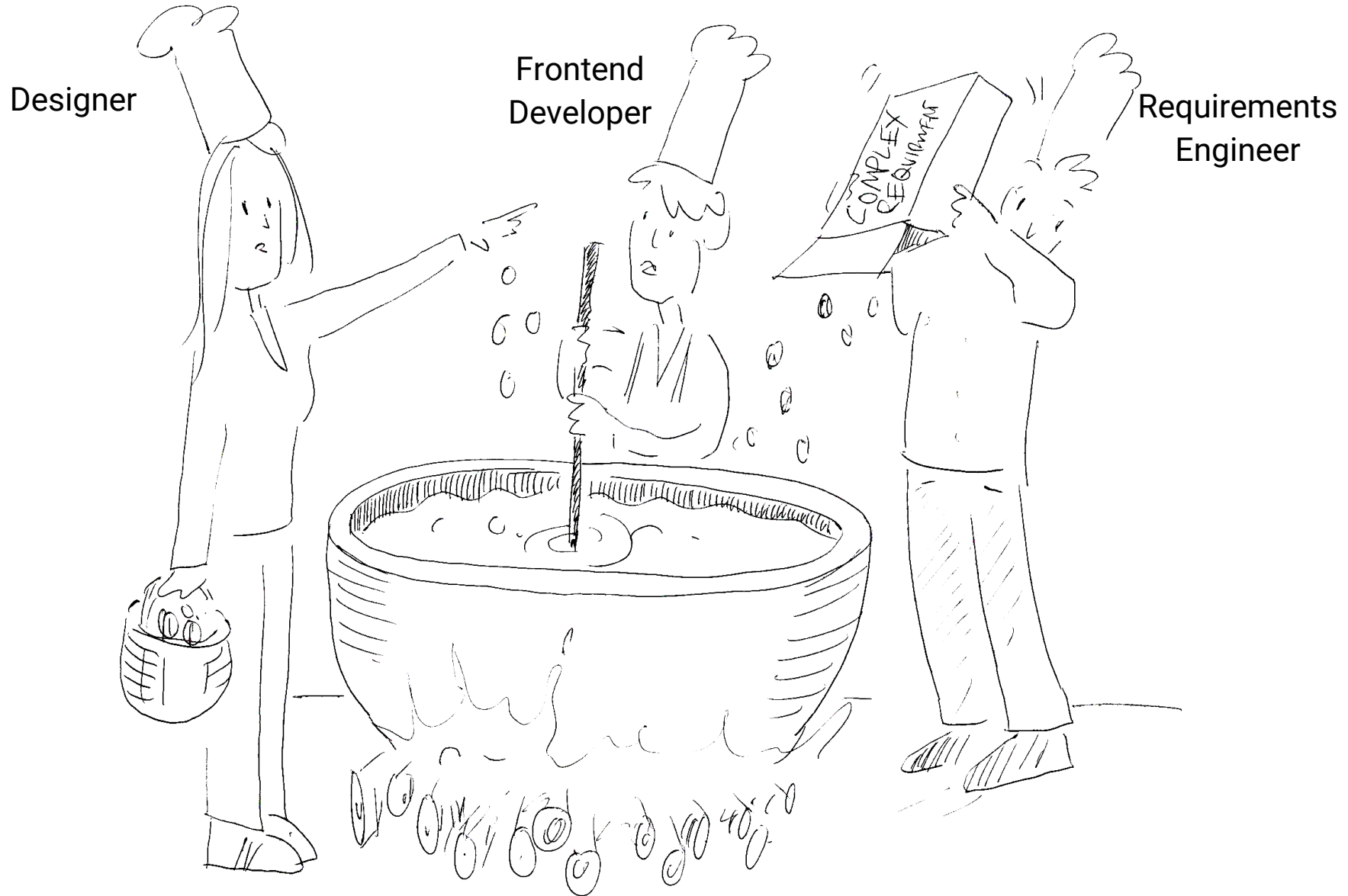


# Linking RE and Design in Agile Projects – where Teamwork meets Fun in day-to-day Project Activities

Efficiency and Usability in agile front-end development  
Janika Pelz, Josephine Tan and Jens Kawelke



# Just add it and stir. But will it taste good?



# Is RE expertise alone enough for a successful specification?





## Speaker – Who we are

### Janika Pelz

- UX Designer since 2015
- UXQB certified since 2018
- NTT DATA since 2019
- Certified Requirements Engineer since 2020

Focus: User Research, Wireframing und Prototyping



## Speaker – Who we are

### Josephine Tan

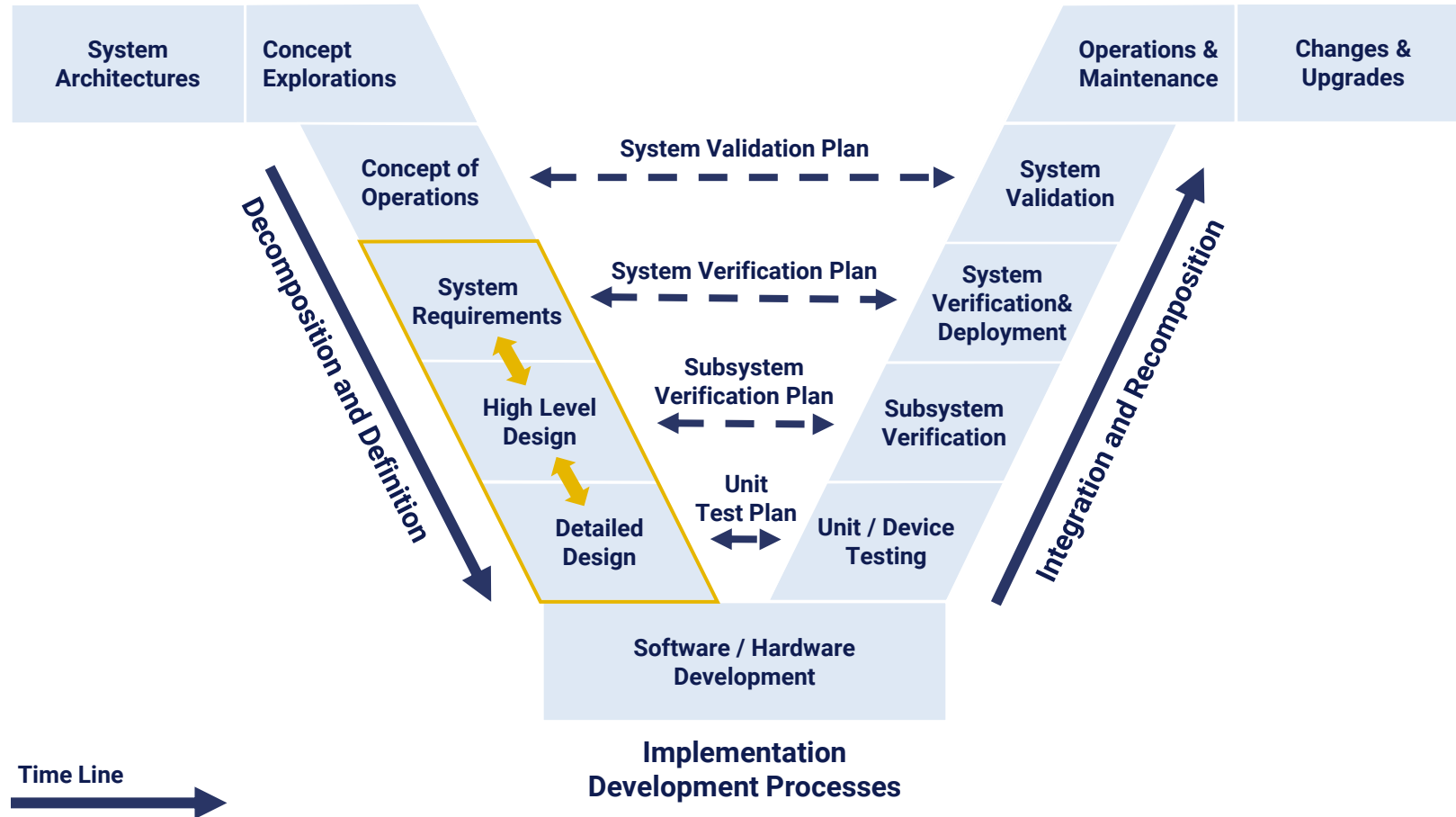
- Design Professional since 2013
- Managing Projects & Accounts since 2014
- Business Analyst since 2016
- Certified Professional RE since 2019

