

AR for the Industry

Summary

Why it makes sense to display information directly where it is needed

Possibilities that exist to accomplish this

Challenges that still have to be overcome

Why

The way we interact today

Screens

Why

The way we interact today

Screens
Keyboards

Why

The way we interact today

Screens
Keyboards
Mouse

Why

The way we interact today

Screens
Keyboards
Mouse
Tablet/Smartphone

┌
Is this the final stage?

Intuitive?

Comfortable?

┌ Is this the final stage?

You need to

go to
grab
activate

your Technology

┌
Is this the final stage?

You need



your Technology

Why doesn't it follow you?

Shortcomings

Information **where** you need it?

Information **when** you need it?

Physical world **separated** from the digital one?

┌ Applications

Warehouse

Maintenance

CAD

Training

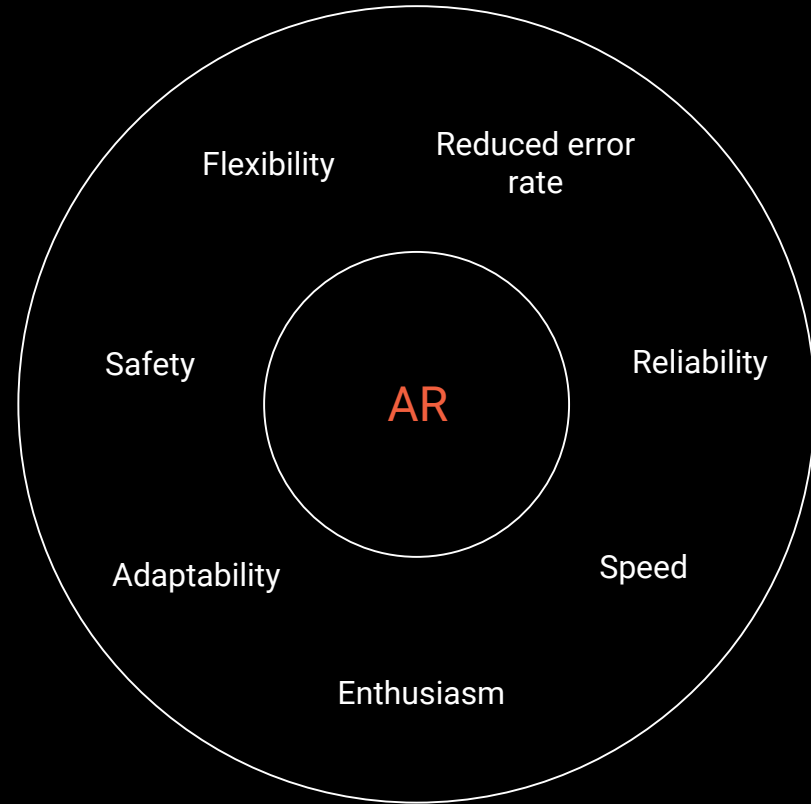
Remote support / Collaboration



Technology should be available when and where you need it, and disappear otherwise.



Advantages



┌ Ways to achieve this

Wearable

Fixed

Wearable headsets

Microsoft HoloLens

Magic Leap

Epson Moverio

Sony SmartEyeglass

etc.

Analysis

Applicability

Jobs on the move
Servicing installations
Diagnosing large objects
Warehouse

Pros

Full immersion
3D content
Natural placement of interfaces

Challenges

Wearing permanent weight
Battery
Content creation requires specialized tools
Precise positioning / target recognition
Privacy

Fixed devices





Analysis

Applicability

Office desk

Fixed work place

Assembly line

Counter

Prototyping

Pros

No weight on head

Content creation standardized (HTML5)

