Project specification LSEPI analysis.

Use of Augmented Reality in guiding students around the university; A short report detailing the main Issues, Impact, and Examples.

Point One:

Issue:

One social issue the curator of such software might encounter would be the spatial awareness of the users. As seen in similar apps, users were reported to be traveling by car or foot while using the app while not being cautious of their surroundings, with some users wandering into oncoming traffic and using the app while driving, resulting in multiple accidents and even deaths worldwide. One could assume there would be a positive correlation between an app of such a large scale and the app specified, as they use the same concept of traveling while using the app to view the real world.

Impact:

A social impact of lack of spatial awareness is if the user gets into a severe accident, the social implications of having to call out an ambulance or other emergency services could have a knock-on effect affecting people in need of such services. This could be lifechanging for people in need because when an ambulance responder is called out to the scene, it means there is one less ambulance available for other civilians who could be involved in a life or death situation. Considering this alongside the current cuts to the NHS, this could be catastrophic in large numbers. (Sharwood, 2017)

Example:

In 2016, an article was written by Erin Edgemon stating that the Baltimore police department released bodycam footage of a user crashing into a police car whilst playing Pokemon go. The article stated: "At around 3:30 a.m. on July 18, a Toyota Rav-4 crashed into a patrol car parked along a Baltimore roadway." (Edgemon, 2016). An occurrence like this in high numbers could cost the taxpayer millions on a large scale, once car repairs and the wages of emergency service workers are incorporated.

Point Two:

Issue:

Furthermore, another issue of the software in question would be the app storing data such as images/videos or GPS location. The collection of such data could lead users and the general public to become weary and attempt to challenge the ethics of the app and its developers. In an age where people are very protective of their digital profile and their other personal data being collected, the ice is very thin regarding what people believe to be ethical and immoral.

Impact:

One impact of this issue is the risk of the app being banned in certain places which would be critical to the usability of the software. Once people start to realize their faces are being stored along with the images of landmarks, they could be inclined to campaign in various ways to ban the app from being used. Even though the users may agree to have the app record and store media, the general public won't be able to decide on the fate of their data and this could be perceived as quite malicious and unethical.

Example:

As shown with such devices like google glass, the main issue with the downfall of the product was people being recorded without consent for malicious purposes. In the 'Life Science Journal 2014;11(5)' section '1.2 glass vulnerability' It was stated: *"As the device can be easily programmed to recognize the faces and record the footage containing video and voice recording, the implications to those around the wearer are obvious."* (Safavi, 2014). In places such as train or bus stations, security is by far the biggest issue and the same will go for university grounds. Usually, if someone is seen taking photos or videos of CCTV locations, population hotspots, and exits, this will be reported and investigated. Google Glass allows users to discreetly record which is a massive security flaw and a threat to public security.

Point three:

Issue:

Also, one issue the user might encounter while developing their app would be the use of copyrighted code or API. In prior years, the use of augmented reality has grown significantly. In correlation to this, the amount of code which has been copyrighted and patented has also significantly increased, meaning the creator of the software would need to be very careful in how they write their code, ensuring they don't infringe on legally copyrighted code. When operating on a professional scale, content creators of all kinds need to be extra careful when taking inspiration or ideas from sources as plagiarism is massively frowned upon in a professional workplace.

Impact

The impact this could have on the app and the developer could be disastrous in a sense where, if the code wasn't checked over for plagiarism, the app could be designed, tested and then published to find out the code has already been used in a similar app. If one assumes the developer doesn't use open source development kits such as ARToolKit or SparkAR, the software could get taken as far as court. Following this, legally, the defendant could have to pay thousands in reparations to the original creator of the code.

Example:

One example which stands out amongst others would be Zenimax vs Oculus (Facebook). This case involved John Carmack, a former Zenimax employee joining Facebook to work on the Oculus. The problem with Carmack leaving Zenimax was that he also took company knowledge and copyrighted code with him, in order to propel the success of the Oculus Rift. "At the heart of the suit was the contention that John Carmack allegedly took company secrets with him when he left id Software (owned by Zenimax)" (Gillbert, 2018)

References.

Edgemon, E. (2016, July 20th). *Watch as motorist playing Pokemon Go crashes into patrol car*. Retrieved from al.com: https://www.al.com/news/2016/07/watch_as_motorist_playing_poke.html

Gillbert, B. (2018, December 12th). *Facebook just settled a $500 million lawsuit over virtual reality after a years-long battle — here's what's going on*. Retrieved from Business Insider: https://tinyurl.com/y6nn5so8

Safavi, S. (2014). Improving Google glass security and privacy by changing the physical and software structure . *Life Science Journal 2014;11(5)*, 110.

Sharwood, S. (2017, November 27). *Pokémon GO caused hundreds of deaths, increased crashes*. Retrieved from The Register: https://www.theregister.co.uk/2017/11/27/pokemon_go_caused_car_accidents_and_deaths/