



Enhanced Cost Estimation Techniques with Stored Procedure

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Abstract:- In the software engineering researchers have proposed many cost estimation techniques. This research paper shows modification of estimating interactive software project size with enhanced use case point. A critical study shows that how we can improve efficiency of original method of cost estimation enhanced use-case point. Estimating interactive software project size with Enhanced use case method and stored procedure with transaction will integrated for find the result with more efficient. Calculation of use case point are not difficult main difficulty is in defining use case and actor. This paper also shows how we may use stored procedure with transaction in calculation of use case point.

Keywords—Use case point(UCP), interactive use case point,

I. INTRODUCTION

In current years software engineers doing efforts for integrate different mode and skill for cost estimation. Software developers are not getting success in identification of those techniques which can estimate accurate cost in the area of software engineering. Developers have already published models and functional size calculation modes including with SE issues (requirement and user involvement). Here, we are modifying the interactive use case point method for improve the scope to estimate better cost. For improvement in this scope we will use the concept of store procedure or we combine the interactive use case point and the store procedure. By interactive use case point method estimation is done in the interaction design protects for the description how use case points estimation is effected by interaction

UCPs: In the use case point many use case are integrated that based on the domain. Use case are integrated for make structure of all customer requirements use case point this technique also integrated in UML.

Literature Review In this section the various cost estimation technique and models are used by various papers is listed.

In the research paper [1] Author has discussed about cost estimation techniques and models. There are two types of cost estimation models algorithmic and non algorithmic. Author has proposed about the strength and weakness of various cost estimation method. This paper also conclude some of the relevant reason that cause inaccurate estimation. It also included a comparative analysis among popular models and the performance is analysis and compare in terms MMRE (mean magnitude of Relative error) and PRED (prediction). In the research paper [2] It presents the various software and cost estimation techniques which are comparing for cost estimation projects. Some cost estimation models are viewed this paper mainly focus a comparison of all tools and technique. In research paper [3] Author presents the use case point analysis. It shows that estimation based on a modified use case point method less estimator then those based on original method. This paper proposed about te interactive use case that helps software developers and interaction designer to heuristics which are suitable for interactive application. In research paper[4] Author has proposed about conceptual use case diagrams that can enhanced a project manager ability to allocate medium size or large scale development projects in a way that limits task duplication on functional object-oriented software engineering methodology explain about system requirements they play very important role project analysis design testing and implementation stages. They also proposed about conceptual use case diagrams can be created by considering the domain model.

CURRENT SENARIO:

Use Case Points (UCP) is a mode of estimation which can provide the service for estimate an application's size and effort from its use cases. In UCP calculation developers makes an equation for estimation including unadjusted actor weight, un adjusted use case weight, technical complexity, environment complexity. This equation contain common for variables.

1. Unadjusted use case weight (UUCW).
2. Unadjusted actor weight (UAW).
3. Technical complexity factor(TCF).
4. Environment complexity factor(ECF).

$$UCPs=(UUCW+UAW)*TCF*ECFs$$

According to my study and work experience on cost estimation modes and skills I got revised heuristics for actor weighting in interactive use case method.

- Simple system actors (a factor of 1) communicate through an API.
- Average system actors (a factor of 2) communicate through a protocol or data store.

- Simple human actors/Complex system actor (a factor of 3) are supported by one user role.
- Average human actors (a factor of 4) are supported by two or three user roles or one focal role.
- Complex human actors (a factor of 5) are supported by more than three user roles or more than one focal role.

As a result we can say that there will be difference in calculated UCPs (here UCPs is calculated by old factor) and interactive use case (here interactive use case point is calculated by listed factor). Although this difference will be minor, but in a real-world project with three times as many actors and roles, the impact is substantial.

c. Proposed Work

Determine number of IUUCW (Interactive Unadjusted Use case Weight): The second step is to count Use Cases and assign weights depending on number of scenarios and number of transactions and count of stored procedures.

In current scenario total = 30 and in proposed scenario total = 57.

And we are including stored procedures also with transactions. A stored procedure is a group of transact-SQL statements compiled into a single execution plan.

Use Case Type	Litmus test to decide the Classification	Value/Factor
Simple	Greater than or equal to 3 transactions	5
Simple Transaction with good performance	Greater than or equal to 3 transactions with one stored procedure	7
Average	Between 4 to 7 transactions	10
Complex	Greater than 7 transactions	15
	Greater than 7 transactions with more than one store procedure	20
	Total	57
Scenario	Cost Estimated	
Current	44298 INR (by interactive)	
Proposed	54520 INR (by enhanced cost estimation)	

It assist in achieving a consistent implementation of logic across application. The SQL statements and logic required for performance a commonly performance task can be designed, coded tested once in a stored procedure. Every application needed to perform a task it can than simply execute the stored procedure . Store procedure can also improve performance:- Many tasks are implemented as a series of SQL statement. The logic depends on Condition that can applied to the results of the SQL statements determines which succeeding SQL Statements which are required to execute. If these SQL modes and skills are written in to a stored procedure. They known as essential part that can execute in a single time on server. The result do not have to be returned to the client to have the conditional logic applied; all of the work is done on the server. parameter available in current scenario using those parameters we are concluding that our proposed scenario is increasing the scope to estimate the cost.

EXPERIMENTAL RESULTS :-

This is the cost estimation of LIBRARY use case diagram. In the cost estimation of proposed work is good.

Conclusion

By the modified method enhanced cost estimation in use case point we got better UCPs cause stored procedure transaction is used. Developers may have more accurate cost by using this modification.

In the proposed scenario we are finding increased scope to estimate the cost. As per our proposal we found that there is need to add some parameter which are lying between available in current scenario. Using those parameters we are concluding that our proposed scenario is increasing the scope to estimate the cost. For this work we found the successful

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