COMP1205 Technical Report - specification

Rationale

Reports are one of the most common and important technical documents in the workplace. Reports provide information and recommendations in order to help organizations solve problems or achieve goals. A well-designed and written technical report is informative and persuasive, often to multiple audiences.

Assignment

The Technical Report is an individual assignment. You have each been individually allocated (in Appendix A) a specific scenario from the set below on which to write a (maximum) 2000 word technical report[1].

Read the brief carefully to understand the extent of the scenario brief. Make a note of all the requirements. Before you hand in your work, double check you have addressed all the requirements: i.e. scenario brief; formatting; academic integrity; references/citations.

You will find the allocations in Appendix A.

1. If you do not find your name in this list please contact the module leader saw@ecs.soton.ac.uk IMMEDIATELY and you will be allocated a scenario.
2. It is important that you address the whole of the brief as outlined below.
3. The report template includes a place for you to insert the brief. It will not be counted in the total word count

The lectures in Week 9 directly address the process of technical writing. You must hand in a draft abstract at the end of Week 9.

- You are advised that there is an interim handin at the end of Week 11 when you are expected to submit a reasonably well developed abstract along with an early draft of your report.
- The draft will be submitted to Turnitin.
- We will discuss the writing process and the expected content of that draft during the lectures
- Slides and an audio recording will be available for reference as usual

[1] Details of what exactly should be included within the word count is specified under the section on Formatting Requirements

Scenarios:

1. Anonymity, Privacy and Security- Communications

Your boss has been looking at guidance from the British Standards Institute which provides guidance on good practice to ensure compliance with the Data Protection Act. As a consequence they have become interested in security issues, particularly in relation to anonymity of written communications on the internet, e.g. employees using email, Skype, Slack, Google Hangouts, Facebook Messenger etc, for work-related communication and sharing clients' data over these mediums. They have asked you to find out for them how the company can achieve greater anonymity in communications on the internet. Your company requires you to write a short technical report outlining the issues concerned with achieving greater anonymity in company communications and to identify potential breaches of anonymity and privacy which may occur through use of electronic communications mediums.

2. Anonymity, Privacy and Security- Information storage and access

The company in which you are employed runs a small gym club. It provides personal training in their own gym, at the workplace of a number of companies and in the gyms of some local hotels. To use the gyms and personal training clients have to become a member of the gym club. Members provide details of their home address and contact information along with personal health and medical-related information. Personal trainers regularly charts clients' progress, and the company also keeps individual banking details so they can track payments. Members are invited to join and 'like' various pages run by the company on social media, and can gain rewards by providing personal recommendations bringing new clients to the business. All records are kept on a central database accessed via laptop computers and backed up by a commercial cloud storage provider.

In light of the types of personal information your company's gym club gathers and how this information is stored, write a short report explaining (1) the potential privacy and security breaches possible due to this arrangement, (2) how the risk of these breaches occurring could be minimised and (3) your company's moral legal and ethical responsibilities to protect the security of the data stored, making recommendations as to how they should manage data held on paper records and in the clubs databases.

3. Anonymity, Privacy and Security- Meaningful consent

Social media platforms such as Facebook are widely used by individuals as a convenient and effective way of keeping in contact and sharing information. However, Facebook's terms and conditions run to many thousand words, and few people have actually read them in full. Due to the convenience of clicking "Accept" to Terms and Conditions without reading them, some individuals inadvertently make accessible large amounts of sensitive or personal data, or share their contact list with others, without fully understanding what they have done, e.g. who has access to that information of how it is or might be used.

Create a short report on meaningful consent in social media platforms. For example: What are the key ways in which individuals inadvertently compromise their security on social media? Given that so few people read the Terms and Conditions of programs and apps they download, your report should outline how computer systems might be designed to better elicit meaningful consent from users when downloading apps or using social media.

4. Freedom of Speech and Defamation

Many of us are familiar with tales of individuals being arrested because of a flippant post to twitter, or pursued in court for damages because of sarcastic (and perhaps ill advised) comments on high profile figures subject to journalistic investigation. Legislation exists to protect individuals' freedom of expression, and to support civil claims of defamation.

Prepare and produce a technical report which provides an introduction to the topics of Freedom of Speech and Defamation. The report should point out the responsibilities of individuals and organisations in respect of this type of legislation. You should consider all sorts of publications and communications online. You should also identify ways in which 'owners' of websites and blogs are bound to ensure that they protect their sites from malicious hacking; being used as a platform for publishing 'rogue' views and messages.

