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| **Unit Number and Title** | **30: Application Development** |
| Academic Year | 2018 |
| Unit Tutor | To Hoai Viet |
| **Assignment Title** | **Assignment 1: Requirement Analysis and Application Design** |
| **Issue Date** |  |
| Submission Date |  |
| IV Name & Date |  |

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| Learning Outcomes and Assessment Criteria | | |
| Pass | Merit | Distinction |
| **LO1** Produce a Software Design Document by analysing a business-related problem and deduce an appropriate solution including a set of initial requirements | | **LO1 & 2**  **D1** Justify the tools and techniques chosen to realise a custom built website. Justify your preferred selection of tools and techniques in deducing an appropriate solution to a business related problem. |
| **P1** Explore a business-related problem and produce a well-defined Problem Definition Statement supported by a set of user and system requirements.  **P2** Determine any areas of risk related to the successful completion of your application. | **M1** Analyse a business-related problem using appropriate methods and produce a well-structured Software Design Document that defines a proposed solution and includes relevant details on requirements, system analysis, system design, coding, testing and implementation. |
| **LO2** Use design and development methodologies with tools and techniques associated with the creation of a business application | |
| **P3** Research the use of software development tools and techniques and identify any that have been selected for the development of this application. | **M2** Compare the differences between the various software development tools and techniques researched and justify your preferred selection as well as your preferred software development methodology. |

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| **Assignment Brief and Guidance** | | |
| As the technology is being developed rapidly nowadays, FPT Co. desires to build the continuing study environment throughout the corporation. It is necessary to develop a web-based system, which manages the activity of “Training” for internal training program of the company. This system can be used to manage trainee accounts, manage trainers, manage course categories, manage courses, manage topics, assign topic to course, assign trainer to topic, assign trainee to course.  This is a system used by HR department. We have three roles in this system, an administrator, training staff and a trainer. The brief description of those roles is as follow.   1. An administrator’s role    * Can login to the system through the first page of the application    * Can create/edit/delete new user account for trainer/training staff and assign/change(if existing user) username and a password 2. A training staff’s role    * A registered training staff, who is assigned a user name and a password by the administrator logs in can create trainee accounts by entering details like trainee name, trainee accounts, age, date of birth, education, main programming language, TOEIC score, experience details, department, location, etc.    * After entering successfully all details for trainees, his/her details are then stored in the database. The training staff is given a list of trainees for him to view and search. From the list of trainees, he can also search by trainee account, programming language, TOEIC score…    * Can update, delete trainee accounts    * Can manage course categories such as searching, adding, updating and deleting course categories. Course category includes the information such as course category name and descriptions.    * Can manage courses such as searching, adding, updating and deleting courses. Course includes course name and description.    * Can add topics such as topic name and topic descriptions into a course, add courses into a category.    * Can manage trainer profile such as adding, updating and deleting the information: Trainer name, External or Internal Type, working place, telephone, and email address.    * Can assign trainer to a topic.    * Can assign trainee to a course. 3. A trainer’s role    * In the same system, the trainer who have been registered by the administrator can login and can update his profile such as Trainer name, External or Internal Type, education, working place, telephone, and email address.  * Can view courses which have a topic he is assigned to.   Your manager suggests that this would be a great opportunity for you to demonstrate your capabilities by designing and developing the application. After considering, you decide to do the project. The project consists of 4 steps which is divided into two phases. In this first phase, you have to carry on requirement analysis and produce solution design for the problem. | | |
| **Assignment Guidance** | | |
| **Task** | **Assessment Criteria** | **Requirement** |
| 1 | **P1** Explore a business-related problem and produce a well-defined Problem Definition Statement supported by a set of user and system requirements. | 1. Use case diagram to capture problem requirements 2. Screen-flow diagram and wireframes (prototype screen) |
| 2 | **P2** Determine any areas of risk related to the successful completion of your application. | 1. Questions to identity any problem from the requirements, use cases, screen-flow diagram or UI 2. Answer to above questions according to personal research |
| 3 | **P3** Research the use of software development tools and techniques and identify any that have been selected for the development of this application. | 1. ERD describing application database 2. UML Class diagram for the core business processing |
| 4 | **M1** Analyse a business-related problem using appropriate methods and produce a well-structured Software Design Document that defines a proposed solution and includes relevant details on requirements, system analysis, system design, coding, testing and implementation. | 1. Detail use case description for important functions |
| 5 | **M2** Compare the differences between the various software development tools and techniques researched and justify your preferred selection as well as your preferred software development methodology. | 1. A presentation to introduce different software development methods (at least 3), for example: Waterfall, Prototyping, Spiral, Agile… |
| 6 | **D1** Justify the tools and techniques chosen to realise a custom built website. Justify your preferred selection of tools and techniques in deducing an appropriate solution to a business related problem. | 1. Critical comparison among development methods in the presentation and reasons for your selection of tools and techniques. |

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| **Submission Format** |
| The submission is in the form of 1 word document containing required evidences and 1 presentation if necessary (M2, D1).  You are required to make use of headings, paragraphs, subsections and illustrations as appropriate, and all work must be supported with research and referenced using the Harvard referencing system. |