

Table 1: The questionnaire, used in our user study to measure the responses of participants to given metrics after exposure to our VR training. All statements, except open questions, were answered using a 7-point agreement Likert scale ranging from 1 - Strongly Disagree to 7 - Strongly Agree. Open questions were answered with plain text. Presence questions were inspired by the previous research on presence [WS98, VWG*04].

Metric	Statement/Question
Presence	I could concentrate on the assigned tasks rather than focusing on the mechanisms used to perform the task. I felt like I was part of the virtual environment. I felt that I was physically present in the virtual environment. I felt that I actually took part in the rescue scenario. Even now, I could still find my way around in the virtual environment. I didn't really pay attention to the existence of errors or inconsistencies in the virtual environment.
Subjective task performance	I think my task solving performance was good.
Learning outcome	This training scenario helped me to learn about handling rescue situations.
Agents interaction	The agents gave me the feeling, that I could interact with them. The interaction with the agents was pleasant.
Information presentation	The agents were helpful and the information provided by them was useful. The information was presented in an understandable way.
Realism	The agents seemed realistic.
Co-presence	The agents gave me the impression, that someone else was in the scene.
Open questions	What did you like/dislike about the training? What is your opinion about the agents? How would you improve the training? What would have helped you improving your performance?



Figure 1: An overview of the virtual environment with symbols marking starting position, tools, incidents, and agents. The user starts at the position of the orange glasses symbol at the top. Agents are marked with a person symbol, which is purple if they are injured or green if they are healthy. Incidents are marked with a red symbol. There is a locked car door, chemicals, fire, and a locked room door. The yellow keys indicate locked doors to an empty room. The blue symbols mark the tools including the first aid kit, tongs, sandbag, fire extinguisher, and axe, which are needed to resolve the incidents and heal the agents.

References

- [VWG*04] VORDERER P., WIRTH W., GOUVEIA F., BIOCCA F., SAARI T., JÄNCKE L., BÖCKING S., SCHRAMM H., GYSBERS A., HARTMANN T., KLIMMT C., LAARNI J., RAVAJA N., SACAU A., BAUMGARTNER T., JÄNCKE P.: *MEC spatial presence questionnaire (MEC-SPQ): Short documentation and instructions for application*. Tech. rep., Report to the European Community, Project Presence: MEC (IST-2001-37661), 06 2004.
- [WS98] WITMER B. G., SINGER M. J.: Measuring Presence in Virtual Environments: A Presence Questionnaire. *Presence: Teleoperators and Virtual Environments* 7, 3 (06 1998), 225–240. <https://doi.org/10.1162/105474698565686> doi:10.1162/105474698565686.