

THE USE OF WEB-BASED APPLICATION SYSTEM REDMINE SETTING IN PROJECT MANAGEMENT

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ABSTRACT

A company in developing the software needs to facilitate a project management in overseeing the conversion of software online. Bug tracking system can accelerate the course of major projects being developed by the company so that it can see the changes made. Redmine is a software web-based project management application built using the open source Ruby on Rails framework which has flexibility to track the bug so it can support the project management company.

Web-based project management has a special reliability challenges in following the inspiration of all members of the project with the objectivity of the project that can be used as role models and lead from many educational background in a team. It can create the will and read in a sustainable democratic cooperation and motivate that IT can be used to resolve conflicts which may occur. Web-based project management at its core is not only a leading member of a team, but also train them in the world of communication and social competition then motivate them to participate in further education.

Keywords:

Project management, Redmine, Web-based Project Management Application, Scrum, Agile Development

1. Introduction

Development of software systems is not an easy thing, there are a lot of challenges and constraints in expanding it. Today the development of software systems required for agile (Agile) that demands strategy, application release, the velocity (iteration), daily and sustained (continuous).

These demands can be overcome by using project management applications that can manage application development projects, currently being developed by a lot of software companies, either desktop or web-based applications.

One alternative that can be used is the Redmine project management application (<http://www.redmine.org>), which provides features: the use of many projects, role based access control, search systems issues (issue), the bar graph and calendar, news and documents and file management, notification via email and xml feeds, per project wiki, forums per proyek, tracking time, adding fields, integration with Subversion repository, CVS, etc.), LDAP, multiple databases and users can register.

2. Issues

Many companies do not understand the importance of project management in the development of software application systems in a structured, so that at the time of project implementation challenge in sorting events or history, difficulty in knowing who the personnel who have been involved in the project, it is difficult to do documentation, as well as difficult to analyze projects that have not been, is or has been running.

3. Application Development Method

There are many Agile Development Methods that can be used to develop application systems which demand on fast, reliable, continuing plan and teamwork between developer and user. Those methods are:

3.1 XP Project

The first Extreme Programming project was started March 6, 1996. Extreme Programming is one of several popular Agile Processes. It has already been proven to be very successful at many companies of all different sizes and industries worldwide.

Extreme Programming is successful because it stresses customer satisfaction. Instead of delivering everything you could possibly want on some date far in the future this process delivers the software you need as you need it. Extreme Programming empowers your developers to confidently respond to changing customer requirements, even late in the life cycle.

Extreme Programming emphasizes teamwork. Managers, customers, and developers are all equal partners in a collaborative team. Extreme Programming implements a simple, yet effective environment enabling teams to become highly productive. The team self-organizes around the problem to solve it as efficiently as possible.

Extreme Programming improves a software project in five essential ways; communication, simplicity, feedback, respect, and courage. Extreme Programmers constantly communicate with their customers and fellow programmers. They keep their design simple and clean. They get feedback by testing their software starting on day one. They deliver the system to the customers as early as possible and implement changes as suggested. Every small success deepens their respect for the unique contributions of each and every team member. With this foundation Extreme Programmers are able to courageously respond to changing requirements and technology. [www.extremeprogramming.org, 04 sept 2010 11:34PM]

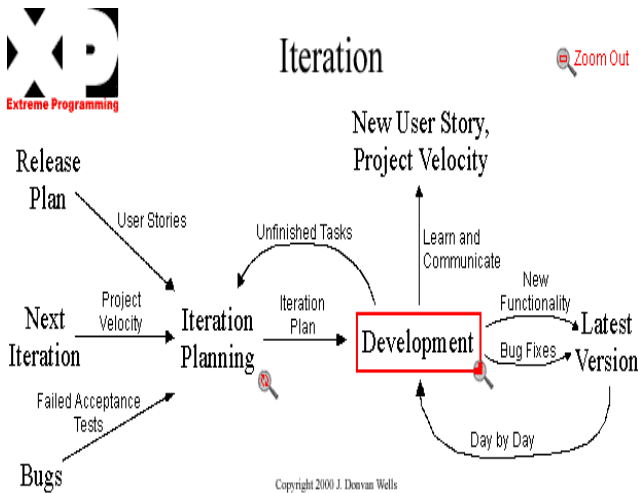


Figure 1 Iteration of XP Project

3.2 SCRUM development Multiple Application Development

The use of Scrum Method like other XP software development, if the development of another related application comes along at a later point in time, then this is prepared by putting jointly used components aside. A Shared Resource team is created to support and enhance components satisfying the requirements of multiple application

teams. The leaders of the teams, known as “Scrum masters”, meet regularly (at least once a week). These meetings are called “scrum of scrums”.

