

Open Source Softwares - Education, Practice and Applications at the University of Engineering and Technology, Vietnam

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Abstract. In this paper, we provide information on some background problems and policies of the Vietnam government on the OSS development in the country. We will then report on the activities concerning the education and the practice of applications and development of OSS at the University of Engineering and Technology, Vietnam National University, Hanoi.

1 Introduction

In the last nearly two decades, the mankind has experienced an unprecedented progress of the Information Technology (IT). IT and IT products have deeply migrated into and induced incomparable innovation changes in almost all aspects and matters of human life, thus, brought by tremendous improvement of its quality. No one nowadays can imagine what his life would be without IT and IT products.

Although diverse device-function-specified, vendor lock-in, licensed and proprietary softwares, developed by the various firms to operate their products have proved their indispensable importance in the human welfare, these have increasingly shown their insufficiency and inefficiency to the users [1]. In this respect, open source softwares (OSS) as developed and promoted by various IT organisations have convincingly shown up with their advantages to be the most competent and competitive alternatives [2].

In this paper, we will first provide information on some background problems and policies of the Vietnam government on the OSS development in the country. After presenting some brief general information about our institution, The University of Engineering and Technology at Vietnam National University, Hanoi we will then report on the activities concerning the education and practice of applications and development of OSS at the University of Engineering and Technology.

2 Background Development and Governmental Policies on OSS in Vietnam

At national level, the Prime Minister of Vietnam had launched the decision in 2004 to ratify the National Project on “Application and Development of OSS in Vietnam in the period from 2004 to 2008” to be implemented by the Ministry of Science and Technology (MOST). The project aims at elaboration of policies to promote the application and development of OSS, to develop an appropriate technical human resource, to enhance international cooperation and in the end to set up some capable institutions for the development of OSS-based software products to meet the uses and demands of the national economic and technical development. In this national project, the MOST coordinates the activities with other ministerial and governmental organizations and in the people’s committee in all provinces. The Ministry of Planning and Investment and the Ministry of Finance are responsible for the allocation of needed resources and the Ministry of Post and Telecommunications is the main body in elaborating and dealing with the policy issues. The Ministry of Education and Training is responsible for the education and training to develop appropriate OSS human resources and to the application of OSS at higher education institutions.

On other activities in the country concerning and relating to IT products, Vietnam Government always stresses its concern and priority on OSS. On the procurement of IT products in all governmentally budgeted institutions and organizations in 2006, the government had launched decisions with a clear instruction that priority is given on the investment, procurement and application, uses of OSS and OSS-based software products, especially those with specifications, quality, and functions equal or similar to commercial software supplied by domestic enterprises^{1 2}.

3 Open Source Softwares at University of Engineering and Technology

As a member university of the Vietnam National University, Hanoi, the University of Engineering and Technology (UET) has four faculties. Faculty of Information Technology makes the largest part of the university with about 40%-45% of students of the whole university. At the moment, the number of staff and faculties of UET is about 230 in total. It is notable that quite a high number of faculty members (about 60%) have a Ph.D. degree from overseas. These faculty members play a very important role in advancing the widespread use of OSS in teaching and research activities at UET.

Being one of the leading technology in the Vietnam and realizing the important role of open source softwares, UET has been strongly encouraging faculty members and students to use open source softwares,

¹ <http://tailieu.vn/xem-tai-lieu/quyet-dinh-so-169-2006-qd-ttg.84265.html>

² <http://vanban.moet.gov.vn/?page=1.34&view=16024>

initially through the University's open source club. Right at the beginning of its establishment in the early 1990s, Linux was taught in a number of courses and has become a popular environment in practical laboratories, especially for students studying Networking and Communication and Operating Systems. This first generation of students later became the core team that help develop the Intranet at Vietnam National University, Hanoi which advocates using Linux and open source softwares within the University.

Many courses at our University uses open source softwares as its practical components such as PHP, MySQL, PostgreSQL, JSP. Open source development environments such as DevC++, Eclipse and Netbeans are being widely used for both teaching and research. Following the trend in the IT research community, most of the research projects done at our University are made open source by both faculty members and students. Recently, OpenOffice has been used officially by supporting staff as well as in the introductory IT courses.

At the moment, all of the services offered in the Intranet at our University to support teaching, studying and research activities at UET and Vietnam National University, Hanoi as the whole are developed using open source softwares with some local customization. Many softwares built on open source frameworks at the Computing Center at UET have been successfully commercialized as well as being used at UET such as:

- Credit-based administration software for students and courses using PHP and MySQL
- Automatic questionnaires marking software for university entrance exams using Java and PostgreSQL.

4 Conclusion

Application and development of OSS are priority issues of IT development in Vietnam. As one of the leading higher education institutions in Vietnam, involved in teaching and research in IT-converged areas of engineering and technology, UET is determined to develop this branch in software engineering and development. As shown above, preliminary meaningful results have been obtained. Elaboration of a plan of operation with a well-defined roadmap, including the development of an appropriate human resource is under way for further development of OSS education and research activities at the university. For a successful development of these activities, efficient international cooperation is of crucial importance. Our university is open to these cooperations.

References

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2. Goth, G. (2005) Open Source Business Models: Ready for Prime Time. *IEEE Software*, 98-100 (November/December).