Flow Research SXP Agile Methodology for FOSS Projects

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Abstract. This paper aims to explain a procedure that takes into account the different research processes carried out in developing an open-source, allowing control and management. This study is the SXP methodology applied in this type of project was carried out, allowing the validity of the basis of this research.

Keywords: methodology SXP, open-source, production, research, software.

1 Introduction

University of Informatics Sciences (UCI) has six faculties and several development centers which in turn are composed of productive projects. Each center specializes in a different line of development, and of them the Free Software Center (CESOL) is dedicated to the creation of the Cuban operating system (Department of Operating Systems (OS)) and migration processes lead to open source applications, from a model of integration of training, research and postgraduate (Department of Comprehensive Immigration Services, Counseling and Support (SIMAYS)).The process of migrating to open source companies is one of the most important services in addition to counseling, consulting, training and support offered, and to expedite the work of specialists have developed applications that automate many of the processes governing the service provided, raising the quality and quick response customer service. For those products SXP agile methodology created to develop projects with more speed and quality expected by the end user applies.

The great need for each project was implemented in less than one year, with frequent deliveries, with teams of no fewer than 10 members, where self-management and the ability of each of the members of the development team were some of the reasons why this methodology is used during the life cycle of these projects.

Although its application has fulfilled its main objective, did not include artifacts, and activities that define the research process that occurs when developing software, thus resulting in the need to integrate him a workflow process to collect research in the various projects, defining artifacts, activities and roles in order to obtain higher quality products, competitive, and I could control and disseminate knowledge that occurs during software development.

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2 Development

When starting a project already has how to carry out the development process, although at the beginning an entire previous research, which identifies the object of study, the current domestic and international situation is realized, which is framed in the first phase of any project; and it is the same theory that is followed in SXP.

2.1 Development Methodology SXP

SXP is a Cuban hybrid agile [1], which is premised on avoiding duplication of efforts and customer integration into the development team which ensures no need for extensive documentation, and thus is well recorded which will be used in a future re-use. Behold the good practices of the agile methodologies XP and SCRUM, besides the quality guidelines defined by Calisoft, which is the entity responsible for monitoring the status of each of the projects that are developed in the centers of development of the UCI and model CMMi quality. It is divided into four phases which form the basis of the structure of your project file, these are: Planning, Definition, Development, Delivery and Maintenance. Each of these phases is made up of a number of activities which are generating artifacts documenting the process and guide the development of the products.

2.2 ¿Where the Investigative Work Reflected SXP?

In the Planning-Definition phase is where the vision is established, the expectations are set and securing project financing is done. However not considered a research-oriented approach, because it is not spoken any time of writing the research project or research tasks that are thought to develop as a result of the production process, although this element should lead to torque software development process. When starting the development cycle, where the implementation of the product is made, also carried hand research, which can be very intense according to the different technical aspects to be analyzed in order to define the most sensible when developing. A final product is obtained nothing but the study documented, being within the knowledge of the researcher. Sometimes it happens that other projects need this information when developing, and not have them accessible, they should start their research from scratch, which impacts the product development time. So we can conclude that given the number of projects being developed, despite being guided by the methodology SXP lose the opportunity to document the wealth of research that systematically develop them. Which is knowledge that is generated and that in turn runs the risk of being lost with time, showing scientific activity affected by this situation. As it became necessary to develop a research stream with the inquiry process that takes place during the production of the software, allowing it to monitor and disseminate the knowledge produced.

2.3 Flow Research with Artifacts and SXP Role for Methodology

The methodology has a workflow that contains a number of artifacts that enables the control and management of research. This research stream will not be located in a specific phase, because its location will be chosen by the working group for each of the projects. Although it is recommended that some of the artifacts begin construction in early stage (Planning - Definition). Below are by each of the evidence gathering activity that takes place in the workflow:

Artifact Research Development Plan (IDP) is a document that reflected the initial da-planning to develop investigative activities, and should be done by the Research Manager, taking into account the characteristics defined for this role.

Artifact State of the Art, is a deliverable that will be developed after a preliminary investigation, so it is proposed that has its beginnings in the planning phase - definition, which does not mean they can not come changes in the remaining phases. This device may involve different roles of the development team in its preparation should not only be developed by the Research Manager.

Artifact Research Report suggests that develops in the development stage and that's where you are getting the results of investigations carried out. This device may involve different roles of the development team in its preparation should not only be developed by the Research Manager.

Role: Research Manager

- Person responsible to manage all the research tasks that develop.
- It is responsible for planning the development of research, verify compliance and quality of them.
- It is responsible for the preparation of PDI.
- It need not have computer skills, but if some domain of Research Methodology.

2.4 Valoración de la Propuesta

This method is novel because there is no documentation on the pervasive culture of research conducted during the development of software.

Although some productive research projects managed without defining roles artifacts or take responsibility for the control and dissemination of the same. It must be emphasized that this research stream can be implemented not only by the SXP methodology, but may be included in any other software methodologies analyzed in this research considering the stage of development that is more convenient when incorporate it. The artifacts can be applied to any research task running on a productive project because it meets the adjustable parameters to their characteristics. With the implementation of this proposal fails to meet four key fundamentals: First, the problem of the organization of research in productive projects is solved, and second, the basis for publication are encouraged, in addition to the socialization of knowledge produced in software development, third, a favorable economic impact is

obtained in projects, reusing the basis of research to accelerate the development of future products and finally, the training of human resources for software production is favored.

3 Conclusions

In general we can draw the following conclusions:

Insertion flow enables research documenting the research tasks in the production of FOSS projects, it includes new artifacts and roles to software development methodology analyzed (SXP).

The knowledge gained in studies for re- use in new developments is guaranteed, and that serve as a basis for specialists who are interested in such projects.

Controls the research tasks in productive projects, raising the engagement of specialists to exchange knowledge and scientific-technical work.

It encourages collaborative work between developers and members of development teams, because centralizing research in a repository can be accessed

PDI, State of the Art and Research Report: Quality control and documentation of the investigative work done, with the inclusion of artifacts is guaranteed.

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