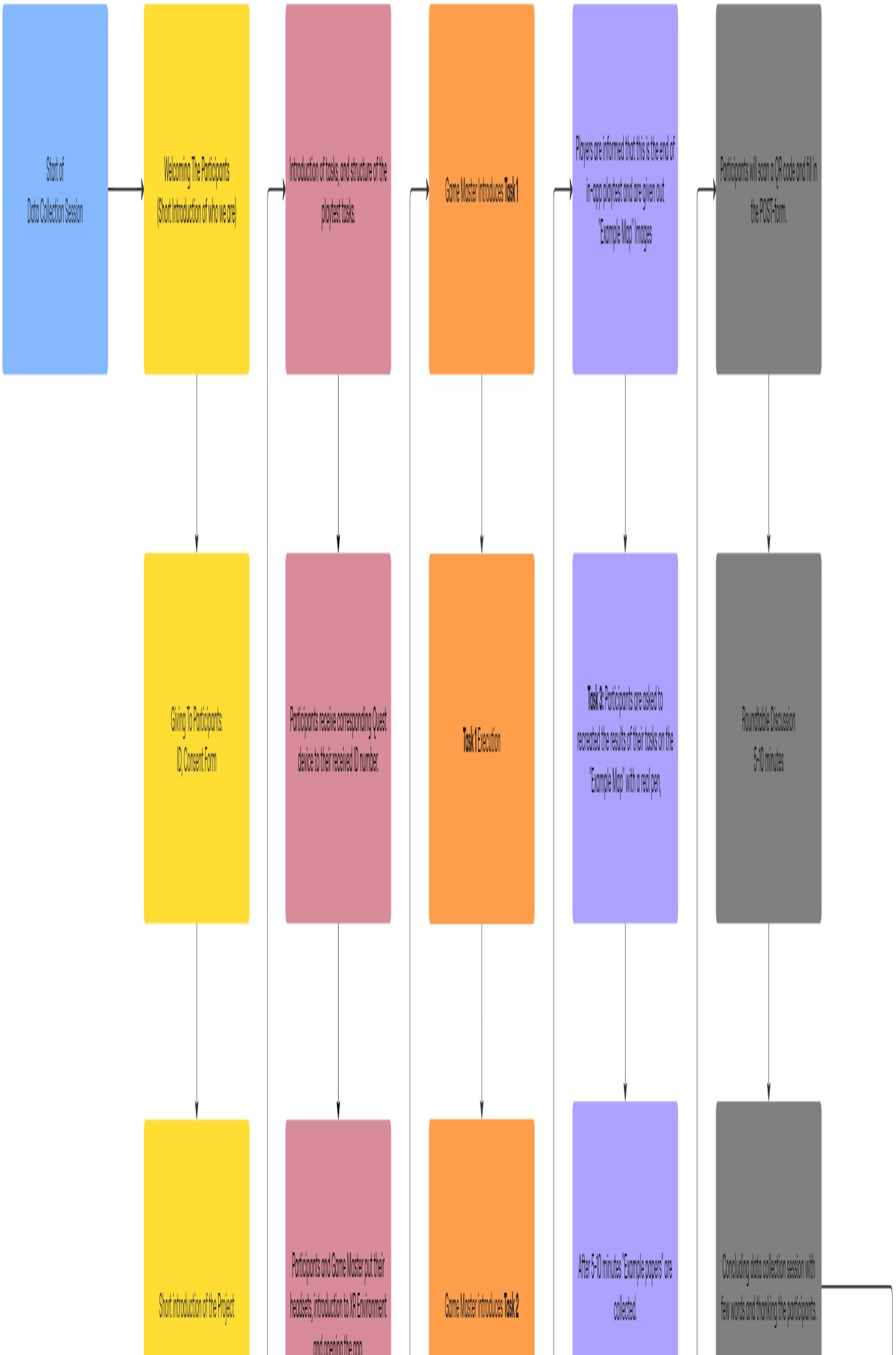
