ANALYTICAL ANALYSIS OF OPEN SOURCE SOFTWARE USAGE IN INDIA

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Abstract
This paper reviews the recent activities of Open Source Software (OSS) adoptions by governments, education sectors, and businesses in India. It looks at their motivation and focuses on the selected developments of OSS. Typical applications will be discussed as well as consequences from using OSS.

Keywords: Open Source Software, Applications, Businesses, Operating System, India

1. Introduction

Synonymous concepts are also treated as Open Source Software (OSS), Free Software, Free Open Source Software (FOSS), and Free/Libre Open Source Software (FLOSS) [1]. However, we can clearly say that they are very unique when we look at their corresponding licensing terms. Usually, free software is licenced under the GNU General Public License (GPL), while OSS may use either the GPL or any other licence that requires software that may not be free to be integrated [2]. In order to distinguish between the two separate versions and maintain the specific sense of free software/FOSS/FLOSS, it is also more fitting to refer to FOSS or FLOSS rather of the more common word 'open source'. We would like to note that, if possible, we used terminology unique to either free software or OSS in this paper where such distinction is needed.

As most OSS is open to access and change without licence costs, many, including government, corporations, and non-profits, are desirable for use. It can be hard to determine or pick the correct OSS, though. The overwhelming range of accessible OSS programs is one of the specific difficulties of assessing OSS. On a free hosting platform like SourceForge.net, anybody can build an OSS project. This weak entry threshold suggests that many development designs for OSS are quite insensitive (3). Another problem is that there is very no evidence of OSS programs (4). It can be hard to calculate the product range of an OSS without detailed justification and user instructions that typically accompany professional applications.

The main benefits offered are the balance of the complexities of testing OSS software. The best benefit is that for research, the operating system is accessible, which is crucial in deciding if the programme is of good performance and is sustainable. Another benefit is that many OSS programs have public key sectors to their problem monitoring system, which may provide useful insight into how rapidly the project is growing, when bugs are detected and corrected, and how long it takes to solve problems.

It can be very difficult to pick the right OSS for a particular issue or a series of specifications. Any of the problems are due to the fact that there is no commonly agreed set of standards to be used in appraisal, and that many OSS programs are primarily designed to resolve a specific issue. The appraisal is also always carried out in an ad hoc fashion, using whatever parameters are applicable to the analysts. [5]. This style of methodology leads to assessments that are not formal or consistent within or within organizations and are not reproducible, which may slow down the progress of projects in turn. Another recognized concern is that,

where not everyone is interested in the appraisal methodology the measurement process also lacks an organizational framework [6].

In this paper, we suggest a systematic screening approach based on a series of parameters [7] for evaluating individual OSS using both functional and non-functional variables where any organization in an enterprise can be implicated. Several critical OSS is tested in order to validate this assessment model. Using the excellently Analytical Hierarchy Method (AHP), which is not commonly used or promoted by software developers/engineers, we provide an enhanced approach to the problem. Without the requirement for rigorous quality checking, the objective of this research is to allow the choice to make a smarter judgment to find an acceptable OSS solution using a structured and provable methodology.

2. OBJECTIVES

This paper focuses on desktop applications to look at the condition of OSS (Open Source Software) deployment in governments and enterprises today. It illustrates and compares both existing standards and experience from deployments over previous years. In addition, suggestions are being identified and addressed for possible changes. In order to analyze its presence and importance in the professional field the objects of study are government agencies, including public authorities and the education industry and businesses in India.

3. LITERATURE REVIEW

An Open Source Software (OSS) programme is a piece of software that any person can view, use and copy, with its source code available, providing that the associated licencing requirements are followed. You will find a more extensive and systematic description of OSS on the Open Source Project website [8]. Some have argued that the Open Source Initiative concept is not adequate and have instead invented a few further interpretations

The production phase in open source is radically unique from the conventional off-the-shelf commercial (COTS) model. Raymond's 'Cathedral and the Bazaar' metaphor is the most accepted model. Raymond likened traditional software engineering to a cathedral, a method of creation that was extremely formalized, well-defined and thoroughly pursued. In the other hand, as a bazaar style of growth where everybody is free to evolve in their own way and to pursue their own style, he described the OSS design process.

First presented in 1998, the word 'Open Source' (Open Source Initiative, 2000). The background of the UNIX working model and the programmer community, are part of the historical background of the revolution. A very major factor in this effort was also performed by the Free Software Foundation and the GNU program. . When corporations began to express value in it, open source became more famous. One the scenario of how Linux was used as a tool against Microsoft and other rivals is one such occurrence.

