Questionnaire - User Study

1. Introduction
2. Sign consent form
3. Fill out personal information questionnaire
4. Put on body suit
5. Explain about system

* Indicates required question

1. **Controller being tested?** *

   Mark only one oval.

   ◯ WBC

   ◯ Chiron

2. **Is the person testing first the VR or the screen?** *

   Mark only one oval.

   ◯ VR first   *Skip to question 19*

   ◯ Screen first   *Skip to question 29*

3. **Participant code** *

   Generating the participant code:

   1. Third letter of your first name (e.g., "S" for Elsa)

   2. Last letter of your surname (e.g., "T" for Schmitt)

   3. First letter of your mother's first name (e.g., "N" for Nadja)

   4. First letter of your birthplace (e.g., "F" for Freiburg)

   5. Day of your birth date (e.g., 08 for 08/12/1994, please use 2 characters)

4. Age *

_____

5. Height *

_____

6. What gender do you identify as? *

Mark only one oval.

◯ Male

◯ Female

◯ Diverse

◯ Prefer not to say

7. What is the highest degree or level of education you have completed or are currently pursuing? *

Mark only one oval.

◯ High School

◯ Bachelor's Degree

◯ Master's Degree

◯ Ph.d or higher

◯ Trade School (Ausbildung)

◯ Prefer not to say

8.   Are you left- or right-handed? *

Mark only one oval.

◯ Left-handed

◯ Right-handed

◯ Prefer not to say

9.   Do you have any eyesight conditions (myopia, hyperopia, ...) ? *

Mark only one oval.

◯ Yes

◯ No

◯ Prefer not to say

10.   What is the eyesight issue if there is one

_____

11.   Are you wearing glasses or lenses or nothing today? *

Mark only one oval.

◯ Glasses

◯ Lenses

◯ Nothing

12.   What is your field of study/work?

_____

13. Do you have any physical disabilities? If yes, which?

_____

_____

_____

_____

_____

14. How experient do you consider your self in videogames? (Consider how often *
    you play/have played)

    Mark only one oval.

    ( ) I have no experience, never played

    ( ) A little experience, played a few times

    ( ) Moderate experience, played/play quite often

    ( ) Advance experience, played/play very often

15. How often have you used used virtual reality gear? *

    Mark only one oval.

    ( ) Never

    ( ) 1 or 2 times

    ( ) More than 2 times, but not often

    ( ) Very often

16. How often have you interacted with teleoperation setups until now? *

    Mark only one oval.

    ( ) Never

    ( ) 1 or 2 times

    ( ) More than 2 times, but not often

    ( ) Very often

17.   Do you have a driver's and/or pilot's license? *

Mark only one oval.

◯ Yes

◯ No

18.   What works best for you when learning something new? *

Mark only one oval.

	1	2	3	4	5	
Rea	◯	◯	◯	◯	◯	By trial and error

Experiment in Simulation with VR

Simulation with VR

- 6 minutes playing around OR until achieves the task one time successfully

19. SSQ questions BEFORE the VR

Mark only one oval per row.

	None	Slight	Moderate	Severe
General Discomfort	◯	◯	◯	◯
Fatigue	◯	◯	◯	◯
Headache	◯	◯	◯	◯
Eyestrain	◯	◯	◯	◯
Difficulty Focusing	◯	◯	◯	◯
Difficulty Concentrating	◯	◯	◯	◯
Blurred vision	◯	◯	◯	◯
Dizziness with eyes open	◯	◯	◯	◯
Fullness of head	◯	◯	◯	◯

20. How many times repositioning was needed?

_____

21. Which tasks could the person achieve?

Check all that apply.

☐ 1: Open Drawer
☐ 2: Move to & Pick up bottle
☐ 3: Put water bottle inside drawer
☐ 4: Close drawer
☐ 5: Return to base

22. SSQ questions AFTER the VR

Mark only one oval per row.

	None	Slight	Moderate	Severe
General Discomfort	◯	◯	◯	◯
Fatigue	◯	◯	◯	◯
Headache	◯	◯	◯	◯
Eyestrain	◯	◯	◯	◯
Difficulty Focusing	◯	◯	◯	◯
Difficulty Concentrating	◯	◯	◯	◯
Blurred vision	◯	◯	◯	◯
Dizziness with eyes open	◯	◯	◯	◯
Fullness of head	◯	◯	◯	◯

23. (SEQ) Overall, how easy or difficult did you find to perform this task?

