**  
Technological University Dublin Blanchardstown Campus**

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| **Academic term** | 2023-2024 |
| **Year of study** | 2 |

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| **Programme code** | **Programme title** | **Module code** |
| TU653 | Higher Certificate in Science in Computing in Information Technology | COMP H2011 |
| TU757 | Bachelor of Science in Computing in Information Technology | COMP H2011 |
| TU860 | Bachelor of Science (Honours) in Computing | COMP H2011 |
| TU863 | Bachelor of Science (Honours) in Computing in Digital Forensics and Cyber Security | COMP H2011 |

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| **Module title** | GUI Programming – Final Assessment (**40%** of overall grade) – Version 3 |

**Internal Examiner(s): Dr. Luke Raeside**

**External Examiner(s): Dr. Christophe Meudec**

**Instructions to candidates (READ VERY CAREFULLY):**

1. **Please check that the module and programme which you are following is listed in the table above.**
2. **DOWNLOAD AND COMPLETE THE CORRET VERSION OF THE ASSIGNMENT FROM MOODLE (THERE ARE TEN VERSIONS):**

* **VERSION 1 for students with student number ending with 4.**
* **VERSION 2 for students with student number ending with 5.**
* **VERSION 3 for students with student number ending with 6.**
* **VERSION 4 for students with student number ending with 7.**
* **VERSION 5 for students with student number ending with 8.**
* **VERSION 6 for students with student number ending with 9.**
* **VERSION 7 for students with student number ending with 0.**
* **VERSION 8 for students with student number ending with 1.**
* **VERSION 9 for students with student number ending with 2.**
* **VERSION 10 for students with student number ending with 3.**

1. **YOU MUST CHOSE THE CORRECT ASSIGNMENT VERSION BASED ON YOUR STUDENT NUMBER IN ORDER TO RECEIVE A GRADE.**
2. **Attempt ALL parts of this assignment.**
3. **This is a 12 hour assignment – upload the assignment to Moodle before 9pm on December 7th 2023.**
4. **Record TWO short video clips as part of this assignment (3 minutes approx.). Record a video before you start to code the solution AND record a video prior to submission of the completed code.**

* **The initial video will summarize your plans for the coded solution, any difficulties you may feel you will have to overcome and include any designs or diagrams you have sketched (show to the camera).**
* **The second video will summarize what you managed to complete and summarize any difficulties encountered. Show the completed GUI(s) running, if possible, in this video. Ensure that you submit BOTH videos with the assignment. Failure to enclose the videos could result in an additional viva-voce examination, i.e., a follow-up one-to-one assessment. If you need to upload a link to the videos the links must be included in the submission and the lecturer must have download access.**

1. **IMPORTANT RULES FOR THE VIDEOS:**
   1. **I MUST SEE YOUR FACE TO INTRODUCE THE VIDEOS**
   2. **I MUST HEAR YOUR VOICE THROUGHOUT THE VIDEOS**
   3. **VIDEOS MUST BE IN ENGLISH.**

**Failure to follow the above rules will result in a viva-voce examination being required, i.e., a follow-up one-to-one assessment that will be examined and graded based on student responses.**

1. **Java 1.8 is a minimum requirement for this assignment (Java 10+ recommended)**
2. **Self-assessment is optional for this assignment**
3. **ALL THE SUBMITTED WORK MUST BE YOUR OWN. THIS IS AN INDIVIDUAL ASSIGNMENT YOU CANNOT ASSIST OTHERS IN ANY WAY OR SEEK ASSISTANCE FROM ANYONE ELSE IN ANY WAY. ZERO MARKS WILL BE AWARED TO ANY STUDENT THAT ASSISTS ANOTHER OR RECEIVES ASSISTANCE WITH THIS ASSIGNMENT.**
4. **LATE SUBMISSION WILL INCUR PENALTIES:**

* **Within first hour late will result in an automatic grade reduction of 20%, additional 20% reduction within every hour late thereafter, e.g., 1-2 hours late -40%, 2-4 hours late -60% etc.**

1. **YOU HAVE ALREADY SIGNED A COMMITMENT REGARDING ACADEMIC HONESTY THROUGH THE UNIVERSITY - HONOUR THAT COMMITMENT.**

**GUI PROGRAMMING FINAL ASSESSMENT 7th December 2023**

**VERSION 3: For students with student number ending with 6.**

**Question 1 – Implement a Food Ordering App in SWING (30 Marks):**

Create a JFrame GUI in Java SWING that mimics a food ordering GUI capable of placing an order of drinks, main meals and desserts. The application will maintain a list of food items ordered in separate bordered sections of the GUI, e.g., drinks will be separated from the list of main meals ordered. Select the items from pre-defined lists or dropdown menus. The GUI will maintain a total cost of the order being placed (you can use arbitrary prices). Place an image of each item ordered on the lists, e.g., order coke and a coke image will appear in the drinks ordered list on the GUI. Include AT LEAST THREE types of order (e.g., drinks, main meal, desserts) and AT LEAST THREE ITEMS in each category (e.g., drinks = coke, water, sprite). Include a title section in the GUI to name the application (with a large font), e.g., “Must-Eat Food Ordering”.

Marking guideline:

* Code the JFrame (including visibility and size etc.) **(2 marks)**
* Create and use panels (including setting layouts) **(2 marks)**
* Create a title section on GUI with large font **(2 marks)**
* Create the components to select THREE categories of food items **(3 marks)**
* Add the listeners and handlers for the food selections **(3 marks)**
* Create lists display (with borders) of categories of food item types **(2 marks)**
* Implement the food ordering to add selected items to the lists **(2 marks)**
* Use of images for items (use images that are the appropriate size) **(2 marks)**
* Add the total cost of order tracking component **(2 marks)**
* Keep up to date list of total order **(3 marks)**
* Modularization (use of methods and/or separate classes) **(3 marks)**
* Works to spec (Lists items added and total spent in separate areas) **(3 marks)**
* Add comments to the code to explain key activities **(1 mark)**

**Question 2: Menu Demo of TWO Dialog types (10 Marks):**

Create a JFrame GUI in Java SWING that contains a menu with listeners added. The menu will have TWO menu items added that will display a **message dialog** and an **input dialog** based on which menu item is selected. You may display whatever information you wish on the dialogs as long as they are the correct dialog types.

Marking guideline:

* Code the JFrame (including visibility and size etc.) **(2 marks)**
* Create the menu and the menu bar (add both to frame) **(2 marks)**
* Add the listeners to the menu items **(2 marks)**
* Show **message dialog** by selecting menu item **(2 marks)**
* Show **input dialog** by selecting menu item **(2 marks)**

1. **Self-assessment (optional):**

You have been supplied with a self-assessment sheet (as a separate Excel spreadsheet). You MAY use the self-assessment sheet to indicate to the assessor how you feel you have performed and enter comments. Submit the completed self-assessment sheet **optionally** with the assignment upload.

1. **GUI Programming Final Assessment Checklist:**

**Before and During the assignment, have you?:**

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|  | Y/N |
| Recorded a video at the beginning of the coding (3 min approx.) | Y |
| Included the design sketches in the pre-coding video? | Y |

**Before submitting the assignment, have you included the following in the zip file for submission:**

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|  | Y/N |
| Your student number, e.g., B00XXXXX\_Final.zip? | Y |
| All source code? | Y |
| Included two videos (at start of coding and at end before submission): (large videos can be included as a ONEDRIVE link if needed) | Y |
| Included supporting images and other needed files (e.g., design sketches)? | Y |
| Included completed self-assessment (**optional**)? | Y |