## Web Engineering - Assignment 3

Team: papa

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### Exercise 1: Architectural Styles

a) There is no relationship between the two. MVC is a presentation layer pattern. The whole Model-View-Controller exists in presentation layer. Model is object holding data (usually just VOs) which are represented by View or, populated from View. Controller is what gets the request (and may populate the model) and calls the service layer. Then gets another (or same) model and sends it back to View. View is what displays model, and provides components to capture user input. (It is usually a template engine in Web Applications, or UI components in a desktop application). When talking about 3-tier (or n-tier) application we are talking about architecture of the whole application, which consists of Presentation Layer (the whole MVC), the Service Layer (Business classes), and Data Access Layer. The Service Layer (and all behind that) are hidden behind the Controllers of MVC.

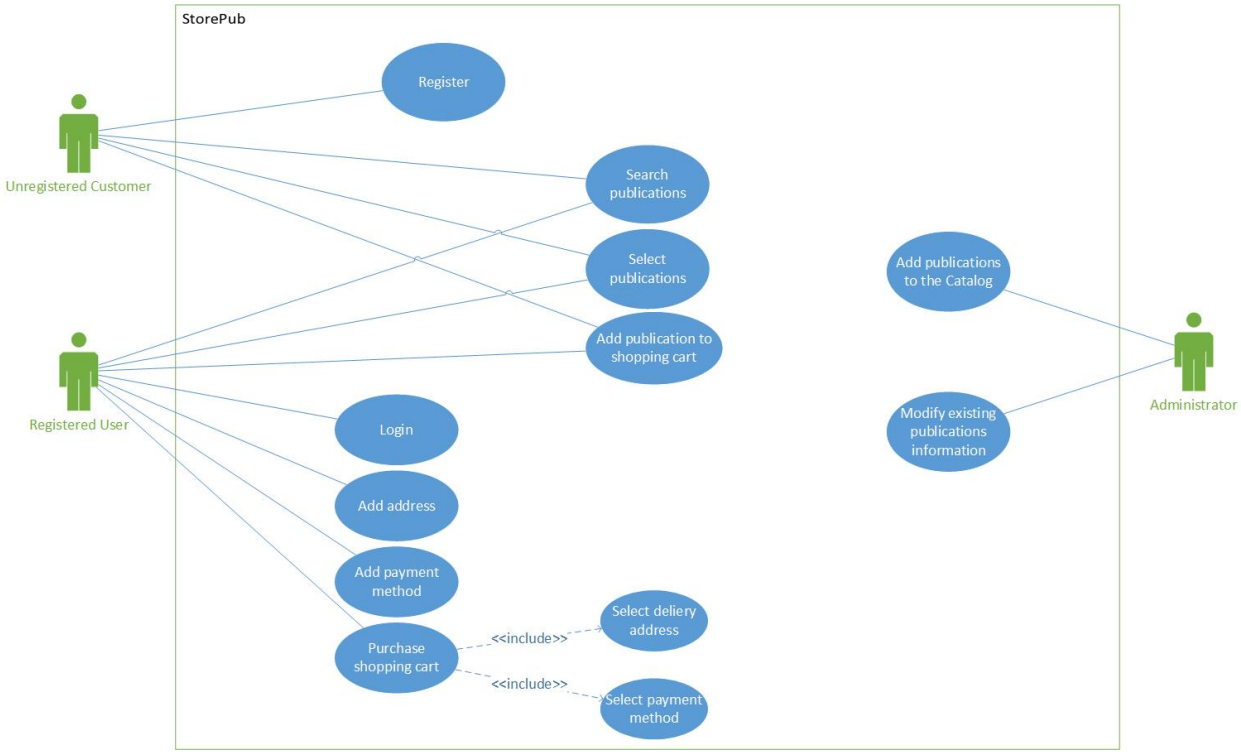
b) UWE Presentation layer can be assosicated with the MVC view layer, because they both represent the last result of WA, in other words they both make what users see. UWE Content and application logic layers can be associated to MVC model layer, because UWE Content layer includes all the content and application logic layer includes how the application should work all the functions and structure and in MVC these two are combined in Model Layer UWE hypertext can be associated with MVC controller, because the UWE Hypertext manages navigation and the MVC controller manage the overall workflow.

c) High cohesion is an evaluative pattern that attempts to keep objects appropriately focused, manageable and understandable. High cohesion is generally used in support of low coupling. High cohesion means that the responsibilities of a given element are strongly related and highly focused. Breaking programs into classes and subsystems is an example of activities that increase the cohesive properties of a system.
Coupling is a measure of how strongly one element is connected to, has knowledge of, or relies on other elements. Low coupling is an evaluative pattern that dictates how to assign responsibilities to support:
    - lower dependency between the classes,
    - change in one class having lower impact on other classes,
    - higher reuse potential