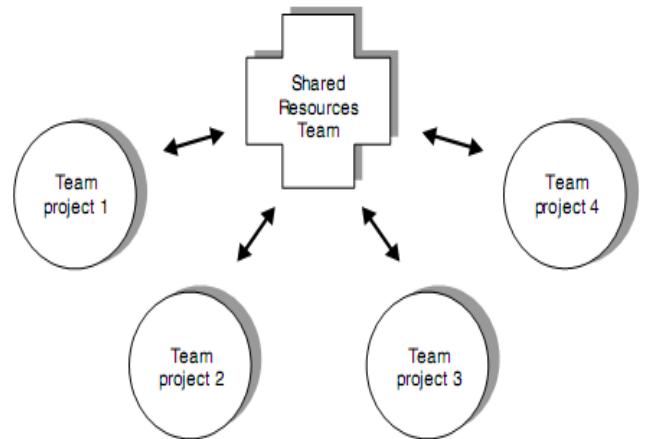


Figure 2 Component Shared Resources Team

Although Scrum was intended for management of software development projects, it can be used to run software maintenance teams, or as a general project/program management approach.

4. Project Management

Project management information system focused on three factors: people, problems and processes. In the human factors of information systems work is very instrumental in the success of project management. The importance of human factors is expressed in human management capability maturity model (a people management capability maturity model / PM-CMM), which serves to increase the readiness of the software organizations in resolving the problem by doing activities receiving, selecting, performance management, training, compensation, career development, organization and work design and development team.

A project is an innovative and complex under staking with conditions, Standard and Poor 'costs, dead line, resources, and quality. A company's performance process has to be coordinated by (project) management so That the general conditions / restrictions can be maintained. More specifically "The management has to Specify the Objectives and strategies for the company and operationalize them in plans, monitor the achievements of the Objectives, develop adequate corporate and organization for implementation of the Objectives, and plans, leads, and Motivate the staff, the corporate control the process of, and take decisions. This means, that Can management be defined as an activity That deals with shaping the actions of other people "(Gernet and Ahrend 2001).

Challenges in implementation of project management are :

- Inspire all project members with the project objectives.
- Be capable of leading a multidisciplinary team.
- Create the willingness and readiness for (democratic) cooperation.
- Constantly motivate the team and solve conflict.

5. Application Project Management

According to Gernet and Ahrend 2001, the results in the following task for software project management software :

- Leadership : Organize, control, lead staff, inform
- Development : Set, Plan, and define objectives.
- Monitoring : check and control.

Software project management software supports an engineering approach of software development in that it extends the technical product development cycle (planning – implementing – checking) to economic and social tasks, like managing, developing, and monitoring (Web Engineering The Discipline of Symantic Development of Web Applications, edition Jul 2006, page 171 -172)

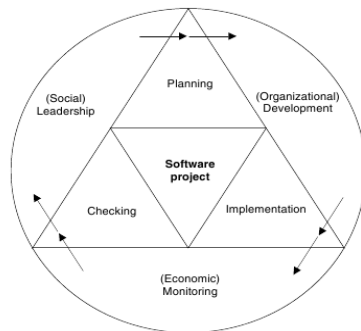


Figure 3 Project Management Objective : an engineering approach to software development

In order to support performance of software development using Agile Method, it needs a project management application which reliable with XP requirements or Scrum as follows:

1. Iteration plan (Task or Sprint or issue)
2. Backlog
3. Can be access anywhere
4. role levels
5. Developers can communicate with each other included user application
6. Project management can interact with program repository