5. Green IT/Green Computing

Organisations including universities are facing increasing financial and legislative pressure to reduce their carbon footprint and demonstrate a commitment to Green IT. Recent legislation may be a motive for change, but so too may be a desire to demonstrate high quality 'Green' credentials, a desire to reduce carbon footprint and a desire to save money. Yet your university is also under pressure to provide state-of-the-art high performance computing laboratories, which can use a lot of energy.

You have been asked to produce a report for the University IT services which explores the various ways in which energy use can be effectively reduced across the campus (lecture rooms, computing clusters, library, public spaces, halls and residences etc.) without compromising the ability of the university to commission state-of-the-art computing facilities . You need to think about the social and technical aspects of this challenge, highlighting opportunities to save the University money, and show how green it can be at the same time.

6. Workplace Issues

The small company in which you are employed is in the process of drafting job specifications for three additional staff on the technical team. They are also drafting a bid for a contract which indicates that attention will be paid to the professional qualifications of the contractors staff; in particular membership of and accreditation by a professional body such as the British Computer Society (BCS) or the Institution for Engineering and Technology (IET).

Write a brief technical report explaining to your employer the requirements and demands professional bodies place on their members, the individual benefits of professional membership, and the relative merits and advantages of employing graduates who holds an accredited degree and who has gone on to attain chartered engineer status by a professional organisation such as the BCS or IET.

7. Copyright and Intellectual Property

A local community arts project has been sponsored by the council to run a series of workshops designed to generate artistic work in a range of different formats viewable online which capture the spirit and history of Southampton at work and play. They would also like to be able to use selected contributions in publicity materials about the city.

Contributions will be submitted online and can be original digital photographs, direct literary works such as poetry or short stories, digital artworks, games or simulations or digital photographs of work originally created in any traditional 2D or 3D media. Produce a technical report outlining the principles of copyright and intellectual property in the UK, and then discussing different ways in which the material which is submitted can be licensed to the mutual advantage of the individual producer and to the arts project.

8. Equality Diversity and Inclusion

Industrial tribunals, newspaper headlines and online discussions often focus on issues relating to problems which arise in the workplace – covering a broad scope from gender and racial equality, disability and employment rights, general conditions of employment and health and safety. It is also important for tech companies to understand and to address diverse needs in the goods and services which they produce.

It is important therefore that employers and employees alike have a clear understanding of rights and responsibilities under employment law and broader of legal and ethical issues in the workplace which can range from health and safety to equality. Prepare and produce a brief technical report which provides an introduction to and overview of these legal perspectives and explains the range of business advantages for a workplace which is aware of- and caters for- equality, diversity and inclusion.

9. Accessibility in computing systems

You are the manager of a web design consultancy. The Department of Work and Pensions (DWP) is looking to digitise a large section of their office-based services, including forms, help enquiries and claiming rebates online. Customer research suggests that 50% of the users of these services will be over 75 years old and includes many users with special needs.

The DWP has as commissioned you for a technical report related to what factors they need to consider when building an accessible website and computer interfaces, such that the user experience is equally streamlined for the widest possible range of users, e.g. deaf, blind, colour-blind, dyslexic, learning difficulties, motor and mobility impairments.

10. Usable computing systems

You are running a web-design consultancy. One of your clients, Book-A-Bunk, is fledgling website used to book beds in backpackers hostels, has approached you with their problem. People are reporting their recently-released website to be difficult to use, hard to navigate and counter-intuitive.

You are commissioned to write a technical report for Book-A-Bunk which outlines the key considerations in building USABLE websites. This includes accessibility, ease of use, adherence to appropriate standards and conventions and the report must be based on academic literature on human-computer interaction. The report must be tailored towards to the context of Book-A-Bunk's user-base of 18-24 year olds and the fact the website is essentially a sales tool for the company.

Formatting requirements

Whichever scenario you address, your report will incorporate information obtained from a variety of appropriately referenced authoritative sources.

Bibliography, references and citations should comply with the Harvard style (the references below are in the Harvard style). Web site references will normally be footnotes unless a full reference is appropriate. The library website (and links accessed through the library website) provides detailed guidance on Harvard referencing conventions (http://library.soton.ac.uk/sash/referencing) >>> (http://www.citethemrightonline.com/Basics/sample-text-and-reference-list-using-the-harvard-style).

The basic template for the report which must be used is available here: http://www.edshare.soton.ac.uk/14581/. The share also contains links to additional support material e.g Library guides etc..