Mark only one oval.

	1	2	3	4	5	6	7	
Very	◯	◯	◯	◯	◯	◯	◯	Very Hard

24. If you found it hard achieving the task, what was the main issue?

_____

_____

_____

_____

_____

25. **(ARWES/CSS):** Read each statement carefully and indicate the one that is most representative of your workload.

Mark only one oval.

- ◯ 1: Nothing to do; No system demands.
- ◯ 2: Light Activity; minimal demands.
- ◯ 3: Moderate activity; easily managed considerable spare time.
- ◯ 4: Busy; Challenging but manageable; Adequate time available.
- ◯ 5: Very busy; Demanding to manage; Barely enough time.
- ◯ 6: Extremely busy; Very difficult; Non-essential tasks postponed.
- ◯ 7: Overloaded; System unmanageable; Essential tasks undone; Unsafe.

26. Please answer the following questions

Mark only one oval per row.

	Strongly Disagree	Slightly Disagree	Neither Agree not Disagree	Slightly Agree	Strongly Agree
I feel I could perceive the depth of the objects well	◯	◯	◯	◯	◯
I felt as though the robot's movements were my own.	◯	◯	◯	◯	◯
I feel like it was an immersive experience	◯	◯	◯	◯	◯
I feel like the simulation training was enough for me to understand how to use the system	◯	◯	◯	◯	◯

27.   Has the person already tested the Simulation without VR? *

Mark only one oval.

   ◯ Yes   *Skip to question 71*

   ◯ No   *Skip to question 29*

28.   Simulation: notes from collector

_____

_____

_____

_____

_____

Experiment in Simulation without VR

Simulation without VR

- 6 minutes playing around OR until achieves the task one time successfully

29.   How many times repositioning was needed?

_____

30.   Which tasks could the person achieve?

Check all that apply.

   ☐ 1: Open Drawer

   ☐ 2: Move to & Pick up bottle

   ☐ 3: Put water bottle inside drawer

   ☐ 4: Close drawer

   ☐ 5: Return to base

31.   (SEQ) Overall, how easy or difficult did you find to perform this task? *

Mark only one oval.

	1	2	3	4	5	6	7	
Very	◯	◯	◯	◯	◯	◯	◯	Very Hard

32.   If you found it hard achieving the task, what was the main issue?

_____

_____

_____

_____

_____

33.   **(ARWES/CSS):** Read each statement carefully and indicate the one that is most representative of your workload.

Mark only one oval.

◯ 1: Nothing to do; No system demands.

◯ 2: Light Activity; minimal demands.

◯ 3: Moderate activity; easily managed considerable spare time.

◯ 4: Busy; Challenging but manageable; Adequate time available.

◯ 5: Very busy; Demanding to manage; Barely enough time.

◯ 6: Extremely busy; Very difficult; Non-essential tasks postponed.

◯ 7: Overloaded; System unmanageable; Essential tasks undone; Unsafe.

34. Please answer the following questions

Mark only one oval per row.

	Strongly Disagree	Slightly Disagree	Neither Agree not Disagree	Slightly Agree	Strongly Agree
I feel I could perceive the depth of the objects well	◯	◯	◯	◯	◯
I felt as though the robot's movements were my own.	◯	◯	◯	◯	◯
I feel like it was an immersive experience	◯	◯	◯	◯	◯
I feel like the simulation training was enough for me to understand how to use the system	◯	◯	◯	◯	◯

35.   Has the person already tested the Simulation with VR? *

Mark only one oval.

◯ Yes   *Skip to question 37*

◯ No   *Skip to question 19*

36.   Simulation: notes from collector

_____

_____

_____

_____

_____

Experiment in Real World with VR

Real World with VR

- 4 minutes playing around
- Trying to achieve the task 3 times

37. SSQ questions BEFORE the VR

Mark only one oval per row.

	None	Slight	Moderate	Severe
General Discomfort	○	○	○	○
Fatigue	○	○	○	○
Headache	○	○	○	○
Eyestrain	○	○	○	○
Difficulty Focusing	○	○	○	○
Difficulty Concentrating	○	○	○	○
Blurred vision	○	○	○	○
Dizziness with eyes open	○	○	○	○
Fullness of head	○	○	○	○

38. **(TASK 1)** Subtasks success

Mark only one oval per row.

