

Influence of auditory latency on game experience and player performance

Thema:

Influence of auditory latency on game experience and player performance

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BA

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Entwurf

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Hintergrund

Generally speaking, latency is the difference in time between cause and effect. In human-computer interaction (HCI), latency is the time that passes before a user perceives the reactions to his actions. The perception is not limited to one channel, but can be auditory, visual or haptic in nature [1]. High latency leads to poor performance and user experience in the HCI[2, 3]. Video games are also affected by these negative effects. Players score fewer points, need more time to work on certain tasks, or can not solve certain tasks at all [4, 5].

Zielsetzung der Arbeit

Sound with changeable latency is added to an already existing 3d game. A user study is then carried out where the participants play the same game both with and without audio latency. The values are logged and statistically evaluated. A questionnaire is used to measure user experience.

Konkrete Aufgaben

- Literature research
- Implementing sound to an existing video game
- Conduct a user study
- Evaluate the data
- Write the scientific paper

Erwartete Vorkenntnisse

- Programming in unity and c#
- Data analysis

Weiterführende Quellen

[1] Latency. (2021). Wikipedia. [https://en.wikipedia.org/wiki/Latency_\(engineering\)](https://en.wikipedia.org/wiki/Latency_(engineering)), Retrieved: 12.03.2021 [2] Jota, R., Ng, A., Dietz, P. & Wigdor, D. (2013). How fast is fast enough? a study of the effects of latency in direct-touch pointing tasks. In Proceedings of the sigchi conference on human factors in computing systems (S. 2291–2300). New York, NY, USA: Association for Computing Machinery. doi: 10.1145/2470654.2481317 [3] Annett, M., Anderson, F., Bischof, W. F. & Gupta, A. (2014). The pen is mightier: Understanding stylus behaviour while inking on tablets. In Proceedings of graphics interface 2014 (S. 193–200). CAN: Canadian Information Processing Society. doi: 10.5555/2619648.2619680 [4] Beigbeder, T., Coughlan, R., Lusher, C., Plunkett, J., Agu, E. & Claypool, M. (2004). The effects of loss and latency on user performance in unreal tournament 2003®. In Proceedings of 3rd acm sigcomm workshop on network and system support for games (S. 144–151). New York, NY, USA: Association for Computing Machinery. doi: 10.1145/1016540.1016556 [5] Eg, R., Raaen, K. & Claypool, M. (2018). Playing with delay: With poor timing comes poor performance, and experience follows suit. In 2018 tenth international conference on quality of multimedia experience (qomex) (S. 1–6). doi: 10.1109/QoMEX.2018.8463382

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