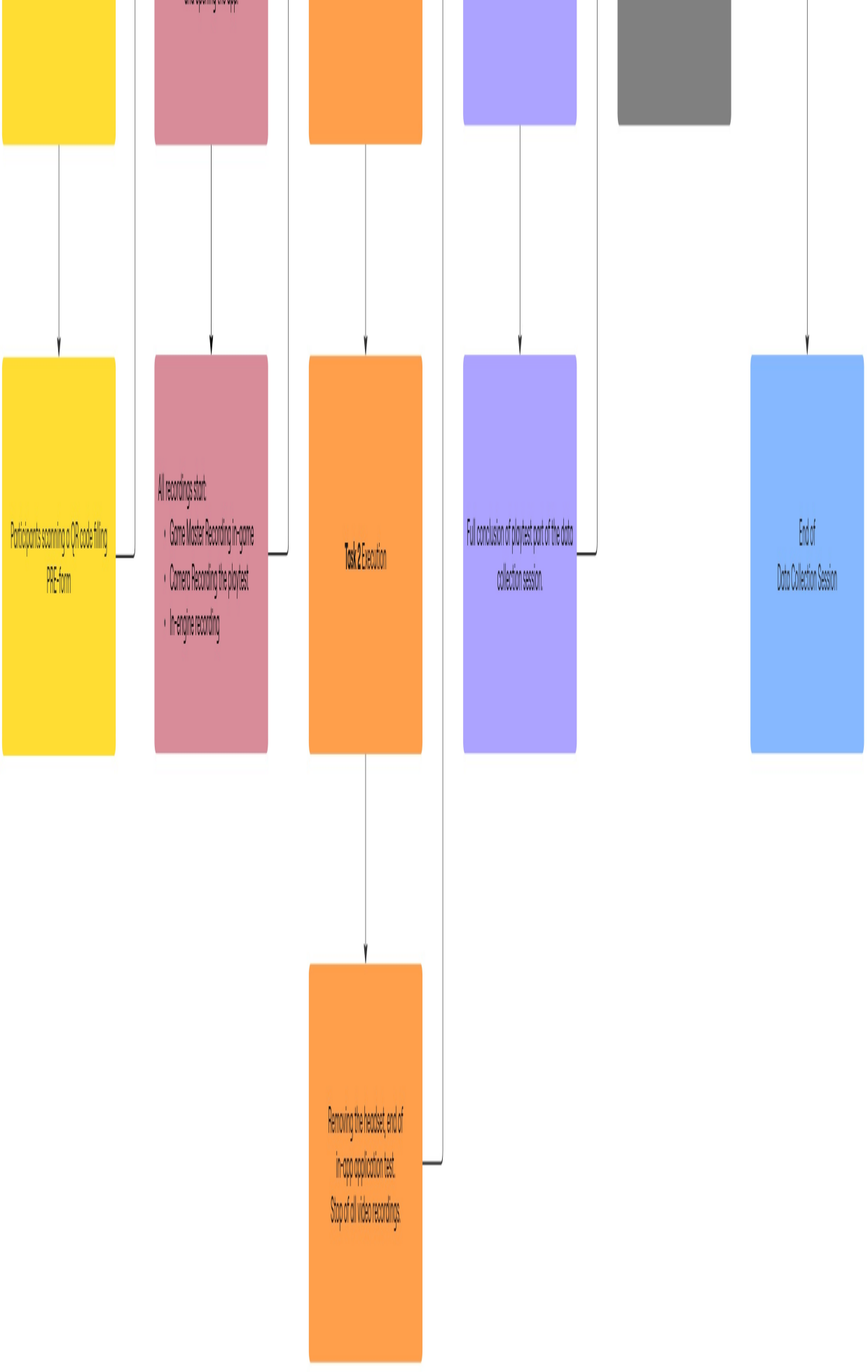