	Success	Partial Success: Recovered alone from fail	Partial Failure: Small adjustment/help needed	Complete Failure: Give up or big adjustment needed
Open drawer	◯	◯	◯	◯
Move to & pick up bottle	◯	◯	◯	◯
Put bottle inside drawer	◯	◯	◯	◯
Close drawer	◯	◯	◯	◯
Return to base	◯	◯	◯	◯

39. **(TASK 1)** How many times repositioning was needed?

_____

40. **(TASK 1)** (SEQ) Overall, how easy or difficult did you find to perform this task? *

Mark only one oval.

	1	2	3	4	5	6	7	
Very	◯	◯	◯	◯	◯	◯	◯	Very Hard

41.   **(TASK 1) (ARWES/CSS):** Read each statement carefully and indicate the one that is most representative of your workload.

Mark only one oval.

- ( ) 1: Nothing to do; No system demands.
- ( ) 2: Light Activity; minimal demands.
- ( ) 3: Moderate activity; easily managed considerable spare time.
- ( ) 4: Busy; Challenging but manageable; Adequate time available.
- ( ) 5: Very busy; Demanding to manage; Barely enough time.
- ( ) 6: Extremely busy; Very difficult; Non-essential tasks postponed.
- ( ) 7: Overloaded; System unmanageable; Essential tasks undone; Unsafe.

42.   **(TASK 1)** If you found it hard achieving the task, what was the main issue?

_____

_____

_____

_____

_____

43.   **(TASK 2)** How many times repositioning was needed?

_____

44. **(TASK 2)** Subtasks success

Mark only one oval per row.

	Success	Partial Success: Recovered alone from fail	Partial Failure: Small adjustment/help needed	Complete Failure: Give up or big adjustment needed
Open drawer	◯	◯	◯	◯
Move to & pick up bottle	◯	◯	◯	◯
Put bottle inside drawer	◯	◯	◯	◯
Close drawer	◯	◯	◯	◯
Return to base	◯	◯	◯	◯

45. **(TASK 2)** (SEQ) Overall, how easy or difficult did you find to perform this task?

Mark only one oval.

	1	2	3	4	5	6	7	
Very	◯	◯	◯	◯	◯	◯	◯	Very Hard

46. **(TASK 2) (ARWES/CSS):** Read each statement carefully and indicate the one that is most representative of your workload.

Mark only one oval.

- ◯ 1: Nothing to do; No system demands.
- ◯ 2: Light Activity; minimal demands.
- ◯ 3: Moderate activity; easily managed considerable spare time.
- ◯ 4: Busy; Challenging but manageable; Adequate time available.
- ◯ 5: Very busy; Demanding to manage; Barely enough time.
- ◯ 6: Extremely busy; Very difficult; Non-essential tasks postponed.
- ◯ 7: Overloaded; System unmanageable; Essential tasks undone; Unsafe.

47. **(TASK 2)** If you found it hard achieving the task, what was the main issue?

_____

_____

_____

_____

_____

48. **(TASK 3)** How many times repositioning was needed? *

_____

49.   **(TASK 3)** Subtasks success

Mark only one oval per row.

	Success	Partial Success: Recovered alone from fail	Partial Failure: Small adjustment/help needed	Complete Failure: Give up or big adjustment needed
Open drawer	⬭	⬭	⬭	⬭
Move to & pick up bottle	⬭	⬭	⬭	⬭
Put bottle inside drawer	⬭	⬭	⬭	⬭
Close drawer	⬭	⬭	⬭	⬭
Return to base	⬭	⬭	⬭	⬭

50.   **(TASK 3)** (SEQ) Overall, how easy or difficult did you find to perform this task?

Mark only one oval.

	1	2	3	4	5	6	7	
Very	○	○	○	○	○	○	○	Very Hard

51. **(TASK 3) (ARWES/CSS):** Read each statement carefully and indicate the one that is most representative of your workload.

Mark only one oval.

