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**DATB 06023 Business Database Development**

**Title of the Assignment:**

**Transition to a Digital Era for RetroGaming Emporium**

**Name:**

**Student ID:**

**Submission Date:**

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| 1. **Part 1** |
| **Interview with Alex, Owner of Retro Gaming Emporium**  Q1: What are the main challenges you that face with the current paper-based system?  ANS: The main challenges mainly include tracking orders and inventory efficiently, managing customer and supplier information, and generating reports on time. It’s becoming quite difficult to maintain accuracy and speed as the business grows.  Q2: How could a computerised system enhance your day-to-day activities?  ANS: I anticipate the computerized system making our tasks easier by handling inventory, simplifying orders, and organizing customer and supplier details for quick access. It should also speed up report creation to aid in making decisions.  Q3: What specific features would you want in the new system to handle orders and payments?  ANS: I need the system to track all the order details, including customer information, arcade machine details, and payment statuses. It should support different payment methods and terms, especially for our corporate customers who pay over the course of 30 days.  Q4: How important is data security? Especially corporate customers sensitive information?  ANS: Data security is extremely sensitive. We need to ensure that sensitive information, such as corporate balances and contact information, is accessible only to verified personnel. I’m also quite concerned about parttime staff accessing this information as they are new here.  Q5: What types of reports do you expect to require from the system?  ANS: I need reports on sales, outstanding corporate balances, inventory levels, and customer order history. It would also be helpful to have customizable reports for specific data analysis.  **System Requirements**  **General Requirements:**  Accessible User Friendly Interface: The system should have an easy to access interface for navigation and operation.  Scalability: It must be able to accommodate business growth and additional features.  **Data Requirements:**  Comprehensive Data Management: It should be able to manage supplier, customer, orders, parts, and payment data efficiently.  Data Validation: Ensure data integrity / security through validation rules such as a bounced payment or negative balance  Automated Inventory Management: It should automatically update inventory levels based on the orders and supplies.  **Report Requirements:**  Customizable Reports: It has to generate reports that can be customized for sales, inventory, and order history.  Report Access Control: Only the owner can generate and access reports.  **Security Requirements:**  Role-Based Access Control : This needs to be in place to restrict access to sensitive data from unauthorised personnel.  Sensitive Data Protection: It must secure customer balances and contact information from unauthorized access.  Audit Trails: The system has to log all user activities for audit purposes.  **Additional Requirements:**  Payment Management: Control transactions and review payment terms, such as offering a 30-day credit to business clients.  Promotion Control: To discounts for loyal / long time customers, maintaining a maximum of 25% off unless specifically approved by Alex. |
| 1. **Part 2** |
| **Part 1 : Entities**   * Staff * Branch * Customer Details * Corporate Details * Orders * Discounts * Security   Part 2 : Relationships   * Staff to Branch   Staff will be many to one branch   * Staff to Customers   Staff will be one to many customers   * Customers to Order   Customers will be one or many to orders   * Discounts to Customers   Discounts will be an optional 1 to 1 customer   * Security to Customer   Security will be 1 to 1 customer |
| 1. **Part 3** |
| * *Utilize* ***Crow’s Foot Notation*** *to construct a more specific data model. Include attributes, primary keys, foreign keys, and cardinality. You can use any software such as* [*draw.io*](https://app.diagrams.net/). |
| 1. **Part 4** |
| * *Normalize all the tables including the sample tables (****Table 1 and 2****) to* ***3NF notation****. Show the new 3NF tables with sample data.* |