Start of
Data Collection Session
Welcoming The Participants
(Short introduction of who we are)
Introduction of tasks, and structure of the
playtest tasks.
Game Master introduces Task1
Players are informed that this is the end of
in-app playtest and are given out
'Example Map' Images
Participants will scan a QR code and fill in
the POST-form
Giving To Participants:
ID, Consent Form
Participants receive corresponding Quest
device to their received ID number.
Task1 Execution
Task1: Participants are asked to
recreated the results of their tasks on the
'Example Map' with a red pen,
Roundtable Discussion
5-10 minutes
Short introduction of the Project
Participants and Game Master put their
headsets, introduction to VR Environment
Game Master introduces Task2
After 5-10 minutes 'Example papers' are
collected.
Concluding data collection session with
few words and thanking the participants.



Short Introduction of the project:

MSP is an extension of a 13-year-long marine spatial planning project, designed to enhance communication, collaboration, and the presentation of the current state of marine spaces and their potential opportunities. The project you will test today is built using advanced AR

(MR) technology, offering an immersive platform to explore and understand marine spaces and their possibilities.

> *Today, you'll be testing an app that's part of a 13-year-long Marine Spatial Planning project. This initiative focuses on improving how we communicate and collaborate about marine environments while providing clear insights into their current state and potential opportunities.*
>
> ***SHOW IMAGE / VIDEO OF MSP CHALLENGE***
>
> *The project you'll interact with today takes this to the next level by using AR technology. This immersive platform lets you visualize and engage with marine spaces like never before, helping us explore their possibilities in innovative ways.*

*2️⃣**Introduction of tasks, and structure of the playtest tasks:** *

Throughout the game session, as participants you would need to complete a total of 3 tasks - 2 in-app tasks and 1 physical tasks related to the application.

> *During the game session, you'll complete a total of three tasks: two in-app tasks and one physical task that connects directly to the application.*

*3️⃣***Participants and Game Master put their headsets, introduction to XR Environment and opening the app:***

(All participants are putting their VR Headsets) Players are asked to explain what do they see and if they don't see the world around them (passthrough) or headset is inactive the Game master helps resolve the issue.

Participants are explained what is the purpose of VR and AR experiences (bridging the gap between the virtual and real world, they will see elements of the virtual world on top of real-world environment).

(All participants have put their VR Headsets on and see the environment around them) Participants are asked to explain what do they see and if they don't see the main menu line element, are asked to look at their hands (palm facing towards the headset) and pinch once their index and thumb fingers to open it up. Considering the menu opens up, the participants are asked to reach with their index finger and click on the project icon "Norsaic" (the same text is displayed on the app icon).

(All participants have opened the app and see the boat, windfarm and text) Participants are asked to grab the windfarm object by extending their arm and pinching their index and thumb finger on top of the object. After that keeping the pinched gesture drag the object to the windfarm ticket on the table and drop it by releasing the pinch gesture. After that the same process is repeated for the boat object. After that participants will press the accept button by extending their arm with the index finger only.

Anchors have been set.

(All participant see the map on the table) Participants are asked to press join button and Game Master Moves the World Menu to a suitable position.

> ***Participants Put on VR Headsets**:*
> *"Alright, everyone, let's begin by putting on your VR headsets. Please loosen the headstrap, and put the device against your face, now pull the strap over your head and tighten the strap.*
>
> *Once they're on, take a look around and let me know what you see. If you can't see the passthrough view or your headset isn't active, just let me know, and I'll help you fix it. The image should be clear."*
>
> ***Explaining AR**:*
> *"Let me explain what we're doing here. The goal of these AR experiences is to bridge the gap between the virtual and real worlds. With your headsets on, you'll see virtual objects seamlessly blended into the physical space around you."*
>
> ***Interacting with Objects**:*
> *"Inside the app, you'll see virtual objects like a windfarm and a boat. To interact, reach out with your hand, pinch your thumb and index finger to grab an object, and move it to the designated spot on the table. Start with the windfarm, then do the same for the boat.*
>
> *Once you're done, press the accept button by pointing at it with your finger." "We will do this one by one (session leader indicates who can place an anchor)"*
>
> ***Setting Anchors and Joining the Map**:*
> *"Finally, you should see a map appear on the table. Press the join button, feel free to walk around the table. Please don't interact with any of the digital elements until everyone is ready"*

*4️⃣**Game Master Introduces Task 1:** *

Participants are explained that as a group they need to identify a shipping lane by toggling the necessary layers on and off. Then choose a suitable path for the shipping lane and explain why. (If the group is using drawing tools they need to draw the shipping lane on the map.)

> ***Explaining the Group Task:***
>
> *"Your first task as a group is to identify a shipping lane. To do this, you'll toggle different layers of information on and off within the map. These layers will provide the data you need to make an informed decision."*

> ***Choosing the Path:***
>
> *"Once you've explored the map layers, collaborate to select the most suitable path for the shipping lane. As a group, discuss and explain why this path works best based on what you've seen."*
>
> ***Discovering and Using Drawing Tools (if applicable):***
>
> *"Try to find the drawing tools and use them to sketch your chosen shipping lane directly onto the map."*

Task 1: **Identify a Shipping Lane**

- Find Shipping Lane layer and toggle it on.
- Find Total Shipping Intensity Layer and toggle it on.
- Identify a Shipping Lane route.
  - (Grab the pen and draw to) Identify a Shipping Lane on low shipping intensity zone from X to Y.
  - Check for mistakes, erase anything if needed.
- Erase all drawings on the map.
  - Close all layers to start with a blank slate
- End of task

5️⃣***Game Master Introduces Task 2:***

Participants are explained that as a group they need to identify the Windfarms and Cable routes by toggling the necessary layers on and off. Then choose a suitable place for the new Windfarm zone and suitable path for Cable route, and explain why. (If the group is using drawing tools they need to draw the Windfarm Zones and Cable route on the map.)

