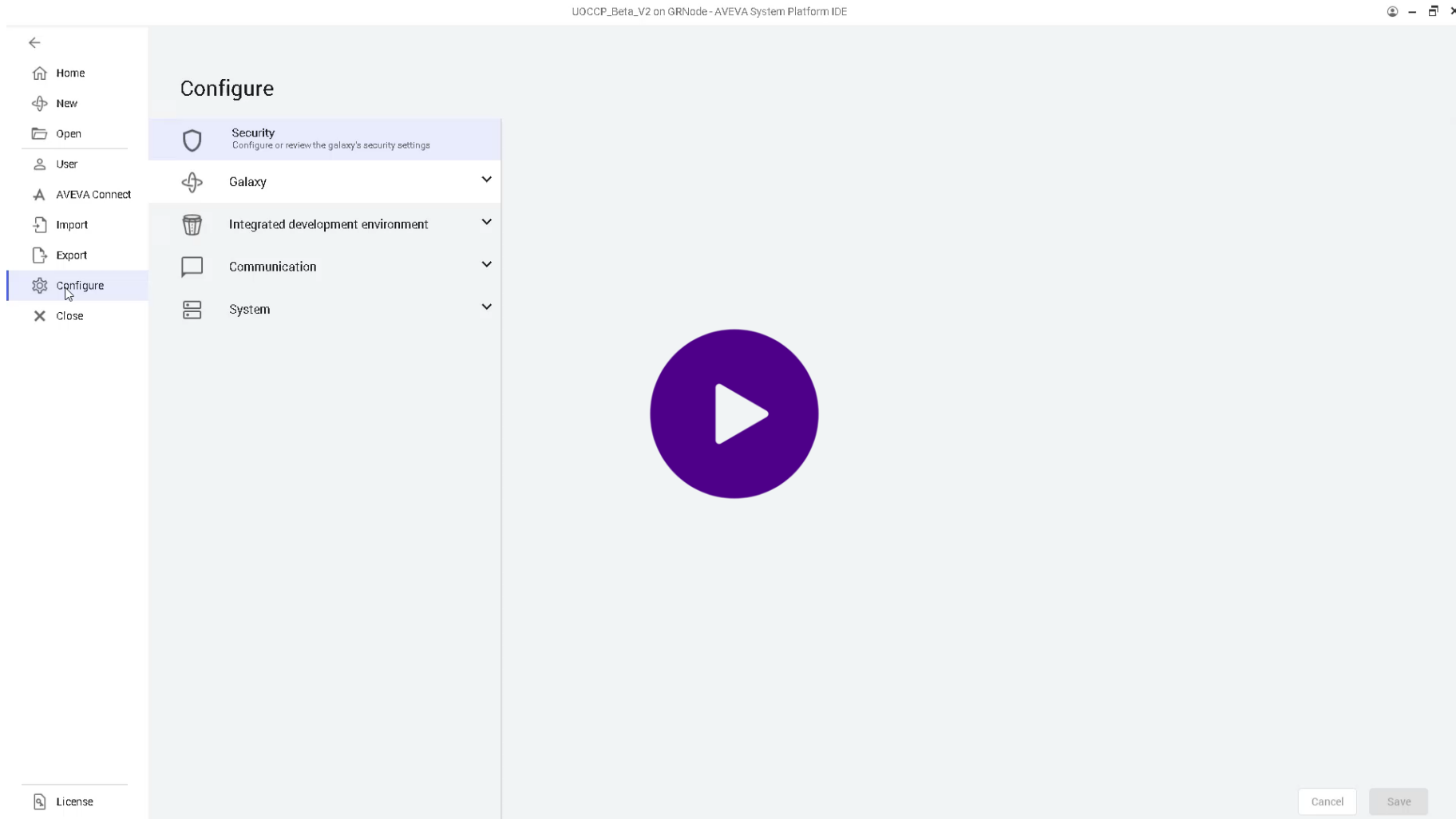
Standard View



Some examples what colorblind user view



Themes in action



The User Experience Design team

The UX team can support other teams as they adopt the process, with context, materials and resources



The team has a wide range and mix of skills in many of the following areas:

- Psychology
- Research
- Problem solving
- Observation and attention to detail
- Prototype and design
- Inquisitiveness and empathy
- Understanding user needs and wants
- Analytical thinking
- Perceptiveness

Questions?

Please wait for the microphone.
State your name and company.



Please remember to...

Navigate to this session in the mobile app to complete the survey.



Thank you!

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