Object recognition simpler

Challenges

No 3D

Limited physical range for 1 device

Common challenges

Create new content

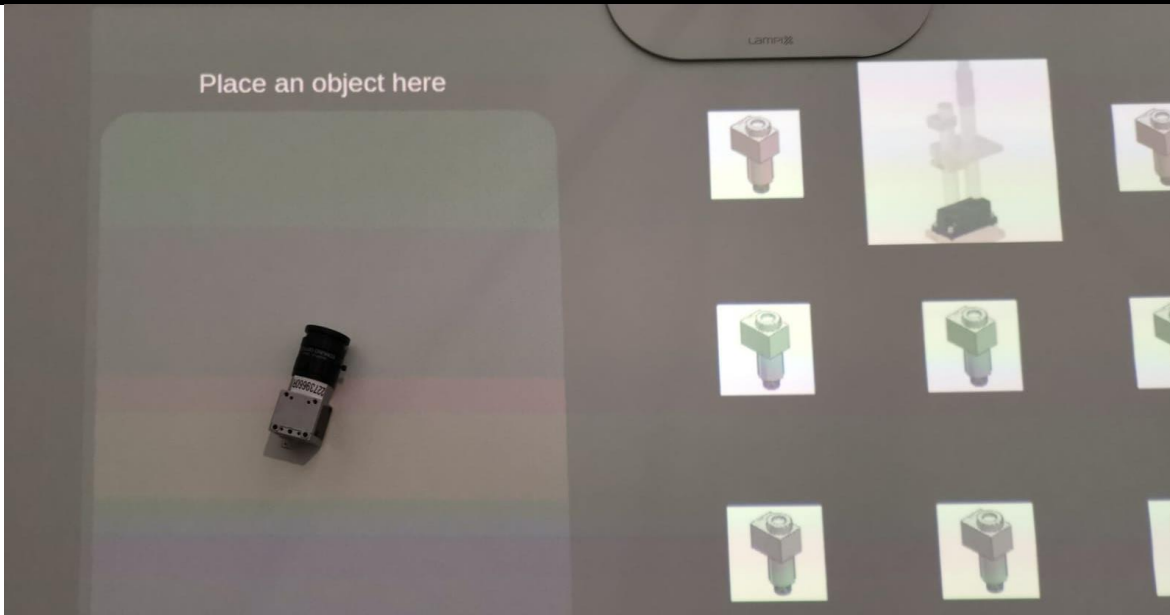
Integrate existing content

Computer vision – recognizing reality

Ways to measure efficiency

Example

Product search – CADENAS database



Example

Process support – producing cables

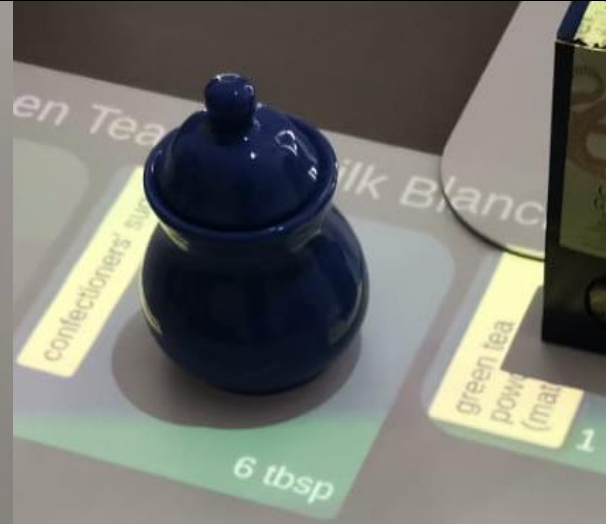
Example

Process support – cooking

Japanese Green Tea Soy Milk Blancmange

soy milk	milk	confectioners' sugar	green tea powder (matcha)	unflavored gelatin powder	heavy whipping cream
1 cup	1/2 cup	6 tbsp	1 tsp	1 tsp	1 cup

Prep 10 m
Cook 5 m
Total 1 h 15 m



To start, place all ingredients in their corresponding spaces above.

Example

User interface prototyping



Conclusions

Potential for enhancement of human workplace

Wearable / Fixed

Content

Computer vision



Thank you!

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