



Ajak Model: Quality Enhancing of Oss for End-User Perspective

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ABSTRACT

Today's OSS success depends on critical factors i.e. end-users and quality enhancements for providing services and support, growth of OSS depends on critical factors need exposure by examining vital quality attributes and its related base measures which may resolve issues of end-users support and enhance product service and support. AJAK model aims for quality enhancement for end-user absorbability and learnability factor of OSS which ultimately provides usability and satisfaction to end-users perspective.

KEYWORDS : OSS, OSSD, AJAK, OSI, OSSD, GPL, ISO, FSF, Absorbability, Learnability

INTRODUCTION

Open Source Software has been developed as one of the most interests and pondered phenomena in the IT industry in recent years, mainly due to good qualitative software products seen from last decade. According to ISO standard there have been different quality attributes like accessibility, efficiency, effectiveness, adoptability, availability, usability, etc. Measuring these qualities attributes basically from three important aspects including developers, contributors, and users will let us know where exactly the improvement in software is needed.

Open Source Software's has been analyzed and assessed using a questionnaire to examine the impact of quality attributes on OSS usability. Accordingly, the main purpose of this research is to study essential quality attributes which helps to improve the support and services from the perspective of different participants.

In this research paper we consider following research questions from end-user perspective.

- How can we enhance the quality in open source software?
- How can we assess open source software quality with respect to various aspects of quality based on existing literature?
- Criteria for evaluating the open source software quality?

Absorbability and Learnability are the important quality attributes that has to be taken care of. The kind of people participating in the development of OSS products varies from highly technical people to non-computer professionals. Moreover OSS products usually focus on reliability, effectiveness and maintainability etc. Absorbability and Learnability is often ignored and there is a significant lack of research on Learnability in open source environment. However, different OSS development projects follow different methods to develop the product, it is quite necessary to assess how the Absorbability and Learnability is in an OSS environment. An assessment is made in this thesis to investigate the Absorbability and Learnability of different OSS products.

We want to propose the framework for AJAK Model. Specifically, the framework identifies various quality attributes based on proposed measures for the individual dimensions of end-users. The important steps of the research include:

- Problem Identification – I: Identification of the factors that contribute directly or indirectly to the quality assessment of OSS
- Problem Identification – II: Empirical investigation of the key factors from the perspective of end-users.

OSS is free software which is accessible to everyone. It provides right of distribution of licenses and which could be adopted as a framework for developing software. Hence, there are at least three major perspectives around which OSS could be defined. These perspectives or the influential factors are depicted in below figure 1.

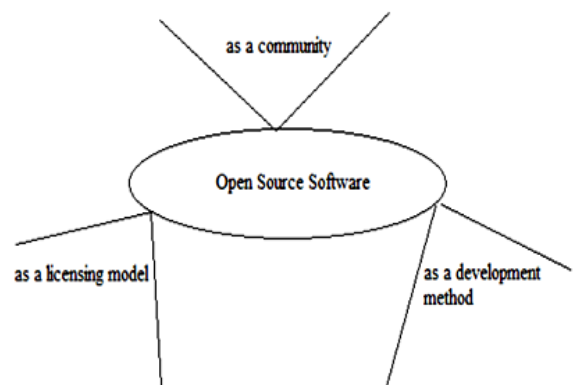


Fig. 1: Influential factors of OSS

AJAK MODEL

Major attributes that has been taken for study to know or to find out the prominent factors that end-user consider as important one for this we have suggested in AJAK model, which were lack in existing model. Important Attributes considered while building AJAK model are given below

- Serviceability
- Maintainability
- Absorbability
- Usability
- Learnability
- Upgradeability
- Security
- Reliability

Above considered attributes is contributing to quality enhancement from end-user perspective. For which we have done a survey among approx. 500 end-user (PG students, Lectures and some end-user from Industry) we found that some important are still lagging that may contribute to OSS usability i.e. *Absorbability and Learnability*.

Our AJAK Model helps to set the high standard quality for developing OSS by including sufficient knowledge about system.

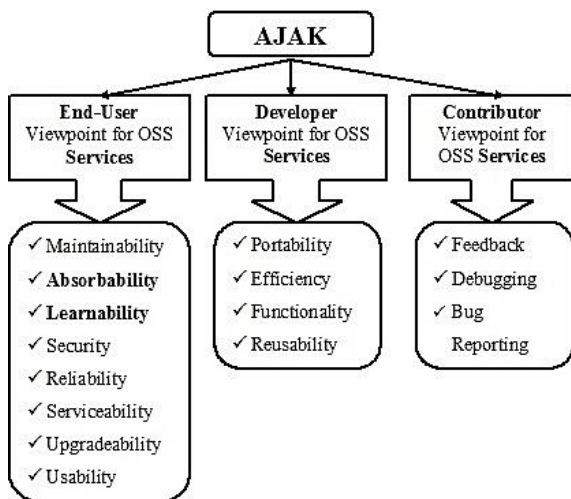


Fig. 2: Proposed AJAK Model for OSS.

From above figure we had suggested the AJAK model which is based on three important quality open source software development perspective i.e.

- End-user viewpoint for OSS services
- Developer viewpoint for OSS services and
- Contributor viewpoint for OSS services.

Upon which our study had focused only on the end-user viewpoint for OSS services the attributes. Existing quality models includes following factors that are Maintainability, Reliability, Usability, Testability, Portability but still there are two important factors which lacks in existing quality models which causes the failure and popularity among end-users and the factors which was the outcome of AJAK model proposed by us states that Absorbability & Learnability are the two most important factors which is to be considered while developing any OSS.

Absorbability: The reason for considering Absorbability because the software developed by OSS developers currently does not giving much importance of absorbability mechanism which should be one of the prominent factors while developing the OSS based applications for end-user through which end-user can easily absorb and adopt the OSS software automatically.

Learnability: The reason for considering Learnability because the software developed in OSS does not focused on learning mechanism which should be one of the prominent factor while developing the OSS based applications for end-user through which end-user can learn and adopt the software automatically.

CONCLUSIONS

Being able to evaluate the trustworthiness of OSS is fundamental for two very important purposes. On the one hand, a reliable evaluation of the trustworthiness of a product is extremely relevant to the end-users that have to decide whether to adopt the product or not. On the other hand, the knowledge comprised in an OSS trustworthiness model provides the developers of OSS with precious information about the qualities that they should guarantee.

In this research paper we have presented the fundamentals of the AJAK model after study and analysis of various existing quality models and though which we have generated the questionnaire list from end-user point of view to know the kind of quality attributes as they considered important or prominent that can improve the OSS. This model is different from the previous proposals models in that it is both conceived to cover the issues that are typical of open source software, and it supports a balanced and complete evaluation of the software, addressing not only the technical characteristics, but also the economic, customer and growth/evolution issues that are often neglected.

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