CS555: Agile Methods for Software Development
Homework 08

1. Describe at least two risks of using prototypes rather than documents to describe requirements and designs. Hint: not all of the actors involved in DSDM are software developers.

   The risks of using prototypes rather than documents to describe requirements and designs are –

   - The prototyping model is expensive since we develop actual throw away system rather than document. This may take more time and effort to develop.
   - There are too many types of stakeholders such as users. Users may get attached to prototype easily and may confuse it with the final product. The prototypes are unpolished products and users might judge it based on their expectation of the final product.
   - Developers might spend more time on developing prototype rather than on actual development of the user requirements. The prototypes might increase the development time excessively.

2. For each of the risks you just identified, describe some other artifact that could be used besides a prototype (or, in addition to a prototype) that would mitigate the risk.

   The other artifact that could be used besides a prototype that would mitigate the risk are –

   - We can choose evolutionary prototype rather than throwaway in order to reduce the time required to develop a prototype during each sprint.
   - The user should be given a non-working stand-alone prototype rather than working one, to get the user used to the prototyping method and over the period we may expose the user to working prototype.
   - The prototype development should be the last thing to be done in the development cycle of each scrum where the other development items should be given priority over prototype. If the problem is complex enough to require more time, leaving less time for developing prototype during that scrum, we might test it within the environment with the developer test cases.

3. For each of the mitigating artifacts you just described, estimate the cost of producing the artifact and compare it to the cost of producing the prototype.

   - The user will be given just a prototype which is not working hence no coding is required to perform the logic of the prototype hence, if it take 10-12 days to develop a working prototype, the user might just develop a standalone and non-working prototype in few days.
   - The evolutionary prototype solves the issues of starting from the scratch each time you develop a prototype. Hence rather than starting over, we just make some modifications in the existing prototype. Hence the cost reduces for such prototype. It might be more productive to develop standalone prototype in initial phases but as the development process progresses, the prototyping gets costlier.
   - We mat have to just skip developing prototype if more time is spent on the development of the real solution hence the cost of this fix varies with each sprint. Some scrum might develop a fully functional prototype while in some of the sprint we just develop a prototype having a user interface only.