COSC2625 Introduction to Information Technology: Assignment 2

Marks: 20%
Due Date: End of Week 8 (see Canvas)
Submission: This is a <u>group</u> submission. See Canvas for details.

Background

Now that you have developed a profile of yourself (Assignment 1), it is time to use this profile to **assemble a group**, and to show how you can work **as a team** to produce an HTML report on various aspects of the IT industry.

Overview

- This assignment is worth 20% of your overall mark.

- This is a **group** assignment. Each person in the group will receive the same mark, unless there are extenuating circumstances which your group has discussed with the lecturer.

- Your assignment will be in the form of a basic (non machine generated) HTML report which is hosted on AWS.

- You are required to use Git in order to manage your group's documents and artefacts, including the assignment submission

- You can seek feedback on your report from your tutor at any point during tutorials.

- You are required to work on this assignment regularly each week, so that you should be writing relevant parts of your report each week within your own files and *pushing* your changes to the groups Git repository each week (or every few days)

- This assignment should be submitted via Canvas

- Commence work on this Assignment in Week 5, and submit at the end of Week 8. This means that **each person is expected to spend 4 x 6 = <u>24 hours</u>** working on this assignment.

Requirements

Your HTML report should contain the following sections. Larger sections might have their own html page, as in. for example, "IndustryData.html" and be linked from the main report html page.

Team Profile

Tools

Industry Data

IT Work

IT Technologies

Project ideas

Feedback

Group Reflection

Team Profile

Each of you will have produced a personal profile for Assignment 1. You are to assemble this information, reviewng it as you see fit ***given your feedback from Assignment 1***, to produce a team profile. This should be organised into the following subsections.

Team Name

You are free to choose any name for your group that you wish. However, this name will be used to identify your group for the rest of the course, so please choose wisely. You should also keep in mind that this name could be one that comes to the attention of potential employers.

Personal information

One paragraph per person, including name, recent photo student number, background, hobbies, IT interest and IT experience.This should also include your team's chosen name.

Team Profile

The test outcomes for each person in the team (all 3 tests), and your understanding of how this information may be helpful to the group. You should do this as soon *as your group is formed*. You will have a chance to reflect on how well the group has worked later.

Ideal Jobs

Compare and contrast the ideal jobs for each person in the group. This may have changed due to feedback from Assignment 1. What common elements are there, if any? What differentiates each position from the others, if anything? How similar or different are your career plans across the group?

Tools

Having set up an individual website using AWS, you should now set up a group website, also on AWS, using the same approach. You should then include hyperlinks to each individual AWS website on the group website.

You also need to set up a GitHub repository for your group on which you can use Git. This is to facilitate the production and maintenance of group artefacts, which will include the assignment submission, but may also include other reports or information, code, examples, formatted data, images and videos, links, and similar information. In using github, we expect that each of you will be working on individual files and that you should be pushing and pulling the files that you work on through your central group respository. Marks will be allocated on your Git usage as per your logs.

You will also need to set up your group on Canvas. Do this immediately.

In your HTML-based report which is on AWS, you should include a brief description of what you have done, and include the following

• The link to your group's Git repository

• Your comments on how well the audit trail on the Git repository reflects your group's work. You will presumably only be able to do this close to the time of submission.)

• A bullet pointed list of web resources that you used to compile your report

Industry Data

In Canvas, you will find a link to sample **old** industry data supplied by Burning Glass. You should research and update the Burning Glass data to the present time, as well as use this website[1] to answer the following questions.

1. What are the Job Titles for your group's ideal jobs? How do each of these rank in terms of demand from employers?

2. From your group's ideal jobs, you can identify a set of skills required for these jobs (we will refer to this as your group's required skill set). These can be divided into general skills (communication, problem solving, writing etc) and IT-specific skills (Javascript, SQL, etc).

    2.1. How do the IT-specific skills in your required skill set rank in terms of demand from employers?

    2.2. How do the general skills in your required skill set rank in terms of demand from employers?

    2.3. What are the three highest ranked IT-specific skills which are not in your required skill set?

    2.4. What are the three highest ranked general skills which are not in your required skill set?

3.   Having looked at your **updated** Burning Glass data, has your opinion of your ideal job changed? Why or why not?

IT Work

The IT industry is large, varied and changes over time. It also easy to get a misleading impression of what is typically involved on a day-to-day basis from a job advertisement or a position description. In order to help you understand this, the best way seems to be to hear from some IT professionals about their daily work.

There are two ways in which you can do this, as below.

1. Interview an IT professional

2. View, summarise and discuss at least 10 **recent** YouTube videos or other web sources (you may be surprised how many hits there are for a search on A day in the life of an IT professional).

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[1] https://sites.rmit.edu.au/csit-careers/

You as a group need to choose one of these two approaches. If it all possible, it is strongly recommended that you (as a group) interview an IT professional[2]. Not only will this information be more direct, it may provide you with a contact that you will find helpful in the future. If you choose this option, use the questions below as a guide.

If you choose the web sources option, you need to report on 5 different IT professionals, as well as indicate your 10 sources.

Whichever source of information you use, you should answer the following questions.

1. What kind of work is done by the IT professional?

2. What kinds of people does the IT professional interact with? Are they other IT professionals? Clients? Investors? The general public?

3. Where does the IT professional spend most of their time?

4. What aspect of their position is most challenging?

IT Technologies

There are a lot of fascinating developments going on in the IT world, many of which may fall by the wayside, but some of which are likely to change the way the world works. Historic examples of such developments include the Internet, smartphones, cloud computing and public-key cryptography. You can see some current trends here.

