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| **Task:** | | **2** | | |
| **Task Title:** | | **Project** | | |
| **Task Code:** | | **AT2 PRJ Task 1** | | |
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| Assessment type (): | | | | |
|  | Questioning (Oral/Written) | |  | Portfolio |
|  | Practical Demonstration | |  | Project |
|  | 3rd Party Report | |  | Other – Please Specify |

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| The base requirements this assessment task include:   * IDE or editor for developing Python programs (only PyCharm supported by the college) * Access to Office 365 & Microsoft Word * Access to the program template (.py) and the readme.md instructions * Task list and task template   Use of some of these items may not occur in this part of the assessment task. |
| Assessment Due NOTICE: While this assessment is due on the second last week of the course. You **MUST** review elements of this submission with your lecturer before submission to pass this assessment.  This assessment is due on the second last week of the term on which it was administered.  Refer to Blackboard for most accurate dates, which may alter due to unforeseen circumstances. |
| Instructions The project consists of three parts:   1. This journal and general project instructions 2. A template python program that you can use as a basis of your development work 3. A readme.md file (markdown) that contains development specific instructions as well as sections that you need to complete.   Follow the steps outlined in each of these individual components and submit all three to successfully complete this assessment.  You must follow the instructions in and complete the tasks for all three components to complete this course. You may need to submit additional files |
| Important If you are using a different IDEs or a different structure for your application, then assistance with those tools and forms may be limited. Discuss with your lecturer before straying too far off the path. |
| Scenario You are currently working as a junior software developer at words-are-us, a Perth-based company that develops content and apps to build engagement.  You have been contracted to gain a deeper understanding of the popular tool Wordle and develop a prototype app that emulates the original wordle algorithm but provides these capabilities from the command line. As a junior developer, you have access to your peers, the senior developer (played by your lecturer), and occasional access to the customer (usually also played by your lecturer). |
| Specific Instructions This file is to be submitted as a journal that demonstrates the following aspects of your competency:   * Your ability to prioritise your own work * Obtain feedback to validate and enhance your design decisions * Confirm that the application meets specifications * Evaluate and reflect on decisions you made in the process of development   Save the file as:   * XXX\_ICTPRG302\_Proj\_Journal.docx   Replacing XXX with your initials.  For example, Adrian Gould would use AG\_ICTPRG302\_Proj\_Journal.docx for his submitted filename.  Upload any code as a PyCharm project in a zip-file. Remove the virtual environment (**venv** or **.venv**) from the zip-file before uploading it to Blackboard. |
| Answering Questions When a step includes a question, you must attempt to answer it. A word count is sometimes given, but most answers require at most 1-3 paragraphs.  All answers must be in complete sentences unless indicated. You must use your own words unless otherwise specified. |
| Sources of Information In industry, it is good practice to keep track of where information was obtained. This is especially true if it is a written document, or even code.  If you answer any questions using information from web sites, please include the site name and URL (Web site address) after the answer. Likewise, include the title and author for books and magazine articles. For example:   * RS Electronics Ltd: <https://au.rs-online.com/> * Slack API Documentation, Users List Method: <https://api.slack.com/methods/users.list>  Code Storage and Issue Tracking An industry-standard tool for managing program source is git. GitHub is a free service that provides hosting for git repositories. You may choose to use this system for source control, task management, or both. However, it is not required for this project.  You may also use OneDrive within your college Office365 to store a backup of your code or keep a copy on a USB thumb drive. |
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| **Weekly** | **Reflections** | Words 50-100 |
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| 00 | Familiarisation At any stage during this assignment, you may consult the stakeholder(s) or their representative(s).  Today, you were introduced to the business requirements of the project. You would have been given an opportunity to interact with competitor products. For example, if you are performing the Wordle project, you would have got to try the commercial version of the game and discuss how the game works (system behaviour) it in class.  Bellow, note down the following:   * 1-2 lines describing the business motivation * 5-6 lines describing the system behaviour * An example of at least **two** python constructs you learned previously and one line explaining how they could be relevant to the problem. For example, for loops, Boolean expressions, file reading, etc. |  |
|  | *Examples of python constructs that I learned previously and how they could be relevant to the problem are below.*   1. *Conditional execution* 2. *Functions* 3. *Loops and iterations* |  |
| 01 | Creating an algorithm Complete at least two versions of the algorithm (lecturer determines the algorithm). Present your initial version to one of your peers and the senior developer. Document how your thoughts changed as a result of the interaction.  Your algorithm is **not** documented here (it should be in the readme.md) |  |
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| 02 | Edge cases What are some edge cases that you have considered that could impact the design of your algorithm? Discuss with your lecturer and peers and write your reflection here |  |
|  | *Space for your answers* |  |
| 03 | Project planning What tool have you used to manage your tasks and why? Include a screen shot of your initial task list. |  |
|  | *The tools that I had used to manage my tasks are below, followed with an explanation as to why.*  *Project-Simple-ToDo-List – This was my first time undergoing a programming project, so I thought it would be wise to follow a completed task list by someone who has done many.* |  |
| 04 | Simple testing and inspection How do you intend on testing your code? Give an example of an existing test case and a test case that you will generate. |  |
|  | *Space for your answers* |  |
| 05 | Dealing with uncertainty What are some issues that you are still uncertain about? How do you intend to get clarity? Ensure you discuss with your lecturer |  |
|  | *The issue that I’m uncertain about is determining which of the guesses’ duplicate letters is in the target word if the letter’s amount in the random word is greater than that of the guesses’, and whether the position of the guesses’ duplicate letters that is in the random word are identical and vice versa.*  *I intend to get clarity by re - understanding what I had misunderstood through discussions with people who are more knowledgeable than myself and that have, or are believed to have resolved similar uncertainties, whilst also viewing their work to review my own.*  *I can also discuss these with people who are as, or less knowledgeable than myself to evaluate how well I understand what I believe to have understood.*  *My explanation of the uncertainty’s resolution is as follows:*   1. *Iterate through the guess and the target word* 2. *Count each letter* 3. *Validate if the letter’s amount in the guess is less than, equal to or greater than the target word’s* 4. *Validate if the letter is in the target word or not* 5. *If the letter is in the target word and given that the letter’s amount is less than the target word’s, change the lists’ elements to 1. Else, change the lists’ elements to 2 if the letters’ do not match.* 6. *If 5 is true, except that the letter’s amount is equal to the target words, reverse the guess to find the index of the duplicate letter, reverse the index and if the target words letter using the reversed index is the same as the guesses, change the list’s element to 1. However, if not true, change the list’s element to 2, find the index of the letter’s first occurrence and change the list’s element to 1.* 7. *Repeat 6 if the letter’s amount is greater than the target word’s and change the list’s element to 0 for the duplicate letter if its letter has not been checked, whilst also appending it to the incorrect letters list if already not appended.* |  |
| 06 | Catch up This section is not assessed but is strongly recommended  Write any challenges and achievements you are having |  |
|  | *Space for your answers* |  |
| 07 | Code review Review your code with the senior developer and write down any changes you need to make because of the review. Add them to your task list and include a screenshot. |  |
|  | *Space for your answers* |  |
| 08 | Application review Review the working of the application with the client (likely, your lecturer). Write down one thing you got right and one thing you got wrong and explain why you think what worked and what didn’t.  Were there any non-functional issues? Crashes, unexpected output? |  |
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| 09 | You DID IT!!! Well done on completing your first software development project!  You’ve come a long way. Don’t forget to submit all elements |  |