

Validating the Change Management Process for Managing Changing Requirements with the help of a Real Life Project

Prashasti Rikhari
Lovely Professional University
Phagwara (Punjab)

Aseem Kumar
Lovely Professional University
Phagwara (Punjab)

ABSTRACT

Requirement management is very crucial for the success of any organization. Poor requirement management leads to poor quality software, rework, very low customer satisfaction, financial problem, delay in the delivery of the software, high cost and low market value. All these problems cause failure of the software. I have already given the change management process (a complete strategy) for managing changing requirements. In this paper, I will validate it with the help of real life project. For validation of the change management process, I will apply this process to the data, I have, and then I will analyze the efficiency of the change management process.

Keywords

Requirements, Requirements management, Change Management Process (CMP)

1. INTRODUCTION

People often think that the changing requirements have bad impact to the software development process. The software development team needs to look at the optimistic part of changing requirements as it facilitates to reduce the risk of project failure and increase the quality of the resulting product. Getting the wrong requirements and developing a wrong system is the biggest risk to the project failure [1]. Change management process is very important in requirement management field. It manages all the changes that occur after the requirement gathering phase, so that all the necessary and beneficial changes can be implemented in the software, which leads to success of the software. In this way, we can accomplish the business objective as well as project objective of the project. First I will review the change management process than I will implement it on the project. Change management process consists of eight steps, first is validating the new requirement, in which we first receive the change requirement from any of the stakeholders, second is appropriate classification of the requirement, in which we classify the requirement according to its area, third is traceability, in which we can find the complete information about any already existed requirement and than we can find the conflicting requirements, fourth is review of the requirement, in which all the stakeholders review the requirement and they can either accept or reject the requirement, fifth is evaluation of the requirement, in which a separate evaluation team evaluate the requirement, sixth is documentation of the requirement, in which documentation of the new requirement take place, seventh is adjusting different activities, in which we adjust the different activities for

implementing the new requirement, and eighth is acceptance testing, which is performed by the users.[2]

2. REAL LIFE PROJECT DATA

For validating this process, I am applying it to the real life project data. The real life project, I am using is “**Human Resource Management**” made by trainers in E-Soft technologies. This project basically deals with the online recruitment of the fresher’s and maintains the details of the employees. The project consist of following modules

2.1 Career Module

This module is for fresher. First fresher can login in the site with the help of information like their name, age, phone no, email-id, batch, course and address. After giving all these information a fresher can view the different vacancies and upload their resume.

2.2 Test Module

This module is also for fresher. First fresher can login in the site by providing the same information as in the career module. After giving all these information a fresher can apply for the test. The test process consist of various steps, first the aptitude test, then technical test and at last interview.

2.3 Recruitment Module

This module is also for fresher. First fresher can login in the site and then he/she can get their recruitment message in this module. After passing all the tests, a fresher is recruited and he/she becomes an employee of the company.

2.4 Training Module

This module is for employee. First employee can login in the site by providing some information like their name, age, phone no, email-id, address, gender, designation and id no. After giving all these information, employee can register for training.

2.5 Reimbursement Module

This module is also for employee. First employee can login in the site and then he/ she can request for medical expenses, mobile expenses, laptop expenses and study expenses.

2.6 Attendance Module

This module is also for employee. This module maintains the attendance information of the employee as well as leave information of the employee for example, on which day the employee was absent.

2.7 Payment Module

This module is also for employee. This module maintains the salary information of the employee and over time payment information of the employee with the help of extra hours that an employee worked.

3. VALIDATING CHANGE MANAGEMENT PROCESS

For validating CMP, I will apply CMP to the real life project data that I have. Now according to CMP, any of the stakeholders issue a requirement. I, as a user issue a new requirement. The requirement is regarding adding two modules, first is the accommodation module and second is the transport module, because these modules are very beneficial for the employee. But adding these modules, require various changes in the existing project. Now I will show, with the help of CMP, how we can manage these changes and are these changes are possible or not.

3.1 First Step (Validating the new requirement)

In first step, any of the stakeholders issue a new requirement or request for changing any existing requirement. I, as a user issue two new requirements, first is regarding adding accommodation facility, second is regarding adding transport facility.

