Practical application of artificial intelligence
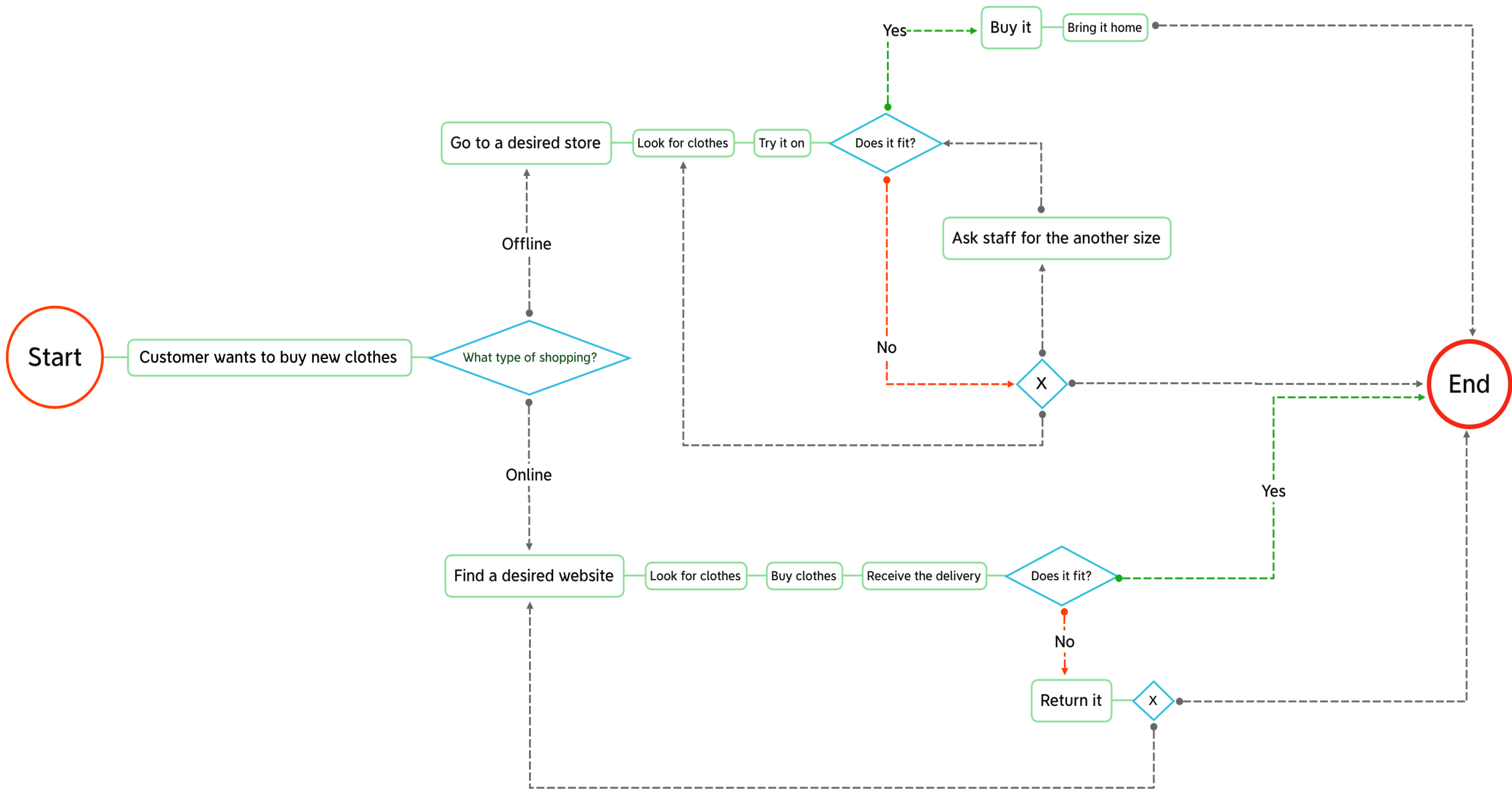
Immerse summer school, 2022

