

INFO1111: Computing 1A Professionalism

2023 Semester 1

Skills: Team Project Report

Submission number: ??

Github link: ??

Team Members:

Name	Student ID	Levels already achieved	Levels being attempted	Selected Major
BLIGHT, Matthew	490423105	X	??	Computer Science
FAMNAME2,	01234567	X	??	Data Science
givenName2				
TRAN, Jordan	530503851	X	A	SW Development
FAMNAME4,	01234567	X	??	Cyber Security
givenName4				

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Instructions

Important: This section should be removed prior to submission.

You should use this L^AT_EX template to generate your team project report. Keep in mind the following key points:

- **Selecting a major:** Each team member must select one of the computing degree majors (a different one for each student) - i.e. Computer Science; Data Science; Software Development; Cyber Security. If there are more than four members in your team then your tutor will suggest a fifth alternative. The choice for each student should be included in the table on the cover page.
- **Teamwork:** Whilst the team project is just that – a team project – it has been designed to also allow different members of the team to achieve different outcomes. We do expect you to work together as a team – i.e. your team can only submit a single report. There will be some sections that need to be worked on as a team, and some sections that are done individually. This means that your team will need to collaborate to combine your individual components for each submission. This collaborative aspect is a requirement at all levels. The only exception to this is where a member of the team has already achieved the level they are targeting in a previous submission and has decided to not attempt higher levels, and so is not contributing anything further (this should be obvious because no level is indicated for that student on the cover page).
- **Team problems:** If you do come across problems working together then the first step should be to discuss this with your tutor. You should do this as soon as possible, and not wait until it is too late for your tutor to address any problems.
- **Choosing Levels:** Whilst the report is compiled as a team, for each submission each team member can individually attempt zero, one, or two levels (though you need to achieve lower levels before being assessed for higher levels). Each team member will then be individually assessed for the levels they have attempted. For example, in the first submission one team member just attempted level A and the other three all attempted both A and B. For the one who attempted only level A, they were not successful in achieving that level. In the second submission, they then reattempted level A (successful) and this time also attempted level B (not successful). For the third and final submission they could reattempt just level B, or levels B and C - or even just choose to not submit anything further and remain at level A).
- **Minimum requirement:** Remember that in order to pass the unit, you must achieve at least level A by the end of the third submission.
- **Assessment:** In order to achieve level B, you must first have achieved level A, and so on for each level up to level D. This means that we will not assess a higher level until a lower level has been achieved (though we will review one level higher and give you feedback to help you in refining your work).
- **Using this template:** When completing each section you should remove the explanation text and replace it with your material. For each submission, as a team you must complete the relevant subsection within 1., and then each individual must complete their subsections within the relevant Level sections.

- **Referencing:** You should also ensure that any resources you use are suitably referenced, and references are included into the reference list at the end of this document. You should use the IEEE reference style [?] (the reference included here shows you how this can be easily achieved).

1. Teamwork

Each of the following subsections should be completed as a team.

1.1. Developing industry skills

This section is completed as a team, and must be satisfactory in order for each team member to be able to achieve level A.

Throughout your Computing degree we will help you learn a range of new skills. Once you graduate however you will need to continue to learn new languages, new tools, new applications, etc. For this section you need to identify 5 approaches you can take to this continual learning. You should then put these in order from most effective to least effective, and for each one explain the circumstances in which it might be appropriate. (Target = ~ 100 words per skill = ~ 500 words total).

1.2. Submission 1 contribution overview

For submission 1, outline the approach taken to your teamwork, how you combined the various contributions, and whether there was any significant variations in the levels of involvement. (Target = ~ 100 -300 words).

