TEST PROJECT

IT SOFTWARE SOLUTIONS DEVELOPMENT

1. Introduction

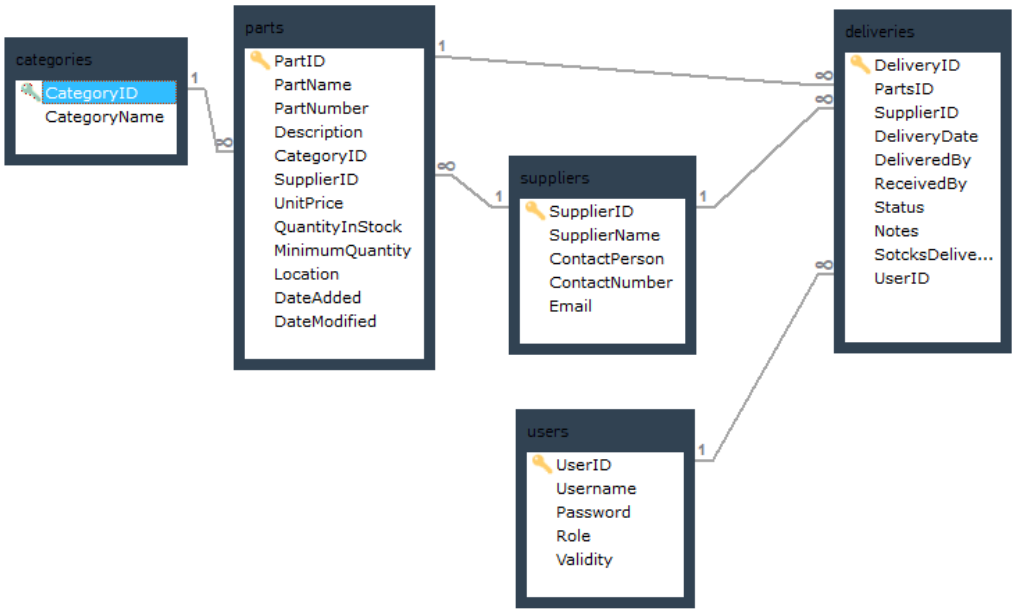
Welcome to the IT Software Solutions Development! This competition is designed to challenge students with knowledge in visual programming and databases to demonstrate their skills in creating innovative and functional Windows form applications.

2. Importing database structure

Ask a copy of the sample database for this project. Using a database tool, a SQL script is made available that consist of the database structure and data required to complete the required tasks.

The database structure provided for the purpose of this section cannot be altered. This applies to removal of tables, adding or deleting any fields on the tables or of change in their data types.

To help further perceive the thinking behind the structure of the database, the database designers provide an Entity-Relationship Diagram (ERD). The diagram below illustrates the conceptual and representational model of data used in the database.

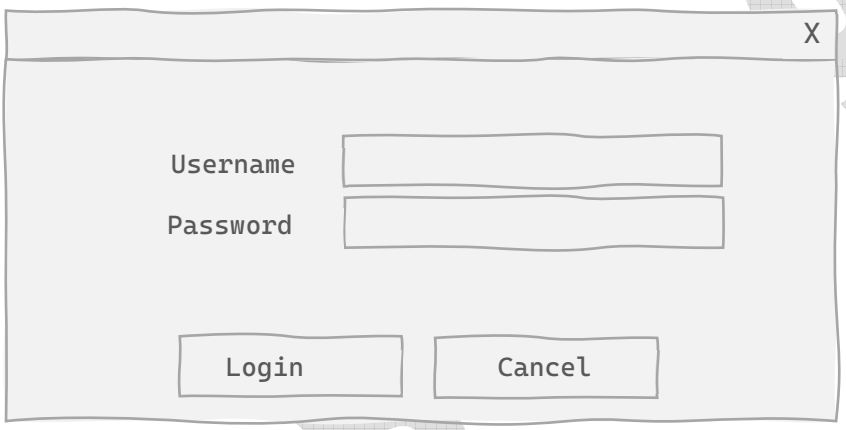


3. Deliverables

3.1 Create Login Screen

Create a login screen as shown below with the following characteristics:

