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| Programming Assessment Add programmed functionality to a Bus Timetable App | |  |  | | --- | --- | | Standard: | AS 91637 | | Version: | 3 | | Level: | 3 | | Credits: | 6 | |

## TASK

Program the functionality of a web-based bus timetable app, using JavaScript.

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| PROGRAM SPECIFICATIONS The program must allow the user to…  For Achieved   1. Create a Bus Class (or Object Template) that will encapsulate the data and functions for the Bus Objects 2. Dynamically load bus stop and time information 3. Identify the time of the next available bus 4. Setting out code clearly with comments 5. Evidence of testing and debugging ***Expected*** input cases.   For Merit   1. Same as Achieved 2. Well named variables and functions 3. Accurate comments that describe code function and behavior 4. Following a plan (e.g. pseudocode or flowchart) 5. Documenting an incremental development  (e.g. with version control via GitHub) 6. Evidence of testing and debugging ***Expected + Boundary*** input cases.   For Excellence   1. Same as Achieved and Merit 2. Well structured, logical decomposition of the task 3. Using variables, constants and derived values effectively, to increase the flexibility and robustness of the program 4. Evidence of testing and debugging ***Expected, Boundary + Invalid*** input cases. | TASK REQUIREMENTS  1. Program must implement the use of:    * Variables    * Indexed data structure (e.g. Arrays)    * Modular Structure (e.g. Functions)      1. Functions should include: Sequential, conditional and iterative structures.    * Objects and a Class    * A Graphical User Interface  (e.g. Web page)    * Event handling (e.g. onclick event) 2. Code must be well documented with descriptive and concise comments 3. Must include a Plan (e.g. Pseudocode or Flowchart) 4. Must include link to incremental development e.g. GitHub 5. Zip entire project folder and submit to Canvas   \*Extra\*   1. Plan a future journey 2. Save favourite journeys 3. Updates |

## CHECKPOINT DATE Week 8 DUE DATE July 23rd (last day of holidays)

Marking Schedule

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| ACHIEVED Develop a complex computer program for a specified task involves:   * designing and implementing a program that includes variables, an indexed data structure, and a modular structure including details of the procedural structures of the modules * including a working graphical user interface with different sources of event generating components and event handling, and using class(es) and objects to encapsulate data and methods * setting out the program code clearly and documenting the program with comments * testing and debugging the program to ensure it works on a sample of **expected** input cases. |  |
| MERIT Skillfully develop a complex computer program for a specified task involves:   * documenting the program with variable and module names and comments that accurately describe code function and behaviour * following a disciplined design and implementation process, with documented cycles of incremental development and comprehensive testing process, to ensure that the program works on inputs that include both expected and boundary cases. |  |
| EXCELLENCE Efficiently develop a complex computer program for a specified task involves:   * ensuring that the overall modular and procedural design, graphical user interface, and event handling design, are a well-structured, logical decomposition of the task * using variables, constants, and derived values effectively so as to increase the flexibility and robustness of the program * comprehensively testing and debugging the program in an organised and time effective way to ensure the program is correct on expected, boundary and invalid input cases. |  |