1.3. Submission 2 contribution overview

As above, but completed for submission 2

1.4. Submission 3 contribution overview

As above, but completed for submission 3

2. Level A: Basic Skills

Level A focuses on basic technical skills (related to L^AT_EX and Git) and the types of skills used in different computing jobs. Each member of the team should individually complete their subsection below. You should begin by allocating to each team member a different major to focus on (i.e. one of: Computer Science; Data Science; Software Development; Cyber Security). *If you have a fifth member, then your tutor will suggest a fifth topic to cover.* This allocation should be specified above (see lines 36-55 in the LaTeX file).

You should then begin by looking at the list of skills identified within SFIA (Skills Framework for the Information Age) [?]. Then select two skills from the complete list:

1. The skill in which you believe you are currently the strongest and which is relevant to the major you have selected. You should explain why this skill is necessary for that major, and what evidence you currently have that demonstrates your strength in this area. (Target = 200-400 words).
2. The skill in which you believe you are currently the weakest but which is important to the major you have selected. You should explain why this skill is necessary for that major, and what you can do to improve your capability in this area. (Target = 200-400 words).

You will need to integrate your information into the shared collaborative LaTeX document and compile the result.

2.1. Skills for Computer Science: BLIGHT, Matthew

Your text goes here

2.2. Skills for Data Science: FAMNAME2, givenName2

Your text goes here

2.3. Skills for SW Development: TRAN, Jordan

1. The skill that I believe I am strongest in and is also majorly relevant to the software development field is testing. Testing refers to investigating products, systems and services to assess whether the specified or unspecified requirements and characteristics are met. It involves the use of manual testing or automated testing where test cases are created defining the test conditions for a given requirement. Moreover, test outcomes must also be recorded and analysed to validate the program and improve upon errors. The skill in testing is fundamental to the nature of software development involving the process of planning, designing ,creating, testing and supporting software products. Software development as a whole works to conceive a successful product that guarantees quality assurance in which testing is essential for meeting these standards. Thus, expertise in testing is required to determine whether the output of a software product meets the benchmark and assure that the product is up to standard for consumers. I believe that I am most well-versed in testing given my experience in school to create software projects via an agile approach requiring methods of testing such as black box testing where I had designed a test case to isolate a specific function comparing the expected to actual output. Moreover, I had undergone work experience that required testing for products in development using an array of tools and testing approaches to further analyse and suggest improvements upon a more quality assured product.

2. Application support is another communicational skill that is fundamental to the software development field and a skill that I believe to be the weakest in, given my inconsistency in providing information and unorganised work-life balance to routinely schedule for maintenance of products. Application support involves the deliverance of management, technical and administrative services to ensure a successful live application. Application support is a necessity in the software development cycle as a multitude of factors for a high-quality and reliable product need continual assistance post the development stage in order to meet a successful live application. For example, guidance and training for the users following new software releases, monitoring application performance, updating documentation and capturing user feedback are all application support skills that are a must-needed skill for every software developer in order to successfully produce a reliable product. Thus, Application support is by far one of the most important skills needed in order to become a successful software developer. However, I believe this to be one of my weakest skills due to the lack of experience in handling support post development as I have no experience in developing a live application (i.e. cloud-based) thus, cannot deem myself sufficient enough to deliver management, technical or administrative services for any customers. The most appropriate way to improve my capabilities in this area is to look for software development internships in my 3rd or 4th year and learn how to routinely schedule my assistance to customers for live-applications that have already been developed in these companies.

2.4. Skills for Cyber Security: FAMNAME4, givenName4

Your text goes here

3. Level B: Tools

Level B focuses on exploration of key tools used within professional computing employment. All companies make use of a range of technologies and tools (often as part of a tech stack). These tools might be implementation languages; design tools; data analysis tools; collaboration technologies, etc. Each student should identify two tools that are widely used in industry and which relate to the major you are focusing on for this project. You should then describe:

1. The main functionality of those tools;
2. The ways in which those tools are used;
3. Any weaknesses or limitations of those tools.

As examples (which you shouldn't now use): Computer Science: eclipse; Software Development: github; Cyber Security: Wireshark; Data Science: Hadoop.

