

COMPARISON OF XP AND SCRUM PROJECT MANAGEMENT TOOLS

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Abstract—A Software project varies in size depending upon the need. One of the aspect is to manage these projects i.e. Project Management. Various software's /tools are available for managing the projects. This paper focuses on the comparison between tools for managing the projects based on Agile methodologies namely Scrum and XP(Extreme Programming).

Keywords— Software Project Management, Management tools, Scrum, XP.

I. INTRODUCTION

Project management is the order of preparing, organizing, encouraging, and controlling resources to attain particular goal..The main difficulty of project management is to complete all goals of project while keeping in mind the preset constraints such as scope, time, quality. Software project management is a sub-discipline of project management in which software projects are planned, implemented, monitored and controlled. Various methodologies are available to develop software out of which agile methodologies are widely used today. Various project management tools for these methodologies are available in markets which are adopted by different companies according to their need.

II. AGILE METHODOLOGIES

Heavyweight methodologies and Lightweight methodologies are basically two categories under which software is being developed. Lightweight methodologies are also known as agile methodologies which allow programmers to build software more quickly and efficiently, with high response to changes in business requirements. It focuses on development based on short life cycles and emphasis highly on customer satisfaction by delivering functional software continuously. Various agile methodologies are FDD(Feature Driven Development), Scrum, XP(Extreme Planning),DSDM(Dynamic System Development Method)[3]

A. Scrum

The Scrum is one of the agile methodology which follows empirical approach that introduces ideas of flexibility, adaptability and productivity. It focuses on how team members should work in changing environment. As during the

development of the software various factors such as requirements, resources, and technology changes leading to unpredictable development process. So the main idea of scrum was requiring the flexibility of development process so that it can respond to changes.

PROCESS:

Process of Scrum involves three phases:

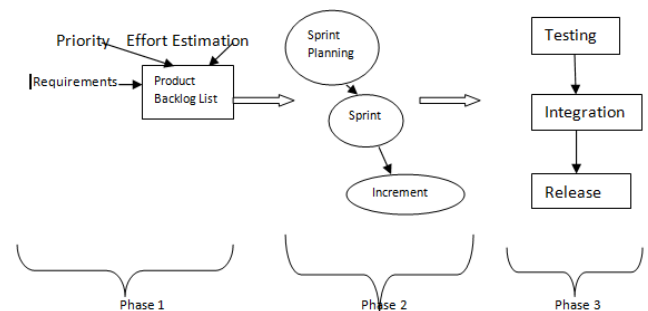


Figure1

1) Phase 1:

In this phase all the currently known requirements are gathered and put in a list known as Product Backlog List. Requirements are prioritized and their implementation effort is also estimated. List is updated with new requirements constantly. In this

phase various other factors such as project team, tools and other resources are also included. High level design of the system is planned.

2) Phase2:

System is developed in Sprints. Sprint means development of any functionality. Development of the sprint is done iteratively.

3) Phase3:

In this phase the system is ready to be released and agreement has been made on certain factors such as requirements are completed. Tasks such as system integration, testing and documentation are done.

Various tools are available for the projects based on Scrum. such as ScrumDesk, Banana Scrum, Agilo for Trac, Acunote, BrixHQ, IceScrum.

COMPARISON BETWEEN SCRUM TOOLS

Features	Scrum Based Project Management Tools			
	Banana Scrum	Acunote	BrixHQ	IceScrum
Type	Web based tool	Online tool	Flexible, a daptable agile project managem ent	First web based tool
Team communi cation	Work items	user item	Working items	Dashboard
Wiki System	X	✓	X	X
Progress	Burndown chart Burnup chart	Burndown chart	Gant Chart, The Wall, Reports, Velocity, Team member	Burndown chart Velocity chart, Parking lot
Teams	Small	Small	Small	Small teams Team work on each sprint at one time
Product/ Project Backlog	✓	✓	×	✓
Manage ment	User, Project	Requirement, Bug tracking, Product	Project Portfolio, Requirement, Task, Workflow	Visual, Product backlog, Impediments
Handle multiple projects	✓	✓	✓	✓
Ability to manage roles	Admin can manage roles	Admin can manage roles	No possibility to manage roles	Manage Roles and rights with flexibility

TABLE I

1) **System Requirements:**

a) Banana Scrum can be used if you have-

Client Side should one of:

Firefox Version 3.5/3.6

IE 7 or IE 8

Opera at least version 9

Goggle Chrome 4

Server Side:

Operating System-: Any UNIX or Window Based System

Java Application Server

MySQL database Version 5.0 or later.

b) Acunote can be used if you have one of the web browser:

Mozilla Firefox 1.0+

IE 6+

Opera 9.5

Safari 3.1+

Konqueror 4.2+

Chrome 1+

c) BrixHQ can be used if you have a web browser.

d) IceScrum can be used if you have one of the web browser:

Chrome

Firefox

IE9 and greater

2) **When to Use:**

Banana Scrum:

In case of geographically dispersed team and work in client vendor type environment.