The report must be no longer than 2000 words:

- Total word count includes cover page, abstract, introduction, main sections and conclusions
- Total word count does not include any of the title page, acknowledgements, topic brief, keywords, reference list or bibliography
- The abstract should be no longer than 200 words
- Pictures and tables will be counted as 150 words each:
  - You cannot use images which consist of text to avoid the total word constraint
  - We limit the total number of pictures and tables to four to maintain a balance between text, pictures and tables
  - This would mean that if you include the maximum of four pictures or tables, then your report must be 1400 words or fewer.

Academic Integrity

We expect you to use the report to learn how to cite appropriately and elegantly, adhering to principles which maintain academic integrity and respect others' intellectual property. All work will be submitted to Turnitin to check for an academic integrity rating. All scores will be reviewed and possible cases of plagiarism investigated in depth.

Your technical report **must** include the following declaration of academic integrity on the title page:
"I am aware of the requirements of good academic practice, and the potential penalties for any breaches".

Details of the possible penalties for breaches of academic integrity and how to avoid them can be found in the Academic Integrity Regulations in Section IV of the University Calendar: http://www.calendar.soton.ac.uk/sectionIV/academic-integrity-regs.html

Example References

Examples of academic papers which address some of the topics of the scenarios are included below. It is expected that you will identify papers of a similar quality and provenance which will support the arguments which you present.

Conway, D. E., Dunn, S. C., & Hooper, G. S. (1989). BCS and IEE accreditation of software engineering courses. *Software Engineering Journal*, *4*(4), 245-248.

Edman, M., & Yener, B. (2009). On anonymity in an electronic society. *ACM Computing Surveys*, *42* (1), 1-35. doi:10.1145/1592451.1592456

Goss, A. K. (2007). Codifying a Commons: Copyright, Copyleft, and the Creative Commons Project. *Chi.-Kent L. Rev.*, *82*, 963.

Guinchard, Audrey, Hate Crime in Cyberspace: The Challenges of Substantive Criminal Law (April 9, 2009). Information and Communication Technology Law, 2009. Available at SSRN: http://ssrn.com/abstract=1375589 or http://dx.doi.org/10.2139/ssrn.1375589

Harmon, R., Auseklis, N., & Reinoso, M. (2010). From Green Computing to Sustainable IT : Developing a Sustainable Service Orientation. *Business*, 1-10.

Donker-Kuijer, M. W., de Jong, M., & Lentz, L. (2010). Usable guidelines for usable websites? An analysis of five e-government heuristics. *Government Information Quarterly*, *27*(3), 254-263.

Dix, A. (2009). Human-computer interaction. In *Encyclopedia of database systems* (pp. 1327-1331). Springer US.

Rogers, Y., Sharp, H., & Preece, J. (2011). *Interaction design: beyond human-computer interaction*. John Wiley & Sons.

McNeilly, S., Hutton, L., & Henderson, T. (2013, February). Understanding ethical concerns in social media privacy studies. In *Proceedings of the ACM CSCW Workshop on Measuring Networked Social Privacy*.

Debatin, B., Lovejoy, J. P., Horn, A. K., & Hughes, B. N. (2009). Facebook and online privacy: Attitudes, behaviors, and unintended consequences. *Journal of Computer-Mediated Communication*, *15*(1), 83-108.

Mattern, F., Staake, T., & Weiss, M. (2010, April). ICT for green: how computers can help us to conserve energy. In *Proceedings of the 1st international conference on energy-efficient computing and networking* (pp. 1-10). ACM.

Hilty, L., Lohmann, W., & Huang, E. (2011). Sustainability and ICT—an overview of the field. *Politeia*, *27*(104), 13-28.

Shneiderman, B., Plaisant, C., Cohen, M. S., Jacobs, S., Elmqvist, N., & Diakopoulos, N. (2016). *Designing the user interface: strategies for effective human-computer interaction*. Pearson.

How to search for and cite academic references is a topic covered in a number of the lectures. You may also find papers relevant to the content and process elements of this coursework in the public Mendeley group COMP1205[2]

Additional reading or support materials

Technical report support set – report template and background reading and links http://www.edshare.soton.ac.uk/14581/

General University support materials related to academic skills
http://www.southampton.ac.uk/uni-life/learning-teaching/skills-guides.page

A checklist to use for evaluating the quality of your references - http://www.edshare.soton.ac.uk/8015/

Library – home page: http://library.soton.ac.uk/home

Library – referencing guidance: http://library.soton.ac.uk/referencing

Library – ECS relevant search portal: http://library.soton.ac.uk/ecs

Library – study skills: http://library.soton.ac.uk/sash

[2]Mendeley COMP1205 Public Group https://www.mendeley.com/community/comp1205/