

Individual Report

Jake Russell

1602835

Table of Contents

Risk Management	3
Code of Practice: Sustainability	4
Code of Practice: Ethical and Legal Issues	4
Quality Assurance	5
References	6

Risk Management

		SCALE OF SEVERITY		
SCALE OF LIKELIHOOD		ACCEPTABLE	TOLERABLE	GENERALLY UNACCEPTABLE
	NOT LIKELY	Developer's family member passes away and they need to attend a funeral in a foreign country	Developer's computer crashes and their work for that day is lost	A mass flooding causes all equipment used to sustain serious water damage and are rendered unusable
	POSSIBLE	Developer catches a virus which render's them unable to code for a day or two		The neural network is unable to correctly identify faces
	PROBABLE	Errors or bugs in the code cause's the project to be delayed		

Figure 1: Risk Assessment Matrix

Here a Risk assessment matrix was made for the project using a template taken from the teamgant website (1). The first risk is not likely to happen and is acceptable if it does, the risk being "A Developer's family member passes away and they need to attend a funeral in a foreign country", this risk is acceptable as it shouldn't set the project back very far as the other developers can help pick up the slack whilst this particular developer is away. The second risk is possible to happen but is acceptable if it does, this risk being "Developer catches a virus which render's them unable to code for a day or two". Similarly, to the previous risk this is acceptable severity as the others can help pick up the slack. A good strategy to this risk would be for every developer to make sure they are regularly taking vitamins to help their immune system. The third risk is probable to happen but is still acceptable if it does, the risk being "Errors or bugs in the code cause's the project to be delayed". Bugs are always bound to show up with any code for a larger scale project and depending on the bug it could take a while to debug it, however it shouldn't take so long as to majorly set back this project. There is no full proof way to prevent bugs other than just coding perfectly unfortunately. The fourth risk is not likely to happen and is tolerable if it does, this risk being "Developer's computer crashes and their work for that day is lost". This is unlikely to happen as most software nowadays include a type of autosave feature which is using to recover work if such events happen. However, if this does not occur it can set back a whole day's work, which isn't the worst thing in the world but is not ideal. A strategy to prevent this is to save regularly throughout a work session and if able to choose a software which has a recovery feature. The fifth risk is not likely to happen but is generally unacceptable if it does, this risk being "A mass flooding causes all equipment used to sustain

water damage and rendered unusable” If this risk does happen to occur then it would be a massive hit to the project’s budget as new equipment would need to be bought to replace all the damaged ones. A strategy to combat this would be to make sure equipment is stored in an area which is not susceptible to flooding. The final risk is possible to happen and generally unacceptable if it does, the risk being “The neural network is unable to correctly identify faces”. This is possible due to the inexperience of the developers in this field and if it were to occur it would mean to project failed. The strategy to combat is to make sure every developer is regularly training their skills in order to be as capable as possible to create the facial recognition network.

Code of Practice: Sustainability

First order: The direct impact of this product would be companies such as universities incorporating the facial recognition network into their establishments for things such as attendance or access management. Because they would be using the facial recognition method, methods should as key cards for access and simply using paper to gather attendance would no longer be necessary so it’s possible, they would be removed or no longer used.

Second order: People would then need to have they’re facial data gathered and stored, in order to do that the companies using the product would need to gather permission for everyone who would be using the facial recognition network.

Third order: Attendance records will become more accurate due to the greater difficulty in fabricating false attendance. Less resources such as paper would be used daily. The risk of losing your ability to gain access to something due to requiring a key card which may have been lost is gone.

Code of Practice: Ethical and Legal Issues

Quotes taken from the IET code of conduct and compared to project:

1. “Members shall keep their knowledge and skills up-to-date through planned professional development and seek to broaden and deepen that knowledge throughout their working life. Members shall keep adequate records of professional development undertaken. Members shall also encourage persons working under their supervision to do the same.” (2) - Each member has recorded a team progress sheet to document their development
2. “Members shall not undertake professional tasks and responsibilities that they are not reasonably competent to discharge.” (2) – Each member is tasked with something within their field of expertise or study stream
3. “Members shall accept personal responsibility for all work done by them or under their supervision or direction. Members shall also take all reasonable steps to ensure that persons working under their authority are both suitably equipped and competent to carry out the tasks assigned to them.” (2) – Each member has access to assets granted by the university allowing them to be suitably equipped.
4. “Members shall support colleagues or others to whom they owe a duty of care who in good faith raises any concern about a danger, risk, malpractice or wrongdoing which affects others.” (2) – Members have conducted risk assessments which have been shared among the each other.

5. "Members shall not recklessly or maliciously injure or attempt to injure, whether directly or indirectly, the professional reputation, prospects or business of any other person." (2) – So far, no members have done any of what's listed here, however there isn't a guarantee that this won't happen in the future but as of now every member are on good terms.
6. "Members shall at all times take all reasonable care to limit any danger of death, injury or ill-health to any person that may result from their work and the products of their work." (2) – Thankfully due to this project being mainly code based and a scanner the chance of injury or ill-health is very small.
7. "Members convicted of a criminal offence or in receipt of an adverse civil court judgment related to any aspect of these Rules of Conduct anywhere in the world are required to inform the Institution promptly, and to provide such information concerning the conviction or judgment as the Institution may require, but this rule does not apply to either a conviction for a motoring offence for which no term of imprisonment (either immediate or suspended) is imposed or an offence which is regarded as "spent" within the meaning of the UK Rehabilitation of Offenders Act 1974 or equivalent legislation elsewhere." (2) – All members have been confirmed to have no criminal record.
8. "If a member becomes aware of any significant violation of these Rules of Conduct by another member, they shall promptly inform the Institution." (2) - As no member has informed of another violating these rules it's hard to tell whether that is simply because no violation has occurred, or none of the other members are aware that a member has caused a violation, or that a member is indeed violating this rule by not informing the group.
9. "Members shall exemplify professional behaviour generally and specifically in their relationships with the Institution, its employees and their fellow members." (2) – Every member has treated the other with respect and a degree of professionalism suitable for fellow students.
10. "Members shall be mindful of their obligation to exemplify professional behaviour in relation to any content that they publish in the public domain, including without limitation articles, blogs and all social media." (2) – None of the members thus far have published in any public domains.

Quality Assurance

Using the ISO 25010 software qualities as a judge:

- Functionality – The product will need to consistently be able to recognise people's faces and accurately link them to the appropriate person stored in a database, in order to test this, multiple faces of very different variety should be tested
- Reliability – The product needs maintain its quality throughout its use, this will be tested through repeated test done regularly throughout its development before it's ready to be shipped
- Usability – The product should allow the user to easily use by having to put their face in front of a scanner for a second
- Maintainability – The product should be easy to maintain as most of the depth of the product is in the code

- Portability – Depending on how the sensors are integrated the product could either be very easy to move to a new environment or fairly awkward.

References

1. *teamgantt*. [Online] [Cited: 2 February 2020.] <https://www.teamgantt.com/risk-assessment-matrix-and-risk-management-tips>.
2. *theiet*. [Online] [Cited:] <https://www.theiet.org/about/governance/rules-of-conduct/>.