

# Extending everyday objects with Augmented Reality (online survey)

With Augmented Reality (AR) the real world can be overlapped by or linked with virtual objects. The user's field of vision is thereby extended by additional items or information. Thanks to the increasing networking of various objects and items in the Internet of Things, it's no longer unusual that your "smart" refrigerator is saving information about its content. Until now the representation of this data is usually ensured by a display or a mobile device. With Augmented Reality it's possible to show such information in an innovative way exactly where it's needed: In the field of vision of the user.

As part of my master thesis I want to find use cases for linking everyday objects with Augmented Reality.

The survey takes about 10-15 minutes to complete and does not require any prior knowledge. Of course, the data collected within this survey will be recorded and used anonymously only. In case of a scientific publication, the data will not reveal who took part in this study. Furthermore, your answers will not be transferred to third parties and are subject to the data protection law. By clicking "I agree" you confirm that you have read the privacy information. If you have any further questions or suggestions don't hesitate to contact me:

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There are 33 questions in this survey

## Examples for Augmented Reality

[ ]

With Augmented Reality (AR) the real world can be overlapped by or linked with virtual objects. The user's field of vision is thereby extended by additional items or information. Instead of replacing reality, Augmented Reality can supplement it.

In the picture on the right side you can find an example, how this might look like. It shows a real refrigerator, whereas the milk carton only exists virtually.



With Augmented Reality it is also possible to extend existent (real) objects and interact with them. This might be for example your Wi-Fi router which can be extended with a virtual display showing the password - or with a setup for configuration.

## Everyday objects combined with AR: Bedroom

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Now that you know what can be done with Augmented Reality I would like you to walk through the rooms of your home (either in thought or in reality).

**You are able to extend every item that you can find in one of the single rooms. This object can give you additional information or it can be extended with any desired functions.**

**First of all, please imagine that you are entering your bedroom.**

You may also name resp. explain more than one item. Separate the items, e.g. by a comma.

[]

Which item in your bedroom would you like best to extend with Augmented Reality?

\*

Please write your answer here:

[]

With which information or function would you like to extend the item?

\*

Please write your answer here:

[]

### **Why do you want to do that?**

Please write your answer here:

## Everyday objects combined with AR: Bathroom

[]

**Now, please imagine that you enter your bathroom.**

You may also name resp. explain more than one item. Separate the items, e.g. by a comma.

[]

Which item in your bathroom would you like best to extend with Augmented Reality?

\*

Please write your answer here:

[]

With which information or function would you like to extend the item?

\*

Please write your answer here:

[]

Why do you want to do that?

Please write your answer here:

## Everyday objects combined with AR: Living room

[]

Now, please imagine that you enter your **living room**.

You may also name resp. explain more than one item. Separate the items, e.g. by a comma.

[]

Which item in your living room would you like best to extend with Augmented Reality?

\*

Please write your answer here:

[]

With which information or function would you like to extend the item?

\*

Please write your answer here:

[]

Why do you want to do that?

Please write your answer here:

## Everyday objects combined with AR: Kitchen

[]

Now, please imagine that you enter your **kitchen**.

You may also name resp. explain more than one item. Separate the items, e.g. by a comma.

[]

Which item in your kitchen would you like best to extend with Augmented Reality?

\*

Please write your answer here:

[]

With which information or function would you like to extend the item?

\*

Please write your answer here:

[]

Why do you want to do that?

Please write your answer here:

## Everyday objects combined with AR: Workroom/Office

[]

**Finally, please imagine that you enter your workroom/office.**

You may also name resp. explain more than one item. Separate the items, e.g. by a comma.

[]

Which item in your workroom/office would you like best to extend with Augmented Reality?

\*

Please write your answer here:

[]

With which information or function would you like to extend the item?

\*

Please write your answer here:

[]

Why do you want to do that?

Please write your answer here:

## Storytelling

[]

Please take a moment to continue this statement:

### **Augmented Reality in my daily routine**

**Augmented Reality gives me the opportunity to augment (extend) any desired item in my house. In the morning I'm imagining my day and with the help of AR I would like best to...**

Please write your answer here:



## Interaction possibilities in the context of AR

[]

As part of my master thesis I also want to examine which interaction possibilities suit best in the context of Augmented Reality.

**Please answer the following questions:**

**How would you like to interact best with the items in your house, in order to receive the desired information or use any function?**

\*

Bitte wählen Sie mindestens eine Antwort.

Please choose **all** that apply:

- ☐ Speech
- ☐ Gestures
- ☐ Touchscreen
- ☐ Mouse and keyboard
- ☐ Controller
- ☐ Other:

[]

Why do you prefer this kind of interaction?

\*

Please write your answer here:

## Benefits of AR

[]

**Based on all the items that you augmented (extended):**

**Which benefits (e.g. "save time") can AR offer you in combination with everyday objects?**

Please write your answer here:

## Benefits of AR

[ ]

**Please complete following statement:**

**With the help of Augmented Reality I can...**

\*

Please choose **all** that apply:

- ☐ save time
- ☐ save money
- ☐ be reminded of something
- ☐ get useful information
- ☐ AR doesn't offer me any benefits
- ☐ Other:

**[ ] *Optional:* How can Augmented Reality help you to achieve this?**

Please write your answer here:

## Questions about your person / Comments

At the end some questions about your person.

### [ ]Age

Please write your answer here:

### [ ]Gender \*

Please choose **only one** of the following:

☐ Prefer not to say

☐ female

☐ male

☐ Other

### [ ]Highest degree of education \*

Please choose **only one** of the following:

☐ Prefer not to say

☐ No degree of education

☐ High school diploma / GED or similar

☐ High school diploma / GED or similar

☐ High school diploma / GED or similar

☐ Academic degree

☐ Doctoral degree

☐ Other

### [ ]Professional field \*

Please choose **only one** of the following:

- ☐ Prefer not to say
- ☐ Construction, Architecture, Measurement
- ☐ Service
- ☐ Electronic
- ☐ Health
- ☐ IT, Computer
- ☐ Art, Culture and Design
- ☐ Agriculture, Nature, Environment
- ☐ Media
- ☐ Metal, Engineering
- ☐ Natural sciences
- ☐ Production, Manufacturing
- ☐ Social affairs, Education
- ☐ Engineering, Technology fields
- ☐ Traffic, Logistics
- ☐ Economy, Administration
- ☐ Other

### [ ]How much experience do you have with the following topics? \*

Please choose the appropriate response for each item:

	1	2	3	4	5
Games consoles (e.g. Microsoft Xbox, Sony PlayStation, Nintendo Wii)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Virtual Reality using a smart phone (e.g. Google Cardboard)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Augmented Reality on a smart phone (e.g. Pokémon Go)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Virtual Reality (e.g. HTC Vive, Oculus Rift)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Augmented Reality (e.g. Microsoft HoloLens, Google Glass)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please select between

**1 = no experience** and

**5 = a lot of experience**

**[ ]In case you have any questions, wishes, comments or fears about the topic of this survey, you may use this field:**

Please write your answer here:

Thank you very much for your participation in this survey!

Submit your survey.

Thank you for completing this survey.