- ⬭ 1: Nothing to do; No system demands.
- ⬭ 2: Light Activity; minimal demands.
- ⬭ 3: Moderate activity; easily managed considerable spare time.
- ⬭ 4: Busy; Challenging but manageable; Adequate time available.
- ⬭ 5: Very busy; Demanding to manage; Barely enough time.
- ⬭ 6: Extremely busy; Very difficult; Non-essential tasks postponed.
- ⬭ 7: Overloaded; System unmanageable; Essential tasks undone; Unsafe.

52. **(TASK 3)** If you found it hard achieving the task, what was the main issue?

_____

_____

_____

_____

_____

53.   SSQ questions AFTER the VR

Mark only one oval per row.

	None	Slight	Moderate	Severe
General Discomfort	◯	◯	◯	◯
Fatigue	◯	◯	◯	◯
Headache	◯	◯	◯	◯
Eyestrain	◯	◯	◯	◯
Difficulty Focusing	◯	◯	◯	◯
Difficulty Concentrating	◯	◯	◯	◯
Blurred vision	◯	◯	◯	◯
Dizziness with eyes open	◯	◯	◯	◯
Fullness of head	◯	◯	◯	◯

54.   **Mental Demand:** How much mental and perceptual activity was required (e.g. thinking, deciding, calculating, remembering, looking, searching, etc)? Was the task easy or demanding, simple or complex, exacting or forgiving? https://www.keithv.com/software/nasatlx/nasatlx.html

(Scale 0-100)

55. **Temporal Demand:** How much time pressure did you feel due to the rate of   * pace at which the tasks or task elements occurred? Was the pace slow and leisurely or rapid and frantic?

(Scale 0-100)

56. **Physical Demand**: How much physical activity was required (e.g. pushing,   * pulling, turning, controlling, activating, etc)? Was the task easy or demanding, slow or brisk, slack or strenuous, restful or laborious?

(Scale 0-100)

57. **Performance:** How successful do you think you were in accomplishing the   * goals of the task set by the experimenter (or yourself)? How satisfied were you with your performance in accomplishing these goals?

(Scale 0-100)

58. **Effort**: How hard did you have to work (mentally and physically) to accomplish * your level of performance?

(Scale 0-100)

59. **Frustration:** How insecure, discouraged, irritated, stressed and annoyed versus secure, gratified, content, relaxed and complacent did you feel during the task?

(Scale 0-100)

60. **UMUX1:** The teleoperation system capabilities meet my requirements/expectations

Mark only one oval.

	1	2	3	4	5	6	7	
Stro	○	○	○	○	○	○	○	Strongly agree

61. **UMUX2:** Using this teleoperation system is a frustrating experience

Mark only one oval.

	1	2	3	4	5	6	7	
Stro	○	○	○	○	○	○	○	Strongly agree

62. **UMUX3:** This teleoperation system is easy to use

Mark only one oval.

	1	2	3	4	5	6	7	
Stro	○	○	○	○	○	○	○	Strongly agree

63. **UMUX4:** I have to spend to much time correcting/compensating things with this teleoperation system

Mark only one oval.

	1	2	3	4	5	6	7	
Stro	○	○	○	○	○	○	○	Strongly agree

64. **OATS1:** The training prepared me to properly interact with the system.

Mark only one oval.

	1	2	3	4	5	6	7	
Stro	◯	◯	◯	◯	◯	◯	◯	Strongly agree

65. **OATS2:** The simulation training prepared me to easily use the system to accomplish my mission.

Mark only one oval.

	1	2	3	4	5	6	7	
Stro	◯	◯	◯	◯	◯	◯	◯	Strongly agree

66. **OATS3:** The simulation training accurately portrayed the operations in the field.

Mark only one oval.

	1	2	3	4	5	6	7	
Stro	◯	◯	◯	◯	◯	◯	◯	Strongly agree

67. **OATS4:** The simulation training adequately covered all important ways I interact with the system.

Mark only one oval.

	1	2	3	4	5	6	7	
Stro	◯	◯	◯	◯	◯	◯	◯	Strongly agree

68.   Please answer the following questions

Mark only one oval per row.

