



Artificial Intelligence meets Serious Gaming

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1 Introduction & Cards for Artificial Intelligence

Hardly any other topic is currently being discussed as much as the use of artificial intelligence (AI). Considering studies [Li20], [Si22] showing that the use of AI still evokes skepticism and fear among the population, as well as the increasing tendency to cooperate with AI, tools are needed to inform humans about AI, make AI and associated risks and measures to deal with these risks transparent by providing a safe space for discussion. Serious games provide this framework. They are defined as games that, in addition to entertainment, pursue serious objectives [Sc23] and can be used in different application areas. Cards for Artificial Intelligence⁴ is an analogue round-based card game that can be experienced with up to eight players. The goal of this game is to raise awareness about topics around AI by reflecting on risks and subsequently measures to mitigate these risks. At the beginning of each round, one scenario is chosen by the game facilitator. The goal in the game is to score as many points as possible by choosing and arguing the most appropriate risks (first phase) for the introduced scenario and measures (second phase) to mitigate these risks. This game is seen as a discussion starter. Theoretical feedback loops are important to guarantee learning (e.g., ranking the selected risks in a risk matrix).

2 Method and Results

In two rapid prototyping workshops during this year's European Simulation and Gaming Forum ($N = 8$) as well as International Simulation and Gaming Association Conference ($N = 7$), the content of the Cards for Artificial Intelligence game has been developed by serious gaming and AI experts. Based on a previously introduced scenario (Use of ChatGPT), the rapid prototyping was mainly related to the generation of possible risks (e.g., Supports laziness) and per risk at least two measures to mitigate the risks (e.g., Penalty, Training). To guarantee comparability between the workshops, each followed the

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⁴ The game is based on the serious game Cards for Biosafety [FTV22].

same structure: warm-up, explanation of game, distribution of consent forms, rapid prototyping, game play, debriefing, and post-game questionnaire. In total, 12 participants completed the questionnaire ($f = 4$, $m = 8$; $R = 28 - 58$ years, $M = 42.58$, $SD = 9.99$). The participants highlighted the combination of the rapid prototyping process and the actual game play in order to learn more about AI. Furthermore, the added value of the heterogeneous group composition was emphasized, which made it possible to perceive different perspectives. Eleven out of 12 participants (91.67%) state that serious games can help reducing fears in dealing with AI. They see the potential of AI in serious games primarily in the automation and individualization of processes as well as generation of adaptive scenarios. In contrast, the participants see risks in using AI in serious games especially with regard to the elimination of the human factor and associated challenges, such as loss of creativity and innovation. The participants found the combination of AI and an analogue card game “exciting”, “interesting”, and “the perfect solution”.

3 Discussion and Future Research

The goal of Cards for Artificial Intelligence is to define risks based on concrete AI-related scenarios and to derive measures to mitigate these risks. Even if in a first step the use of ChatGPT was chosen as a scenario, the addition of other AI-related scenarios is easily possible. In future, the game can also be used to empirically analyze the extent to which participants' attitudes change after experiencing the game and to what extent the game was able to broaden horizons in terms of using AI.

4 References

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