Task 3

1)

Qiao, X. et al. (2019) conducted a qualitative study to address the challenges and Insights of Web-Based Augmented Reality.

The purpose of this case study is to address the challenges and the necessary required adaptation in the usage of computing, storage, and communication resources for Web-Based Augmented Reality on mobile phones. At this stage in the research, self-contained Web-Based AR will be generally defined as gaining attention due to its lightweight and cross-platform features.

Qiao, X. et al., 2019. Web AR: A Promising Future for Mobile Augmented Reality—State of the art, challenges, and Insights. Proceedings of the IEEE, 107(4), pp.651–666.

2)

Roy, S.G. & Kanjilal, U. (2021) conducted quantitative research to find the performance of the web-based AR applications using the four independent variables.

The purpose of this experiment study was to evaluate web-based AR programs’ performance on mobile devices with low-end hardware configuration supporting WebGL and WebRTC. To test how the frames per second (fps), request animation frame (raf), load time (lt) and entity object(eo) to performance (p), effect when changing smartphones with different memory (RAM) and processor (CPU).

The independent variables will be defined by downloading content and recording fps and raf variables.

Roy, S.G. & Kanjilal, U., 2021. Web-based Augmented Reality for Information Delivery Services: A Performance Study. DESIDOC Journal of Library & Information Technology, 41(03), pp.167–174.

3)

Javornik, A. et al., (2018) conducted a qualitative study to investigate how different types of AR content – such as text or image - can affect the flow experience as well as other cognitive, affective and behavioral responses.

The purpose of this study is to investigate how two forms of AR content – (i) image and (ii) image plus text - effect immersion into flow when using an AR app designed for outdoor exploration. We compare the differences between two types of AR content in particular. The knowledge gained can assist AR designers in creating stimulating experiences for individuals who use smart devices during their outside explorations.

Javornik, A. et al., 2018. An experimental study on the role of augmented reality content type in an outdoor site exploration. Behaviour & Information Technology, 38(1), pp.9-27.