**KF5012 Software Engineering Practice**

**AI Stream – Lando Calrissian**

**Proposal:**

Due to lockdown restrictions, there is a decrease in grouped hobbies which has increased by outdoor leisure. This is revealed through a 12% increase in outdoor leisure since lockdown in Scotland. (nature.scot, 2020) A common outdoor activity is foresting; a sub-activity of foresting being “Shrooming”. Shrooming can be defined as the hunting of mushrooms. (Kaggle, 2017). Mushrooms can be deadly if a poisonous genus is ingested. Due to the probable chance of beginners starting this sub-activity, the proposed program will use machine learning techniques to classify if a mushroom is edible or not based on the features of the mushroom. The potential risk of beginner “Shroomers” eating a miss-classified mushroom can be likely. Ingestion of a poisonous can result in hallucinations, gastrointestinal illness, liver failure and death. (betterhealth.vic.gov.au, No date)

To be able to produce a product of quality, professional standards will be used throughout the duration of the projection. The team will be using git as source control, to contribute to a single repository. Through using git/GitHub, allows collaborative working as everyone can work on the project at once, allows for task completion to be tracked and offers the chance to rewind to a previous version of the project.

The development methodology chosen is Agile. Agile is a popular choice due to the efficiency that comes naturally with agile. Each mission will be met through the use of sprints in order to ensure completeness, it allows time to be allocated to ensure the quality of work is met before the project’s deadline.

The team communicates through Discord. Discord was chosen due to the various functions it offers. Discord is multi-platform and allows for multimedia communication. This allows the members of the team to communicate freely and share ideas in one place. Discord was chosen for the usability functionality; Discord allows users to share screens within a voice communication channel. This will aid in promoting professional standards to the project, such as “paired programming”. Paired programming through Discord can aid the project as the iterative development mission can be achieved with great communication whilst working on the task remotely.

**References:**

*Mushroom Classification* (2017) Available at: https://www.kaggle.com/uciml/mushroom-classification (Accessed: 17 February 2021).

*Mushroom Poisoning* (2019) Available at: https://www.betterhealth.vic.gov.au/health/healthyliving/fungi-poisoning (Accessed: 17 February 2021).

*More people spending time outdoors. New survey reveals importance of nature to Scotland’s Recovery from Covid-19* (2020) Available at: https://www.nature.scot/more-people-spending-time-outdoors-new-survey-reveals-importance-nature-scotlands-recovery-covid-19 (Accessed: 17 February 2021).

**Mission Allocation:**

The allocations of missions were based on numerous attributes. Initially upon review of the skill audit (as seen in the appendices) from the members of the team, it revealed any of the members could complete any of the missions. The first team meeting allowed for the communication of allocation of tasks by preference. Task allocation goes as follows:

**Tasks:**

**Project Ideation:** Eve O’Brien (w18009288)

**Solution Design:** Phillip Reed (w18011988)

**Baseline Implementation:** Phillip Reed (w18011988)

**Iterative Development: TEAM**

**Solution Testing:** Eve O’Brien (w18009288)

**Project Management:** Steven Preston (w18005080)

**Additional Data:** Steven Preston (w18005080)

**Appendix**

Skills Audit - Steven Preston (w18005080)

# Part 1 Key Skills

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| --- | --- | --- | --- | --- |
| SKILLS AREA | I CAN DO THIS WELL | OK, BUT I NEED MORE PRACTICE | I CAN’T DO THIS | PRIORITY DEVELOPMENT OF THIS SKILL 1 = very important,  2 = quite important,  3 = not important |

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| --- | --- | --- | --- | --- |
| ORGANIZATION OF LEARNING |  |  |  |  |
| I have strategies to help me to plan and manage my time | ✓ |  |  | 1 |
| I am able to effectively prioritise my tasks and activities | ✓ |  |  | 1 |
| I am able to work to deadlines | ✓ |  |  | 1 |
| I am aware of what makes my learning more effective (e.g. place to study, time to study etc) |  | ✓ |  | 2 |

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| --- | --- | --- | --- | --- |
| INFORMATION SEEKING SKILLS |  |  |  |  |
| I am able to find a specific book or journal in the library using the on-line catalogue |  | ✓ |  | 1 |
| I am able to use a variety of different sources to find information  (e.g. journals. books, electronic resources) |  | ✓ |  | 1 |
| I am able to access and search electronic resources (on-line databases, electronic journals CD-ROMs) |  | ✓ |  | 1 |
| I am able to use search gateways on the Internet to find information |  | ✓ |  | 2 |
| I am able to evaluate the information I find | ✓ |  |  | 1 |