Focus: Bridging Business, IT & Design

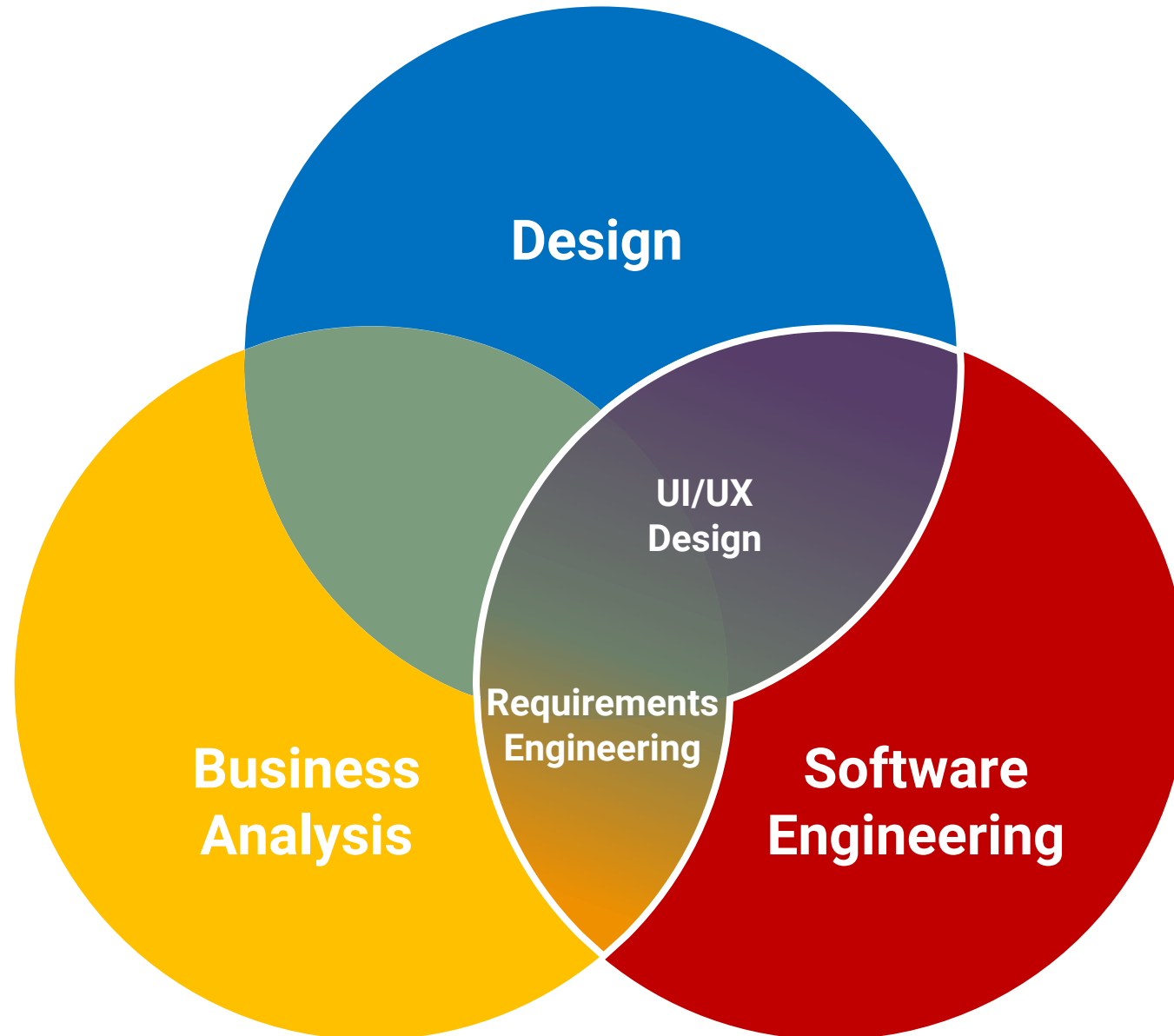
# Contents

- I. RE and design in the context of SE & IT**
- II. Efficient collaboration**
- III. Usability as a yardstick for a successful product**
- IV. Use cases: How we have improved efficiency and usability**
- V. Q&A**

# RE is a thoroughly integrated component of systems engineering



# RE and design in the context of IT





# Improving efficiency in project work through collaboration between RE and UX

|           | Requirements Engineering  |   | UI/UX Design  |
|-----------|---|---|---|
| Questions | <ul style="list-style-type: none"> <li>What is the end goal of the users?</li> <li>What to create to achieve this goal?</li> <li>What is the most cost-effective way to achieve this goal?</li> </ul> | <ul style="list-style-type: none"> <li>Which specific user group do we need to address and how?</li> <li>What are the user's unspoken intentions?</li> <li>What factors in the environment influence the user group and how?</li> </ul> | <ul style="list-style-type: none"> <li>How can the user achieve his goals efficiently?</li> <li>How can we make the processes intuitive?</li> <li>How do we create a pleasant user experience?</li> </ul> |
| Methods   | <ul style="list-style-type: none"> <li>System Architecture</li> <li>UML Modeling</li> <li>Versioning &amp; Configuration <i>What?</i></li> <li>Change Management</li> </ul>                           | <ul style="list-style-type: none"> <li>Workshop</li> <li>Stakeholder Interview</li> <li>Apprenticing</li> <li>Validation of Requirements</li> <li>Usability Testing</li> </ul>  | <ul style="list-style-type: none"> <li>Design Thinking</li> <li>Design Patterns</li> <li>Eye-Tracking <i>How?</i></li> <li>A/B Testing</li> </ul>   |
| Artifacts | <ul style="list-style-type: none"> <li>User Story</li> <li>System and context demarcation</li> <li>Quality requirements and boundary conditions</li> <li>Concept and information model</li> </ul>     | <ul style="list-style-type: none"> <li>User Persona</li> <li>Use Case Model</li> <li>Wireframe</li> <li>Prototype</li> </ul>  | <ul style="list-style-type: none"> <li>Empathy Map</li> <li>User Journey Map</li> <li>User Flow</li> <li>Engagement Report</li> </ul>   |