> ***Explaining the Group Task:***
>
> *"Your next task as a group is to identify two possible new windfarm locations. Use the layers and tools as instructed in the previous task"*
>
> ***Choosing Areas:***
>
> *"Once you've explored the map layers, collaborate to select the most suitable areas. As a group, discuss and explain why these locations work best based on what you've seen. (and draw them on the map)"*
>
> ***Eliminate an Area:***
>
> *"Together decide which area is most suitable, (and remove the other option with the eraser)"*
>
> ***Decide on the Cable to Place:***
>
> *"Make sure the Cable Layer is enabled, and identify the best route for a cable to run from shore to the new windfarm area (and draw this cable on the map)"*

Task 2: Identify a Windfarm Zone

- Identify and enable interfering activities
  - Windfarm
  - Fishing Intensity
  - Oil & Gas
  - Shipping (routes)
- Create a new wind farm
  - (Grab the pen and draw to) Identify two Windfarm suggestions on spots with low fishing intensity.
- Choose a favorite (and erase the other one from the map).
- Find the Cable Layer and toggle it on.
- Identify a Cable route to the new Windfarm.
  - Draw a cable from the suggested Windfarm to the landing station.
- End of task

5️⃣1️⃣***Participants are requested to fill out the NASA-TLX***

After completing the task 2, participants are requested to fill out the ***NASA-TLX (physical)*** questionnaire, this will be provided on piece of paper.

Please Fill in the *NASA-TLX* questionnaire

> *You are now handed a piece if paper with a **NASA-TLX** questionnaire*
>
> *It consist of 6 questions with a 21 point scale. Please, grab a pen, read and answer the question by putting an X mark on the square that you think is corresponding to the question on the left.*

> *Please return the paper to me after you completed the **NASA-TLX.***

6️⃣ ***Players are informed that this is the end of in-app playtest and are given out "Example Map" Images:***

Participants are informed that wit the end of Task 2, in-app playtest concludes and the only task left is representing the information they saw in-app on the "Example Maps" by drawing with these pens the identified shipping lane, windfarm zone and cable route in the next 5 minutes.

> ***Draw the Windfarm on the Physical Map***
>
> *Please draw the location of the windfarm, as agreed upon by your team, on this map to the best of your abilities.*
>
> *You can use these maps as reference images.*
>
> *You can use the pen provided to you, the color does not matter.*

7️⃣ ***Participants are requested to fill out the Questionnaire***

After completing the example map, participants are requested to fill out the questionnaire, this will be provided on a tablet

Please Fill in the post-experience questionnaire

> *You are now handed a tablet with a post-experience questionnaire*
>
> *The first question is ONLY about the final tasks, where you drew the windfarm and the cable, while the other questions are about your experience as a whole*
>
> *Please return the tablet to me after you completed the questionnaire*

8️⃣ ***Round Table Discussion***

Questions

Q1: Did you enjoy your experience with the (drawing) system?

Q2: Do you think that this (drawing) system will be helpful for communication?

Q3: Were you able to control the (drawing) system?

Study: https://pmc.ncbi.nlm.nih.gov/articles/PMC5539644/#sec2-sensors-17-01589

> ***As a final point of feedback, we want to understand, in your own words, how you felt about this project. That is why we will have a short roundtable discussion.***
>
> *//Reading Question 1 + Discussion (around 2-5 minutes)*
>
> *//Reading Question 2 + Discussion (around 2-5 minutes)*
>
> *//Reading Question 3 + Discussion (around 2-5 minutes)*
>
> *(Finishing Up)* ***Great, thank you for this valuable feedback. With this we wrap-up session X with participants: X Y Z and Game Master: Wilco***

Initial Notes

Consent & Information forms

PRE-data collection - feedback form

Participants Gathering:

Introduction and Onboarding (3-5 mins): Briefly explain the tool's purpose, demonstrate basic features, and clarify tasks.

Task Execution (5-10 mins): Allow players to complete the tasks independently, observing how they use the tools and navigate between layers.

POST-data collection - feedback form

Including physical map drawing of windfarms and shipping lanes

Evaluation and Data Collection: Collect data on their process and final outcomes.

Observational Notes: Track any confusion with tools, layer navigation, or drawing on specific layers.

Video Recording: Capture players' interactions to review their drawing flow and any points of confusion.

Form or Survey: Have players complete a brief survey afterward to gather self- reported ease of use, intuitiveness, and satisfaction.

Roundtable Discussion