Since it seems to resolve the three key facets of software design, OSS has gained tremendous attention: cost, time-scale and consistency. The price is not a concern at all, as OSS is openly ready for free access. Given the collective design of its culture, where designers are internationally distributed, OSS has an edge of production speed. In relation to consistency, OSS still has a good reputation. Many OSS devices are recognized for their dependability and durability, such as Apache and Linux.

4. RESEARCH METHODOLOGY

In India, this research explores several cases of OSS use and distribution. The nation and their various government bodies and industries are limited in scale. In a complex fashion, data is obtained predominantly from numerous current OSS reports, polls, and Internet posts. The research is done in an analytical manner due to the existence of data gathering.

The focus will be on India. The key objective was to pick areas with OSS expertise that have various levels of growth, economies, sales and are based in various countries of the world on a scale based. Because of being so closely engaged with OSS and a fit symbol of the developing world, Germany was picked. Both Brazil and India are developing countries with strong

economies in comparison to Germany. They, too, have different OSS experiences. They, too, have various OSS encounters. They do, however, have variations in their business, overall wage levels, Gross Domestic Product per capita (GDP), and literacy levels on various continents [9].

5. RESULT AND DISCUSSION

It is impossible to quantify the use of OSS in a global or even regional way since it is not priced and installations alone do not adjust for the real use itself. Looking at two very common programs Firefox and Linux, which are identifiable to some extent, a significant gap is apparent in the number of users. Linux is also not very common, with figures ranging between about 0.65 percent to 3.7 percent market share, well behind Microsoft Windows with 87 percent to 91 percent share, while Firefox has become a big competitor for the commercial Internet Explorer [10] [11] [12].

Tamil Nadu, an union state in the south of India and a major supporter to the GDP of the region, is a popular evidence of OSS usage in the Indian government. The government of Tamil Nadu is using a modified model of Linux the software of Bharat, for administrative use instead of Windows. A unique characteristic stands out in comparison to well-known OSS programmes: instruments are in Indian languages, with applications entirely in Tamil and Hindi. In view of the fact that India has 22 legally recognised languages, with English known to just 10% of the population [13], the ability to use them with apps is very significant. OSS provides developers with the freedom to incorporate previously unknown languages, while offering not only a significant monetary relief, but also the power to form applications available to more people [14]. License fees have played a significant part in this step, owing to the fact that program charges as much as the hardware on which it runs on an ordinary machine.

Even so, Microsoft's impact in India is great. This is primarily focused on the ability and relevance of the country's IT industry. This justification further reflects the advancement of the use of computers and, in particular, the possibility of e-governance based on proprietary technologies. Some people assume that India is selling its tech expertise and opportunities for its high engagement and impact. The impact of tech companies on government policy makers has had various consequences, ranging from very corrupt activities used [15] [16]. Inside the nation, there are various OSS proponents, including President Dr. Kalam. The main frustrating part is that India still continues to trust in proprietary approaches President Kalam said. In India, for the good of our billion people, open source code software will have to come and stay in a major way [17]. There is no specific OSS support or choice, however.

5.1 Education sector

Around 2,800 schools in 2007 were fitted with a modified model of Linux via the IT@ School initiative, supported by the State Education Department. Consequently, for self-paced training, online testing, and many more technologies, many OSS resources have been developed. License expenditures, or more accurately, the TCO of the corporation, were a major argument in this attempt [18].

ELCOT, which switched 30,000 processors and another 2,000 servers operated by state schools to Linux in 2007, is another example, making it one of the biggest Linux migrations in India [19]. The Red Hat Institute has educated more than 15,000 students around India in order to provide ample staff available, offering young people both opportunity and education.

6. CONCLUSION

During recent decades, OSS has developed to maturity, providing valuable alternatives to traditional office applications. Because of different considerations, most frequently reduced prices, freedom from software suppliers, and the opportunity to make personalized changes, businesses and policymakers have preferred it over proprietary variants. More significantly, several results have shown that it was a fruitful and very fruitful step towards OSS. This is no doubt limited to databases and supercomputers but extends to desktop software used by daily computer users for daily life.

Because of the fast-paced IT environment, businesses and government departments should continuously reevaluate OSS when making updates to their proprietary applications. OSS is more than simply an option that is cost-cutting. It gives freedom for governments. For enterprises, it implies innovation prospects.

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