# How artifacts assist requirement specifications and design

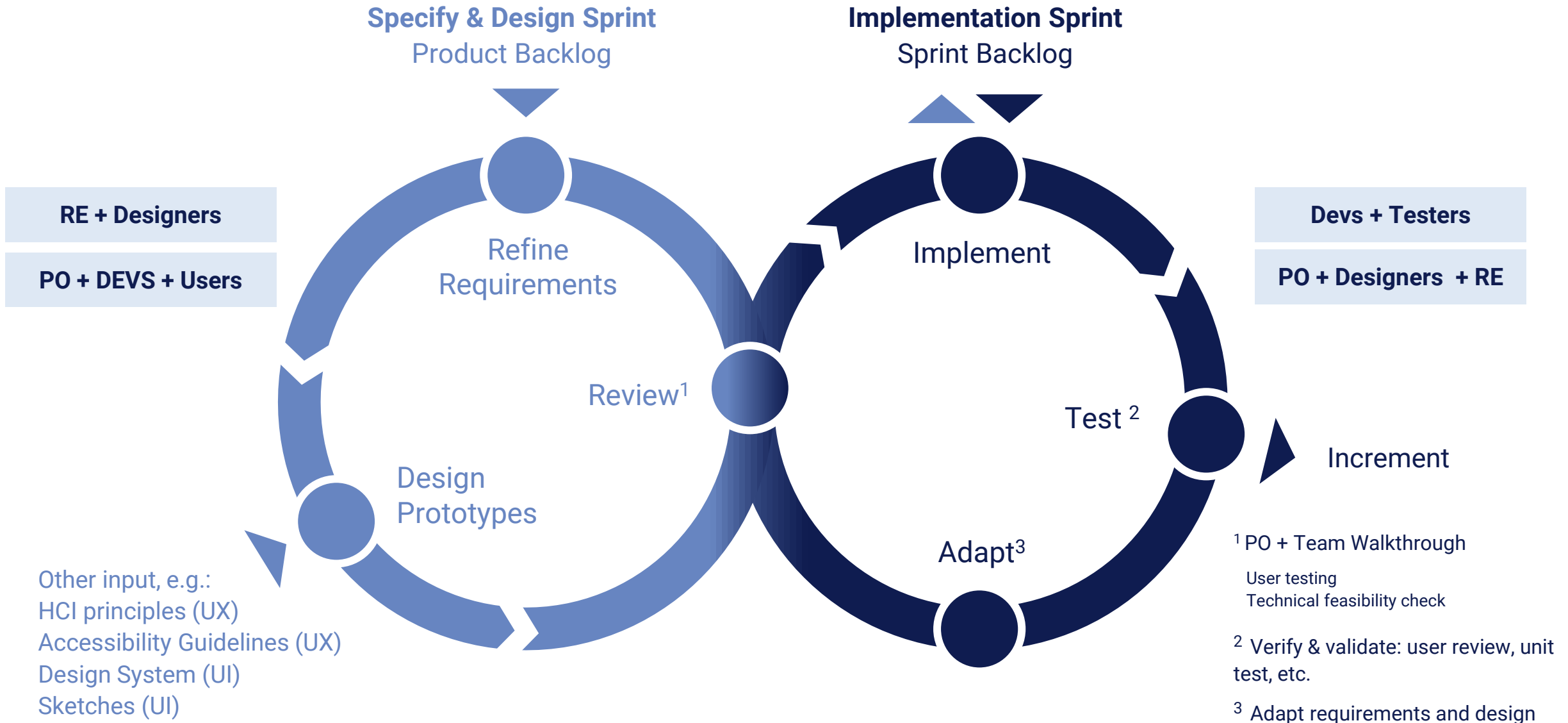
## Requirement artifacts

- ... describe the business requirements in text and models
- ... serve as the basis for the high-level design
- ... are affected by the high-level and low-level design

## Design artifacts

- ... enrich the visualization of requirements
- ... support the further elicitation of requirements
- ... serve as a basis for discussions with non-technical stakeholders
- ... help to verify against requirements and validate system early on

# Agile front-end requirement refinement and implementation



# Where is the fun in all of this?

## Clarity

I understand each team member's role, goals, focus points, strengths & weaknesses. As a team we know what we are doing.

## Higher Purpose

We are clear about the impact our work has on users — as a team but also as individual team members. We know that we changed something for the better.

## Support System

We can help each other out in times of need — whether it is the exchange of knowledge for tools and methods or because of a tough time schedule.

## Psychological Safety

We create a safe space to contribute ideas & give feedback. We trust to share the right content with the right people.

# Usability as a yardstick for a successful product

Usability is invisible  
but not insignificant!

86%

Have deleted or uninstalled an app because they had problems with its functionality or design

88%

Are less likely to return to a website after a bad experience.

90%

indicated that they stopped using an app due to poor performance



# What is Usability? The 5 dimensions of Usability (5 „E“)

Usability according ISO (9241-11:2018)

"The extent to which a system, product, or service can be used by specific users to achieve specific goals with effectiveness, efficiency, and satisfaction in a specific context of use."

## 1 Effective

How completely and accurately can the work be done or can the goals be met by the product?

## 2 Efficient

How quickly can this work be completed?

## 3 Engaging

How well does the interface involve the user in the interaction and how pleasant and satisfying is it to use?

## 4 Error tolerant

How well does the product prevent errors and help the user fix them?

## 5 Easy to learn.

How well is initial orientation and if ongoing learning is supported throughout the life of the product?

Source: Carol M. Barnum – Usability Testing Essentials; 2021

▶ What project staffing do we need to achieve good usability?

# Our roles and results in sample projects (I)

 Automotive

UX



Sarah

UI/UX + RE



Josephine

UI/UX + RE



Yasmin

## Evolution of Project staffing

Devs

PO & Key users



# Our roles and results in sample projects (I)

 Automotive

UX



Sarah

UI/UX + RE

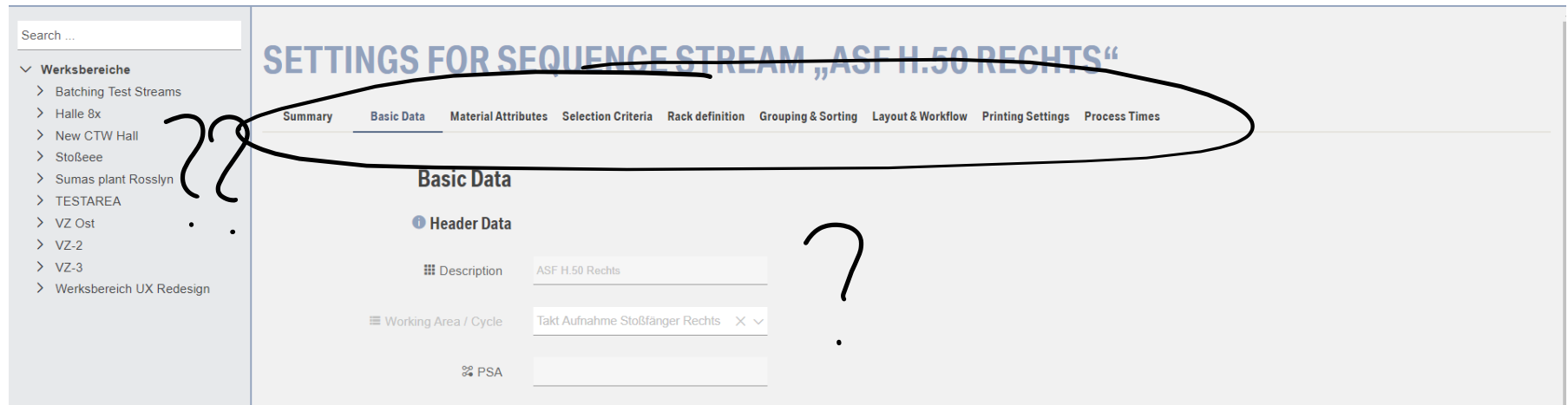


Josephine

UI/UX + RE



Yasmin





# Our roles and results in sample projects (I)

 Automotive

UX



Sarah

UI/UX + RE



Josephine

UI/UX + RE



Yasmin

## Evolution of Project staffing



**UX Reviewer**

*Evaluate the usability of developed screens*



**UI/UX Designer**

*Accompany extensive UI Refactoring*



**UI/UX Designer**

*Refinement of existing mockups*



**UI/UX + RE**

*Early support for new features*

Devs

PO & Key users



# Before and after...



UX



Sarah

UI/UX + RE



Josephine

UI/UX + RE



Yasmin

Search ...