To have historical information about projects and sprints.

Acunote:

To see status of company's effort in single place.

BrixHQ:

Provide unique tool for project tracking.

IceScrum:

If the requirement is to handle small projects but with one team working on each sprint at one time.

3) **Special Feature:**

Banana Scrum:

Successfully used for work distribution and assignments.

Acunote:

Fast and easy to use showing actual progress and ability to integrate with existing tools such as JIRA.

BrixHQ:

Ease of use

Sharing Documents

IceScrum:

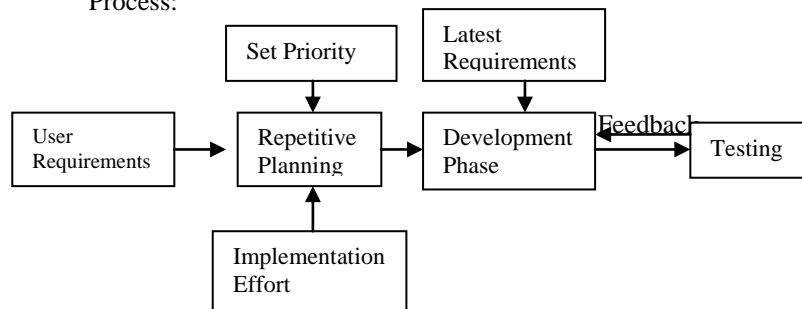
Planning Poker Feature.

Applicability of tool according to requirement:

B. XP(Extreme Programming)

XP was developed by Kent Bent with his colleagues to overcome problems faced in traditional methodologies. It is a lightweight methodology. It stresses on customer satisfaction so it requires utmost interaction of customer to build up the software. Changes can be made at any phase during the development according to the requirement of the customer.

Process:



XP Process

First step is to collect user requirements. Whole development process is carried out into small cycles. Next phase is Planning. In this phase requirements gathered in previous phase are prioritized, number of cycles and effort to implement are decided. Changes can be done according to the upcoming user requirement during development. Next phase is testing. Software so far developed is tested and bugs are removed and feedback is taken to know how much the work is being done.

Various tools are available for the projects based on XP such as eXplainPMT, XP Web.

Comparison Between Extreme Programming Management Tools

Features	eXplaintPMT	XP Web
Introduction	Web based application built using Ruby on Rails Framework	Web Based open project management tool
Supports Multiple Projects	✓	✓
Operating System	Independent	Windows/Unix/Mac
Support Releases	×	×
Documentation	Almost Non Existent	Basic Documentation
Supports Small Team	✓	✓
Export	Excel	XML

Table 2

Applicability of tool according to requirement:

1) System Requirements:

- a) eXplaintPMT can be used if you have :
 - Ruby 1.8.2 or better
 - MySql/postgresql/sqlite
 - Ruby drivers or database which you choose.
 - Redcloth version 3.0.4 higher

- b) XPWeb can be used if you have :
 - PHP version 5 or more
 - mysql, access, or postgresql database.

2) When to Use:

XPWeb is good choice if you have a php environment.

eXplainPMT can be used when you don't want to specify special rights to anyone i.e. all the users are same which is not in case of XPWeb.

3) Special Feature:

XPWeb is easy to install and use and integrates with wiki and CVS.

eXplainPMT provide burndown chart to know that you are on target.

Conclusion:

Project management is important to ensure that development of project or software is being carried out according to the target. To ensure this project management tools were introduced and these tools can be chosen according to the methodologies adopted by the companies or organization. In this paper we have compared project management tools based on two agile methodologies Scrum and Extreme Programming. We conclude that based upon the various features shown, a company can choose one of the tool according to the requirements that are met by the tool. Further work can be done accordingly with other tools based upon other agile methodologies such FDD(Feature Driven Development) and the tools used for combination of agile methodologies such as XP and Scrum.

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