# **Higher Nationals**

# **Assignment Brief – BTEC (RQF)**

**Higher National Diploma in Computing**

|  |  |
| --- | --- |
| **Student Name /ID Number** | **Aaron Mascarenhas** |
| **Unit Number and Title** | **Unit 4 – Database Design & Development** |
| **Academic Year** | **2017- 2018** |
| **Unit Assessor** | **Gurjeet Singh Kohli** |
| **Assignment Title** | **Assignment 1**  **Design & Development of Sainsbury’s / Argos SQL Database System** |
| **Issue Date** | **12.11.2018** |
| **IV Name** | **Cameron Connick** |
| **Draft submission date** | **10.12.2018** |
| **Final submission date** | **04.02.2019** |
| **Re-submission date (if required)** |  |

**Plagiarism**

Plagiarism is a particular form of cheating. Plagiarism must be avoided at all costs and students who break the rules, however innocently, may be penalised. It is your responsibility to ensure that you understand correct referencing practices. As a university level student, you are expected to use appropriate references throughout and keep carefully detailed notes of all your sources of materials for material you have used in your work, including any material downloaded from the Internet. Please consult the relevant unit lecturer or your course tutor if you need any further advice.

**Student Declaration**

|  |
| --- |
| **Student declaration**  I certify that the assignment submission is entirely my own work and I fully understand the consequences of plagiarism. I understand that making a false declaration is a form of malpractice.  Student signature: Aaron Date: 14/01/19 |

**Learning Outcomes and Assessment Criteria**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | Grading Criteria | Met | Grading Criteria | Met | Grading Criteria | Met |  |
| **LO1** | P1 |  | M1 |  | D1 |  |  |
|  |  |  |  |  |  |  |  |
| **LO2** | P2 |  | M2 |  | D2 |  |  |
| **LO2** | P3 |  | M3 |  |  |  |  |
|  |  |  |  |  |  |  |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Assessor Feedback:**  \*Please note that constructive and useful feedback should allow students to understand:   1. Strengths of performance 2. Limitations of performance 3. Any improvements needed in future assessments   Feedback should be against the learning outcomes and assessment criteria to help students understand how these inform the process of judging the overall grade.  Feedback should give full guidance to the students on how they have met the learning outcomes and assessment criteria. | | | | |
| **Grade:** | **Assessor Signature:** | | | **Date:** |
| **Resubmission Feedback:** | | | | |
| **Grade:** | | **Assessor Signature:** | **Date:** | | |

