

# Open vs. Proprietary Source Software in Croatia

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## Summary

*This paper shows differences between open source software and proprietary source software from the Croatian user perspective. These confronting approaches have their own positive and negative aspects which are viewed through present 2009 financial crisis and the need for lifelong learning projects promoted by the Croatian Ministry of Science, Education and Sports. User survey was conducted at the Faculty of Humanities and Social Sciences, University of Zagreb.*

**Key words:** open source, education

## Introduction

There are three different properties of the software that we can distinguish. Those could be understood as a kind of metadata for a program as they say nothing about the purpose of the program itself but only in which cases it can be used. Or one could think of these as legal data for usage stating rights of the author and user of the program.

First distinction we have to make is open source and proprietary source (sometimes also called closed source) software. We mark something as proprietary when the source code is kept secret and never presented to the public. In oppo-

site we have open source software which is released to the public thus enabling end user of the software to see how that particular program works.

The second distinction we make will be commercial and non-commercial software. Commercial software aims to make money from the use of the software either before the user uses it or after a trial period. Non-commercial software does not require payment for usage of the software at any time.

Third distinction that can be made only for open source software and that is free and non-free software by the definition of Free Software Foundation<sup>1</sup>. Free software is, in essence, defined as one that is open source and cannot be included in proprietary software.

One can try to "categorise" existing software according to these properties: Microsoft Office is a proprietary source, non-free, commercial software; OpenOffice.org is an open source, free, non-commercial software; IBM Lotus Symphony is proprietary, non-free, non-commercial software.

Having in mind 2009 financial crisis and constant shortage of funds in complete world economy we wanted to test the usage of software according to open versus proprietary source software (bearing in mind that this would usually also mean commercial versus non-commercial software) among students at the Faculty of Humanities and Social Sciences.

Hypothesis was that users would choose open source or non-commercial software because this would help local economy. If one does not have to pay for software then this money could be spent for personal education or for tutorials in local institutions. This approach would keep the funds inside the country and push local economy.

### **Methodology of the survey**

Survey was done using online survey software<sup>2</sup> and presented to students of Information sciences and students of Phonetics. 88 students have participated in the survey and anonymously submitted the questionnaire.

Each student was presented with four groups of questions according to the purpose of the software: office packages, photo editing, vector diagrams and sound editing. For each program they were presented with four possible answers: I've never heard of the program; I've heard of it but I have never used it; I've used it but it did not meet my demands; I'm still using it.

The participants were asked not to browse on the web for the names of programs. They were also asked to try to finish the survey as fast as they can (around 2 minutes).

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<sup>1</sup> Categories of Free and Non-Free Software - GNU Project - Free Software Foundation (FSF), 2009

<sup>2</sup> LimeSurvey.org, 2009

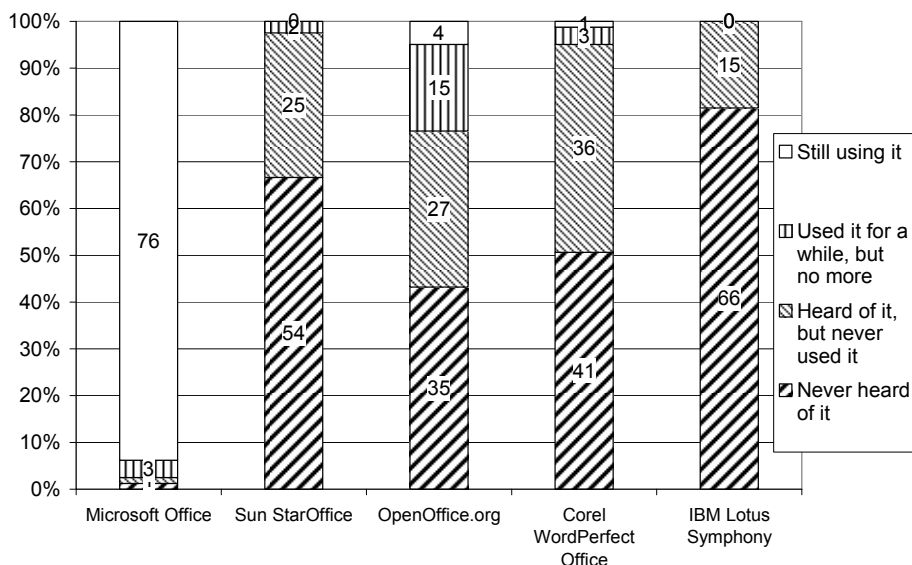
The results were then collected and each answer counted. The results were again grouped according to the purpose of the software in question and displayed as a chart.

### Results and discussion

81 of the students completed the survey and only those results are presented in following charts.

