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# CS 255 Model Application Short Paper

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[**Note:** Complete each section below. Each response should be a few paragraphs in length, and your paper should be between 3 to 5 pages. Use 12-point Times New Roman font, double spacing, and one-inch margins. Be sure to use proper grammar and APA format to cite any sources you use, including the textbook. Remove this note before you submit your paper.]

## Process Model Application

[How would you apply a process model to a design for the DriverPass scenario? Remember, you do **not** need to create diagrams for this paper.]

Process models are a model that describe the processes for a giving system. They are used in computer science when designing a system. They define what a system should do, define the organization, how to bring about implementation, how should the system should change regarding the wants and needs of the userbase. They have been using since the 1960s, and have taken many forms. From waterfall to agile, this diversity in form makes it flexible for what type of system it should describe. Process models can be created as diagrams, Data flowcharts and UML diagrams. Using diagrams could simplified things, by placing functions and activities into boxes connected by arrows.

Our client DrvierPass have ordered us to develop a more improve of their system. The system in question, will hope student drivers passed their driver’s test. They want to incorporate features such as practice tests and session package options for their user’s needs. Their goal is to have a working improve system that suit the needs and provide options for users looking to pass their driving test.

There are three players; first the users; second the admin; and thirdly the instructors. To take part in this system, the users must log in by creating an account to register for sessions and take part in other features. The information they provided must be valid, they must create a password, and to purchase packages their payment information must be approve first. Adim should be able to manage user accounts, and able to disable bad actors, reset passwords and cancel session packages if needed. Lastly the instructors should know who their assign student is and what time and place. They would need to notified if they can’t make it or need to reschedule. All of this needed information will be included in their notes on the diagram.

## Object Model Application

[How would you apply an object model to a design for the DriverPass scenario? Remember, you do **not** need to create diagrams for this paper.]

In computer science it is useful to have an object model that could describe the object and interactions within a system. There are five key features of Object Models that I like to address. Objects, representations of actual things that exist within the real world, anything from birds to the motion of galaxies. Inheritance, like how genes work in biology, objects can pass on properties to other objects. Polymorphism, child objects of different classes can take any form of another class within the same framework. Encapsulating, objects like people have their own reasons to kept secrets or keep things hidden from others. To promote data hiding and abstraction, objects will only release nothing more than the necessary information when working through public methods. And finally, Message Passing, for a system to work objects will need to communicate with one another by sending signals.

For our DrivingPass scenario those key features should be in mind. And building a model for this scenario we need to figure out what are the objects, their characteristics, and their relationships.

## Process and Object Model Comparison

[What are the advantages of each model for the DriverPass scenario? What are the disadvantages of each model for the DriverPass scenario?]

When working with systems there can be a good amount of complicated information. Using models like diagrams and charts, can break the information down to easily to understand bits. Process models provide a visual blueprint of a system’s layers. However, Process models have their cons as well as their pros. Though Process models can provide a clear end goal, they aren’t flexible and could lead to strict standardization, making it unable to respond to changing requirements.

We would need a model that could move quick and could be easily updated if there is a change in plan. That’s why object models could be a better option. Object models could be updated more quickly, making them more suited if there is a change in plan. With that in mind, Object models have a lack of structure, and difficulty when it comes to handling complex information. The pros and cons of each model would have to be considered when chosen one over the other.

## References

Sacchi, Walt. (2001). *Process Models in Software Engineering*. New York: John Wiley and Sons, Inc.

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