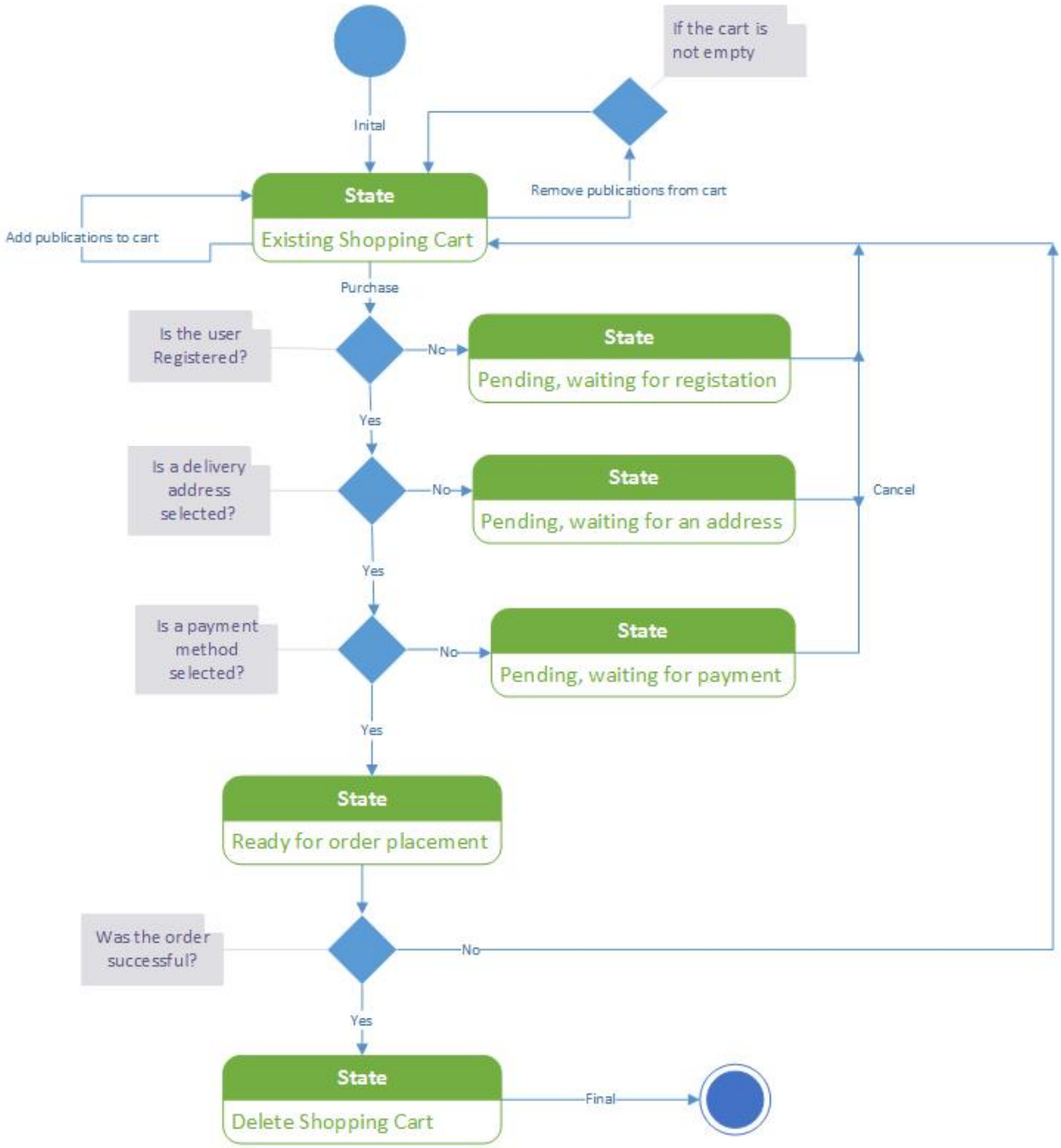
d) Model–View–Controller (MVC) is a software design pattern for implementing user interfaces on computers. It divides a given software application into three interconnected parts, so as to separate internal representations of information from the ways that information is presented to or accepted from the user.
    - The model directly manages the data, logic, and rules of the application.
    - A view can be any output representation of information, such as a chart or a diagram. Multiple views of the same information are possible, such as a bar chart for management and a tabular view for accountants.
    - The third part, the controller, accepts input and converts it to commands for the model or view

## Exercise 2: Modeling

a)



b)


If the cart is not empty
Inital
State
Existing Shopping Cart
Remove publications from cart
Add publications to cart
Purchase
Is the user Registered?
No
State
Pending, waiting for registation
Yes
Is a delivery address selected?
No
State
Pending, waiting for an address
Cancel
Yes
Is a payment method selected?
No
State
Pending, waiting for payment
Yes
State
Ready for order placement
Was the order successful?
No
Yes
State
Delete Shopping Cart
Final