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| **Assignment Brief UCY** | | | |
| Programme Name: **FdSc Computing** | | | |
| Unit Name and level: **Programming 2 Level I** | | Unit Leader: **Ed Nicholson** | |
| Approved for Issue by: Rob Wood | | Word Count: N/A | |
| Issue Date: 14/12/2016 | | Return Date (this is the final date to submit, it can be earlier): 17/03/2016 | |
| Assignment Title: **Parsifal College** | Assignment weighting (100 % of total coursework) | | |
| Assignment Details:  **Detailed brief attached.**  Intended Learning Outcomes (list those covered by this assignment):   1. Demonstrate a detailed understanding of the syntax of object oriented programming 2. Design an algorithm for a given problem scenario, including interface design 3. Design an object model for a given algorithm 4. Implement a program corresponding to a given implementation object model 5. Develop and apply a relevant testing strategy to a given program. | | | |
| **How the Assignment will be Assessed (tasks), this gives an indication of the importance of different aspects of the assignment. These may relate directly to the ILOS or may be more generic.**  **Assessment Criteria *(****please refer to your handbook for generic assessment criteria and Merit and Distinction criteria.)* | | | **Marks Allocated** |
| 1. **Coding demonstrates understanding of Java syntax.** | | | **20** |
| 1. **Algorithms developed to meet the processing needs of the application** | | | **20** |
| 1. **The object model is convincing and correctly documented** | | | **20** |
| 1. **The implementation is syntactically correct and uses advanced features of the language** | | | **20** |
| 1. **Testing is convincing and covers all boundaries.** | | | **20** |

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| The list below indicates aspects which you should seek to address in **written** assignments. It is not exhaustive and staff may wish to add to these. The emphasis placed on these will vary with the particular assignment and its level. Staff may wish to indicate the emphasis placed on these areas below. |
| Relevance to assignment title Evidence of reading |
| Structure Presentation / illustration |
| Critical analysis Spelling and grammar |
| Original ideas Referencing & Bibliography |

**Remember to ensure that your work is original and does not breach the UCY regulations regarding plagiarism. Submission of this assignment will be taken as confirmation that it is your own work.**

**FdSc Computing – Programming 2**

Teachers at Parsifal College need a system for managing student bookings and payments for College educational visits. Teachers select suitable destinations which can be

1. Single day trips arranged by external provider. These inevitably comprise a coach pick-up at College, and include entrance fees. Students are signed up and payment is recorded manually.
2. Single day trips arranged by the teacher. These need transport, venue booking, and sundry costs. Students are booked in the same way as above.
3. Residential trips arranged by external provider. Accommodation is provided, and for most part these are like day trips, except that the written authority of the parents/guardians is required to be recorded.
4. Residential trips arranged by the teacher. In addition to the needs for day trips, the accommodation needs to be recorded, as does the consent of parents/guardians.

Teachers must be able to add or remove students from the visit, and need screen displays of students who have not paid, or do not have authority. The student’s mobile phone number is needed. On screen help must also be provided.

You have been asked to design and test a suitable Object Model, and a suitable GUI in Java. A Java application with GUI is to be produced and fully tested and documented.

Task 1

Using the above description, prepare a draft Object-Model. Document this as a class diagram.

Task 2

Create classes in Java to match your design, using appropriate data types to achieve associations, aggregations and inheritance. Where necessary, include method headers but leave the detailed coding for later.

Task 3

Design and create a GUI using javax.swing, implementing any navigation between forms that is necessary.

Task 4

Complete the programming of the solution. Record any testing carried out during implementation.

Task 5

Prepare a detailed test plan and implement. You must use typical, erroneous and boundary data as appropriate.