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| --- | --- | --- | --- | --- |
| **READING AND NOTEMAKING** |  |  |  |  |
| I can decide which parts of a book I need to read | ✓ |  |  | 2 |
| I have a system for recording where I find information (e.g. book, author, date) | ✓ |  |  | 2 |
| I can select and use different reading strategies (e.g. skim, scan, in-depth) |  | ✓ |  | 2 |
| I can make effective notes when reading |  | ✓ |  | 2 |
| I can make effective notes when listening (e.g. during lectures) |  | ✓ |  | 2 |
| I have a system for recording and storing my notes | ✓ |  |  | 1 |

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| --- | --- | --- | --- | --- |
| WRITING SKILLS |  |  |  |  |
| I can analyse assignment (essay, report etc) questions to determine what is expected | ✓ |  |  | 1 |
| I understand the difference between an essay and report | ✓ |  |  | 1 |
| I can produce a written plan to answer an assignment question |  | ✓ |  | 1 |
| I can punctuate, use grammar and spelling correctly | ✓ |  |  | 1 |
| I am confident I can express my ideas clearly in written form |  | ✓ |  | 1 |
| I am able to adapt my writing styles to suit the appropriate media/audience |  | ✓ |  | 1 |
| I understand the need to reference my work to avoid plagiarism | ✓ |  |  | 1 |

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| --- | --- | --- | --- | --- |
| SPOKEN COMMUNICATION |  |  |  |  |
| I am able to express my views verbally | ✓ |  |  | 2 |
| I am confident speaking in front of a group of people |  | ✓ |  | 2 |
| I can prepare, plan and deliver a presentation | ✓ |  |  | 2 |
| I can use visual aids to support a presentation | ✓ |  |  | 2 |
| I am able to listen to and appreciate the views of others | ✓ |  |  | 2 |

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| --- | --- | --- | --- | --- |
| WORKING WITH NUMBERS |  |  |  |  |
| I am competent in making simple calculations | ✓ |  |  | 1 |
| I can present numerical information accurately | ✓ |  |  | 2 |
| I can competently use a variety of numerical techniques (e.g. percentages, fractions, decimals) | ✓ |  |  | 2 |
| I can interpret and present information in graphs and illustrations |  | ✓ |  | 2 |

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| WORKING WITH OTHERS |  |  |  |  |
| I am good at working with other people | ✓ |  |  | 2 |
| I am able to lead or organize a group | ✓ |  |  | 2 |
| I know how to plan and manage meetings | ✓ |  |  | 2 |
| I am good at co-ordinating a group such as storing and sharing files and documents | ✓ |  |  | 2 |
| I am good at supporting other people | ✓ |  |  | 2 |
| I am able to get the best out of others |  | ✓ |  | 2 |
| I can motivate others |  | ✓ |  | 2 |
| I am able to manage conflict or disagreement | ✓ |  |  | 2 |
| People look at me as a leader | ✓ |  |  | 2 |

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| STRESS MANAGEMENT |  |  |  |  |
| I know what causes stress |  | ✓ |  | 1 |
| I am aware of my personal symptoms of stress | ✓ |  |  | 1 |
| I can use strategies to help me cope with my stress or other people’s stress | ✓ |  |  | 2 |

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| PERSONAL DEVELOPMENT PLANNING |  |  |  |  |
| I am able to identify my personal goals |  | ✓ |  | 1 |
| I am a good judge of what my strengths and areas for development are | ✓ |  |  | 2 |
| I am able to identify opportunities for learning outside my course, e.g. clubs, societies, employment | ✓ |  |  | 1 |
| I am able to plan for my personal development | ✓ |  |  | 1 |

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| --- | --- | --- | --- | --- |
| SKILLS AREA | I CAN DO THIS WELL | OK, BUT I NEED MORE PRACTICE | I CAN’T DO THIS | PRIORITY DEVELOPMENT OF THIS SKILL 1 = very important,  2 = quite important,  3 = not important |
| Strong programming skills in Python |  | ✓ |  | 1 |
| Reviewing past research to form a literature review |  | ✓ |  | 1 |
| Designing UI for an application or program |  | ✓ |  | 1 |
| Developing solutions to problems | ✓ |  |  | 1 |
| Testing code to ensure it works to the standard | ✓ |  |  | 1 |
| Successfully managing a team | ✓ |  |  | 2 |
| Strong mathematical skills to review theories |  | ✓ |  | 1 |
| Analysing results and reviewing them | ✓ |  |  | 2 |
| Analysing ethics and their possible societal impact | ✓ |  |  | 2 |
| Ability to adapt to new software and concepts | ✓ |  |  | 1 |
| Writing intuitive documentation | ✓ |  |  | 1 |
| Writing well commented and clean code | ✓ |  |  | 2 |
| Ability to communicate with team members when struggling with tasks | ✓ |  |  | 2 |
| Preparing diagrams for proposed solutions |  | ✓ |  | 1 |
| Having a clear and solid idea for the direction of the project |  | ✓ |  | 2 |

