# **Botany Downs Secondary College**

**Internal Assessment**

**Level 3**

**91906- Use Complex Techniques to Develop a Computer Program-6 credits**

**91907- Use complex processes to develop a digital technologies outcome** **-6 credits**

|  |  |  |
| --- | --- | --- |
| **Achieved** | **Merit** | **Excellence** |
| · Use complex programming techniques to develop a computer program. | · Use complex programming techniques to develop an informed computer program. | · Use complex programming techniques to develop a refined computer program. |

Due Date ; July 28th 2023

**Student Declaration:**

I hereby declare that I have completed the assessment for 91906-907, independently and to the best of my abilities. This assessment represents my own work and is based on my own research, practice and understanding of the subject matter.

I confirm that all sources used in this assessment, including but not limited to books, articles, online resources, and any other references, have been appropriately cited and acknowledged according to the prescribed referencing style.

I further affirm that I have not engaged in any form of academic dishonesty, such as plagiarism or unauthorized collaboration, in the completion of this assessment. The ideas, arguments and content presented in this assessment are my own and have not been copied or reproduced from any other source.

I understand that any act of academic misconduct or violation of the academic integrity may result in disciplinary actions, which could include penalties such as grade reduction, course failure or other consequences as determined by the institution.

I take full responsibility for the authenticity and originality of the assessment and acknowledge that my work will be subject to scrutiny and evaluation by my instructors or assessors.

Signed : …………Nikhil……………….

Date: ………………22/05/23…………………..

Signed:

Date:

**Introduction to the chosen task:**

I want this app to serve many different purposes. I want it to be somewhat of a multifunctional app. So far, I am thinking of adding a calendar, calculator world clock, and a wish list. These features will allow the user to perform multiple tasks using only one app.

I can see this app being used by many people, with many different backgrounds. This app can be significant if I am able to add a lot of features. This app is also helpful to a lot of people since it will be easy to access and will have a lot of features. Instead of going to 5 different websites on Google, the user can just use the app that ill makes.

**Methodology:**

I will start with opening a tkinter window. Then I will use a menu function to set up the different parts of my app (calculator, calendar, and clock).

Then for the calculator, I will use classes that will multiply, divide subtract, and such. I will likely have to use sub-classes for all the different notations.

For the clock, I will have to probably import the times around the world from a website. And then I will have to design the clock face using a photo editor such as gimp. Once I do that I will have to assign the clock hands to the times.

And then for the calendar, I will probably make it so that when the user clicks on a date they can write a reminder for themselves. I will do this by making all the dates buttons and then writing code so that when the button is pressed the user can type their message.

**Software Requirements**

I will need to use a code editor, I will be using Visual Studio Code for this app, I will also need.

List of Complex Techniques being used:

List of Complex Processes being used:

**Planning Requirements: (How will you plan your application design. This should include a pseudocode, flowchart, project management tools, saving tools and drawing tools.)**

**Relevant Implications: (list the implications that are only relevant to your program development.)**

|  |  |  |
| --- | --- | --- |
| **Relevant Implication** | **Describe** | **Explain** |
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**Links to Project Management:**

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| --- | --- |
| **Project Management Tool** | **Link** |
| **Trello** |  |
| **Github** |  |
| **Draw.IO** |  |

**(Screenshot of Task Decomposition from Trello)**

**Iteration1: Explain what actions will happen in your first iteration.**

**(**This should include the wireframe of your GUI, code structure, classes used, functions used. Highlight the key sections of the code that are of significance.**)**

**Wireframe of GUI with Annotations:**

**Table of objects (**Add more rows if required.**)**

|  |  |  |
| --- | --- | --- |
| **Objects/Variables/Storage structures such as lists/dictionaries/CSV/JSON** | **Datatype** | **Purpose and its relevance to the outcome development** |
|  |  |  |
|  |  |  |

**Screenshot of Version 1 Flowchart:**

**Iteration 1: Component Testing Table: Include Screenshots and give reason which component is selected and why?**

|  |  |
| --- | --- |
| **Test Case** | **Expected** |
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**Feedback on Version 1: include a testing video here.**

|  |  |
| --- | --- |
| **Stakeholder** | **Feedback** |
| **SH1** |  |
| **SH2** |  |
| **Teacher’s Feedback** |  |

**Updated Trello Screenshot after Version1**

**Summary of Feedback and intended changes to make in Version 2:**

**Iteration2: Explain what actions will happen in your second iteration.**

**(**This should include the GUI Wireframe,code structure, classes used, functions used. Highlight the key sections of the code that are of significance. Include the Task screenshot from Trello**)**