- Werkbereiche
  - Batching Test Streams
  - Halle 8x
  - New CTW Hall
  - Stoßeere
  - Sumas plant Rosslyn
  - TESTAREA
  - VZ Ost
  - VZ-2
  - VZ-3
  - Werkbereich UX Redesign

## SETTINGS FOR SEQUENCE STREAM „ASF H.50 RECHTS“

Summary Basic Data Material Attributes Selection Criteria Rack definition Grouping & Sorting Layout & Workflow Printing Settings Process Times

### Basic Data

Header Data

Description ASF H.50 Rechts

Working Area / Cycle Takt Aufnahme Stoßfänger Rechts X v

PSA

# Before and after...



UX



Sarah

UI/UX + RE



Josephine

UI/UX + RE



Yasmin

Search

- ▼ Hall 8x
  - ▼ Hall 84 North
    - Hall 84 North WA 1
    - Hall 84 North WA 2
    - Hall 84 North WA 3
    - Hall 84 North WA 4
  - Hall 84 South
- ▼ VZ-2
  - > VZ2 North
  - ▼ VZ2 South
    - ▼ VZ2 South lorem ipsum
      - > Takt Gepäckraumverk
      - > Takt Motorabschirmur
      - ▼ Takt Windlauf
        - GPR VKG LI VZ2**
        - > Takt Aufnahme Stoßf
        - > Takt Aufnahme Stoßf
        - > Takt Radhausabdecki
        - > Takt Blende Ladekant
      - > H.50 OG/Bühne
      - > H.51.2 SDI
    - > Testarea

## Sequence Stream

### GPR VKG LI VZ2

Summary   Selection Criteria   Batch & Rack Definition   Layout & Workflow   Material Attributes   Printing Settings

#### Basic Data

Name\*   GPR VKG LI VZ2

PSA\*   lorem ipsum   Working area\*   Takt Windlauf

#### Status

#### Version Summary

#### History of non-critical changes

# Our roles and results in sample projects (II)

## Automotive

RE



Clara

RE + UI/UX



Yasmin

RE + UI/UX



Alexandra

Design Lead + RE



Elisa

UI/UX

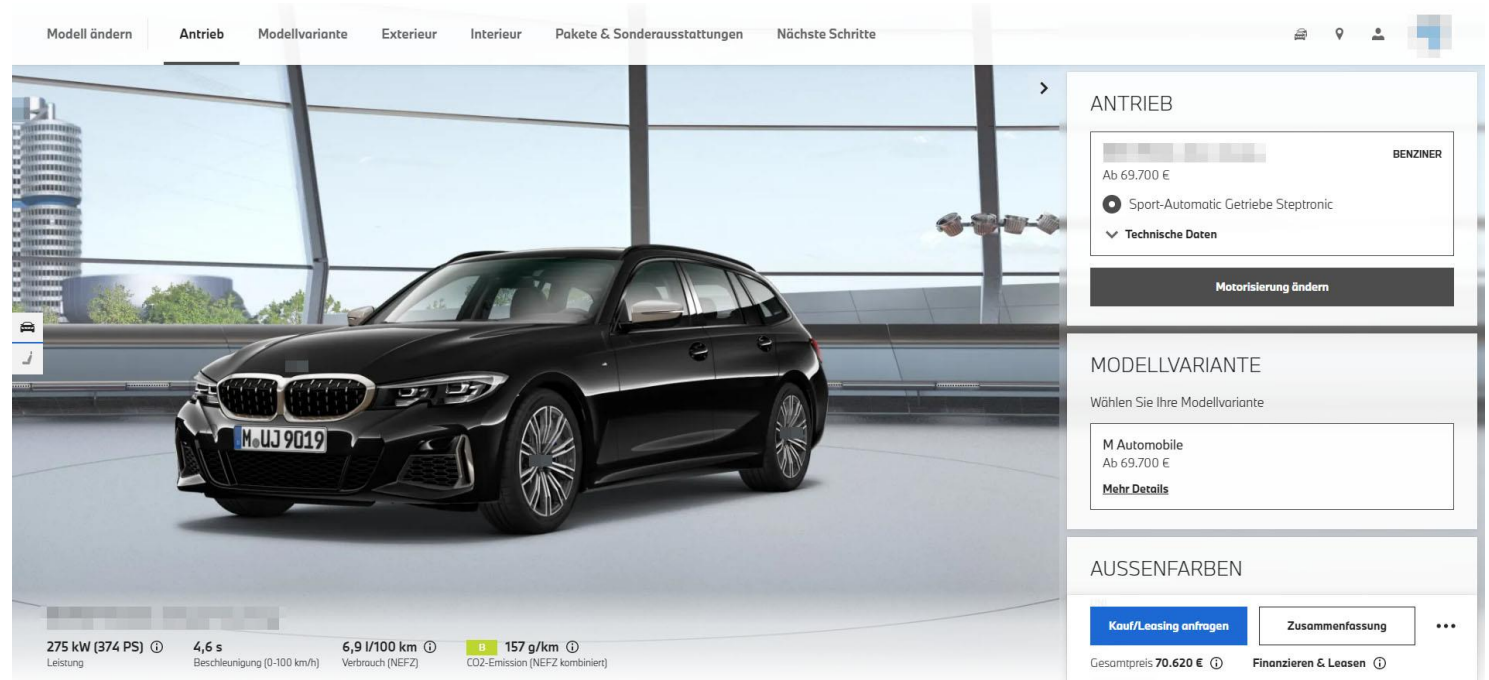


Parham

Feature Team Lead



Janika





### ANTRIEB



BENZINER

Ab 69.700 €

Sport-Automatic Getriebe Steptronic

▼ Technische Daten

**Motorisierung ändern**

### MODELLVARIANTE

Wählen Sie Ihre Modellvariante

M Automobile  
Ab 69.700 €

**Mehr Details**

### AUSSENFARBEN

**Kauf/Leasing anfragen**

Zusammenfassung



Gesamtpreis **70.620 €** ⓘ

**Finanzieren & Leasen** ⓘ

275 kW (374 PS) ⓘ  
Leistung

4,6 s ⓘ  
Beschleunigung (0-100 km/h)

6,9 l/100 km ⓘ  
Verbrauch (NEFZ)

**B** 157 g/km ⓘ  
CO2-Emission (NEFZ kombiniert)

Modell ändern

Antrieb

Modellvariante

Exterieur

Interieur

Pakete & Sonderausstattungen

Nächste Schritte

18" M LMR Doppelspeiche 790 M Bicolor / MB

0 €



Superschwartz metallic

920 €

### RÄDER

Informationen zur EU Reifenkennzeichnung finden Sie im Bereich „technische Daten“ auf der fahrzeugspezifischen Informationsseite.



18" M LMR Doppelspeiche 790 M Bicolor / MB

0 €

### POLSTER

STOFF



275 kW (374 PS) ⓘ

Leistung

Leistung

4,6 s

Beschleunigung (0-100 km/h)

Beschleunigung (0-100 km/h)

6,9 l/100 km ⓘ

Verbrauch (NEFZ)

Verbrauch (NEFZ)

**B** 157 g/km ⓘ

CO2-Emission (NEFZ kombiniert)

CO2-Emission (NEFZ kombiniert)

[Kauf/Leasing anfragen](#)

[Zusammenfassung](#)



Gesamtpreis **70.620 €** ⓘ

[Finanzieren & Leasen](#) ⓘ

Modell ändern

Antrieb

Modellvariante

Exterieur

Interieur

Pakete & Sonderausstattungen

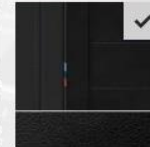
Nächste Schritte

18" M LMR Doppelspeiche 790 M Bikolor / M



## POLSTER

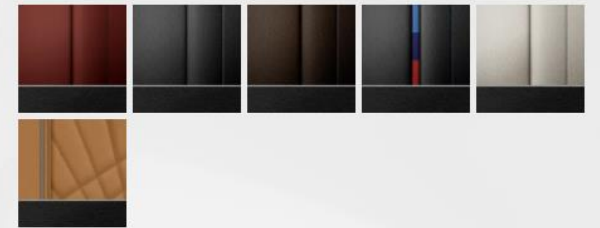
### STOFF



### LEDEROPTIK



### LEDER



### INDIVIDUAL

[Kauf/Leasing anfragen](#)

[Zusammenfassung](#)

Gesamtpreis **70.620 €**

[Finanzieren & Leasen](#)