3.2 Second Step (Appropriate classification of the requirement)

In Second step we classify the requirement. Accommodation facility is a functional requirement. It will provide accommodation facility to employee. It will provide hotels, rooms, paying guest facility etc in case, if any employee registers for accommodation facility. First employee can login in the module by providing some information like their name, age, phone no, email-id, address, gender, designation and id no and then he can view the accommodation facility, register for accommodation facility and can do online payment for accommodation facility.

Transport facility is also a functional requirement. It will provide transport facility to employee. It will provide mainly the bus facility to the employee. It will provide all the bus information for example, bus name, number, timing and location information.

First employee can login in the module by providing some information like their name, age, phone no, email-id, address, gender, designation and id no and then he can view the transport facility, register for transport facility and can do online payment for transport facility.

3.3 Third Step (Traceability)

In the third step, we identify the conflicting requirements. Both accommodation and transport facility require on line payment facility. Therefore both modules (Accommodation and transport) are conflicting with Payment module. Conflicts occur because Payment module maintains all the salary information of employee, now both module accommodation

and transport require payment facility for its correct working. Only after paying money, employee can avail facility of accommodation and transport.

If any employees is paying with the help of his salary then money will be deducted from his salary. So we must make some changes in the payment module, so that it can show the salary of employees correctly. Therefore it will require linking of accommodation and payment modules or transport and payment modules.

3.4 Fourth Step (Review of the requirement)

In fourth step all the stakeholders (end users, customers acquiring the product, requirements analysts, project managers, developers, testers, regulators and auditors, manufacturing staff, sales and marketing, and field support or help desk staff) will give their opinion about adding the accommodation and transport module. They can accept or reject these new requirements.

3.5 Fifth Step (Evaluation of the requirement)

In fifth step, evaluation of the proposed requirement takes place by the evaluation team. Evaluation can be done on the basis of, if it is possible to have accommodation and transport facility in the available budget, its benefits, quality improvement of the project, expected contribution of this facility, efforts required implementing the facilities, and resources required. Accepting Online Payments means that employee will be able to pay during the payment process and the cart will know at that time whether the payment was successful. For example, the customer might pay using a Credit/Debit Card, or maybe a PayPal, Google Checkout or other similar account.

When employee will pay for accommodation and transport, there are three different cases, he can pay with the help of his credit card, he can pay directly from his salary, and he can use an e-check to make a payment. If the employee is paying with the help of his credit card than this facility will require, code credit card details page, code order details page, code credit card authorization page, ensuring that only Visa and Master cards are accepted, and Code order confirmation page. It means all the operation requires a bank interface and bank gateway. There are two ways of accepting card payments, either get a merchant account with a bank and use it with a payment gateway Examples are Sage Pay, HSBC Secure e-Payments, Authorize.net, PayPal Pay flow (USA), Barclays ePDQ, or use a payment bureaux service who effectively provide both the payment gateway and merchant account together. Examples are PayPal, Nochex, PayPoint Complete, Worldpay, Moneybookers, and Google Checkout. Changes in the project will be done in the maintenance phase, so it will reduce timing constraints therefore cost can be managed. It will greatly increase the customer satisfaction, quality of the overall project and increase the business value of the project. Therefore these facilities can be implemented.

3.6 Sixth Step (Documentation of the requirement)

In sixth step, a new requirement document will be generated regarding accommodation and transport facility and then it is forwarded to all the stakeholders. If these facilities are not accepted by the evaluation team, than we still need to document the requirement with reason of disapproval and then it is forwarded to its owner.

3.7 Seventh Step (Adjusting different activities)

In seventh step, we adjust different activities. In this project the different activities that will take place will be, linking of accommodation module and payment module, linking of transport module and payment module and must get a merchant account with a bank and use it with a payment gateway for online payment facility.

3.8 Eighth Step (Acceptance testing)

In eighth step when implementation and integration of accommodation and transport module is completed than the

new project will be released for acceptance testing. And if accepted than the master copy will be replaced by the new one.

4. FUTURE WORK

A requirement management tool can be developed which will automate the CMP and will manage the changing requirements very well.

5. ACKNOWLEDGEMENTS

I thank our faculty members and friends from the bottom of my heart for their time and contribution.

6. REFERENCES

- [1] Perumal, A. S. and Kavitha, G. 2011. Changing Requirements – Correlated to Risk or Quality? IACSIT International Journal of Engineering and Technology, Vol.3, No.1.
- [2] Rikhari, P. and Bagchi, A. 2012. Managing Changing Requirements. International Journal of Scientific and Research Publications, Volume 2, Issue 7.