	Strongly Disagree	Slightly Disagree	Neither Agree not Disagree	Slightly Agree	Strongly Agree
I feel I could rotate well the base of the robot the way I wanted to	⬭	⬭	⬭	⬭	⬭
I feel I could translate the base of the robot the way I wanted to	⬭	⬭	⬭	⬭	⬭
I feel I could move the robot's arm the way I wanted to	⬭	⬭	⬭	⬭	⬭
I feel I could rotate the robot's hand the way I wanted to	⬭	⬭	⬭	⬭	⬭
I feel I could move the base at the same time I moved the robot's arm to accomplish the task	⬭	⬭	⬭	⬭	⬭
I feel I could perceive the depth of the objects well	⬭	⬭	⬭	⬭	⬭

objects well
depth of the

objects well

I do not feel
sick after
using this
visual
interface

I do not feel
sick after
using this
visual
interface ◯ ◯ ◯ ◯ ◯

I feel I did
not need to
move myself
too much to
accomplish
the task

I feel I did
not need to
move myself
too much to
accomplish
the task ◯ ◯ ◯ ◯ ◯

I feel that my
arm is sore
from the
teleoperation

I feel that my
arm is sore
from the
teleoperation ◯ ◯ ◯ ◯ ◯

I feel like it
took me a lot
of time to
move the
robot's base
from A to B

I feel like it
took me a lot
of time to
move the
robot's base
from A to B ◯ ◯ ◯ ◯ ◯

I feel like I
improved my
performance
considerably
over the runs

I feel like I
improved my
performance
considerably
over the runs ◯ ◯ ◯ ◯ ◯

I feel like
with more
training, I
would feel
less tired

I feel like
with more
training, I
would feel
less tired ◯ ◯ ◯ ◯ ◯

I felt as
though the
robot's
movements
were my
own.

I felt as
though the
robot's
movements
were my
own. ◯ ◯ ◯ ◯ ◯

I feel like it
was an
immersive

immersive
I feel like it
experience
was an

immersive
experience

69.   Has the person already tested the Real World without VR? *

Mark only one oval.

◯ Yes   *Skip to question 103*

◯ No   *Skip to question 71*

70.   Real world with VR: notes from collector

_____

_____

_____

_____

_____

Experiment in Real World without VR

Real World without VR

- 4 minutes playing around
- Trying to achieve the task 3 times

71.   **(TASK 1)** Subtasks success

Mark only one oval per row.

	Success	Partial Success: Recovered alone from fail	Partial Failure: Small adjustment/help needed	Complete Failure: Give up or big adjustment needed
Open drawer	◯	◯	◯	◯
Move to & pick up bottle	◯	◯	◯	◯
Put bottle inside drawer	◯	◯	◯	◯
Close drawer	◯	◯	◯	◯
Return to base	◯	◯	◯	◯

72.   **(TASK 1)** How many times repositioning was needed?

_____

73.   **(TASK 1)** (SEQ) Overall, how easy or difficult did you find to perform this task? *

Mark only one oval.

	1	2	3	4	5	6	7	
Very	◯	◯	◯	◯	◯	◯	◯	Very Hard

74.   **(TASK 1) (ARWES/CSS):** Read each statement carefully and indicate the one that is most representative of your workload.

Mark only one oval.

○ 1: Nothing to do; No system demands.

○ 2: Light Activity; minimal demands.

○ 3: Moderate activity; easily managed considerable spare time.

○ 4: Busy; Challenging but manageable; Adequate time available.

○ 5: Very busy; Demanding to manage; Barely enough time.

○ 6: Extremely busy; Very difficult; Non-essential tasks postponed.

○ 7: Overloaded; System unmanageable; Essential tasks undone; Unsafe.

75.   **(TASK 1)** If you found it hard achieving the task, what was the main issue?

_____

_____

_____

_____

_____

76.   **(TASK 2)** How many times repositioning was needed?

_____

77.   **(TASK 2)** Subtasks success

Mark only one oval per row.

	Success	Partial Success: Recovered alone from fail	Partial Failure: Small adjustment/help needed	Complete Failure: Give up or big adjustment needed
Open drawer	◯	◯	◯	◯
Move to & pick up bottle	◯	◯	◯	◯
Put bottle inside drawer	◯	◯	◯	◯
Close drawer	◯	◯	◯	◯
Return to base	◯	◯	◯	◯

78.   **(TASK 2)** (SEQ) Overall, how easy or difficult did you find to perform this task?

Mark only one oval.

