CSCI 448: Mobile Application Development

Assignment 1

1. How did you structure your classes to allow for multiple question types in your question array?

At the beginning, I tried to create multiple classes for each type extending a parent Question class but then I realized that this will cause changes in all methods, their parameters and activities. Instead of adding classes, I changed the existing Question class. I made everything passed to methods ‘string’. For the true false questions, I send “true” and “false” as string values. Besides, I added 4 String variables to the question class in which I stored the wrong options for multiple choice questions. I am aware that this can cause some memory waste but since the String values are empty for any questions except from the multiple choice, this can be neglected.

To be able to make Question class fit for all question types, I added 2 constructors. One of them takes the textResId and correct answer as parameters while the other takes 4 options additionally. Since there is 1 Question class, I did not need to change the type of the questionBank List.

1. Did your choice for Question #1 affect how you set up your ViewModel, View, and Controller?

I structured my app in a way that it uses just one layout and changes it with respect to the question type via Controller. I used parentLayout.removeAll() and parentLayout.add(View) methods to be able to do this.

1. What difficulties did you have with the Controller passing information from the Model to the View?

I realized that the text components in the View are not exactly String type so I needed to typecast them. Other than that, since I decided setting everything to be string, I did not have much difficulty.

1. What was the role of the ViewModel?

The ViewModel has all the responsibilities regarding to the questions. It has the questionBank list which provides questions to the View. It contains all the methods that checks if the answers of the user are true or false. Also, I added a cheat control mechanism and prevented answering the same question twice.