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Motivation

- Current system of shopping either online or offline is inefficient

- Overwhelming number of unorganized options

- Automatization can be applied to many processes to reduce the amount of manual labour

```mermaid
flowchart LR
    Start((Start)) --- A[Customer wants to buy new clothes]
    A --- B{What type of shopping?}
    B -- Offline --- C[Go to a desired store]
    C --- D[Look for clothes]
    D --- E[Try it on]
    E --- F{Does it fit?}
    F -- Yes --> G[Buy it]
    G --- H[Bring it home]
    H --- End((End))
    F -- No --> X1{X}
    X1 --- I[Ask staff for the another size]
    I --- F
    X1 --- D

    B -- Online --- J[Find a desired website]
    J --- K[Look for clothes]
    K --- L[Buy clothes]
    L --- M[Receive the delivery]
    M --- N{Does it fit?}
    N -- Yes --> End
    N -- No --> O[Return it]
    O --- X2{X}
    X2 --- End
    X2 --- J
```

Start — Customer wants to buy new clothes — **What type of shopping?**

- **Offline** → Go to a desired store → Look for clothes → Try it on → **Does it fit?**
  - **Yes** → Buy it → Bring it home → **End**
  - **No** → X → Ask staff for the another size → Does it fit? (and back to Look for clothes)

