Week 2 Announcement

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Hello Students:

In this module, you will learn how to identify software design constraints, create software design templates, and use software design patterns to efficiently solve a problem. Software design constraints are limitations and restrictions that affect design of a software application. Common constraints may include:

- Budget
- Team skill sets or lack thereof
- Existing infrastructure
- Timeline

Budget, timeline, current skill sets of existing employees and existing IT infrastructure all contribute to the design approach chosen. In one of my work places, primarily a Microsoft shop i.e. .Net and MS SQL Server, the management wanted us to use open source Postgres database instead since it would have been lot cheaper. However, we had to push back since we didn't have relevant skillset and the time, effort and the

training needed to upskill the existing stuff didn't make sense. Moreover, we needed to migrate all the existing applications to be compatible with the Postgres DBMS as well.

In this module, you will learn about two common design patterns, the singleton and iterator patterns. Key code concepts to point out here are:

- The use of a static modifier to create an instance along with making the default constructor private.
- The use of next number generators to ensure unique IDs.
- The use of the Java API documentation to study the ArrayList class.
- The remove method requires a full object instance so it is not always possible, thus the use of an iterator to find the matching IDs.
- For vs. ForEach

You will use Eclipse Java Integrated Development Environment (IDE) to write your Java code, compile, debug, build and execute.

Software Design Template Assignment

You should select **one** client to work with from the choices provided. Please include the name of your client and a summary of their problem in the template provided.

- You should use the software design template provided.
- Submissions of the software design template should demonstrate industry best practices. Specifically, you should be as detailed as possible, while at the same time not overcomplicating things. Design documentation should be maintainable, as typically several stakeholders will be using the documentation.

- I would like you to think through the process for translating the client's problem into requirements and design constraints.

Project One Milestone

You will learn further about Unified Modeling Language (UML) and Software Design Patterns (e.g. singleton and iterator) by working on a game application. The patterns assignment provides an opportunity for you to practice using design patterns. I would encourage you to complete this assignment as it directly ties to Project One, which is due in Module Three. I would encourage you to demonstrate industry standard best practices including in-line comments and appropriate naming conventions to enhance the readability of code. Please make sure to test your code as well.

Please note that Project One is due in Module Three.

Please feel free to reach out (s.sarkar1@snhu.edu) if you have any questions. I am always here to help as much as I can.

Thanks,

Suhash