**Android Assignments # 3 & #4 - Cruddy Pizza – Individual – Revised 12/07/2022**

**Overview:**

This Cruddy Pizza assignment is intended for students to demonstrate their knowledge of:

* Data persistence using SQLite (Order Info).
* Data persistence using Shared Preferences (Bilingual UI Settings).
* UI design
* String arrays (English and French) – You may have different arrays for different pages if you wish.
* Validation
* Exception handling

**Functionality:**

This application will display a list of options for building a pizza. Once the order is finished it is to be saved (created). Additional functionality will allow the user to display all orders (read), a specific order (read), modify the order (update) and cancel the order (delete). Let the user know when each operation is complete. The text on controls such as buttons must be able to toggle between English and French and maintain the last toggled state between start-ups.

**Layout:**Layout is up to the student and should look professional with a good choice of colors / images and appropriate control types.

**Data persistence – Shared Preferences (Assign #3):**

Internationalization will be implemented in a simple ‘toggle’ form using Shared Preferences to maintain state. This will **not** involve using a devices language setting or other built-in functionality for that purpose.

**Data persistence – SQLite (Assign #4):**

This application will implement CRUD operations against an SQLite database for pizza orders. Your solution must have full CRUD capability. Orders may exist as single records in a single table or a better solution would be to include additional tables i.e., Order\_Details and Customer\_Details. Please see support document on database structure options.

**The following order information must be retained:**

* Size – small, med, large, extra-large (store as numeric, to avoid bilingual data)
* Toppings – You may provide more than 3 choices (except pineapple) in the UI, but any single pizza order may have a maximum of 3 toppings and a minimum of 1. Toppings on a specific order may be duplicated.
* Order date / time (from System at time of order). Once date/time is set it should be non-editable.
* Customer Info – may be a single text field or more granular e.g., Name, Phone, Address (validate as required)

**Phase #1 – Assignment #3 - UI**

1. Design your database structure first as this will inform your subsequent UI design work.
2. Design your UI using a storyboard, keeping in mind the data and functionality needed for all CRUD operations.
3. Create a new project with an appropriate custom image and application name.
4. Store any images required for your UI into your applications ‘drawable’ folder.
5. Store any strings you intend to use in your application, placing English and French terms into corresponding String Arrays. Note, these arrays may be converted into Array Lists or Arrays of strings in Java components.
6. Build out your UI.
7. Implement a means of toggling between English and French labels on controls.
8. Implement a means of retaining state of the current language selection using Shared Preferences.
9. Submit and demonstrate the above (storyboards and application) to your instructor as Assignment #3.

**Phase #2 – Assignment #4 - CRUD Operations**

1. Create an SQLite database for pizza orders. This may be a single table or contain a second order details table for selected toppings. Note that the data itself should be generic i.e., no English or French words and all fields are required.
2. Copy your DB to your project folder.
3. Copy the DBAdapter code from our in-class demonstration into your project and modify it to match your pizza order database. Note, remember to include layered exception handling for all DB operations.
4. Copy the CRUD app code from our in-class demonstration into your project and modify it to match with your UI and DBAdapter.
5. Thoroughly test your application.
6. Submit and demonstrate your completed application to your instructor as Assignment #4.