# CS 255 Model Application Short Paper

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## Process Model Application Applying a process model to the DriverPass scenario involves outlining the sequential steps involved in the system's development, from initiation to completion. Efficient communication is essential for a business, it serves as the cornerstone of productivity and collaboration. In my case, communication plays an even bigger role. I am a communication expert and communication is the foundation of my business. Also, I need to be in contact with different kinds of people every day—my clients, colleagues, and partners. Often, I adjust my communication strategy to the person I’m dealing with at the moment. Mehta (2023) demonstrates that a suitable process model, like the Waterfall or Agile methodology, can be employed. Accodring to DeClute (2022) there was a time 30 years ago where applications were developed in isolated silos and stakeholders and developers never interacted face to face. In modern software development environments, developers and stakeholders are often colocated in the same building and can easily converse in a hallway or over a cubicle wall. In the context of DriverPass, an Agile approach seems appropriate due to its iterative nature, allowing for continuous refinement based on client feedback. This approach facilitates collaboration between the development team and stakeholders, ensuring adaptability to changing requirements. For DriverPass, breaking down the system development into smaller, manageable increments can be beneficial. The Agile methodology involves iterations, sprints, and frequent client feedback, which aligns with DriverPass's need for ongoing updates and customization. Object Model Application The object modeling approach in the DriverPass scenario revolves around identifying and defining the various objects or entities within the system. In this context, objects might include user profiles, scheduling modules, courses, lessons, payments, and the connection to the DMV. Geeks for Geeks (2023) states that Object-oriented design started right from the moment computers were invented. Programming was there, and programming approaches came into the picture. Programming is basically giving certain instructions to the computer.

At the beginning of the computing era, programming was usually limited to machine language programming. Machine language means those sets of instructions that are specific to a particular machine or processor, which are in the form of 0’s and 1’s. These are sequences of bits (0100110…). But it’s quite difficult to write a program or develop software in machine language. Object-oriented analysis helps in understanding how these entities interact, their attributes, behaviors, and relationships.  
 Utilizing OOAD aids in structuring the system around objects, encapsulating data and functionalities within these objects. For instance, the user profile object would contain attributes like name, contact information, and preferences. The lesson object would include attributes such as time, instructor, and location.Process and Object Model Comparison  
 The advantages in agile process model enables continuous feedback and adjustments, aligning with DriverPass's need for adaptability and flexibility in providing training modules and scheduling.Sambandam (2023) explains The benefits of Agile makes the managers’ job easier and allows them to have greater control over their projects. What makes Agile project management truly unique is the fact that it focuses on both, delivering quality and value to the customer, and completing the project within the given project constraints. De Oliveria Guimarães (1995) states that the reuse of Object Oriented (O.O) software is well known. Many books and papers credit it to inheritance.However. inheritance without polymorphism resulting from virtual methods do not result in larger software reuse than procedure libraries in procedural programming. A comparison example can be seen on figure. A class Workman inherits from another class Person, and none of them have virtual methods. There is no polymorphism. A method specially defined for class Workman (as GetSalary) may call a method inherited from class Person (as GetSSnumber). So, methods of Person are reused in Workman. This means that OOAD can be utulzied in different contexts in the software development world. Also, Object Model (OOAD) encapsulates data and functions, fostering better organization and understanding of the system's entities and their interactions. On the other hand, some disadvantages are that the agile process model may face challenges in predicting exact project timelines due to iterative cycles, which could affect the scheduling and delivery timeframe, potentially conflicting with DriverPass's time-bound objectives. Additionally, the Object Model (OOAD) can become complex if not properly managed or if the system requirements evolve significantly, leading to potential difficulties in maintaining and modifying the system.

## References

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