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Open Source Project Management Tools in local Government: A case of ProjectPier

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Abstract: Open Source has empowered organizations to utilize the strengths provided by these free community software and customize it according to ones needs. Project handling and Management has been a critical part in all organizations success. There is always a need for better and easy to understand project tracking. Vendor based project management applications has a lot of limitations and usually are more complex to operate. The paper will explore project management and use of project management tools, how they are essential in local government organizations? and will emphasis on ProjectPier's capabilities as successful candidate for implementation in Local Government. The section preceding it will analyze the Arabic localization and transformation of ProjectPier to the specific cultural needs.

Keywords: Open Source Project Management, ProjectPier, Project management in government.

1. INTRODUCTION

Open Source philosophy is changing the way organizations think about their development methodologies and the way they invest in the development or off the shelf application procurement processes (ProjectPier, 2013). Open source software can be viewed and defined as software distributed under a licensing agreement, which allows the source code to be shared, viewed and modified by anyone. There is a general misconception about the open source terminology and it doesn't stick to the availability and accessibility of the code. There are some regulations, which should be followed for the redistribution of the source code to be open source software. These regulations are briefly discussed on the Open Source Initiative Official Website (OS Initiative, 2013). The decision to go open source in corporate organizations is a very tough call. The managers and decision makers often come on the cross roads of Buy or Built. At this stage many issues must be kept in consideration like cost, service and support, security and in-house technology capabilities. If the organization have sufficient technological expertise and capabilities to modify and enhance the open source software, then it's better to go with it to reduce cost and time. Provided that the issues in security and service and support related are addressed by the strong technological and application development competency.

The open source will prevail in small and medium organizations with low budget for application development and procurement provided that they have the ability of customization and maintaining the software according to their needs and securely. Local Governments are the potential candidates for adopting open source philosophy. This paper is organized as follows: next section will discuss project management needs and its tools; next use of project management in local government will be discussed; latter project management tools consideration will be explored; next ProjectPier will be evaluated along with its features; finally future work and recommendations will be discussed.

2. MATERIAL AND METHODS

Project Management: Needs And Tools

In every organization small or large, projects are carried out on regular basis to align with the business model and achieve strategic goals. It is true that the trick to make a project success comes from years of experience, but using orthodox informal ways of managing projects my lead to disaster and higher chances of project failures are there. Therefore, organizations are moving to formal methodologies of project management to ensure and secure the success of the project by reducing risks, cutting costs.

To achieve great results and use formal project management methodology software applications are used. They help an individual or a team of people to track a project from its pre-initiation till its execution phase and all the way till the completion (PMS, 2013). It usually provides a centralized location and view for the project information including the cost management, resource scheduling, task(s) assignment, monitoring, proper documentation, project progress and sharing and contributing in collaboration.

These applications are built with one and only purpose to maximize the efficiency of the project

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manager and team by making the whole project life cycle accountable and transparent (PMS, 2013). The project members are provided with their own views on the project through the software and have respective permission based on the nature of involvement in the project. Another most important aspect and aim of project management tools are to keep the project on track and to ensure that each member do its job as per assigned deadline.

Project Management In Local Government

Since humans started to build large projects for the concern of public and society, they felt the urge to find ways and means to manage them properly (Spittler, and McCracken, 1996). Like all other organizations local government and all public sector organizations focuses on the management of their projects with simplicity, ease and lowering the cost of managing them. The public sector requires that its projects be managed with simplicity and with minimum possible costs. As the government processes have the tendency to be slower than the private sector, thus the project management needed to be of lower cost to leverage the burden on budget (Atif 2010). In government organization the working environment is not tough as it is seen in private organizations and for that reason the applications used for project management shouldn't be too much complex and rigid that the users even deny the use of it by creating hurdles in it.

Project management tools Considerations

In order to procure or acquire a project management tool, it all depends upon the requirement of the organization. Project management tools come in self hosted packages, shared hosting, and even on cloud. The self-hosted tools reside within the organization and are fully owned by them. It allows team members to access centrally. This results in easy collaboration. The Open Source enables to customize and stylize interfaces and translate it to their local languages. The vendor based tools are usually high on cost and the customization functionalities are restricted to the features provided by the vendor. While there are numerous Open Source tools and applications available like Collabtive (Collabtive, 2013), GanttProject (GanttProject, 2013), (ProjectOpen, 2013) and are very much used by the open source community, but the complexity and details of these tools are too much for a user having no extensive background of formal project management. Authorse therefore, chose ProjectPierfor the evaluation purpose of implementation of open-source project management applications in local Government organizations.

Projectpier – A PM Tool

"ProjectPier is an open source community aimed at developing simple, powerful and intuitive software for Web-based project management and group collaboration" (ProjectPier, 2013). It provides an agile and flexible system for managing projects involving multiple entities having all project activities and information on a central location.