Skills Audit - Phillip Reed (w18011988)

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| --- | --- | --- | --- | --- |
| ORGANIZATION OF LEARNING |  |  |  |  |
| I have strategies to help me to plan and manage my time | X |  |  | 2 |
| I am able to effectively prioritise my tasks and activities |  | X |  | 2 |
| I am able to work to deadlines |  | X |  | 1 |
| I am aware of what makes my learning more effective (e.g. place to study, time to study etc) |  | X |  | 1 |

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| INFORMATION SEEKING SKILLS |  |  |  |  |
| I am able to find a specific book or journal in the library using the on-line catalogue |  | X |  | 2 |
| I am able to use a variety of different sources to find information  (e.g. journals. books, electronic resources) | X |  |  | 2 |
| I am able to access and search electronic resources (on-line databases, electronic journals CD-ROMs) |  | X |  | 2 |
| I am able to use search gateways on the Internet to find information | X |  |  | 3 |
| I am able to evaluate the information I find | X |  |  | 2 |

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| **READING AND NOTEMAKING** |  |  |  |  |
| I can decide which parts of a book I need to read |  | X |  | 1 |
| I have a system for recording where I find information (e.g. book, author, date) | X |  |  | 3 |
| I can select and use different reading strategies (e.g. skim, scan, in-depth) | X |  |  | 2 |
| I can make effective notes when reading |  | X |  | 1 |
| I can make effective notes when listening (e.g. during lectures) |  | X |  | 2 |
| I have a system for recording and storing my notes | X |  |  | 3 |

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| WRITING SKILLS |  |  |  |  |
| I can analyse assignment (essay, report etc) questions to determine what is expected |  | X |  | 1 |
| I understand the difference between an essay and report |  | X |  | 2 |
| I can produce a written plan to answer an assignment question | X |  |  | 2 |
| I can punctuate, use grammar and spelling correctly | X |  |  | 2 |
| I am confident I can express my ideas clearly in written form | X |  |  | 2 |
| I am able to adapt my writing styles to suit the appropriate media/audience | X |  |  | 3 |
| I understand the need to reference my work to avoid plagiarism | X |  |  | 3 |

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| SPOKEN COMMUNICATION |  |  |  |  |
| I am able to express my views verbally |  | X |  | 2 |
| I am confident speaking in front of a group of people |  |  | X | 1 |
| I can prepare, plan and deliver a presentation |  | X |  | 2 |
| I can use visual aids to support a presentation |  | X |  | 1 |
| I am able to listen to and appreciate the views of others | X |  |  | 2 |

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| WORKING WITH NUMBERS |  |  |  |  |
| I am competent in making simple calculations | X |  |  | 3 |
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| I am good at working with other people | X |  |  | 2 |
| I am able to lead or organize a group | X |  |  | 3 |
| I know how to plan and manage meetings |  | X |  | 2 |
| I am good at co-ordinating a group such as storing and sharing files and documents | X |  |  | 2 |
| I am good at supporting other people | X |  |  | 3 |
| I am able to get the best out of others |  | X |  | 2 |
| I can motivate others | X |  |  | 2 |
| I am able to manage conflict or disagreement |  | X |  | 2 |
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| Writing intuitive documentation |  | X |  | 1 |
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| I am good at supporting other people | X |  |  | 1 |
| I am able to get the best out of others |  | X |  | 2 |
| I can motivate others |  | X |  | 2 |
| I am able to manage conflict or disagreement |  | X |  | 2 |
| People look at me as a leader |  | X |  | 2 |

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| --- | --- | --- | --- | --- |
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| I can use strategies to help me cope with my stress or other people’s stress |  | X |  | 3 |

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| Reviewing past research to form a literature review | X |  |  | 1 |
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| Developing solutions to problems |  | X |  | 2 |
| Testing code to ensure it works to the standard | X |  |  | 1 |
| Successfully managing a team |  | X |  | 2 |
| Strong mathematical skills to review theories |  | X |  | 2 |
| Analysing results and reviewing them | X |  |  | 2 |
| Analysing ethics and their possible societal impact |  | X |  | 2 |
| Ability to adapt to new software and concepts |  | X |  | 2 |
| Writing intuitive documentation | X |  |  | 3 |
| Writing well commented and clean code |  | X |  | 2 |
| Ability to communicate with team members when struggling with tasks |  | X |  | 2 |
| Preparing diagrams for proposed solutions |  | X |  | 2 |
| Having a clear and solid idea for the direction of the project | X |  |  | 1 |