- **Online** → Find a desired website → Look for clothes → Buy clothes → Receive the delivery → **Does it fit?**
  - **Yes** → **End**
  - **No** → Return it → X → End (and back to Find a desired website)
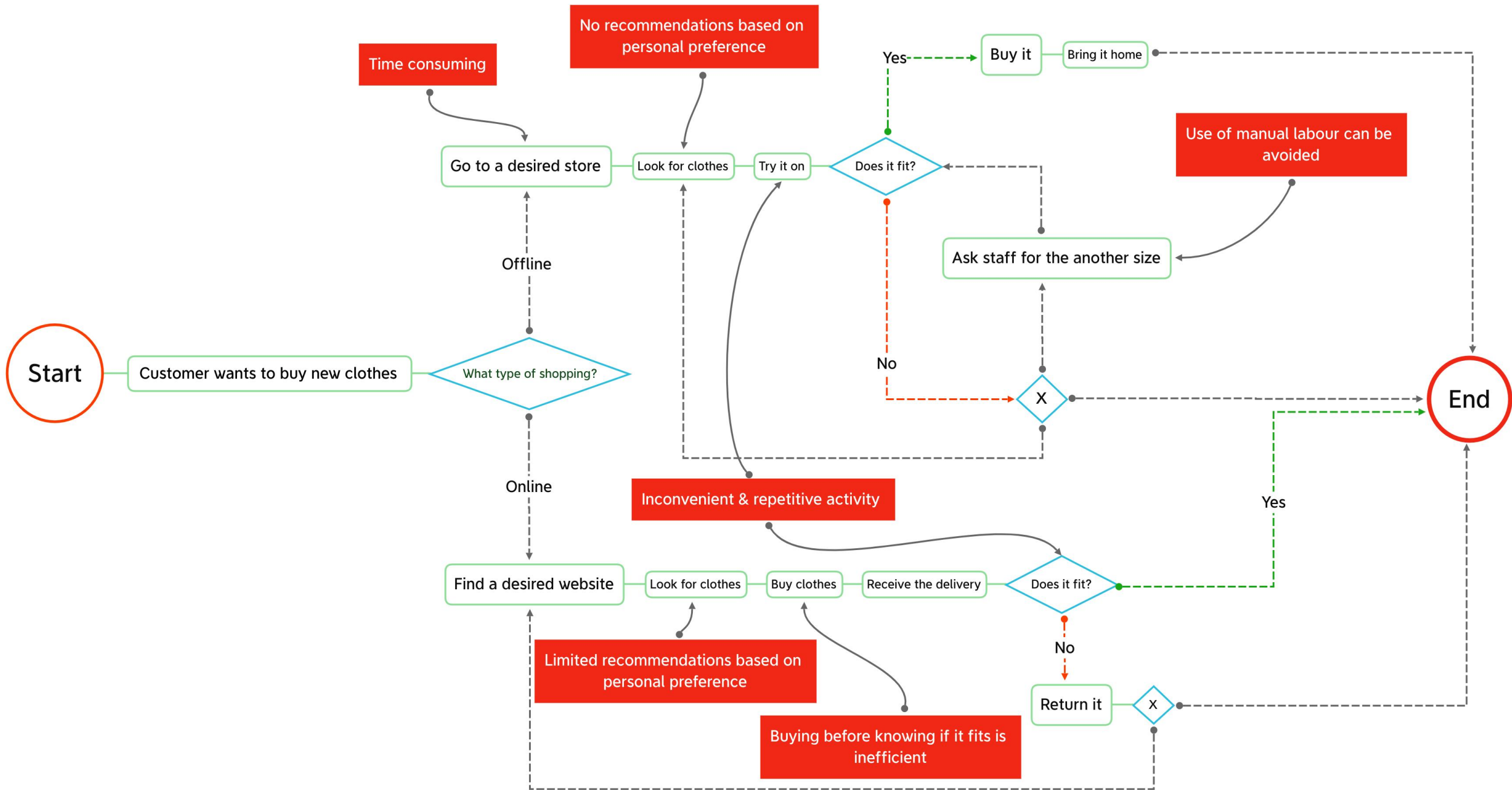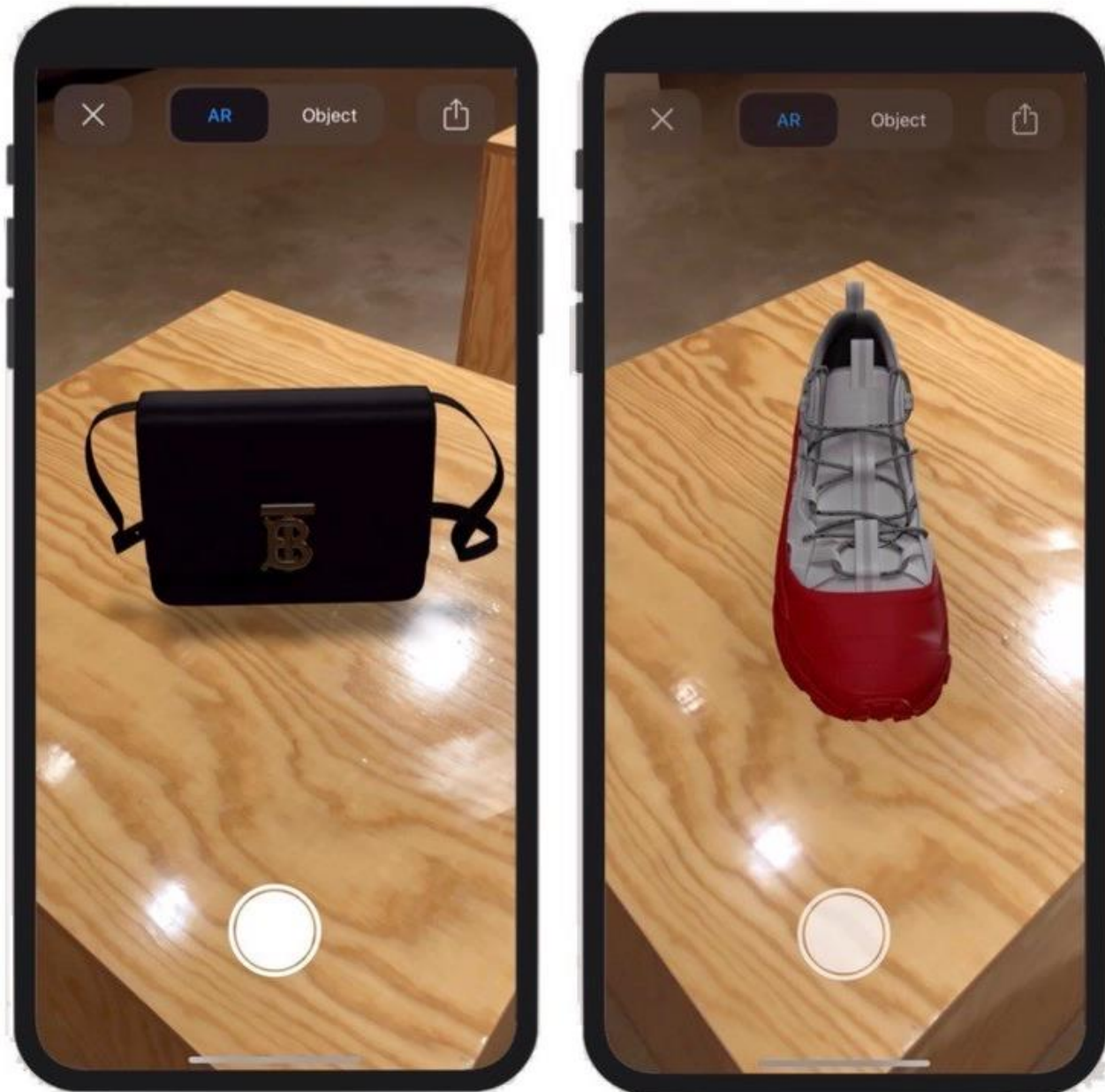
Presented with XMind

