

# Detailed overview about the single tasks in all methods:

## *Cup saucer displaying the drink's temperature:*

- *Setup:*
  - Online:
    - Video shows the cup standing on the saucer on a table close to a coffee machine; the ambient light is turned off as the cup is empty.
  - VR:
    - Cup is standing on the saucer on a table close to a coffee machine; the ambient light is turned off as the cup is empty.
  - AR, Lab:
    - Cup is standing on the saucer on a table close to a coffee machine; the ambient light is turned off as the cup is empty. The coffee machine is turned on and contains sufficient water to brew a cup of coffee.
  - In-Situ:
    - Participants place the cup and the cup saucer where they prefer to, cup is standing on the saucer, the ambient light is turned off as the cup is empty.
- *Place the cup at the coffee machine / Brew the coffee:*
  - Online:
    - Video displays how a hand places the cup below the coffee machine, and presses a physical button to brew the coffee. The video highlights that there is a time lapse for brewing the coffee using a clock.
  - VR:
    - Participant points to the cup, presses the trigger at the controller and holds the trigger to move the cup and place it below the coffee machine, participant releases the trigger. Participant points to the coffee machine; clicks the trigger to start an animation that displays that the coffee is brewed.
  - AR, Lab:
    - Participant places the cup below the coffee machine, puts a pad into the machine and presses a physical button to brew the coffee.
  - In-Situ:
    - Participant places the cup close to their own coffee machine, and use their own machine to brew a cup of coffee.
- *Place the cup on the saucer:*
  - Online:
    - Video displays a hand that places the cup back to the saucer once the coffee is brewed. Ambient light display illuminates in red as the coffee is hot.
  - VR:
    - Participant points again with a controller to the cup, presses and holds the trigger at the remote control and moves the cup back to the saucer and release the trigger. Ambient light display illuminates in red as the coffee is hot.

- AR, Lab, In-Situ:
  - Once the coffee is brewed, the participants place the cup back to the saucer. Ambient light display illuminates in red as the coffee is hot.
- *Experience the temperature change displayed at the saucer:*
  - Online:
    - The video displays in a time lapse that the coffee to cools down. The time lapse is highlighted in the video using an animation that shows a time change at a clock. The ambient display changes from red through yellow to a bright green to indicate a drinkable temperature.
  - VR, AR, Lab, In-Situ:
    - Participant observes the ambient lighting. A time lapse for the coffee to cool down is simulated. The ambient display changes from red through yellow to a bright green to indicate a drinkable temperature.
- *Get the cup when the coffee is drinkable:*
  - Online:
    - The video displays a hand that gets the cup once the saucer lights in a bright green. The ambient light turns off.
  - VR:
    - Once the saucer lights in a bright green, the participant is asked to get the cup from the saucer, by pointing at the cup with the remote control and pressing and holding the trigger. The ambient light turns off.
  - AR, Lab, In-Situ:
    - Once the saucer lights in a bright green, the participant is asked to get the cup from the saucer. The ambient light turns off.

## *Stand for pepper and salt mills displaying filling levels:*

- *Setup:*
  - Online:
    - Video shows the stand with salt and pepper mills standing on a table. Peppermill is full and lighting in green, saltmill is filled around 50% and lighting in yellow.
  - VR, AR, Lab:
    - Stand with salt and pepper mills is standing on a table. Peppermill is full and lighting in green, saltmill is filled around 50% and lighting in yellow.
  - In-Situ:
    - Participant places the pepper mill where they prefer it in their home. Peppermill is full and lighting in green, saltmill is filled around 50% and lighting in yellow.

- *Use the peppermill:*
  - Online:
    - Video displays how a hand gets the peppermill and rotates the upper part to use the mill. A clock in the video displays the time lapse and the ambient light turns from green through yellow to red.
  - VR:
    - Participant points with the remote control to the peppermill, presses and holds the trigger that starts an animation for a rotating head of the mill to use the mill. Researcher explains that the interaction simulates multiple cookings (time lapse) and the ambient light turns from green through yellow to red.
  - AR, Lab, In-Situ:
    - Participant gets the peppermill and rotates the upper part to use the mill. Researcher explains that the interaction simulates multiple cookings (time lapse) and the ambient light turns from green through yellow to red.
  