Chart 1 shows that more than 80% of participants have never heard of IBM Lotus Symphony package and more than 90% use Microsoft Office. Other results show that more than 40% of participants have never heard of other office packages then Microsoft Office.

Chart 1. Usage of different office packages (n=81)



These results were also surprising for photo editing software (see Chart 2). More than 50% of participants use Photoshop and Microsoft Paint and more than 70% have never heard of GIMP.

Looking at Chart 3 we can see that more than 75% of participants have never used any vector graphic program. Cairo library was put in the questionnaire just to test if anybody has ever heard of this 2D drawing library used in many open source projects.

Another thing tested was sound editing. More than 50% of participants use Praat (Praat, 1998) for sound editing. This was not a surprise because students of Phonetics use it on regular basis and students of Information sciences are familiarised with the program through an elective course.

Chart 2. Usage of different photo editing software (n=81)

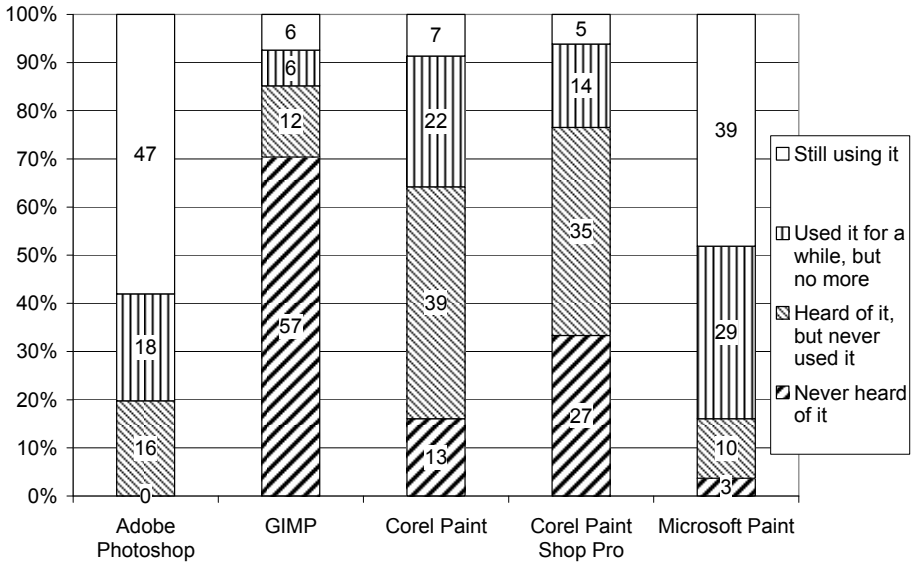


Chart 3. Usage of different programs for making vector diagrams and images (n=81)

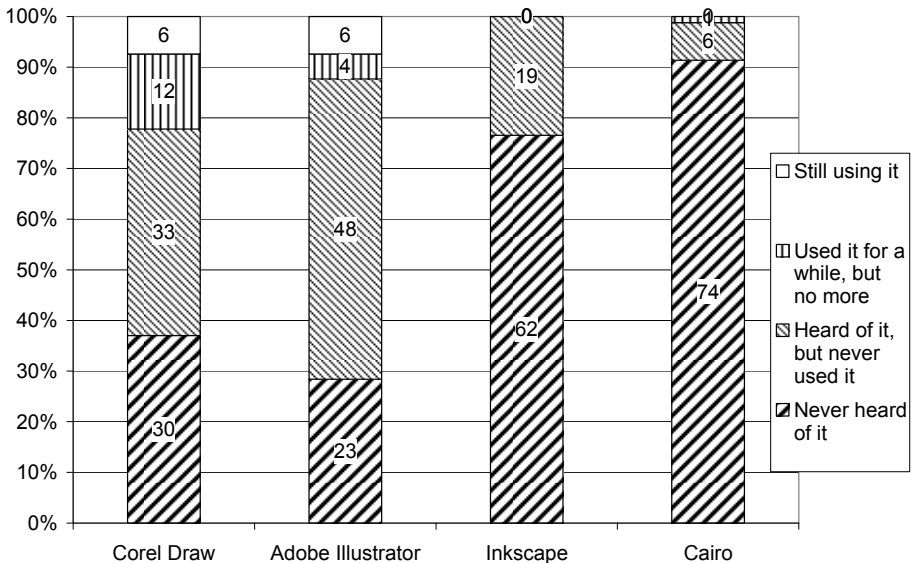
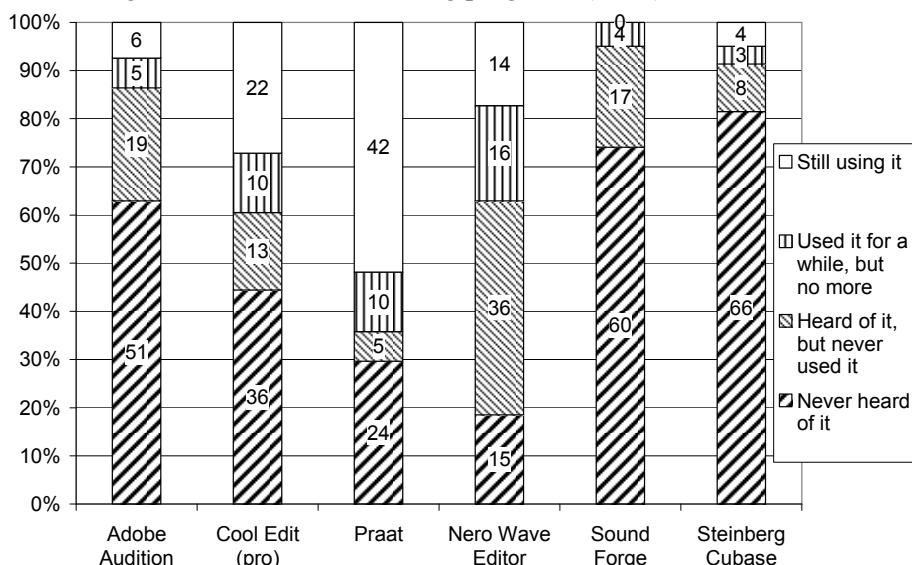


