# CS 255 Model Application Short Paper

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**Process Model Application**

For the DriverPass project, applying a process modeling approach would involve clearly identifying and defining each activity involved in user interaction and system processes. This approach emphasizes the sequence of tasks and workflows involved, such as scheduling driving lessons, registering users, and managing appointments. Specifically, the creation of use case diagrams and activity diagrams would be useful. These diagrams would illustrate each interaction between the users (students, secretary, IT admin, and the owner) and the system, such as the process of scheduling a driving lesson or taking an online practice test. The primary goal is clarity in representing the workflow, improving understanding among stakeholders about how processes occur and interact.

Process modeling for DriverPass would particularly be advantageous in managing user interactions, identifying points of user input and decision-making steps, and providing a clear visualization of how tasks are executed within the system. It is effective in highlighting where bottlenecks or inefficiencies might occur, which is critical for creating a user-friendly, intuitive system.

**Object Model Application**

In contrast, applying an object-oriented modeling approach to the DriverPass project would involve defining the various system entities and their relationships. Objects such as Student, Appointment, Trainer, Vehicle, Package, Admin, and UserAccount would be central components. These objects would have attributes (like user details, appointment times, or package types) and methods (such as booking an appointment, updating user information, or handling security protocols).

Object modeling helps structure the system clearly by grouping functionalities logically, thereby enhancing modularity and reusability. It supports future expansions of the system, such as adding new features or modifying existing ones, by allowing changes within specific objects without affecting the entire system. This approach clearly represents the data and behaviors of the system, promoting scalability and easier maintenance.

**Process and Object Model Comparison**

Each modeling approach has distinct advantages and disadvantages for DriverPass. The process model is beneficial because it provides clear visibility of user-system interactions and processes, making it easier for stakeholders to visualize workflows and improve operational efficiency. It is ideal for understanding and optimizing user journeys and system activities.

However, the process model has limitations. It may become cumbersome when trying to represent complex data structures or relationships, as its primary strength is in illustrating sequential processes, not detailed data management.

Conversely, object modeling has the advantage of providing a robust framework for defining system components and their interactions. It clearly delineates roles, attributes, and behaviors, supporting system maintenance and scalability. The modular structure makes it easy to implement changes or add new features without widespread disruption.

Nevertheless, object modeling can present disadvantages in terms of initial complexity. Stakeholders unfamiliar with technical design might find object diagrams challenging to interpret without supplemental training. Also, the detailed nature of object modeling might obscure the flow of interactions, making it less intuitive for stakeholders primarily interested in processes and user interactions.

Ultimately, combining aspects of both approaches can leverage the clarity and detailed organization provided by each model, ensuring a well-rounded and robust system design for DriverPass.

## References

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Author, A. A. (Year of publication). *Title of work: Capital letter also for subtitle*. Location: Publisher.

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