MOBILE SENSING LEARNING

Mobile Sensing Video Assignment One: **Model It**

You are to complete this assignment in **groups of two or three**. You are to complete the following (or get as far you can) **before the end of class**. Start with the unmodified Xcode project from the video lecture (use the *master* branch). Be sure to use lazy instantiation whenever possible in the following updates.

Part one: Update the Model

Let's change the way that other classes use the ImageModel class. No longer will other classes access the model through public properties. Instead, the following steps will allow classes to access the images using an integer.

1. [**5 points**] Update the ImageModel class to have all properties private, except the shared instance method.
2. [**10 points**] Update ImageModel class to pre-load all the images and save them into an NSArray. This should happen the first time another class asks for an image. **Note**: you should hardcode the names of the images being loaded—do not try to load the names automatically from image.assets.
3. [**15 points**] Modify or create functions that will allow other classes to access the image *names* and the *images* by sending in an NSInteger parameter (*i.e.*, the input to the method is the index of the image in the array). Also add a method that returns the total number of images in the model.

Part Two: Use the Model

1. [**10 points**] Update the ViewController to use the new ImageModel class.
2. [**10 points**] Update the TableViewController to use the new model.
3. [**10 points**] Update the CollectionViewController to use the new model.
4. Once all classes use the model, test each view controller to be sure they function as expected.

Part Three: Add to the Model

1. [**10 points**] Add three additional images (six total) to the image.assets and load them using the ImageModel class (along with the other images). Leave the image names hardcoded.

For thought:

1. [**4 points**] Is this new implementation of the model more efficient? Why or Why not?
2. [**3 points**] Is this implementation of the model scalable? Why or Why not?
3. [**3 points**] If there were 1000 images in the image.assets file, what would you change in the implementation of the model?

What to turn in:

- Be sure to indicate who is part of your team on Canvas.
- The Xcode project of the updated file (as a zipped/compressed file).
- Answer the questions posed from above, include answers in a text file in the main directory of the project.

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