	1	2	3	4	5	6	7	
Very	◯	◯	◯	◯	◯	◯	◯	Very Hard

79. **(TASK 2) (ARWES/CSS):** Read each statement carefully and indicate the one that is most representative of your workload.

Mark only one oval.

○ 1: Nothing to do; No system demands.

○ 2: Light Activity; minimal demands.

○ 3: Moderate activity; easily managed considerable spare time.

○ 4: Busy; Challenging but manageable; Adequate time available.

○ 5: Very busy; Demanding to manage; Barely enough time.

○ 6: Extremely busy; Very difficult; Non-essential tasks postponed.

○ 7: Overloaded; System unmanageable; Essential tasks undone; Unsafe.

80. **(TASK 2)** If you found it hard achieving the task, what was the main issue?

_____

_____

_____

_____

_____

81. **(TASK 3)** How many times repositioning was needed? *

_____

82. **(TASK 3)** Subtasks success

Mark only one oval per row.

	Success	Partial Success: Recovered alone from fail	Partial Failure: Small adjustment/help needed	Complete Failure: Give up or big adjustment needed
Open drawer	◯	◯	◯	◯
Move to & pick up bottle	◯	◯	◯	◯
Put bottle inside drawer	◯	◯	◯	◯
Close drawer	◯	◯	◯	◯
Return to base	◯	◯	◯	◯

83. **(TASK 3)** (SEQ) Overall, how easy or difficult did you find to perform this task?

Mark only one oval.

	1	2	3	4	5	6	7	
Very	◯	◯	◯	◯	◯	◯	◯	Very Hard

84. **(TASK 3) (ARWES/CSS):** Read each statement carefully and indicate the one that is most representative of your workload.

    Mark only one oval.

    ⬭ 1: Nothing to do; No system demands.

    ⬭ 2: Light Activity; minimal demands.

    ⬭ 3: Moderate activity; easily managed considerable spare time.

    ⬭ 4: Busy; Challenging but manageable; Adequate time available.

    ⬭ 5: Very busy; Demanding to manage; Barely enough time.

    ⬭ 6: Extremely busy; Very difficult; Non-essential tasks postponed.

    ⬭ 7: Overloaded; System unmanageable; Essential tasks undone; Unsafe.

85. **(TASK 3)** If you found it hard achieving the task, what was the main issue?

    _____

    _____

    _____

    _____

    _____

86. **Mental Demand:** How much mental and perceptual activity was required (e.g.   *
    thinking, deciding, calculating, remembering, looking, searching, etc)? Was the
    task easy or demanding, simple or complex, exacting or
    forgiving? https://www.keithv.com/software/nasatlx/nasatlx.html

    (Scale 0-100)

    _____

87. **Temporal Demand:** How much time pressure did you feel due to the rate of pace
    at which the tasks or task elements occurred? Was the pace slow and leisurely
    or rapid and frantic?

    (Scale 0-100)

    _____

88. **Physical Demand**: How much physical activity was required (e.g. pushing, pulling, turning, controlling, activating, etc)? Was the task easy or demanding, slow or brisk, slack or strenuous, restful or laborious?

(Scale 0-100)

_____

89. **Performance:** How successful do you think you were in accomplishing the goals of the task set by the experimenter (or yourself)? How satisfied were you with your performance in accomplishing these goals?

(Scale 0-100)

_____

90. **Effort**: How hard did you have to work (mentally and physically) to accomplish your level of performance?

(Scale 0-100)

_____

91. **Frustration:** How insecure, discouraged, irritated, stressed and annoyed versus secure, gratified, content, relaxed and complacent did you feel during the task?

(Scale 0-100)

_____

92. **UMUX1:** The teleoperation system capabilities meet my requirements/expectations

Mark only one oval.

	1	2	3	4	5	6	7	
Stro	○	○	○	○	○	○	○	Strongly agree

93. **UMUX2:** Using this teleoperation system is a frustrating experience *

Mark only one oval.

	1	2	3	4	5	6	7	
Stro	◯	◯	◯	◯	◯	◯	◯	Strongly agree

94. **UMUX3:** This teleoperation system is easy to use

Mark only one oval.

	1	2	3	4	5	6	7	
Stro	◯	◯	◯	◯	◯	◯	◯	Strongly agree

95. **UMUX4:** I have to spend to much time correcting/compensating things with this teleoperation system

Mark only one oval.