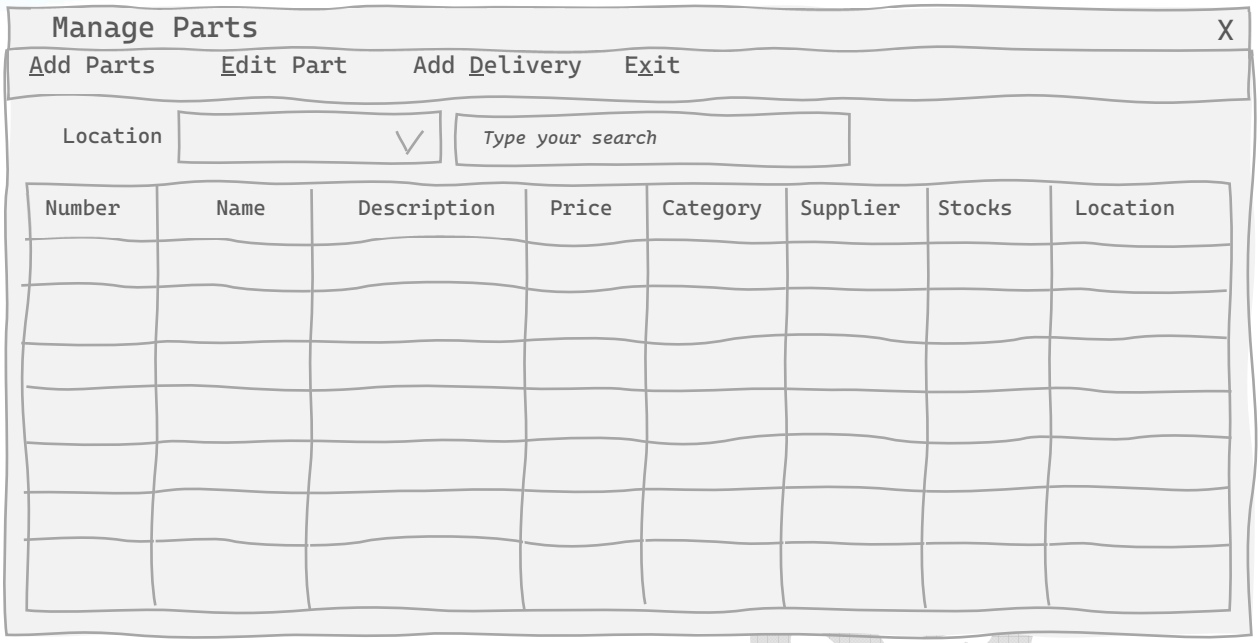
- The Username is checked against the user's name in Users table.
- If the client enters the wrong username or password for more than three times, they need to wait ten seconds before they can login to the system again. While waiting for the next chance to login, a countdown timer will indicate the time remaining for the next attempt.
- In case the users fail to enter the correct credentials, an appropriate message will let them know the reason why they cannot log on.
- Upon a successful attempt, the system must also check the user's account validity against the database. The system should provide an appropriate message for the invalid account date validity. Otherwise, they will be directed to the Item Management window.



3.2 Item Management

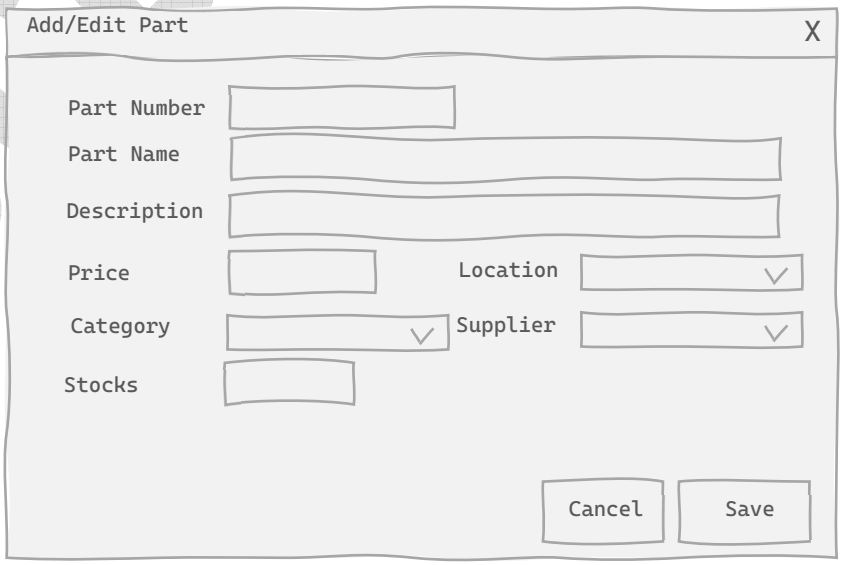
The system user will have the following functionalities on their main screen:

- Lower menu buttons which consist of "Add Part", Edit Part", "Deliveries" and "Exit"
- The list of the parts on the system which is constructed as follows:
  - The list needs to have the part number, name, description name, price, category name, supplier name, quantity of stocks, and the location where it is stored.
  - If the stock number is less than or equal to alert minimum quantity on the list, they need to be set apart with different color for backgrounds.
  - Using a drop-down menu or alike, the system user would be able to display parts based on the location (unique list) they are located at.
  - The search facility should allow the user to filter data displayed in the list by "All Locations" or based on selected items from the drop-down list. When a search keyword is typed, the system must search for the record(s) in real-time and load the data automatically that matches the criteria.



3.3 Create/Edit Part

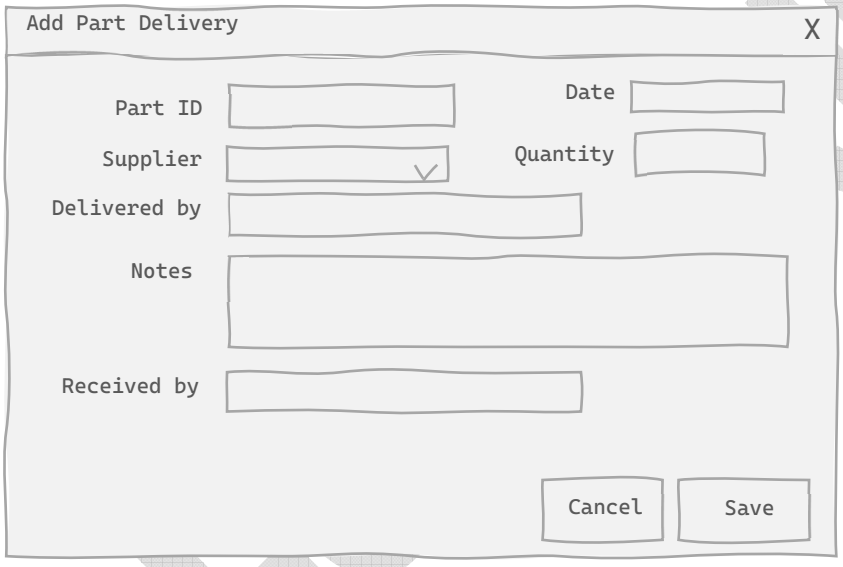
- The system should provide a facility to add/edit parts to the database using the button on the top menu as shown on the wireframe diagram drawn above:
  - All fields need to be filled in.
  - The button marked as "Add Parts" must provide a modal window to allow the user to enter the details of the part being added.
  - The button marked as "Edit Part" the system user would be able to change the details of a part of the selected item. You can re-use the form used in adding the part to edit existing part record. Part stock must be disabled as the stocks is being updated after product is being delivered from the supplier.
  - The button "Add delivery" when clicked, should re-direct the system user to add part stocks (see deliverables 3.4).
- All operations on this form need to be done in real-time and without the need to close the form and reopen it.



3.4 Add Deliveries

The system must facilitate the addition of new stocks delivered in the store. The following list defines the functionalities requested for the form:

- All fields need to be filled in. In case of a record with any missing fields, they should not be added to the database.
- Parts are identified by their Part ID in the database. The Part ID must match to the existing records from the Part table.
- Using a drop-down menu or alike, the user would be able to choose a supplier where the delivery came from.
- The save button must be able to add a new record in the database that represents the values on the record and then updates the part with the new stocks value.



4. Style Guidelines

Design the program's user interface according to project described specifications.

- Use labels and help messages to guide users through the system.
- Use good alignment and appropriate whitespace. Group user interface elements together logically as needed to make the system easy to use.

- Fonts
  - This font must be used for all heading text.

    Tahoma

  - This font must be used for all body text.

    Arial Narrow

  - Alternative font

Arial

- Colors
  - Primary colors

  - Secondary Colors