**275 kW (374 PS)**  
Leistung

**4,6 s**  
Beschleunigung (0-100 km/h)

**6,9 l/100 km**  
Verbrauch (NEFZ)

**B 157 g/km**  
CO2-Emission (NEFZ, kombiniert)

Modell ändern

Antrieb

Modellvariante

Exterieur

Interieur

Pakete & Sonderausstattungen

Nächste Schritte

Konfiguration speichern

Konfigurationslinie



• Laserlicht  
**Alle 5 Sonderausstattungen anzeigen**

Hinzufügen

**Mehr Sonderausstattungen hinzufügen**

**IHRE KONFIGURATION IST ABGESCHLOSSEN.**

70.620 € ⓘ

> Finanzieren & Leasen

**Kauf/Leasing anfragen**

Konfiguration speichern

📄 Infomaterial anfordern

📄 Zusammenfassung

📍 BMW Partner finden

 **Sofort verfügbare Neuwagen** >

**275 kW (374 PS)** ⓘ  
Leistung

**4,6 s**  
Beschleunigung (0-100 km/h)

**6,9 l/100 km** ⓘ  
Verbrauch (NEFZ)

**B 157 g/km** ⓘ  
CO<sub>2</sub>-Emission (NEFZ, kombiniert)



# Let's take a look at the Usability

The screenshot displays a car configuration interface. At the top, a navigation bar includes 'Modell ändern', 'Antrieb', 'Modellvariante', 'Exterieur', 'Interieur', 'Pakete & Sonderausstattungen', and 'Nächste Schritte'. The main area features a large image of a black BMW car with license plate 'M UJ 9019'. Below the car, technical specifications are listed: 275 kW (374 PS) Leistung, 4,6 s Beschleunigung (0-100 km/h), 6,9 l/100 km Verbrauch (NEFZ), and 157 g/km CO2-Emission (NEFZ kombiniert). On the right, three configuration panels are visible: 'ANTRIEB' (BENZINER, Ab 69.700 €, Sport-Automatic Getriebe Steptronic, Technische Daten, Motorisierung ändern), 'MODELLVARIANTE' (Wählen Sie Ihre Modellvariante, M Automobile, Ab 69.700 €, Mehr Details), and 'AUSSENFARBEN'. At the bottom right, there are buttons for 'Kauf/Leasing anfragen', 'Zusammenfassung', and 'Finanzieren & Leasen' with a total price of 70.620 €.

## + Easy to learn

Users know what are categories they can change and get an overview. Clear structure.

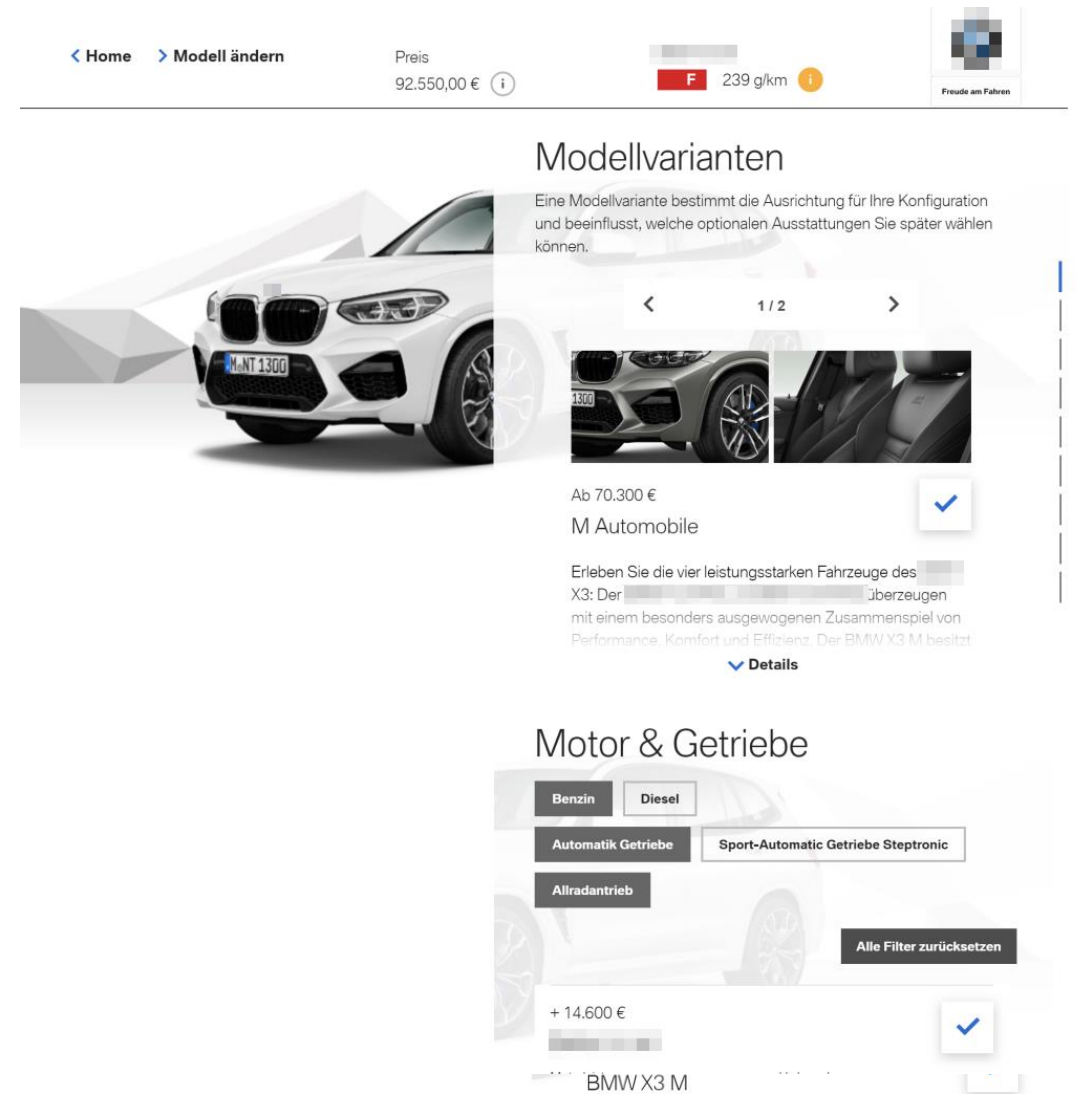
## + Engaging

Effortless when interacting with it. Object of interest always in focus. Can interact and play with it