7. Users can be different by user privileges
8. Developer may have more than one user privileges on different project.

6. Redmine

Redmine is a web-based project management application which flexible, written using Ruby on Rails framework and it can be used in multiple platforms and databases. Is an open source application and is launched by the GNU General Public License v2 (GPL), in its operation Redmine has many facilities to support project management, such as : support for multi projects, so it can manage all ongoing projects, flexibility in the basic rules of access control, flexible in tracing task of the system, it also display the Gantt Chart and project work calendar, news, documentation and file management, page and notification email, the wiki that is used to manage project documentation, forums, investigating time, changes to the task space, time input, projects and users, it can integrate and view the contents of the SVN repository, CVS, Git, Mercurial, Bazaar and Darcs. Making the task can be via email, supports user to register online, multilingual support, and also support databases with multiple versions. To be able to view the source code that has been made and also the changes which have been performed using version control browser.

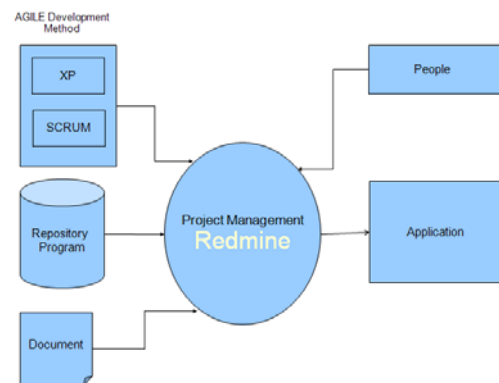


Figure 4 Project Management Redmine

Figure 4 illustrates redmine project management in its use to be supported by various elements such as methods that use agile development methods, the People consisting of people who are related, such as developers, clients and leadership. Developing applications using Project management should also be equipped with the svn repository program and documents are managed so that created applications developed as the output.

In use can evaluate the new features which have been added previously, it is set so that users can create their own projects, meaning that if it is ever to register so you can create and run the

project administration features. Categories used for the task.

1. Project documents that the project documentation such as schedules, progress reports and so forth.
2. Functional Specification is the specification that the application wants to make, often also called document analysis.
3. Technical Specification is the specification of how to make it, also called a design document.
4. User Documentation of all issues related to the user manual documents.
5. Business layer of business logic from application components.
6. User Interface Layer is an application view component,
7. Data Access layer of application components that interact with the database.

By tracking the project done, given time used to resolve these issues. All activities can be displayed with a form of gantt chart, calendar or timeline form, so the goal in managing the project company to be better planned and in accordance with a predetermined period of time. Redmine built and developed by a community who volunteered to develop software that can adjust manajemen needs in an enterprise project.

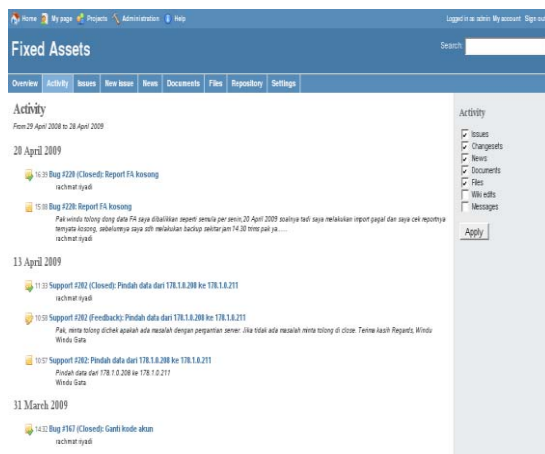


Figure 5 Activity

In figure 5, visible activity carried out at any time all additional activities and changes that occur are recorded in a daily view so that the necessary checks can be done to maximize the regular project management and well-documented.