Note also that no two students in the same tutorial should choose the same tools, so your tutor will maintain a list of those that have already been selected. You should therefore check this list and then confirm your choice with your tutor prior to researching your proposed tools and spending time writing about them. (Target = ~200-400 words per tool).

Also, in order to achieve level B each student needs to be able to demonstrate capability with git and compilation of LaTeX documents from the command line. To demonstrate this, your team (or at least those members who are aiming to attempt level B) should do the following:

1. Select one member to:
 - (a) Create a local github repository for the project. This repository should contain the main LaTeX documents, as well as a subdirectory called "screengrabs";
 - (b) Create a repository on github for the project;
 - (c) Connect your local repository to the remote github repo;
 - (d) Push your local repository contents to the remote repo;
 - (e) Add all team members (and your tutor and unit coordinator) as members to the remote repo;
2. Each additional group member should then clone the remote repo;
3. Each member aiming to achieve level B should then be able to use the remote repo (and pushing and pulling changes) to demonstrate collaborative editing of the LaTeX documents.
4. And each member aiming to achieve level B should also do a screengrab (or multiple screengrabs) showing their local successful compilation, on the command line, of the final LaTeX document. This should be added to the screengrabs folder in your local repo and then pushed to the remote repo so that your tutor can view it.

3.1. Tools for Computer Science: BLIGHT, Matthew

Your text goes here

3.2. Tools for Data Science: FAMNAME2, givenName2

Your text goes here

3.3. Tools for SW Development: TRAN, Jordan

Your text goes here

3.4. Tools for Cyber Security: FAMNAME4, givenName4

Your text goes here

4. Level C: Advanced Skills

Level C focuses on more advanced technical skills in L^AT_EX and Git.

The following is a list of advanced Git and L^AT_EX skills/features. Each student in your team should select a different pair of items from each list (e.g. you might choose "Resetting and Tags" from the git list, and "Cross-referencing and Custom commands" from the LateX list). You then need to demonstrate actual use of each item (either through activity in Git, or through including items in this report). (Target = ~100-200 words per student for each feature).

- Git
 - Rebasing and Ignoring files
 - Forking and Special files
 - Resetting and Tags
 - Reverting and Automated merges
 - Hooks and Tags
- L^AT_EX
 - Cross-referencing and Custom commands
 - Footnotes/margin notes and creating new environments
 - Floating figures and editing style sheets
 - Graphics and advanced mathematical equations
 - Macros and hyperlinks

4.1. Advanced skills: BLIGHT, Matthew

Explain your use of the advanced Git and L^AT_EX features.

4.2. Advanced skills: FAMNAME2, givenName2

Explain your use of the advanced Git and L^AT_EX features.

4.3. Advanced skills: TRAN, Jordan

Explain your use of the advanced Git and L^AT_EX features.

4.4. Advanced skills: FAMNAME4, givenName4

Explain your use of the advanced Git and L^AT_EX features.

5. Level D: Evolution of skills

Level D focuses on understanding how professional practice might evolve in the future. Most students in this unit are likely to be at or near the start of your degree, and so it might be anywhere from 3 to 5 years before you really start working in industry full-time – and the technology and ways in which people use them can change significantly in that time.

Your answer to this section you should address the following (Target = ~500 words):

1. Describe what you believe will be the biggest change in the next 5 years in the tools or technologies that are being actively used in industry practice (in your selected major);
2. Revisit the SFIA framework [?] from level A, and identify the one skill that you believe will have the biggest increase in terms of importance over the next 5 years. You should justify your choice.

5.1. Evolution of Computer Science: BLIGHT, Matthew

Your text goes here

5.2. Evolution of Data Science: FAMNAME2, givenName2

Your text goes here

5.3. Evolution of SW Development: TRAN, Jordan

Your text goes here

5.4. Evolution of Cyber Security: FAMNAME4, givenName4

Your text goes here