In this section you should report on 4 of the areas below

• Cloud Computing

• Data Science/Analytics

• Internet of Things (IoT)

• Augmented Reality

• Cybersecurity

• Medical Informatics/Remote Medicine

• Blockchain and cryptocurrencies

• Machine Learning

• Hyperautomation

• Natural Language processing and chatterbots

• Raspberry Pis, Arduinos, Makey Makeys and other small computing devices

For each of the areas covered, you should report on the following.

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[2] This should be easier in the current climate, especially with people working at home. You may wish to search for people and message them via linkedin. Getting someone from overseas is a bonus.

What does it do? (600 words) What is the state of the art of this new technology? What can be done now? What is likely to be able to do be done soon (say in the next 3 years)? What technological or other developments make this possible? [Be careful to a) not copy b) show that you understand the words that you write

What is the likely impact? (300 words) What is the potential impact of this development? What is likely to change? Which people will be most affected and how? Will this create, replace or make redundant any current jobs or technologies?

How will this affect you? (300 words) In your daily life, how will this affect you? What will be different for you? How might this affect members of your family or your friends?

Project ideas

You all have some project ideas that you reported in Assignment 1. You are to come up with **a project idea for the group** as a whole, which could be an individual's idea, but is more likely to be a combination of each of the ideas you had individually, together with comments and feedback from your Assignment 1 marker, your tutor, the lecturer, and anyone else who you would like to consult.

You may also wish to consider what problems need to be solved, for which there are many sources of information. For example, you could search for

- What are the biggest problems in the global economy in 2020
- What are the biggest problems in IT and Computing in 2020
- What are the biggest problems in Data Securit in 2020
- etc

Use only recent and properly presented and researched web search results.

There is no set length for this section, but it is difficult to see how a description of less than 600 words would be adequate. **Do not limit yourself to this** if you have more than this to write, though. If you are unsure of how much to write, ask your tutor or lecturer for advice. Again, be careful to avoid any plagiarising.

Feedback

By the time you get to Week 8, you should have been working as a group for three weeks, and hence have some experience of how well the group is working. A key feature of industry teams is the ability to give and receive feedback, particular to members of a team in which you are working.

In the next assignment we will use SparkPLUS as a tool where you give feedback to each other, such that the feedback will affect your individual marks. For this assignment, we will ask each of you to write a paragraph of feedback about the perceived contribution and performace of each member of the group. Therefore, assuming a group consists of A, B, C and D. Then A's Feedback section will give 3 paragraphs of feedback about B, C amd D. B will give feedback about A, C and Dr etc.

If you have any concerns with this process, please raise these with your tutor or lecturer.

Group Reflection

Towards the end of the assignment period, you should reflect as a group on how well you think you have performed in this assignment. You should include whatever evidence you may have about the groups processes (such as commit trails from GitHub, project meeting minutes[3]). Each member of the group should contribute up to 200 words about their own perception of the group, and the group as a whole should contribute around 400 words. This should include the following attributes.

- What went well

- What could be improved

- At least one thing that was surprising

- At least one thing that you have learned about groups

- Remember to include in your section on Tools how well you think your Github log of activity reflects your group's work on this assignment.

Group Dynamics

Due to the nature of the pandemic, the following should be followed:

1. You should form a formal group on **Canvas**. Add each member to the Canvas group using your RMIT email address and give the group an appropriate name.

2. Each group should meet via **video conference** twice per week (at a minimum 4 meetings in total) and should do so using **Microsoft Teams** which you can download for free. You should schedule your meetings.

3. You should log into Teams using your RMIT login id and your normal RMIT password

4. All messaging between team members should also use Microsoft Teams. Don't use sms, whatsapp, facebook, slack, discord etc Use Teams to centralise all your meeting communications.

5. You should create your own meetings within **Microsoft Teams** and the canvas group members should be identical to the Teams members.

6. The primary purpose of using Microsoft Teams is to **record** your meetings. You need to record your meetings as evidence of your group meeting.

7. Each member of the group should have both Audio and Video for the meeting.

8. One person (can be rotated) should chair the group

9. Use Audio (rather than text chat) to conduct your meetings. Only the person speaking should unmute their microphone.

10. Students who do not have a working webcam, should use their phones for this purpose.

    10.1. Any student who has a problem with an audio/**video** meeting should discuss this with their tutor as soon as possible.

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[3] Since all meetings will take place remotely, using MS Teams, you **must** include link to the recorded Video of your meetings in your HTML report.

10.2. It will be assumed that if a team member is not visible (video via their webcam) at a meeting, then they will be deemed to have not attended the meeting.

11. It is **very important** the chair of your meeting, who arranges and invites members of the team to the meeting ==**presses record** when the meeting starts==, and presses stop recording when the meeting ends.

11.1. If you do not press record, you will have no record of your meeting. (I suggest a practice run of a 2 minute meeting)

12. A link to each video of your meetings will be provided by Microsoft Teams.

12.1. The links to these meetings shall be included in your HTML Report

13. You should have an **agenda** for each meeting. The agenda should precede the link the the video of your meeting.

14. Meetings should be between 25 and 40 minutes, *at most*.

15. The format for presenting your meetings in the report should follow this template. Use an HTML Table.

Meetings

dd/mm/yy Agenda Recording Actions

dd/mm/yy Agenda Recording Actions

dd/mm/yy Agenda Recording Actions

dd/mm/yy Agenda Recording Actions

…

In the above, each of the the underlined words, is a **hyperlink.**

Agenda should hyperlink to a short document which is the agenda for the meeting held on dd/mm/yy

Recording should hyperlink to the Microsoft Teams a/v **Recording**

Actions should hyperlink to a short document which describes the actions arising from the meeting, specifically for each member of the group. (these should form input to the next Agenda meeting)

Marks and Rubric

This assignment contributes 20% towards the total mark for this course and the rubric used is displayed on Canvas.