**Screenshot of V2 Flowchart:**

**Iteration 2: Component Testing Table: Include Screenshots: Include Screenshots and give reason which component is selected and why?**

|  |  |
| --- | --- |
| **Test Case** | **Expected** |
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**Feedback on Version 2: include a testing video here.**

|  |  |
| --- | --- |
| **Stakeholder** | **Feedback** |
| **SH1** |  |
| **SH2** |  |
| **Teacher’s Feedback** |  |

**Update the Trello and place a screenshot showing completion of above task.**

**Summary of Feedback and intended changes to make in Version 3:**

**Iteration3: Explain what actions will happen in your 3rd iteration.**

**(**This should include the GUI Wireframe, code structure, classes used, functions used. Highlight the key sections of the code that are of significance.**)**

**Screenshot of V3 Flowchart:**

**Iteration 3: Component Testing Table: Include Screenshots : Include Screenshots and give reason which component is selected and why?**

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| --- | --- |
| **Test Case** | **Expected** |
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**Feedback on Version 3: include a testing video here.**

|  |  |
| --- | --- |
| **Stakeholder** | **Feedback** |
| **SH1** |  |
| **SH2** |  |
| **Teacher’s Feedback** |  |

**Summary of Feedback and intended changes to make in Version 4:**

**Iteration4: Explain what actions will happen in your fourth iteration.**

**(**This should include the code structure, classes used, functions used. Highlight the key sections of the code that are of significance.**)**

**Screenshot of V4 Flowchart:**

**Iteration 4: Component Testing Table: Include Screenshots : Include Screenshots and give reason which component is selected and why?**

|  |  |
| --- | --- |
| **Test Case** | **Expected** |
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**Feedback on Version4: include a testing video here.**

|  |  |
| --- | --- |
| **Stakeholder** | **Feedback** |
| **SH1** |  |
| **SH2** |  |
| **Teacher’s Feedback** |  |

**Summary of Feedback and intended changes to make in Version 5:**

**Iteration5: Explain what actions will happen in your fifth iteration.**

**(**This should include the GUI wire frame, code structure, classes used, functions used. Highlight the key sections of the code that are of significance.**)**

**Screenshot of V5 Flowchart:**

**Iteration 5: Component Testing Table: Include Screenshots: Include Screenshots and give reason which component is selected and why?**

|  |  |
| --- | --- |
| **Test Case** | **Expected** |
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**Feedback on Version 5: include a testing video here.**

|  |  |
| --- | --- |
| **Stakeholder** | **Feedback** |
| **SH1** |  |
| **SH2** |  |
| **Teacher’s Feedback** |  |

**A comparative chart of Version GUI showing iterative improvement**

|  |  |
| --- | --- |
| **Version1 Description** | **GUI Design** |
|  |  |
| **Version2 Description and Feedback** | **Gui Design** |
|  |  |
| **Version 3 Description and Feedback** | **GUI Design** |
|  |  |
| **Version4 Description and Feedback** | **GUI Design** |
|  |  |
| **Version 5 Description and Feedback** | **GUI Design** |
|  |  |

**Discuss how you addressed the Relevant Implications you described and explained earlier. Please provide screenshots where you applied the implication.**

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| --- | --- |
| **Relevant Implication** | **How I applied this in the development of my outcome.** |
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**Final Trello Board showing all the Tasks Done :**

**Fitness for Purpose:**

**(Discusses how the information from planning, testing and trialling of components assisted in the development of a high-quality outcome. Include how this can be further developed and implemented in the future.)**

**Make sure you tick all the boxes here.**

|  |  |
| --- | --- |
| **Requirement** | **Status**  **√** |
| Introduction to the project |  |
| End users |  |
| Project Management Tools such as Trello, Github,Draw.IO used and updated from version to version. |  |
| Relevant implications- Described and Explained |  |
| Software requirements listed |  |
| Program design requirements such as selection, sequence and iteration control structures |  |
| Flowcharts |  |
| Defined Classes and created obje |  |
| GUI wireframes for all versions including annotations |  |
| Coding conventions followed |  |
| Reads from or writes to files or other persistent storage used |  |
| Defined classes and created objects |  |
| Defined and used custom data types |  |
| Used complex data structures such as Queues |  |
| Trello updated frequently. |  |
| Links for Trello, Github and Draw.IO given |  |
| Comments written to describe the code |  |
| Annotated screenshots or screencast videos showing the testing procedures |  |
| Annotated screenshots or screencast videos demonstrating the program is functioning |  |
| Documented all the testing procedures using tables provided for each version. |  |
| Feedback from end users/stakeholders documented correctly. |  |
| Addressed relevant Implications with screenshots |  |
| Summary of fitness for purpose |  |
| Final Update of Trello board with all tasks done. |  |