SSW 555: Agile Methods for Software Developments

Homework 8

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1) **Describe at least two advantages of using prototypes rather than documents for the self parking car software we discussed in earlier assignments.**

Answer: Two advantage of using prototype for the self-parking car software.

I. **Increased and enhanced user involvement:** Prototypes allows the continuous user involvement, using which client to be able to make changes in the features according to their requirements. Also, users can know what the actual functions are implemented and present in the self-parking car software through the client involvement. Main benefit of this is, it avoids or eliminates the miscommunication or misunderstanding between client and supplier.

II. **Diminish time and directive changes:** client's first requirement is that the product will fit into their budget. Prototypes enhance the quality of the product which are provided to the customer. Using prototypes, it would be easy to make changes as per client's requirement and make ready in the given period. While documents would not sufficient as compare to prototype for the modification and completion in specific timebox.

2) **Describe at least two risks of using prototypes rather than documents for the self parking car software we discussed in earlier assignments. What could possibly go wrong?**

Answer: Risk of using prototypes:

i. **Time consuming:** If developer takes too much time to develop the complex prototype for the self-parking car software, then the project will run over the time as well as out of time. While the proper documentation is very useful and beneficial for proper analysis.

ii. **Improper analysis:** When the prototype of the self-parking car software is analyzed not properly by developers or any member of the project team then it will result into failure or bug for the project which is not feasible for both supplier as well as client, whereas if proper documentation is provided then it decides the work flow, define all features or requirements which is good for the self-parking car software.

iii. **Misunderstanding:** Sometime prototype does not have the same features or requirements which customer want into their final product. Customer can misunderstand the prototype so that they are not able to understand the performance of the project.

3) **Your consulting customers at Driverless Cars have asked you to build a prototype of a software module that would allow cars to change lanes at highway speeds simply by turning on the turn signal. Will you deliver a prototype, or will you convince the customers that extensive documentation along with the prototype is a better plan? Justify your decision by describing the advantages, disadvantages, and costs of delivering just a prototype versus a prototype plus extensive analysis and documentation.**

Answer: If consulting customer asked me to build a prototype of a software module that would allow cars to change lanes then I will convince the customer that extensive documentation along with the prototype is a better plan. As the prototype and the documentation both have their own pros and cons.

By only using the prototype there can be a chance of misunderstanding and improper analysis which is not good for the project and result in worst scenario for the team. So, prototype with documentation provide a sufficient data for analysis and give proper flow to do a project in a best way.

Advantage of prototype with documentation:

I. It provides sufficient information and description to understand each detail of the project.
II. Prototype with extensive analysis gives detailed and precise information of each feature.
III. It eliminates the risk factor and leaves small room for error.
IV. It produces the final product with all features which are customer wants into their final product.

Disadvantage:

I. It is very time-consuming process as it takes too much time to create a prototype and detailed documentation.
II. It requires more financial support as both prototype and detailed documentation are very well structured.

Team can also make a prototype which should be reused means easily modified or make changes in it after each sprint. So, team can save the time to build the prototype and that time will use to solve the problems in project and also cost can be reduced. So only once team have to make fully functional and detailed prototype after that for each sprint, they can just make a small change in it.

So, without a doubt we can say that prototype with extensive analysis and documentation is the best option for any project.