It is a cross-platform, Web application written in PHP, and supports MySQL database on the backend. ProjectPier is freely available and licensed under the GNU Affero General Public License (AGPL) (GNU, 2013). One can use and customize the software as long as the distribution is under the same license. ProjectPier was selected due to the following reasons (ProjectPier, 2013):

- Ease in Usage
- Installation and administration is easy
- It is Open Source, the source code is freely available and can be customized according to one's needs. The database on the backhand is MySQL and PHP is the language used to develop it.
- Web based and is available for self-hosting
- No limitations on projects and users, and even stakeholders organizations can also be created.
- Notifications of each project task through emails.
- It has a broad community to contribute to and take help from it.

ProjectPier is available in many languages, but there was no language package available for the large group of Arabic users. Authors localized the ProjectPier to enable Arabic Language so that an Arabic user should be more comfortable in using the application and should utilize the features of a free and easy collaboration and project management tool. Figure 1 to 6 shows how user in Arabic Language use software and feel comfortable.



Figure 1: ProjectPier Login Screen



Figure 2: ProjectPier Project View

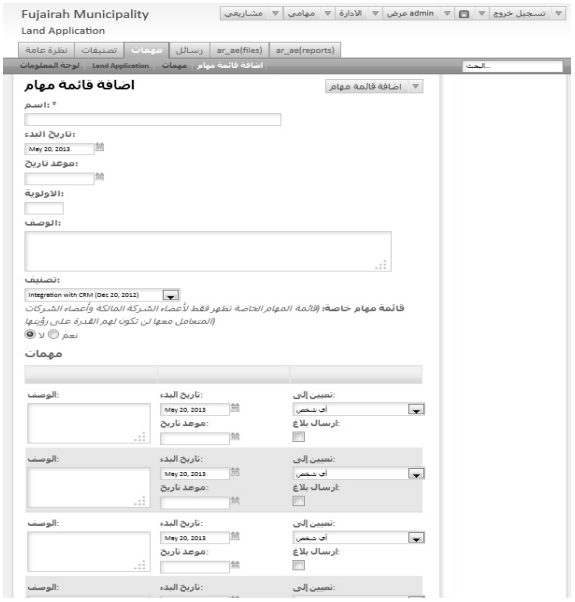


Figure 3: ProjectPier Add TaskList Form

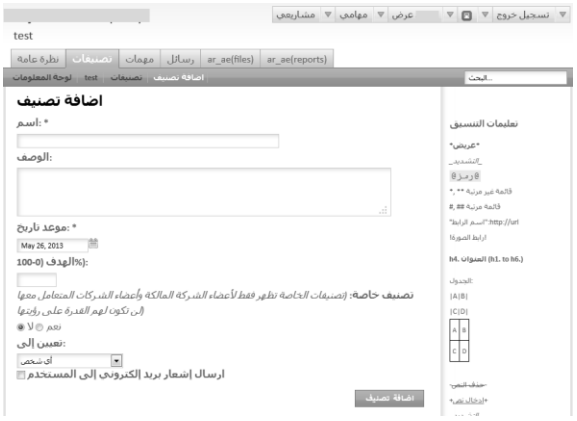


Figure 4: Add Milestone Screen



Figure 5: Add Project View



Figure 6: Administration View

Features of projectpier

ProjectPier has a lot of features and there are various plugins, which enhances the functionality of the application. Being an open source tool, one can make its own plugins to meet their requirements. Being an easy to use application ProjectPier is having project management concepts taken from real life practical projects in a very simple and understandable way. The whole project life cycle can be completed by utilizing the following concepts (ProjectPier, 2013):

Project: The central part of project management as in any application, a user can work on more than one project and even stakeholder companies can collaborate on the project based on their permissions set by the administrator.

Tasks and Task List: This is the basic unit of work for a project. Tasks are listed in a Task List, where each task can be assigned to a certain user or a client company and should be finished within specified time. One can make the task private so as it should be hidden from the client company and only the owner company will see it.

Messages: ProjectPier doesn't support communication forum for project communication and the need is

fulfilled by messages. Which can be sent via an email to users, and can be associated to certain milestones with files attached?

Milestones: in ProjectPier a milestone state that when something is due. Tasks and task lists are added to the milestone to make it recognizable major portions of work.

Forms: This is a very unique feature in a project management solution. It is usually a single field and adds its content to messages and task lists. Whenever feedback regarding a project activity is required these can come very useful and can also be used for bug tracking.

File Management: ProjectPier provides a basic document management system with versioning control, and is very helpful while there is any need of attaching documents to a project.

3. CONCLUSION

At the Buy or Built stage, if the organization go for built (in-house development) then to reduce development time and cost, open source applications can be used to be customized and deployed in local government organizations. The question that either to use open-source in government or not depends upon the availability of technical expertise within the organization and the trust level and security concern, which they have to put in these tools. ProjectPier was first initiative to implement open-source in a local government environment here in UAE. The plan is to make use of all the standard open-source applications and maximize the efficiency and enhance the working environment of local governments.

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