UNIVERSITY OF WESTMINSTER⌗

Informatics Institute of Technology

ECSI410 Software Development Principles 01

Semester 2, 2014/2015

Project 01: Pair Programming (Command Line Interface Application)

Deadline: 23rd of March 2015 8.30am

Requirements

'CD Universe' maintains a music video and CD lending library and wants to modernize their filing system. Currently 'CD Universe' has a card index system to record the rentals but they would like to have a computer application to maintain the records of their members.

The members are offered two types of rentals, weekly or overnight.

If the item has not been returned within a week (after the due date) a reminder is sent to the members by calling them on their mobile.

'CD Universe' requires a very simple system; a system that has the ability to insert new video and CD details to the system, to rent out the items, and to generate a list of members with their mobile numbers to remind about the overdue items.

Please make sure you format your program before printing, presentation of the report carry marks!

Your should:

- ➢ Write down a list of functional and non-functional requirement [05 marks]
- ➢ Draw Usecase diagram [05 marks]
- ➢ Design a program to implement the required functionality.

- Use algorithm for each functionality identified. [05 marks]
- Use flow chart for each functionality identified. [05 marks]

➢ Define appropriate data types (classes and/or enumerations) to model the data of the application. [05 marks]

➢ Read the item data from the keyboard and store it in an appropriate data structure (Input of item details should contain but not limited to the item name, item type and the year of make see the sample data below). [05 marks]

➢ Rent out items (and store it in an appropriate data structure) [05 marks]
➢ Edit the item details (Update) [05 marks]
➢ Delete the obsolete item details [05 marks]

➢ Search rental data for items that have not been returned on time (user should be able to enter the date through the key board) and generate a reminder list. [05 marks]

➢ Identify any other operations, functions that may be valuable for the company (provide justification why you have included). [10 marks]

➢ A test plan describing the tests that you ran on the program. Black box testing [05 marks] and White box testing [05 marks]

You should upload the code and the report to the blackboard (Link will be made available near to the deadline)

Marks will be gained for use of appropriate functional decomposition of the problem. [10 marks]

Marks will be lost if you do not follow the Java Coding Standard for code layout. [-25 marks] – (minus 25)

Marks will also be lost if appropriate and meaningful amount of comments are not added to the program   [-25 marks] – (minus 25)

The cover sheet of your assignment should include the following information:

Informatics Institute of Technology
Department of Computing

Module: ECSI410 Software Development Principles 01
Module Leader – Mr. Guhanathan Poravi / Ms. Dinithi Jayaratne

Coursework
Date of submission: 23rd of March 2015 8:30am
Student ID:

Student First Name:
Student Surname:

Please make sure you format your program before printing, presentation of report carry marks! [20 marks for presentation of the report]

- Final report should consists of following sections
  - Table of content
  - List of Figures and List of Tables
  - Introduction
  - Analysis
  - Design
  - Implementation – Important coding segments with proper heading that you have been asked to do
  - Screenshots
  - Evaluation (Testing)
  - Conclusion
  - Appendix (if needed)
- Page count should be between 15 to 20 (Maximum of 20 and Minimum of 15)
- **Plagiarizing others work that includes copying, downloading code from internet, ghost writing will result in ZERO.**
- **Student who fails to explain the code during the viva will result in absolute ZERO**
- **Late submission of more than 24 hours will result in ZERO and late submission within 24 hours will result in 25% penalty**
- Guideline regarding forming the group
  - This assignment is a pair programming (A group of no more than 02)
  - Those who cannot find a pair can do it individually
  - Each pair need to get the approval before starting the assignment
  - **While forming the group you should not select a member who is your roommate, sharing the same flat, annex or any other means of living in the same premises, relative to you**

(brothers, sisters, cousins, spouse or spouse-to-be, partner including living together, boyfriend, girlfriend or relationship of any other means) Any violation of any of the rule will result in ZERO.

Sample input

ItemName	ItemType	BorrowerName	BorrowerAddress	RentedDate	DueDate
Batman	Overnight	A B C Silva	58 Rama Road, Colombo 6	14052011	15052011
Stage Craft	Weekly	R Perera	20th Lane, Colombo 3	03032011	10032011
Lord of the Rings	Overnight	John Grey	12 Lily street, Colombo1	11022011	12022011
Pirate	Weekly	Peter Harvey	11 Rose Road, Colombo 12	06092011	13092011