- *Refill the peppermill:*
  - Online:
    - Video displays that a hand removes the screw on top of the mill and opens the top of the mill. A hand gets real pepper (placed close to the mills) and refills the mill with it. The ambient lights turns in parallel from red through yellow to green. Afterwards, the hand closes the mill, attaches the screw again, and places the mill back to the stand.
  - VR:
    - Participant clicks the button on the remote control to start an animation that opens the mill, refills, the mill with virtual pepper, and closes the mill. The ambient lights turns in parallel from red through yellow to green. Afterwards, the participant moves the mill back to the stand and releases the trigger.
  - AR, Lab, In-Situ:
    - Participant removes the screw on top of the mill and opens the top of the mill. Participant gets real pepper (placed close to the mills) and refills the mill with it. The ambient lights turns in parallel from red through yellow to green. Afterwards, participants closes the mill, attaches the screw again, and places the mill back to the stand.
  
- *Use the peppermill:*
  - Online:
    - Video displays how a hand gets the peppermill and rotates the upper part to use the mill and puts the mill back to the stand.
  - VR:
    - Participant points with the remote control to the peppermill, presses and holds the trigger that starts an animation for a rotating head of the mill to use the mill, puts the mill back to the stand and releases the trigger.
  - AR, Lab, In-Situ:
    - Participant gets the peppermill, rotates the upper part to use the mill and puts the mill back to the stand.

## *Plant pot displaying the water level:*

- *Setup:*
  - Online:
    - Video shows the plant pot standing on a table, the ambient light is lighting in green as the plant's water level is sufficient.
  - VR, AR, Lab:
    - The plant is placed at a table, the ambient light is lighting in green as the plant's water level is sufficient.
  - In-Situ:
    - Participant places the plant pot where they prefer it in their home, the ambient light is lighting in green as the plant's water level is sufficient.
- *Observe the water level is dropping:*
  - Online:
    - Video shows using a time lapse that the plant's water level is dropping. The ambient lighting changes from green through yellow to red. The time lapse is highlighted in the video using an animation that shows a time change at a clock.
  - VR, AR, Lab, In-Situ:
    - The plant's water level drops in a simulated time lapse and the ambient lighting changes from green through yellow to red.
- *Water the plant:*
  - Online:
    - The video shows a hand that waters the plant using a watering can filled with water. The ambient light turns from red through yellow to green.
  - VR:
    - The participant points with the remote control at the watering can, presses and holds the trigger while watering the plant. The ambient light turns from red through yellow to green. The participant puts the watering can back to the table and release the trigger.
  - AR, Lab, In-Situ:
    - The participant waters the plant using a watering can filled with water. The ambient light turns from red through yellow to green. The participant places the watering can back to the table.

## *Speaker displaying the volume:*

- *Setup*
  - Online:
    - Video shows the speaker standing on a table. Ambient lighting is turned off as no music is played.
  - VR, AR, Lab:
    - Speaker is placed at a table. Ambient lighting is turned off as no music is played.

- In-Situ:
  - Participant places the speaker where they prefer it in their home. Ambient lighting is turned off as no music is played.
- *Turn on the speaker:*
  - Online:
    - Video displays a hand pushing the physical power button at the speaker.
  - VR:
    - Using the trigger at the HTC Vive controller; as a consequence a remote control for the smart speaker is displayed on top of the left controller.
  - AR, Lab, In-Situ:
    - Pushing the physical power button at the speaker.
- *Turn on the music:*
  - Online:
    - Video displays a hand getting the smartphone and clicking the play button, music is played using the speaker, the video additionally displays a visualization the current music's volume to highlight the current volume level.
  - VR:
    - Clicking the play button on the displayed remote control for the smart speaker.
  - AR, Lab, In-Situ:
    - Participant picks the smartphone placed close to the speaker and clicks the play button in an app, music is played using the speaker.
- *Experience the music's volume:*
  - Online:
    - Video displays a hand changing the volume at the smartphone, the video displays how the ambient light display according to the volume level, , the video still displays a visualization the current music's volume to highlight the current volume level
  - VR:
    - Changing the volume using the volume buttons displayed at the remote control and observing how the ambient light display according to the volume level
  - AR, Lab, In-Situ:
    - Changing the volume using the volume buttons at the smartphone and observing how the ambient light display according to the volume level.