	1	2	3	4	5	6	7	
Stro	◯	◯	◯	◯	◯	◯	◯	Strongly agree

96. **OATS1:** The training prepared me to properly interact with the system. *

Mark only one oval.

	1	2	3	4	5	6	7	
Stro	◯	◯	◯	◯	◯	◯	◯	Strongly agree

97. **OATS2:** The simulation training prepared me to easily use the system to accomplish my mission.

Mark only one oval.

	1	2	3	4	5	6	7	
Stro	◯	◯	◯	◯	◯	◯	◯	Strongly agree

98. **OATS3:** The simulation training accurately portrayed the operations in the field.

Mark only one oval.

	1	2	3	4	5	6	7	
Stro	◯	◯	◯	◯	◯	◯	◯	Strongly agree

99. **OATS4:** The simulation training adequately covered all important ways I interact with the system.

Mark only one oval.

	1	2	3	4	5	6	7	
Stro	◯	◯	◯	◯	◯	◯	◯	Strongly agree

100. Please answer the following questions *

Mark only one oval per row.

	Strongly Disagree	Slightly Disagree	Neither Agree not Disagree	Slightly Agree	Strongly Agree
I feel I could rotate well the base of the robot the way I wanted to	⬭	⬭	⬭	⬭	⬭
I feel I could translate the base of the robot the way I wanted to	⬭	⬭	⬭	⬭	⬭
I feel I could move the robot's arm the way I wanted to	⬭	⬭	⬭	⬭	⬭
I feel I could rotate the robot's hand the way I wanted to	⬭	⬭	⬭	⬭	⬭
I feel I could move the base at the same time I moved the robot's arm to accomplish the task	⬭	⬭	⬭	⬭	⬭
I feel I could perceive the depth of the objects well	⬭	⬭	⬭	⬭	⬭

...objects well depth of the objects well

I do not feel sick after using this visual interface

○ ○ ○ ○ ○

I feel I did not need to move myself too much to accomplish the task

○ ○ ○ ○ ○

I feel that my arm is sore from the teleoperation

○ ○ ○ ○ ○

I feel like it took me a lot of time to move the robot's base from A to B

○ ○ ○ ○ ○

I feel like I improved my performance considerably over the runs

○ ○ ○ ○ ○

I feel like with more training, I would feel less tired

○ ○ ○ ○ ○

I felt as though the robot's movements were my own.

○ ○ ○ ○ ○

I feel like it was an immersive...

immersive
I feel like it
experience
was an

| immersive experience | ◯ | ◯ | ◯ | ◯ | ◯ |

101.   Has the person already tested the Real World with VR? *

Mark only one oval.

◯ Yes   *Skip to question 103*

◯ No   *Skip to question 37*

102.   Real world without VR: notes from collector

_____

_____

_____

_____

_____

Post-test Questions

103.　Questions related to the simulation WITH VR *

Mark only one oval per row.

	Strongly Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Strongly Agree
I feel like the depth perception in simulation was better than in the real world	◯	◯	◯	◯	◯
I felt like teleoperating the robot in simulation and in the real world was a similar experience	◯	◯	◯	◯	◯

104.   Questions related to the simulation WITHOUT VR *

Mark only one oval per row.

	Strongly Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Strongly Agree
I feel like the depth perception in simulation was better than in the real world	⬭	⬭	⬭	⬭	⬭
I felt like teleoperating the robot in simulation and in the real world was a similar experience	⬭	⬭	⬭	⬭	⬭

105. In the real world experiments, please choose your preference for each of the topics *

Mark only one oval per row.

	with VR	without VR	Same
Which setup allowed you to complete the tasks more efficiently?	⬭	⬭	⬭
Which setup made it easier to operate the robot accurately?	⬭	⬭	⬭
Which setup did you find more comfortable?	⬭	⬭	⬭
Which setup would you be willing to use many times again?	⬭	⬭	⬭
Which setup felt more immersive?	⬭	⬭	⬭
Overall, which one did you like the most?	⬭	⬭	⬭

106. Did you notice any difference in how you controlled the robot between the simulation and the real-world environment?

107. Did you notice any difference in how you controlled the robot in real world using the VR and not?

108. What improvements would you suggest for each setup?

109. What did you like most about using VR/non-VR for teleoperating the robot?

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