# Luminus Technical University College - Assignment Brief (RQF)

## Higher National in computing

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| **Student Name** | | **Rashed Hasan.** | | | **Language of assessment** | | | **AR** | **EN** |
| **College ID:** | | |  | |
| **Pearson ID:** | | |  | |
| **Unit Number and Title** | | **30** | **Applications Development** | | | | | | |
| **Academic Year** | | **20234/2024** | | | | | | | |
| **Unit Tutor** | |  | | | | | | | |
| **Internal Verifier Name and Approval (Signature)** | |  | | | | **Approval Date: 14/5/2024** | | | |
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| **Assignment number and Title** | | **1** | **Developing an Event Management System** | | | | | | |
| **Issue Date (1St Submission)** | | **14/5/2024** | | **Submission Date (1st Submission)** | | | **21/6/2024** | | |
| **Issue Date (2nd Submission)** | | **27/6/2024** | | **Completion Date (2nd Submission)** | | | **30/6/2024** | | |
| **Submission Format** | | | | | | | | | |
| **The submission should consist of an individual written report comprising 5 documents, namely the Student Submission and Declaration form containing your solution, technical documentation, project files, database backups, and the PowerPoint presentation. Ensure that your document follows these formatting guidelines: use Times New Roman font size 12 for the body text, size 14 for headings, set page numbers, and maintain a line spacing of 1.15. References should follow the Harvard referencing system.**  **Submission Procedure:**  **Students must submit their assignments on the specified due date and according to the instructions provided by the Tutor. The submission format will be a soft copy uploaded to the Learning Management System (LMS) platform (D2L).**  **Important Note:**  **The assignment must be your original work and not copied from another student, books, or any other sources. If you use ideas, quotes, or data from external sources such as books or journals, it is essential to reference them using the Harvard style. Familiarize yourself with proper referencing guidelines and understand the policies on plagiarism to ensure the successful completion of the assignment. Failure to adhere to these guidelines may result in failure.**  **يجب أن يتكون التسليم من تقرير كتابي فردي يضم 5 وثائق، هي نموذج تقديم الطالب وإعلان الالتزام الذي يحتوي على حل الطالب، وثائق التوثيق التقني، ملفات المشروع، نسخ احتياطية من قاعدة البيانات، والعرض التقديمي ببوربوينت. تأكد من أن وثيقتك تتبع هذه الإرشادات الخاصة بالتنسيق: استخدم خط Times New Roman بحجم 12 لنص الجسم، وحجم 14 للعناوين، ضع أرقام الصفحات، وحافظ على تباعد الأسطر بنسبة 1.15. يجب أن تتبع المراجع نظام الاستشهاد هارفارد.** | | | | | | | | | |
| **Unit Learning Outcomes** | | | | | | | | | |
| **LO1** | **Produce a Software Design Document by analysing a business-related problem, and deducing an appropriate solution including a set of initial requirements.** | | | | | | | | |
| **LO2** | **Use design and development methodologies with tools and techniques associated with the creation of a business application.** | | | | | | | | |
| **LO3** | **Work individually and as part of a team to plan and produce a functional business application with support documentation.** | | | | | | | | |
| **LO4** | **Evaluate the performance of a business application against its Software Design Document and initial requirements.** | | | | | | | | |
| Transferable skills and competencies developed | | | | | | | | | |
| Through the analysis of a business-related problem and the formulation of a solution, students will gain the ability to develop a Software Design Document containing initial requirements. They will employ tools and techniques related to business application development, choose appropriate design and development methodologies, collaborate both independently and within a team to strategize, create, and deliver functional business applications complete with supporting documentation. Furthermore, they will evaluate and devise enhancements for a business application by examining its Software Design Document and original requirements, assessing and planning improvements accordingly. | | | | | | | | | |
| **Vocational scenario:** | | | | | | | | | |
| XYZ Events is a well-known event management company that has organized various events, from conferences to social gatherings and festivals. They now aim to create an innovative Event Management System (EMS) to make event organization smoother. This idea came from their desire to improve event planning and provide great experiences for clients and attendees.  The EMS they envision will use advanced technology and best practices to address challenges like resource allocation, team communication, data analysis, attendee engagement, and regulatory compliance. By creating a user-friendly EMS, XYZ Events aims to improve their event management capabilities, boost efficiency, and offer exceptional value to clients, setting new standards in event coordination.  Suppose XYZ Events has reached out to you, and upon discussions regarding the Event Management System (EMS), it is agreed that several key requirements should be integrated into the system. Firstly, a user-friendly interface featuring a navigation bar and footer will be implemented to ensure easy navigation for users. Additionally, organizers will have the capability to create accounts, providing essential information such as their name, email, and phone number.  Regarding event management functionalities, the EMS will empower organizers to create new events with detailed specifications like event name, date, location, capacity, and description. Additionally, the system will display a comprehensive list of all available events from the Events Table to the organizer who created these events. This feature will help the organizer avoid scheduling two events simultaneously by mistake, as they can reference the existing events when creating a new one.  As for attendee registration and ticketing, attendees will have the option to register by entering their personal details like name, email, and phone number. They will also be able to choose their desired event from the list and select a ticket type along with its associated price. The system will efficiently manage attendee information in the database, ensuring that each attendee is correctly linked to their respective event. | | | | | | | | | |
| Assignment activity and guidance | | | | | | | | | |
| To effectively manage this project, you should break it down into several activities, ensuring to cite all resources used.  **Activity 1: Project analysis and design**  To start developing a new web application, the first step is to define its purpose, design a suitable solution with initial requirements, and then implement those requirements. Here are the detailed steps involved:   1. Begin by investigating the core problem that your application aims to solve. Propose a solution and outline the needs of both users and the system requirements necessary to implement this solution. 2. During the development phase of the Event Management System (EMS) system, you need to estimate potential challenges that may arise. Identify and list the risks that could be encountered. 3. Based on your problem-definition statement and application requirements, proceed with completing the examination, and create a comprehensive software design document. Here are the specific tasks to include in this document:   a) Thoroughly investigate and categorize the requirements into functional and non-functional aspects to ensure a clear understanding of the application's scope.  b) Create a Sequence Diagram to visually represent the sequence of interactions and events between different components of the system.  c) Create an Entity Relationship Diagram (ERD) to illustrate the relationship between various entities in the application database, providing insights into the data structure.  d) Implement the system functionality using flow chart techniques to depict the application's logic and how different components interact.  e) Determine effective testing techniques to validate and verify the implemented work, ensuring any potential issues are detected and resolved.  f) Specify the programming languages to be used for implementation, considering factors like compatibility, efficiency, and the application's specific requirements.  After following these steps and documenting the process in a software design document, it is essential to provide a reasoning for your design and solution against the problem definition. Subsequently, you can effectively investigate and explore the development of the new system.    **Activity 2: Project methodologies and tools**  To ensure the successful implementation of the EMS project, it's essential to determine the methodologies and tools that will be beneficial. Follow these steps to proceed:   1. Begin by exploring different categories of software development tools such as operating systems, Integrated Development Environments (IDEs), and diagram software tools. Also, delve into various Software Development Life Cycle (SDLC) methodologies to find the most suitable approach for your EMS project. Conduct a comprehensive study on the usage of these tools and methodologies to make an informed decision on which ones to utilize for your project. 2. Moving on, now **differentiate and defend** why you chose the tools and methods you picked in the previous step, and provide reasons for your choices. 3. Provide **reasoning** for your selection by establishing a connection between the methodology and tools you selected in the previous step and the solution you proposed for the problem-definition statement.   **Activity 3: Project Implementation**  Now, it is time to implement the requirements that you analyzed and designed in task one using the specific tools and methodology you investigated in task two. Here is what you need to do next:   1. Develop a presentation to assess the following aspects: 2. Business application 3. Problem definition statement 4. Proposed solution that outlines functional and non-functional requirements 5. Development strategy 6. wireframes   Condu**ct** a peer review and identify opportunities that were not previously considered by interpreting the recorded feedback. Document any feedback provided.  2. Develop the Event Management System (EMS), integrating all requirements identified in activity 1. Additionally, create separate documentation that outlines the development process, providing screenshots and detailed descriptions of each implemented feature.  3. Following your presentation, it is essential to elaborate on the feedback received and address any new opportunities or aspects that were not previously covered in the presentation. Provide a comprehensive **explanation** of the feedback and **show** the additional areas that have been identified for further exploration and development.  4. Enhance and demonstrate how the tools and methodology you favor strongly support your work following the development and successful implementation of this web application.  5. Explore potential opportunities or novel concepts that could enhance the EMS project and provide explanations for why they should be integrated or excluded.    **Activity 4: Project Evaluation**  After completing Activity 3, it's time to assess your progress in all activities. Follow these steps to evaluate your work:   1. Reflect on how the code implementation in Activity 3 aligns with the Problem Definition Statement and functional requirements outlined in Activity 1. 2. Examine the factors that can affect the project's performance and evaluate their impact on the phases of implementation, such as the design, development, and testing phases for the “EMS”, as well as how the risks that you identified in task number 1.2 also affected this implementation. 3. To wrap up, critique both the strengths and weaknesses of the project you constructed and assess the possibilities for enhancing it. | | | | | | | | | |
| **Recommended Resources**  **Please note that the resources listed are examples for you to use as a starting point in your research – the list is not definitive.**  https://www.w3schools.com  https://www.w3.org  https://lucid.app/  https://erdplus.com/ | | | | | | | | | |

