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| Course Title | Mobile and Windows Store Development | Course Code | PROG1442 |
| Project 2 (Issued) | 09 July 2024 | Project 2(Due) | 05 August 2024 (Before week 14 session) |
| Percentage | **30 % (100 points)** | **Instructor** | **Kayalvizhi Sivagurunathan** |

**Follow the instructions and Submit a PDF report file with the zipped folder. And runnable project with all functionality as a record**

**Instructions for Project 2: Self-Designed MVVM Application**

**"XAML-based Mobile Application with MVVM Architecture and System Integration"**

**Implement the Model-View-View Model (MVVM) design pattern for a data-connected mobile application.**

**Objective**: Design and create a user interface using Extensible Application Markup Language (XAML), define layouts and navigation, compare syntaxes, utilize the Visual Tree, demonstrate data binding, and create XAML App Resources. Implement the Model-View-ViewModel (MVVM) design pattern for data-connected applications, explain occasionally connected programming, use data objects for database manipulation, and integrate CRUD-capable Web API.

Description: Develop a data-driven mobile application using XAML for UI design, MVVM architecture for separation of concerns, and RESTful Web Services for CRUD operations. Utilize SQLite for database storage.

Guidelines:

1. **Clear Application title and Audience Selection:**
   * Selection of a clear and descriptive title for the application.
   * Identification of the target audience and their specific needs or preferences.
2. **User Interface Design :**
   * Attractive and intuitive UI design using XAML.
   * Effective layout and navigation patterns for seamless user interaction.
3. **MVVM Implementation:**
   * Proper separation of concerns with Model, View, and ViewModel components.
   * Efficient data binding and {Binding} markup extension usage.
4. **CRUD Operations:**
   * Successful implementation of Create, Read, Update, and Delete operations.
   * Seamless integration with the ASP.NET Core API for data management.
5. **Database Connectivity:**
   * Implementation of SQLite database for data storage.
   * Efficient data retrieval and manipulation using data objects.
6. **Functionality:**
   * Fully functional with features including task creation, editing, deletion, and viewing.
   * Smooth performance and responsiveness of the application.

**Submission Requirements & Rubric: 100 points**

This criterion is linked to a Learning Outcome

1. **Clear Application Title and Audience Selection (5 points):**

* Selection of a clear and descriptive title for the application. (3 points)
* Identification of the target audience and their specific needs or preferences. (2 points)

1. **User Interface Design (20 points):**

* Attractive and intuitive UI design using XAML. (10 points)
* Effective layout and navigation patterns for seamless user interaction. (10 points)

1. **MVVM Implementation (15 points):**

* Proper separation of concerns with Model, View, and ViewModel components. (8 points)
* Efficient data binding and {Binding} markup extension usage. (7 points)

1. **CRUD Operations (15 points):**

* Successful implementation of Create, Read, Update, and Delete operations. (8 points)
* Seamless integration with the ASP.NET Core API for data management. (7 points)

1. **Database Connectivity (10 points):**

* Implementation of SQLite database for data storage. (5 points)
* Efficient data retrieval and manipulation using data objects. (5 points)

1. **Functionality (10 points):**

* Fully functional with creation, editing, deletion, and viewing features. (8 points)
* Smooth performance and responsiveness of the application. (7 points)

1. **Presentation and Group work (Total 15 Points)**
   1. **Time Management of Presentation (3 points):**

* Adherence to allocated time.
* Smooth transitions between sections.
* Effective utilization of time without rushing.
  1. **Content Representation - Theory and Practical (4 points):**
* Clear explanation of theoretical concepts.
* Demonstrate practical application through examples or case studies.
* Relevance of content to project objectives.
  1. **Group Management (3 points):**
* Coordination among group members for seamless presentation delivery.
* Equal participation from all group members.
* Effective delegation of tasks and responsibilities.

1. **Three separate file submissions per the mentioned below: (10 points)**

* Project PDF report file named as Yourname\_Proejct2.pdf.
* Project presentation file named as Yourname\_Proejct2.
* 1-2 minutes recording of your application with all functions named as your application title
* Zipped folder of your project implementation work.

Total Points: 100

Submission:

* Three files need to be submitted:

1. Project PDF report file named as Yourname\_Proejct2.pdf.
2. Project Presentation file named as Yourname\_Proejct2.
3. 1-2 minutes recording of your application with all functions named as your application title
4. Zipped folder of your project implementation work.

**Follow steps as mentioned**:

* C: \Users\kayal[will be yours]\source\repos-> into that all your projects which you have created in visual studio will be here as folder .
* Rename the repos as repos\_AppName\_FirstName.[e.g. repos\_BookstoreApp\_Kayal] And covert into zipped folder.
* Make sure in that zipped folder all your runnable project folder should be there.
* Upload all the files separately. Make sure your Database report is NOT in a zipped folder.

**Deadline:** Submit your Project 2 deliverables by mid night of week 14 starts [12th April 2024 on Friday 11:59 PM]