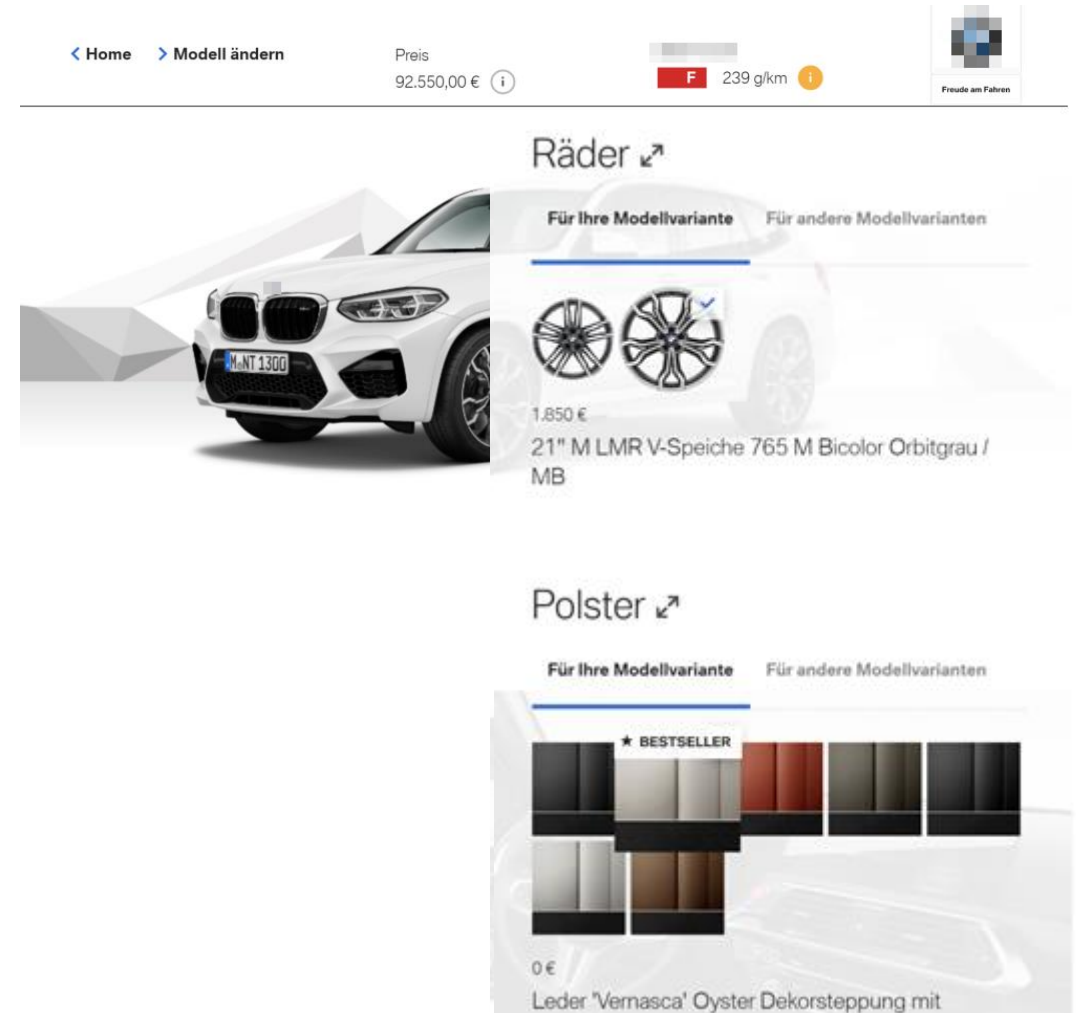
## + Efficient

Car can be configured in a reasonable time and you see your changes

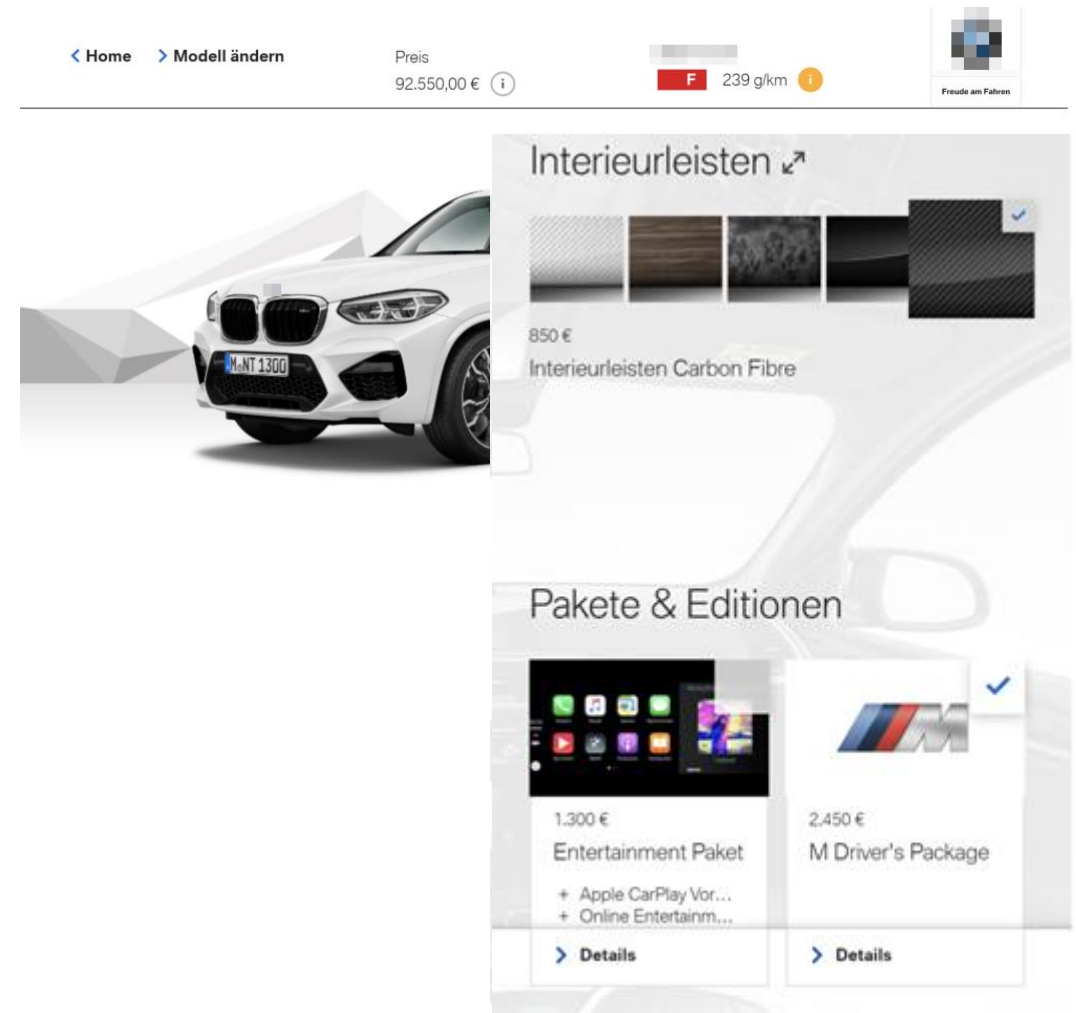
# Before: Segregation of design and requirements engineering



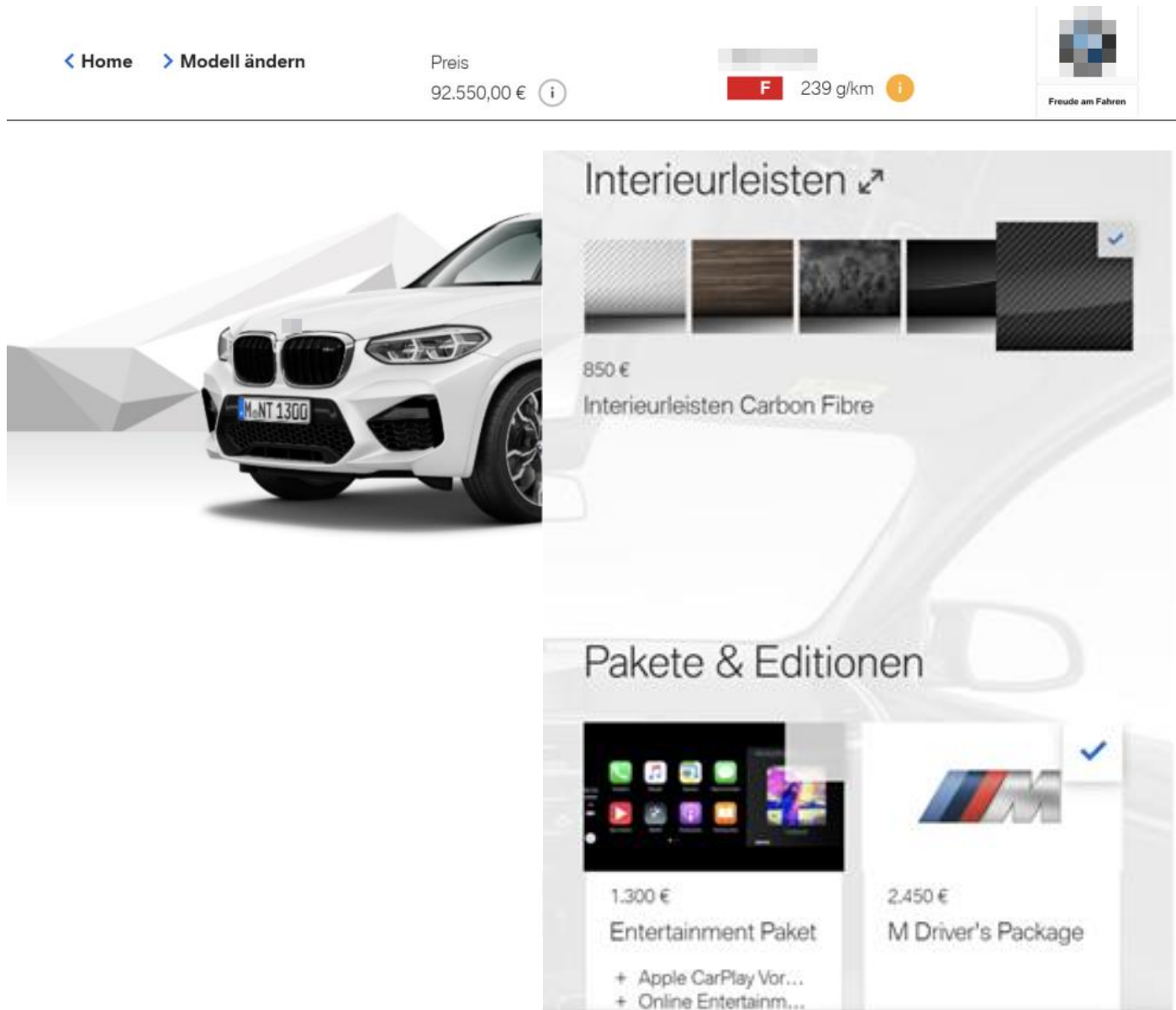
# Before: Segregation of design and requirements engineering



# Before: Segregation of design and requirements engineering



# Before: Segregation of design and requirements engineering



## - Effort in Learning

What are the categories that users can change? Where do they begin and where do they end?