Chart 4. Usage of different sound editing programs (n=81).



Examining the whole situation we can see that participants tend to use commercial software in favour of non-commercial regardless of financial situation. Participants started using open source and free program for sound editing during a course held at our institution, and they kept using it afterwards.

The problem that arose was: why were participants only using commercial, proprietary software?

We had to backtrack through their education process.

For that data we examined the Croatian National Educational Standard (CNES) and National Curriculum Framework for Preschool Education and Elementary and High School Education<sup>3</sup> and Curricula for Elementary School<sup>4</sup> (both documents are only in Croatian language). These documents show that computer sciences courses in elementary school should “provide introduction to information and communication technology”. There is no mention of what type of software they should use (in regard to its license) or any specific software. There is even a list of activities: editing photos on computer, editing text, programming languages (LOGO or some procedural language). As there is no mention of proprietary, commercial software there is no reason why pupils should not use non-commercial and even open source software for every task in their computer science courses.

<sup>3</sup> Nacionalni okvirni kurikulum za predškolski odgoj i opće obvezno obrazovanje u osnovnoj i srednjoj školi.

<sup>4</sup> Nastavni plan i program za osnovnu školu.

The answer was somewhere else. Each school (elementary, secondary) has a freedom to make their curricula the way they feel fit. We examined two curricula of secondary schools: school in Pazin<sup>5</sup> and school in Grubišno Polje<sup>6</sup> (both documents are only in Croatian language). Each school presents its curricula and declare that pupils will learn to use Microsoft Windows and Microsoft Office. Sentence from National Curricula stating that pupils will learn to edit digital photographs is translated to sentence: pupils will learn to use Photoshop. This analysis shows that there is possibility for introduction of open source or non-commercial software to schools (according to CNES) but teachers are not willing to do that even though this would lead to higher level of computer literacy due to free availability to open source software.

Another example is the European CDL that lists its curricula as: text processing, spreadsheets, presentations etc... which is, at the end, also translated into: Microsoft Word, Excel and PowerPoint. Croatian ECDL<sup>7</sup> organisation does the same. There is no official mention of commercial software but it is there as default.

Looking at Chart 3 and data for Praat leads to a feasible solution: university teachers should present different choices to students and provide open source or non-commercial alternatives to commercial ones. Those students will eventually become teachers and teach in primary or high schools.

From economic point of view we should invest in our people and in our knowledge (as usually stated: "knowledge society" is something we should aim at). Using open source software can provide jobs at the same way as commercial one: there is always someone in need of knowledge and support in using software, either open source or proprietary one.

If we look at the present situation we can see that schools and universities "produce" people that can only use proprietary and commercial software. For that reason they have to buy the same software for home and their employers have to provide the same software for them at work place. At each instance we have to buy something that our country does not produce.

## **Conclusion**

At present time students at the Faculty of Humanities and Social Sciences are unfamiliar with open source software. The reason is exposure to only proprietary and commercial software throughout their education.

Students presented with open source programs continue to use it.

Open source and non-commercial software should be promoted in educational institutions for economical if not for any other reason.

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<sup>5</sup> Gimnazija i Strukovna škola Jurja Dobrile Pazin: Školski kurikulum.

<sup>6</sup> Kurikulum Srednje škole Bartola Kašića Grubišno Polje za školsku godinu 2008/09.

<sup>7</sup> ECDL Hrvatska.

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