

<b>Module Code:</b>	<b>CS5004NA</b>
<b>Module Title:</b>	<b>Emerging Programming Platforms and Technologies</b>
<b>Module Leader:</b>	<b>Dhruba Sen</b> (Islington College)

<b>Coursework Type:</b>	<b>Group</b>
<b>Coursework Weight:</b>	This coursework accounts for <b>30%</b> of your total module grades.
<b>Submission Date:</b>	<b>Week 12</b>
<b>When Coursework is given out:</b>	<b>Week 3</b>
<b>Submission Instructions:</b>	Submit the following to Islington College RTE department before the due date: <ul style="list-style-type: none"><li>• <b>A Report in PDF format and a zip file which includes a Netbeans Project File</b></li></ul>
<b>Warning:</b>	London Metropolitan University and Islington College takes Plagiarism seriously. Offenders will be dealt with sternly.

## **Plagiarism Notice**

You are reminded that there exist regulations concerning plagiarism.

### **Extracts from University Regulations on Cheating, Plagiarism and Collusion**

Section 2.3: "The following broad types of offence can be identified and are provided as indicative examples .....

- (i) Cheating: including copying coursework.
- (ii) Falsifying data in experimental results.
- (iii) Personation, where a substitute takes an examination or test on behalf of the candidate. Both candidate and substitute may be guilty of an offence under these Regulations.
- (iv) Bribery or attempted bribery of a person thought to have some influence on the candidate's assessment.
- (v) Collusion to present joint work as the work solely of one individual.
- (vi) Plagiarism, where the work or ideas of another are presented as the candidate's own.
- (vii) Other conduct calculated to secure an advantage on assessment.
- (viii) Assisting in any of the above.

### **Some notes on what this means for students:**

- (i) Copying another student's work is an offence, whether from a copy on paper or from a computer file, and in whatever form the intellectual property being copied takes, including text, mathematical notation and computer programs.
- (ii) Taking extracts from published sources without attribution is an offence. To quote ideas, sometimes using extracts, is generally to be encouraged. Quoting ideas is achieved by stating an author's argument and attributing it, perhaps by quoting, immediately in the text, his or her name and year of publication, e.g. " $E = mc^2$  (Einstein 1905)". A reference section at the end of your work should then list all such references in alphabetical order of authors' surnames. (There are variations on this referencing system which your tutors may prefer you to use.) If you wish to quote a paragraph or so from published work then indent the quotation on both left and right margins, using an italic font where practicable, and introduce the quotation with an attribution.

Further information in relation to the existing London Metropolitan University regulations concerning plagiarism can be obtained from <http://www.londonmet.ac.uk/academic-regulations>

## Overview

For this coursework you are required to propose and develop an Information System. The system should have a table with title “Car Accessories Details” for storing and displaying the car accessories items. The menu items must contain minimum data type equivalent to the id, category, name, range level (for instance, low, medium, high) and price of item.

## Additional data can be added if required.

For and Car Accessories Information System, the equivalent data structure can be:

Accessories Number

Accessories Name within each category (e.g. seat cover, air bags etc.)

Category (such as comfort, ambience, media etc.)

Recommendation (Recommended by company, Recommended by community, No recommendation yet)

Price

## Task A – Proposal

For Task A, you are required to submit a proposal. The proposal should provide description about your system and tools and technologies used. The content requirements are:

1. Title
2. Brief information about your system
  - List of data
  - List of features
3. Justification of the tools used for the development.

[5 marks]

## Task B – Programming

### 1. Requirements for the Menu Information System

For Task B, you are required to use NetBeans IDE to create a Java based Menu Information System. To create the system, you need to create a project named **CAD\_IS** containing a class called **CAD\_Info**. Since the system stores menu information, its GUI should have a table with the title “**Car Accessories Details**” for storing and displaying the following menu items.

The requirements for the input GUI are:

1. Radio buttons for range level;
2. Check boxes or Combo box for selecting categories;
3. Text fields for all others.
4. The table should have at least 5 categories and 12 items in your demonstration.

For the project GUI, a simple menu bar is required. It should have at least the following items:

1. File – with Open File for opening an existing file and Exit for closing the system;
2. Help – for user help files.

The project should provide functionality for searching items based on price. If two or more items in the system have the same price, only the first matching item should be displayed in a JOptionPane message box. If no such dish is found in the table, then the system should display something meaningful in a JOptionPane message box. The search method should be implemented based on the **binary search** algorithm. The system GUI should have a text field for entering the search criteria (in this case, price) and a search button named "Search accessories" for searching.

You are required to implement a function for querying how many dishes are available in a category. For this function, either a Combo box or Check boxes should be implemented to provide the search criteria (e.g. comfort, ambience, media), and a button named "accessory available in category" for searching. The search result should be displayed meaningfully in a JOptionPane message box, for example "There are three car accessories: PU Leather Seat, Air Freshener and Industry Standard Airbags".

**Total: [45 marks]**

## **Task C - Report**

### **1. Report requirement:**

For the report, you need to describe the process of developing the system:

1. Describe how Binary search algorithm was used for the search function. Use a diagram to illustrate the algorithm.
2. Describe each method you created in the MenuInfo class

**[10 marks]**

Testing should be carried out and testing evidence should be provided:

1. Test your program to show it can run in NetBeans, and include a screenshot to show running result.
2. Evidence needed for: adding item details to table; searching for item in table based on price; searching for number of dishes in a category; and opening a file from menu.
3. Evidence on system validation: appropriate dialog boxes should appear when unsuitable values or no value are entered when executing system's functions.

**[10 marks]**

In the conclusion section of your report, you should evaluate your work, reflect on what you have learnt from the coursework, what difficulties/problems you may have encountered and how you overcame them.

Style and quality of your report will be marked.

### **2. A recommended structure for your report**

1. **Cover Page** {clear and concise- e.g. Task B: Technical Report, Module Code, Module Title, names of group members and their ID numbers}

2. **Contents Page** {structure of report - section numbers, heading and page numbers}
3. **Individual Tasks** {clearly list who did what – which part of the system development/testing/report was done by whom.}
4. **Introduction** {brief description of the requirements of the coursework}
5. **Body** {main part of the report, see Report requirement section.}
6. **Conclusion** {see Report requirement section}
7. **References (Bibliography)** {demonstration of your referencing skills}

**Total: [20 marks]**

#### **Task D – Oral Presentation**

Note: If student is unable to defend his/her coursework, s/he might be penalized

**Total: [10 marks]**

**~ END~**