## - Engaging

Switching between categories is not easy → need to aim at the ui element

## - Efficient

User loses time when trying to find orientation

# Our roles and results in sample projects (III)

## Reinsurance

RE + UI/UX



Jessica

RE + UI

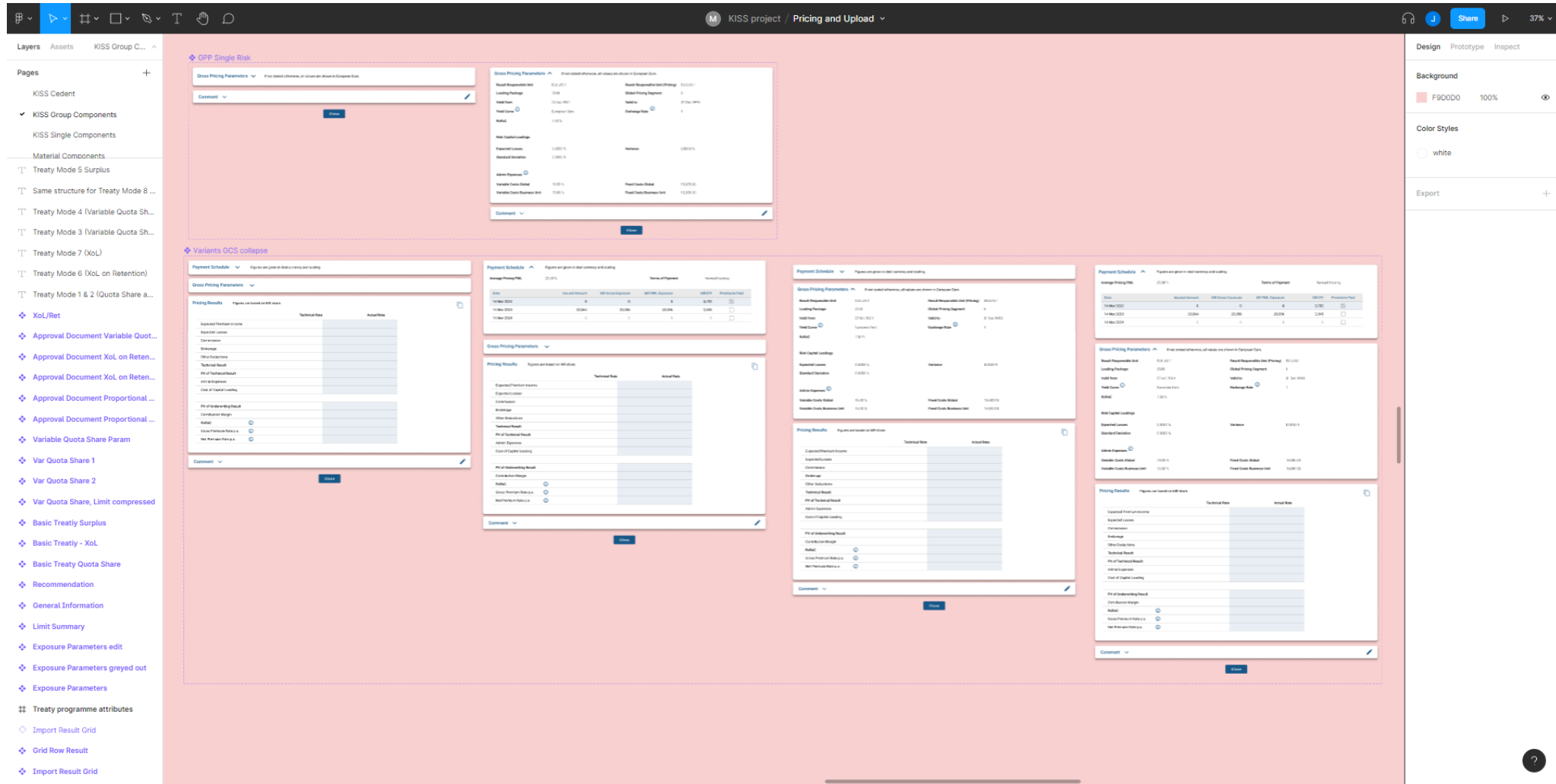


Jens

RE + UI



Stephan




Figma

# Our roles and results in sample projects (III)


**Reinsurance**

**RE + UI/UX**




Jessica

**RE + UI**

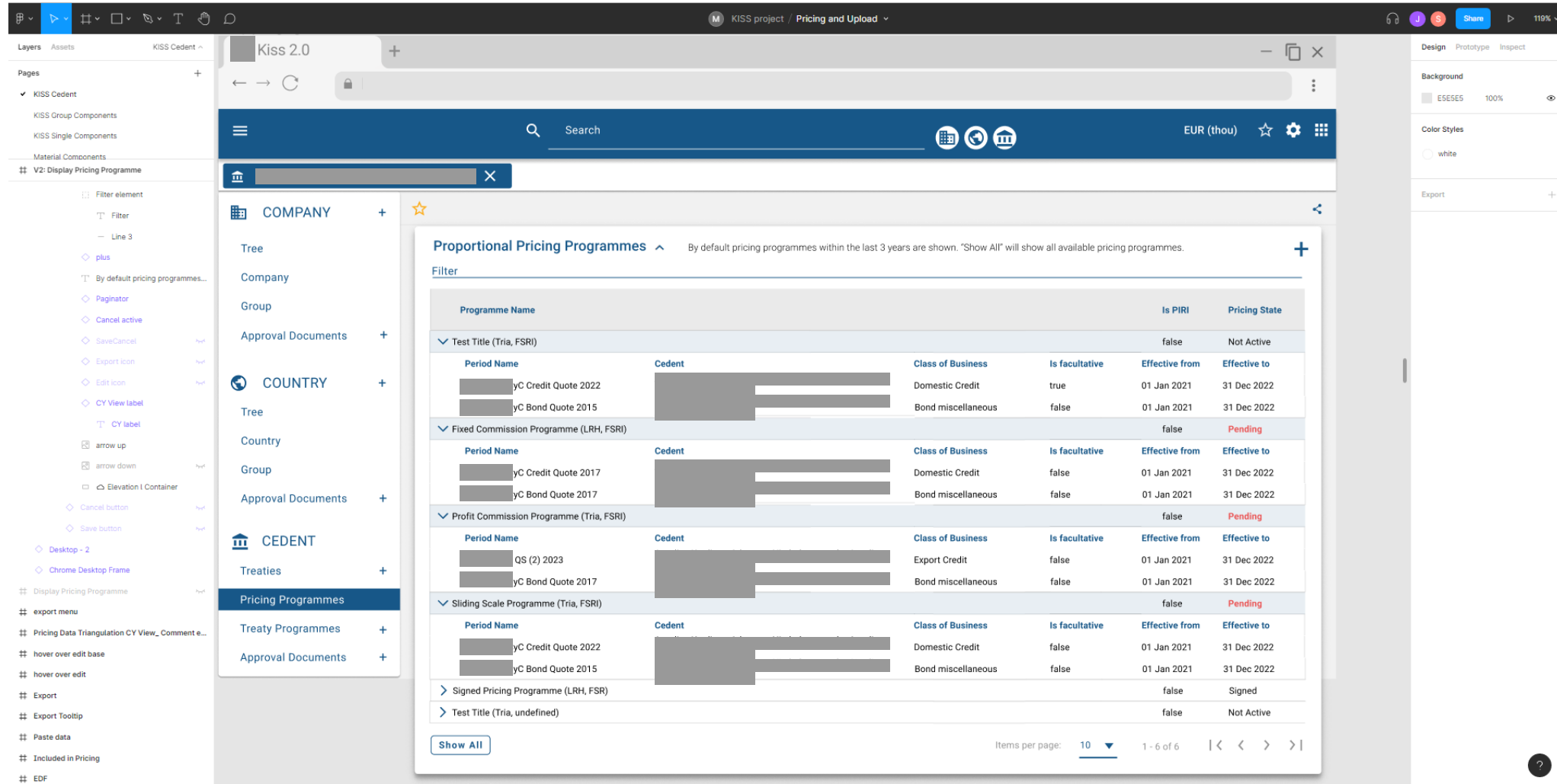


Jens

**RE + UI**



Stephan



The screenshot shows a Figma design tool interface for a web application. The main content area displays a table titled "Proportional Pricing Programmes". The table has columns for "Programme Name", "Is PIRI", and "Pricing State". It lists several programmes, including "Test Title (Tria, FSRI)", "Fixed Commission Programme (LRH, FSRI)", "Profit Commission Programme (Tria, FSRI)", and "Sliding Scale Programme (Tria, FSRI)". Each programme entry includes a "Period Name", "Cedent", "Class of Business", "Is facultative", "Effective from", and "Effective to" date.

| Programme Name                           | Is PIRI | Pricing State |
|--|---------|---------------|
| Test Title (Tria, FSRI)                  | false   | Not Active    |
| Fixed Commission Programme (LRH, FSRI)   | false   | Pending       |
| Profit Commission Programme (Tria, FSRI) | false   | Pending       |
| Sliding Scale Programme (Tria, FSRI)     | false   | Pending       |
| Signed Pricing Programme (LRH, FSR)      | false   | Signed        |
| Test Title (Tria, undefined)             | false   | Not Active    |

The interface also includes a left sidebar with a navigation menu (COMPANY, COUNTRY, CEDENT) and a top navigation bar with a search function and currency set to EUR (thou). A "Show All" button is visible at the bottom of the table.

