**System Design**

**Assignment 3**

**Number 2**

***Does your application require local processing and must work in an occasionally-connected scenario?***

Since RIGboat is controlled using a mobile device and data is transmitted through a mean of communication, the app require local processing to for both functionalities. Controlling RIGboat means that controls are being transmitted form the mobile app to the Lab that will execute the required procedures, hence local processing is required.

As for the architecture, the app must work in occasionally connected scenarios based on the requirements, assuming there’s a bad weather and RIGboad is collecting data while there’s np connection with other storage that receive and store near real-time data, data should be stored locally till a connection is available.

***Does your application depend on server processing and will always be fully connected?***

Based on what RIGboat mission is, a server is not needed at the current time, hence no server processing is needed.

Bad weather will affect the connection between RIGboat and other applications that will be controlling and using collected data, hence RIGboat will not be fully connected.

***Does your application require a rich user interface, has limited access to resources, and must be portable on multiple platforms?***

***Consider your requirements while answering these questions, and once answered, decide on the type of application (i.e. architecture) that is most appropriate.***

***Next, discuss any two common development issues that must be considered and solved in your application.***

Two common development issues:

1. Caching :

We should take into consideration that the mobile app will be connected and functioning while RIGboat is collecting data, hence caching data will be during RIGboat’s mission.

If the mobile where the app is running have limited resources, such as RAM fails, or low processing speed , the app will get slow resulting in bad user experience and might lead to data lose if it crashes before storing data in another storage such as a database on online cloud .

1. Synchronization :

Acquiring near real-time data as temperature, quality, and images should be synchronized to the time we save data to be accurate with data we save and view.

Failing to do so might affect the quality of data that is being studied and viewed, beside that the misleading inputs to the database.

***Lastly, what will the presentation and business layers look like in your application, and how will they communicate?***