WEB Engineering Assignment 3

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Exercise:1
Architectural style
1) Is it possible to consider the Model-view-controller as a layered architecture? Please explain.
Ans: MVC has also 3 layers in its architecture. In MVC, each layer can directly connect with other layer whereas in layered architecture client can not interact with database directly. As, they both have different functionality but one common thing is that data moves from one layer to another layer in both architecture. So that, we can say that MVC can be considered as layered architeture.

2)Please associate the layers of UWE with MVC.
Ans: UWE has 3 layers which can associate with the 3 layers of MVC.
1) Content Layer: It has same functionality as of Model layer in MVC. It contains the description of each and every component of web page like introductory text.
2) Navigation Model: It can associate with Controller layer in MVC. It shows how the different web pages are connected with each other within a web system. It shows the links, indexes, queries and guided tours in between webpages.
3) Presentation Model: It can associate with View layer in MVC. It represents the underlying navigation and process models as per user user request. It shows abstract presentation from contents using logic unit of presentation.

3)What do you understand by high cohesion and low coupling.
Ans: High cohesion and low coupling use to write high quality code.
Coupling shows the interdependencies between modules whereas cohesion refers to how different functions interact with each other within single module to complete single task. If each module has less impact on another module in that case change in one module won't affect functionality of another module. This is called low coupling.
Similarly, if functions of single class are relatively similar in respect to particular job, it would be result in better output. It is called High cohesion.

4)What kind of design pattern is used in MVC, please explain the pattern and where and how the pattern is used.
Ans: It has two design patterns namely, Observer design pattern and Strategy Pattern. It has 3 modules which are model, view and controller.
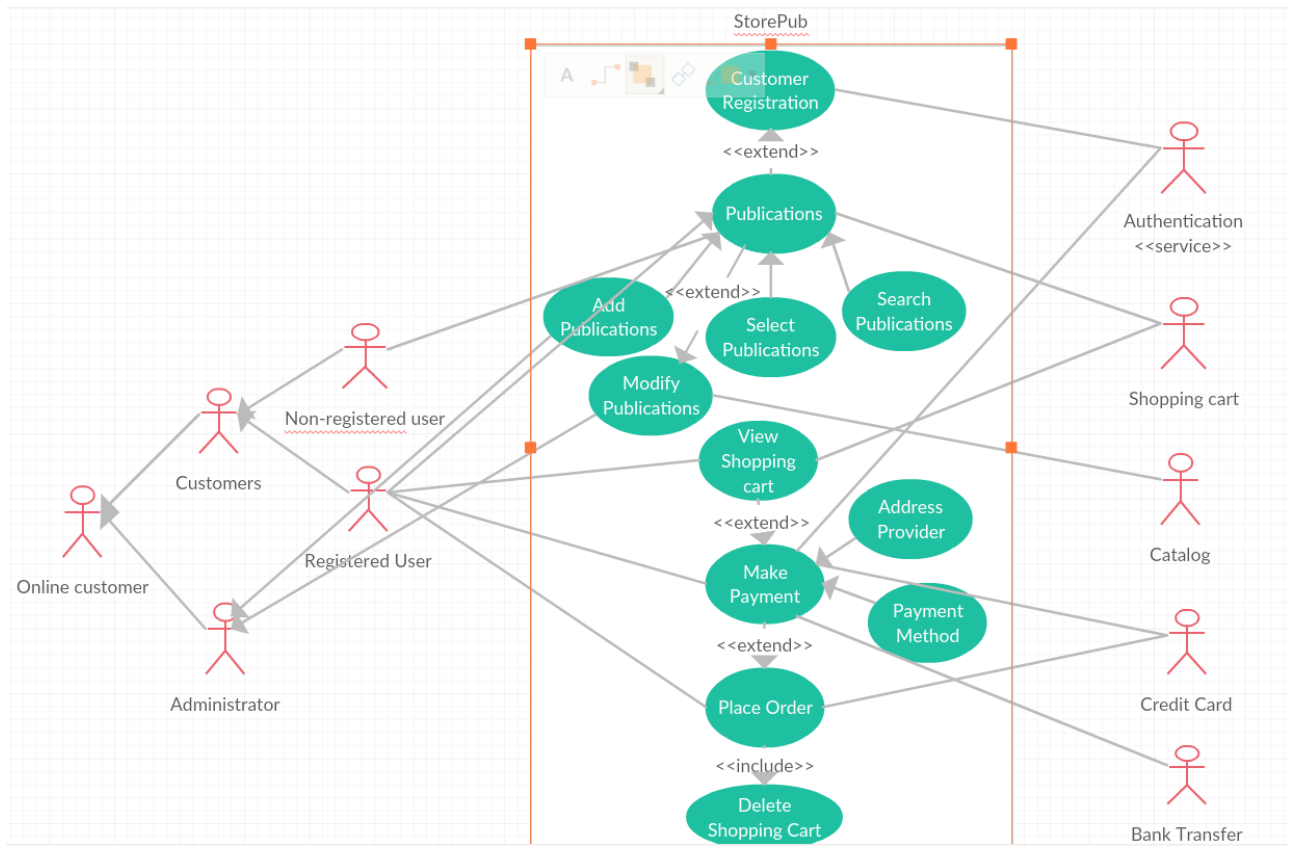Observer pattern refers to dependency of one object on other objects so that when one object changes state, other dependent objects will be notified or updated automatically. In MVC, it makes one core module as a subject and creates the list of observers which are dependent on subject. So, whenever any change will occur in a subject state, list of observers will be updated automatically.
In strategy pattern, it consists family of algorithms from which it chooses any algorithm at run time according to data.
According to observer pattern, model module work as a subject, where controller and view get update about new changes. As for strategy pattern, controller gets update from model and shows the data in view module by selecting related algorithm.

Exercise2: Modeling

a)Use case diagram for Storepub

b) Statemachine diagram for storepub