Figma

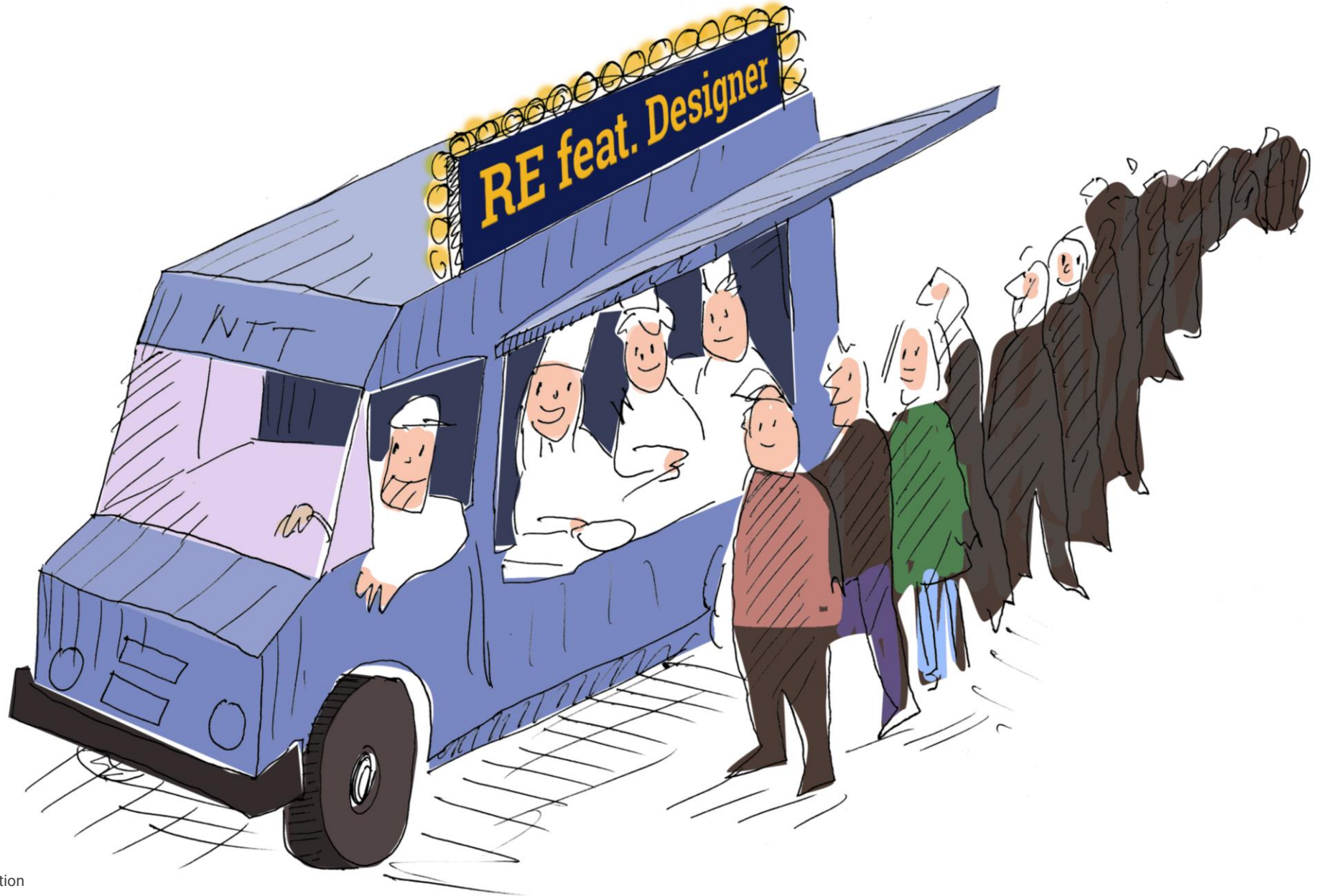
# Before: UI Design with excel

The image shows a hand-drawn sketch of three people in a meeting, overlaid on an Excel spreadsheet. The sketch depicts a woman pointing at a board, another woman looking at the board, and a man in a hat holding a bucket and a brush, suggesting a collaborative design or presentation process. The Excel spreadsheet in the background displays a table with columns for Participant, Class of Business, Label, Is PIRI, State, Effective from, and Effective to. The table contains several rows of data, including entries for 'Delcredere miscellaneous' and 'Bond miscellaneous' with various states like 'Work in Progress', 'Offered', and 'Signed'.

| Participant | Class of Business        | Label | Is PIRI | State            | Effective from | Effective to |
|-------------|--------------------------|-------|---------|------------------|----------------|--------------|
| [Redacted]  | Delcredere miscellaneous |       | false   | Work in Progress | 01 Jan 2021    | 31 Dec 2021  |
| [Redacted]  | Bond miscellaneous       |       | false   | Offered          | 01 Jan 2021    | 31 Dec 2021  |
| [Redacted]  | Bond miscellaneous       | Extra | true    | Signed           | 01 Jan 2020    | 31 Dec 2020  |
| [Redacted]  | Delcredere miscellaneous |       | false   | Signed           | 01 Jan 2020    | 31 Dec 2020  |
| [Redacted]  | Bond miscellaneous       |       | false   | Signed           | 01 Jan 2020    | 31 Dec 2020  |



# Achieve customer satisfaction through teamwork and fun




# Thank you for your attention!

Time for questions...

You still have questions and feedback?  
Feel free to contact us!




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