

Facilitator(s):	D. White, K. James, P. Smith, T. Edwards		
Assessment:	Group Assignment (3 persons per group)		
Given Week of:	October 10, 2016	Due Week of:	November 7, 2016

The Home & Away Institute (H&AI) is an Educational Institution that specializes in offering Distance Learning courses. The institution has been in operation for over three (3) years, and has been using a paper based system for the administration processing such as student admission, and programme administration. The Chairman of the H&AI has requested that a program be created to automate the student admission and programme administration processes. As the Manager of the Information and Communication Technology (ICT) Department, you are in charge of presenting the prototype system at the next meeting of the Board that is schedule for **November 7, 2016**.

After completing an analysis of the paper based system, the Chairman provided a set of based system requirements. The Chairman has also instructed your team to provide additional functionalities to enhance the program.

Initial requirements, the prototype should:

- Provide an administrator account for the initial system configuration that allows the administrator to create user accounts for staff members.
- Provide staff member with a login screen for accessing the system
- Provide staff with menu options to:
 - Register Student
 - Programme Administration
 - Create Programme
 - Modify Programme Details
 - Generate Student List
- Provide students with a login screen for accessing the system
- Provide students with menu options to:
 - Enrol for Semester
 - View Programme Details
 - Add Course
 - Generate Fee Breakdown for Semester
 - Generate Progress Report

The analysis of the paper based system also uncovered details related to the various records held in a number of files (i.e. staff, student, course, and programme), some of the information stored, includes:

Staff Record:

- Id Number, Name (First and Last), Faculty, Department and Date employed

Student Record:

- Id Number, Name (First and Last), Address, Date enrolled, Programme Code, Enrolment Status and Contact number.

Course Record:

- Code, Name, Description, Credits and Pre-requisite

Programme Record:

- Code, Name, Maximum number of courses, Award and Accreditation

H&AI offers Certificate, Diploma and Associate Degree programmes. Each programme consists of a number of courses.

- Certificate Programmes offer students four specialized courses
- Diploma Programmes offer student six specialized courses
- Associate Degree Programmes offer students eight specialized courses

Functionality Requirements, when the user selects:

Register Student – the system should present a form that accepts student's details and generates a student record. The student id number should be generated using the current year, programme code and a sequence that starts at zero (0), and the enrolment status should be set to zero (0).

Programme Administration:

Create Programme – the system should present a form that accepts general programme details.

Modify Programme Details – the system should present a form that allows for the addition, removal, editing of courses for the programme.

Generate Student List – the system should present a form that accepts a programme code then displays the list of student currently enrolled in the programme.

Enrol for Semester

View Programme Details – the system should display all courses in the programme.

Add Course – the system should present a form that allows the selection of courses from the enrolled programme.

Generate Fee Breakdown for Semester – the system should present a form that displays all courses enrolled in for the semester and the total cost (i.e. number of credits * cost per credit), it should also switch students enrolled status to one (1).

Generate Progress Report – the system should display all the courses the student has ever enrolled in for the programme.

Project Schedule

Task	Due Date
Object Oriented Analysis & Design (OOA&D)	October 18, 2016
Project work breakdown schedule (WBS)	October 18, 2016
First System Prototype	October 28, 2016
Updated OOA&D and WBS	October 28, 2016
Second System Prototype	November 4, 2016
Final OOA&D, WBS and completed System	November 11, 2016

Project Grading Sheet

Please do not attend Interview without this section of the project document completed

Member 1	ID:	Name:
Member 2	ID:	Name:
Member 3	ID:	Name:

Grading Scheme (100 marks): General Mark Breakdown

No.	Section/Objective	Max. Mark(s)	Act. Mark(s)
1.	DOCUMENTATION		
1.1	<i>Signed Authorship forms (one per member)</i>	2	
1.2	<i>Work Breakdown Schedule (WBS)</i>	5	
1.3	<i>Object-Oriented Analysis and Design (<u>Tuesday October 18, 2016</u>)</i>	3	
1.4	<i>Updated OOA&D and WBS (<u>Friday October 28, 2016</u>)</i>	4	
1.5	<i>Final OOA&D and WBS (<u>Friday November 11, 2016</u>)</i>	6	
	DOCUMENTATION SECTION TOTAL	20	
2.	SOURCE CODE		
2.1	<i>Comments</i>		
2.1.1	Each file should have programmer's id and name	1.5	
2.1.2	Use of self-commenting files (i.e. proper variable and method naming)	1.5	
2.2	<i>Naming Convention</i>		
2.2.1	Pascal Case should be used for naming classes	2	
2.2.2	Camel Case should be used for variable and method naming	4	
2.2.3	Ensure class files are named appropriately	1	
2.3	<i>Object-Oriented Programming Techniques</i>		
2.3.1	Sub-type Polymorphism	8	
2.3.2	Composition	3	
2.3.3	Method Overloading	4	
2.4	<i>Use of File Management Techniques</i>	10	
	SOURCE CODE SECTION TOTAL	35	
3	FUNCTIONALITY		
3.1	<i>Robustness</i>		
3.1.1	User Input validation	5	

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No.	Section/Objective	Max. Mark(s)	Act. Mark(s)
3.1.2	Exception Handling	5	
3.2	<i>System Feature(s) Implemented</i>		
3.2.1	Register, Enroll and Generate Progress Report	10	
3.2.2	Programme Administration	15	
	FUNCTIONALITY SECTION TOTAL	35	
4	USER INTERFACE		
4.1	<i>Ease of User Interaction</i>		
4.1.1	Consistent Screen User Friendly Layout / Design	3	
4.1.2	Consistent Layout / Formatting of User Input & Output	4	
4.1.3	Program Navigation (i.e. Menu System)	3	
	USER INTERFACE SECTION TOTAL	10	
	FINAL PROJECT MARK	100	

Extra Marks (10 marks):

A project that satisfies the program's functional requirements can gain additional marks up to a maximum of 10 marks by implementing the additional requirements as follows:

C++ Projects

5 marks – Awarded for use of extended ASCII codes and function keys (e.g. F1 – F12, Arrow Keys)

5 marks – Awarded for use of colour and graphics to enhance the look and feel of the program

Java Projects

5 marks – Awarded for use of Basic Dialog / Message Boxes

5 marks – Awarded for use of Customized Graphical User Interfaces (GUIs)

Submission:

Submit signed authorship form(s) along with Documentation to the FENC Student Affairs Office on or before the due date of **November 11, 2016**.

Late Submission:

Any project submitted after the due date will be late and **10 % will be deducted for each day late**. **Late projects will not be considered for extra marks**. Saturday and Sunday will count as one day late.