The problems

- Shopping is a time consuming process, because you not only need to choose from countless number of options with little to no technical assistance, but also it could be hard to tell how a piece of clothing will look on you without trying it on first.

- Not to mention that different companies have different standards of sizes (e.g. two pairs of shoes with size 42 from different companies will vary in actual size)
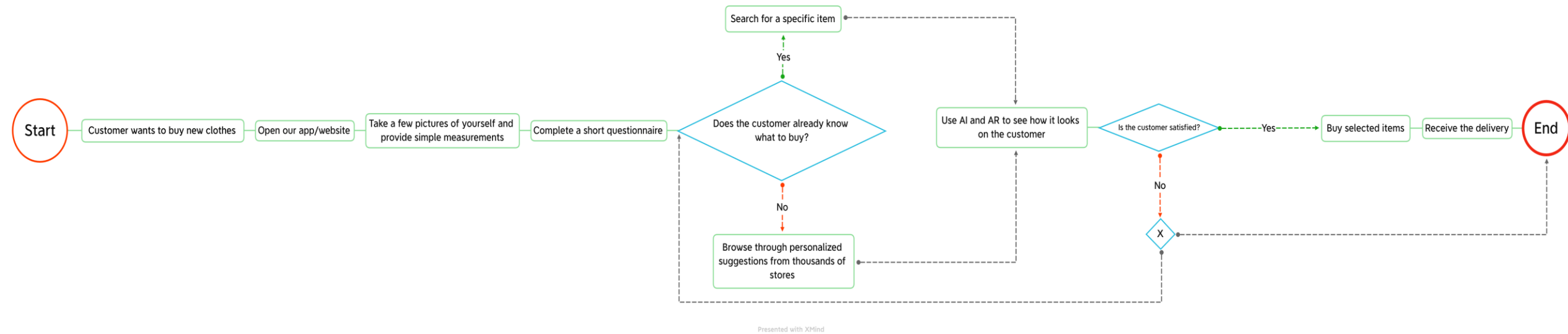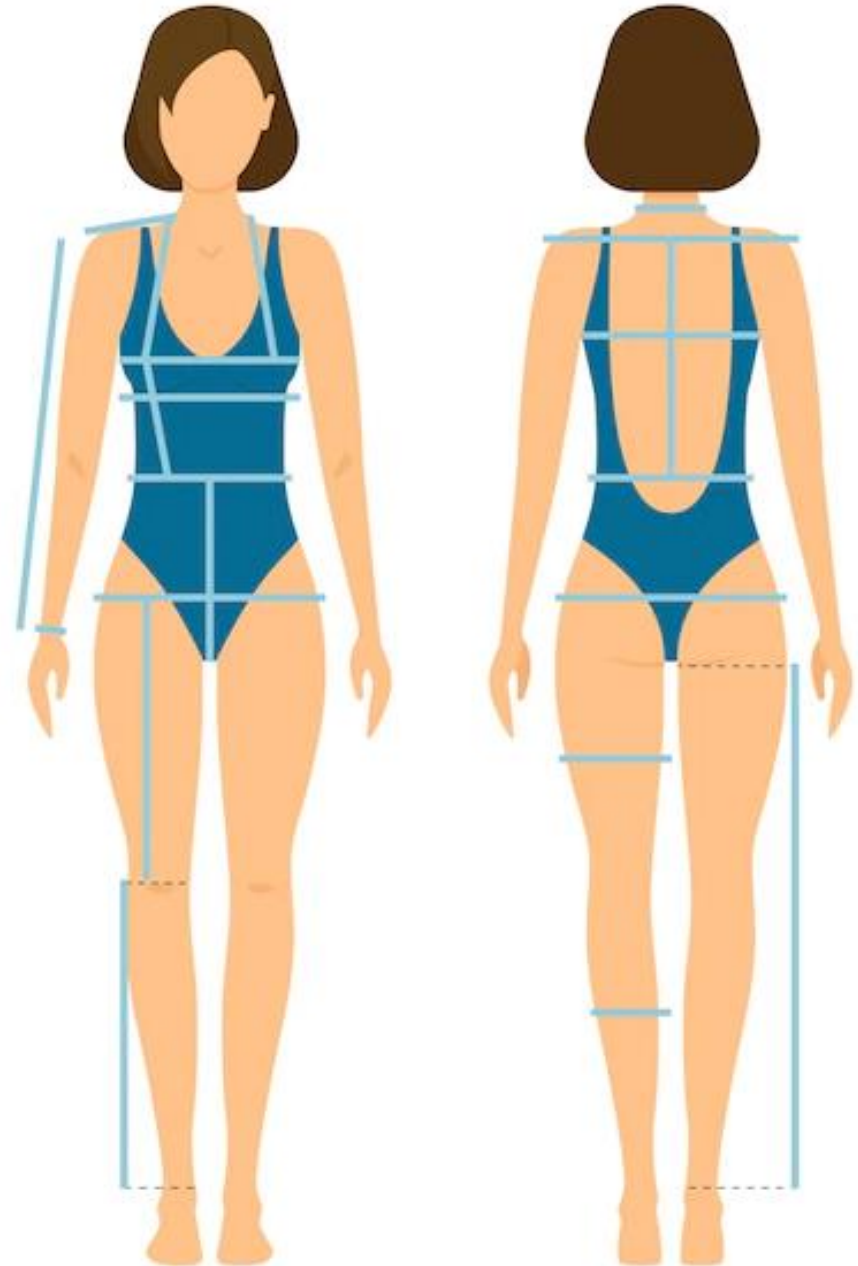
Solution

- The use of AI and AR (Augmented Reality) can fully resolve the aforementioned problems in a more efficient and convenient manner compared to the current alternatives.

BPMN diagram

Dataset

- Pictures of a person from different sides in underwear
- Same person dressed with
- Labels corresponding to clothing pieces
- Essential measurements of body parts

Acquiring data

- Publicly available sources (models, clothing shops, etc.)
- Medical institution
- Online submitions by volunteers