|  |
| --- |
| Submission Format: |
| 1. The submission is in the form of an individual written report. This should be written in a concise, formal business style using single spacing and font size 12. 2. You are required to make use of headings, paragraphs and subsections as appropriate, and all work must be supported with research and referenced using the Harvard referencing system. 3. Please also provide a bibliography using the Harvard referencing system. The recommended word limit is 2,500–3,500 words, although you will not be penalised for exceeding the total word limit. 4. For the PowerPoint task please create a professional Presentation with all the comments in the notes section and structured in a logical way with key designs extensively explained and documented. 5. Submit the SQL Database as a zip file onto Google Classroom with your assignment. |
| Unit Learning Outcomes: |
| LO1 Use an appropriate design tool to design a relational database system for a substantial problem  LO2 Develop a fully functional relational database system, based on an existing system design. |
| Assignment Brief and Guidance: |
| **Case Study**  You have been employed as a **Junior SQL Database Consultant** for **Sainsbury’s Online sector**. The company has recently bought **Argos Pvt** and has planned that the logistics operations of these two companies should be combined.  As a junior Database consultant, you have been given a number of tasks to help with the creation of new business processes and map the already existing processes into a new system. The main elements for you to consider are that the strategic plan for Sainsbury’s Pvt is to develop and create a joint operations system which allows **Sainsbury’s** to utilise the existing logistics operations of Argos and combine the delivery systems to make the whole operations more efficient and ultimately save money on the operations to boost their share price in the current market.  This position will require you to have a look at existing business process documents to further develop your understanding of the business process to either amend or re-establish them for more efficiency.  It’s your own professional judgement on how to analyse the given artefacts and analyse them to produce system designs and plans to then implement a substantial system to hold information on orders from customers from both Sainsbury’s and Argos.  You have been asked by your manager to investigate the system requirements; design, and create/implement the joint SQL system.  **Things to remember:**  There are a number of things to remember when planning the design and implementation of your proposed solution. Items/products are the key element of an e-retailer, shoppers who pick items from the store or warehouse and people who eventually deliver the goods to the customer on the doorstep. Please make any reasonable assumptions based on the scenario if you not 100% sure on the assumptions you are making please speak to your Subject Tutor.  Attached herewith are various system documentations, for your consideration in this project.  **Task 1**  Before you embark on analysing business processes and documentations, your manager has asked you create a sophisticated in-depth report followed by a Presentation for the Logistics Presentation Panel, containing:   * 1. Create a relational database systems design using appropriate design tools and techniques   2. Produce the following design deliverables: ERD, Business Process model for a Sainsbury’s order, Argos order and a potential Sainsbury’s Argos joint order with emphasis on delivery logistics. Additionally, create further design documents such as Normalised tables and Data Dictionaries, input and output windows for the proposed system. Produce all of these deliverables in a PPT to present in front of the Logistics Presentation Panel.   3. In a Report format, justify the assessment of the effectiveness of the design in relation to user and system requirements.   **Task 2**  Once the designs have been accepted by your Logistics Presentation Panel, you have been asked to develop the database system using evidence of user interface, output and data validations and querying across multiple tables.  You want to include more than just the basics so you will implement a fully functional database system which will include system security and database maintenance features. The developed system will be demonstrated to your Panel.     * 1. Produce a fully working joint SQL system for a joint operations committee between Sainsbury’s and Argos joint systems. Create five advance queries to assess whether meaningful data has been extracted through the use of query tools to produce appropriate management information.   2. Produce a step by step guide on how you have created your database and annotations on where the security and validations were implemented. You can create a step by step guide or a 30mins long voice over screen recording.   Produce a comprehensive report to evaluating the implementation and how the five queries are relevant and how future developments could enhance the use of more advance query systems.    **Task 3**  As you are a Junior SQL developer and you primarily work on the development side of a Database, you have been given additional responsibility on creating professional technical drawings of the input and output screens of the SQL system.  3.1 Create technical drawings of the input and output screens. Make sure these professional designs are well labelled and have an easy/user interface throughout.  3.2 Write a comprehensive report looking at Database design rules, ensuring that the design meets HCI rules and complies with all the relevant consumer regulations (Shneiderman’s eight golden rules).  **Additional Documentations:** |

|  |  |  |
| --- | --- | --- |
| **Learning Outcomes and Assessment Criteria** | | |
| **Pass** | **Merit** | **Distinction** |
| **LO1** Use an appropriate design tool to design a relational database system for a substantial problem | | |
| **P1** Design a relational database system using appropriate design tools and techniques, containing at least four interrelated tables, with clear statements of user and system requirements. | **M1** Produce a comprehensive design for a fully functional system which includes interface and output designs, data validations and data normalisation. | **D1** Assess the effectiveness of the design in relation to user and system requirements. |
| **LO2** Develop a fully functional relational database system, based on an existing system design | | **LO2 & 3**  **D2** Evaluate the effectiveness of the database solution in relation to user and system requirements, and suggest improvements. |
| **P2** Develop the database system with evidence of user interface, output and data validations, and querying across multiple tables.  **P3** Implement a query language into the relational database system. | **M2** Implement a fully functional database system which includes system security and database maintenance.  **M3** Assess whether meaningful data has been extracted through the use of query tools to produce appropriate management information. |