**Learning Outcomes and Assessment Criteria**

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| **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 & LO2**  **D1** Justify your solution to a business-related problem and your preferred software development methodology, by comparing between the various software development tools and techniques researched | |
| **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 |
| **LO3** Work individually and as part of a team to plan and produce a functional business application with support documentation | | **D2** Evaluate any new insights, ideas, or potential improvements to your system and justify the reasons why you have chosen to include (or not to include) them as part of this business application. | |
| **P4** Create a formal presentation that effectively reviews your business application, problem definition statement, proposed solution, and development strategy. Use this presentation as part of a peer-review and document any feedback given.    **P5** Develop a functional business application with support documentation based on a specified business problem. | **M3** Interpret your peer-review feedback and identify opportunities not previously considered.  **M4** Develop a functional business application based on a specific Software Design Document with supportive evidence of using the preferred tools, techniques, and methodologies. |
| **LO4** Evaluate the performance of a business application against its Software Design Document and initial requirements | | **D3** Critically evaluate the strengths and weaknesses of your business application and fully justify opportunities for improvement and further development. | |
| **P6** Review the performance of your business application against the Problem Definition Statement and initial requirements. | **M5** Analyse the factors that influence the performance of a business application and use them to undertake a critical review of the design, development and testing stages of your application. Conclude your review by reflectively discussing your previously identified risks. |