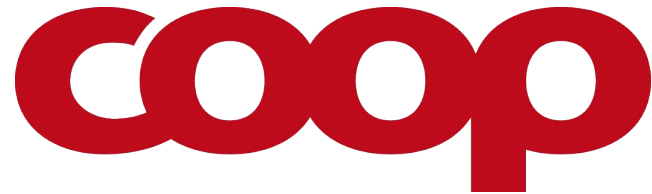


Consumer Interaction in Store



Augmented Reality (AR)

Applying computer generated models to the real world and thereby enhancing the user's perception of reality.

AR is in contrast to virtual reality (VR) that replaces the real world.

Relies heavily on computer vision and object recognition to blend the real and virtual world.



Context

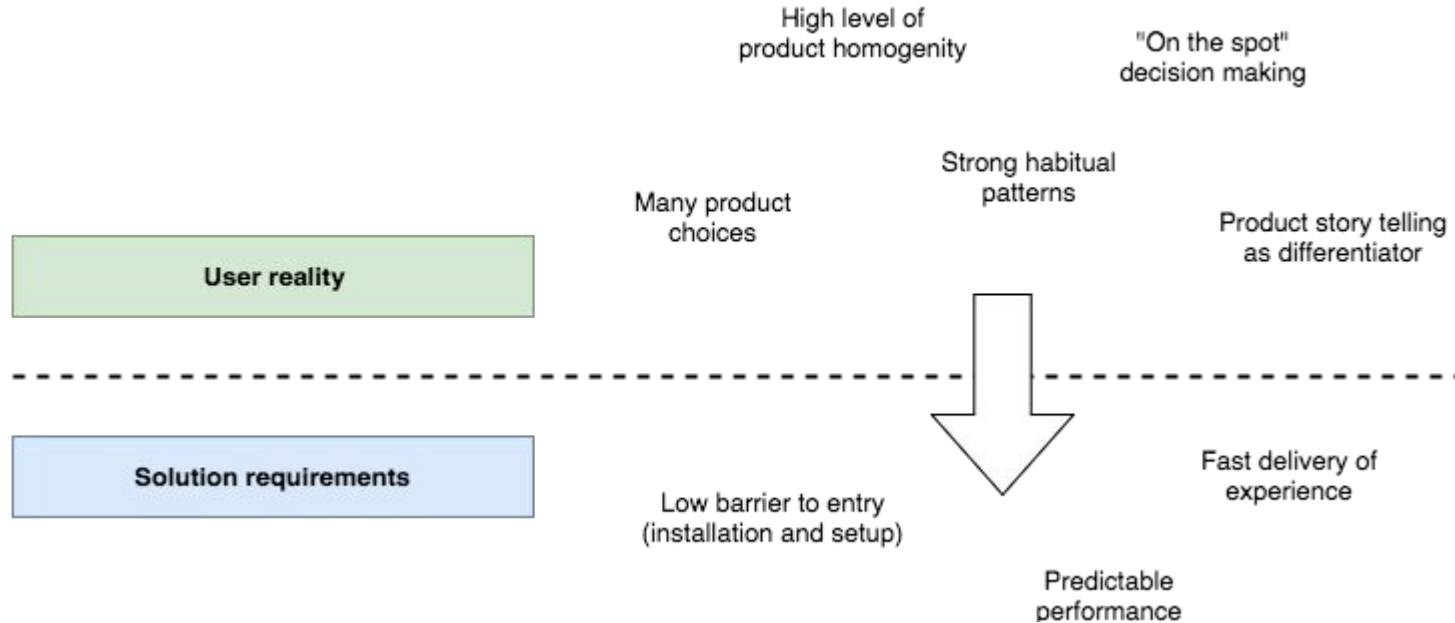
COOP stores offer thousands of products to their customers in physical stores

Information such as expiry date, nutritional content and packaging date is required by law and is presented textually in print (i.e. packaging) and relies on barcodes

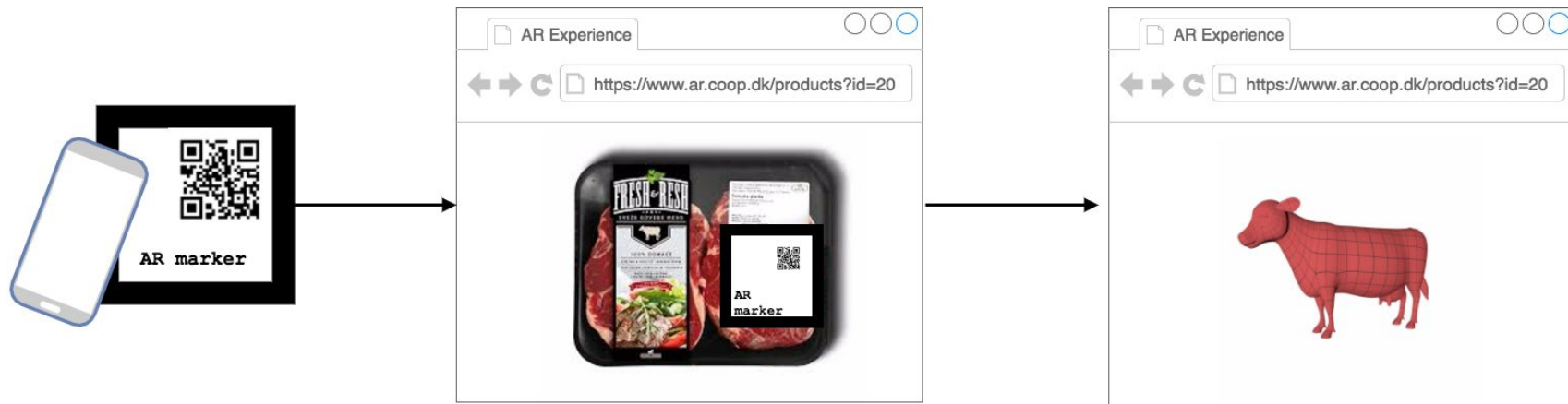
The proliferation of mobile devices and advances in the domain of augmented reality (AR) creates new opportunities for presenting product information.



Requirements from a **user** perspective



UX



Picking a platform



Picking a platform - the **web**?

3D model display using WebGL ==>



Pattern recognition (in C++) ==>



LLVM to JS compiler ==>



User media access ==>



CAN BE USED NATIVELY TOO!



Research design

Fundamental question “Is the web a viable platform for AR experiences?”

Hypothesis “An AR experience based on web technologies can provide a similar user experience compared to a native solution”

Experiments & metrics

- Time to load, render and provide experience
- Ability and speed to recognize pattern markers
- Perform identical experiments on same device
 - + Use ARToolkit in all experiments
 - + Keep position and lighting constant
 - + Render identical models

Current state of research

- ✓ Decide on technologies to investigate
- ✓ Create a working prototype with web technologies
- ✓ Place hooks throughout web stack to capture time spent on perf. metrics
- ~~✗ Implement and use ARToolkit on iOS~~
- Implement and use ARToolkit on Android
 - Perform experiments and capture perf. metrics
 - Evaluate the results in a comparative analysis