

Homework 08: DSDM

1. The advantage of using prototypes is that prototyping enables a larger amount of feasibility testing than just relying on documentation. As prototyping can show some feature or functionality in action, it can oftentimes lead to a greater in-depth understanding and demonstration of said functionality. This can be advantageous for the self-parking car software as feasibility is an important aspect of such a complicated program. By having an operational prototype that demonstrates an important feature, this can provide the development team with a good base point from which to plan and build the remainder of the project. Additionally, this prototype can also play a role in stakeholder relations and requirements solicitation and validation, as it can be demonstrated to customers to receive their feedback. This feedback can then be applied to the project during the development cycle, therefore being implemented sooner than it normally would (in terms of feedback received after the first release/product demonstration). Finally, a prototype can assist in theorizing and developing test cases for the finalized system.
2. The disadvantages of using prototypes over documentation is that prototypes can cost a significant amount of time, effort and other resources needed by the development team to implement the project. For a project with a tight budget and limited resources, prototyping may be infeasible to implement despite the advantages that it may bring, as those resources are needed in more critical areas instead. Additionally, due to the complexity of the system to be tested (the self-parking car software), prototyping may result in an incomplete understanding or analysis due to the naturally limited scope of the prototype. As the prototype is often for a single feature or small subset of features, a focus of development efforts on a prototype may result in the development team overlooking other critical areas that were not encompassed by it.
3. I will convince the customers that extensive documentation alongside the prototype is a better plan. By going with this approach, a best-of-both-worlds scenario is obtained. Under this development plan, the prototype will provide a feasibility test of the system under test and allow the developers to better refine requirements and stakeholder input. This will give the project a core foundation for which to start off from and peruse further development work. Additionally, a solid documentation base will ensure that the problem is fully defined and there is greater analysis of the system under development, especially for edge cases that may not be covered by the prototype. Requirements and user input will also be better tracked through this extensive documentation as opposed to just a series of prototypes. Despite these advantages, this dual approach of using both prototyping and documentation will be costly in project resources. Significant amounts of time will need to be dedicated to synchronizing prototype and documentation status to ensure that both aspects remain consistent, as well as the time and effort required to develop and maintain both processes. This will force the project to adopt a longer and more conservative schedule, inevitably resulting in a higher cost. However, I do believe that this approach is worth it. Due to the extremely complex nature of this software and the very high risks associated with its failure, I feel that it is best to ensure that the project is as

well defined as possible. This will help reduce the risk associated with the failure of the software by providing the most benefit and assistance possible to the development cycle. Due to the complexity of this project, I believe that it is reasonable to assume that the added costs brought upon by this approach are capable of being met. Due to the previously explained safety concerns, I believe that the company in charge of this development is established and has a large amount of funding. Therefore, they should be able to better handle the increased costs associated with this methodology.