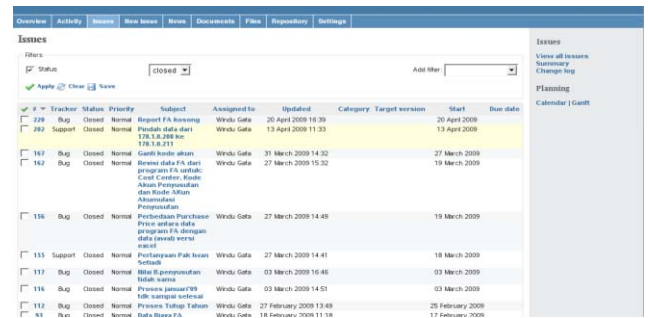


Figure 6 Issues

Any project that included the issue called, can be created by the user by listing it will show all ongoing project activities, as shown in figure 6.



Figure 7 Bug

The project undertaken will be many changes and additions once that happen, then made an activity of communication via forums and email about a bug is found and changes made as shown in Figure 7, so coordination between project leaders with team members having a smooth communication.

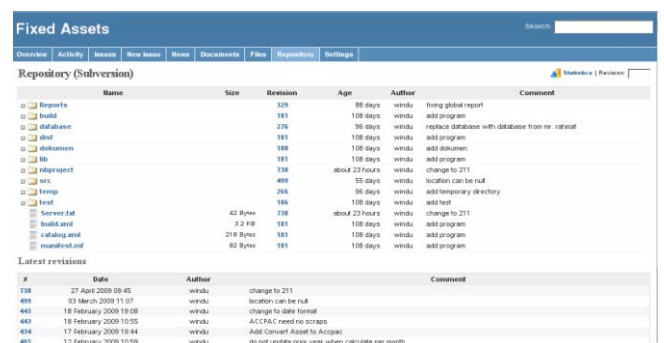


Figure 8 Repository

With the ease of use Redmine that can access files from the subversion repository so it looks like an activity carried out in more detail, as shown in Figure 8.

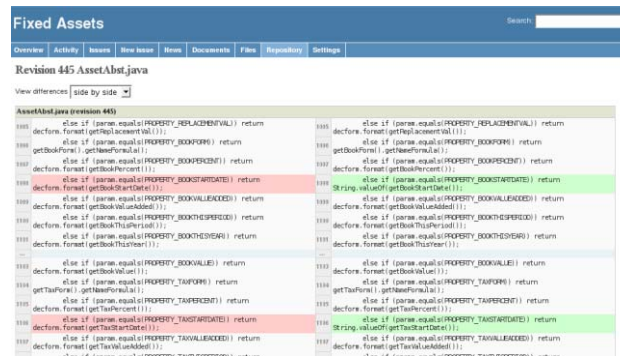


Figure 9 Revision

Changes made or the addition of a program can be viewed as Figure 9 Listing the program can be listed parallel between the old program listing with the listing of new programs that can be tracked all the changes and facilitate the tracking.

collaboration features that can facilitate teamwork, all project activities are well documented, can interactions among developers and users that facilitate communications, has a per-project forum, can be integrated with other project management software and a more mainstream is to be open source or free.

CONCLUSION

Development of application system needs solid teamwork that supports each other. That cooperation of teamwork can be build using project management which Redmine is a reliable application system. Because it supports all the needs of project management with all Agile development method such as XP and Scrum.

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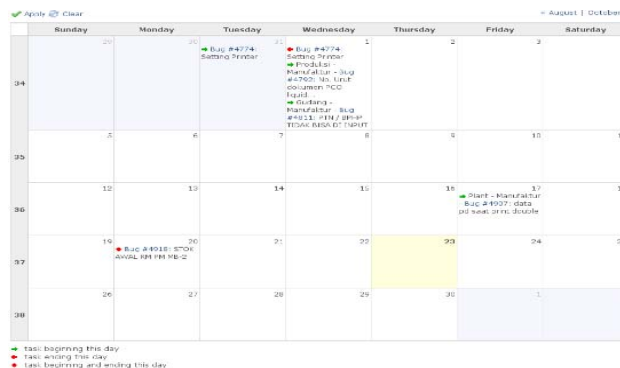


Figure 10 Calender

In making project management requires an appropriate scheduling (fig.10) so as to achieve a predetermined target project so that all work can be done in an integrated and timely manner.

6.1 STRENGTHS OF REDMINE

The advantages of Redmine as web-based project management application are: in its use is relatively easy, have a nice view, a very nice

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