Project Management for Students From University of Agribusiness and Rural Development and Software for Its Application

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In this article to present the schooling course of Project Management in University of Agribusiness and Rural Development - Bulgaria (UARD). Academic leadership of the university aims to introduce students to this new and promising discipline. Explained the key points in teaching Project Management. Emphasis is placed on training using free software for Project Management.

Keywords: Project management, Microsoft Project, OpenProj, ProjectLibre, Gantt, Project Network, WBS (Work Breakdown Structure), RBS (Resource Breakdown Structure)

1. Introduction

Project management is the discipline that is widely practiced in the training of many universities in the world. In UARD, Plovdiv, Bulgaria - the discipline "Project Management" is teaching from 2011, and is compulsory for most student courses. The training is in correspondence with project management's standard ISO 21500: 2012 "Guidance on project management". Except for bachelors, in 2014, such training is introducing also for the master programs. The same year and has such a master programs of UARD, Plovdiv.

2. Goal achievement

In contemporary conditions, the computer-management of projects is widespread and we can even say that is mandatory for world's leading companies and organizations. Bulgaria, as a member of the World Economic Area and now a full member of the European Union must be up to date both with the new realities in economic terms, and also in educational aspect. Studying the principles of project management, as well as their computerized support could greatly help the future activities of students, teachers and others parties which are involved in the business.

3. Project management in UARD

Project management is a choosing subject the curriculum of all specialties. The educational subject Project Management is also teaching by the students from the specialty Economics of the Tourism.

It is teaching in all educational forms: regularly, by correspondence, distance-type.

The hour pack for the subject is consisted by lectures – 30 school hours, practice 15 school hours, individual work 20 school hours. 75 school hours in total.

After successful completing the teaching course of the school subject, the student receives 4 credits.

The purpose of this school subject is to give the students basic knowledge and skills for efficient managing the different types of projects.

The lectures shows the basic steps of the setting up managing each project: developing a realistic plan of the project, planning the range, costs, and the time for developing, managing the developers team, risk management, controlling the implementation of the project and managing the communication and documentation.

In content of the subject is included also a practical part: working and using of tools for planning and project management, more precisely the products Microsoft Project 2007&2010 or ProjectLibre.

The expected results from the educational course of the successfully graduated students will be:

1. How to organize the work on a project ?

2. How to plan the costs, resources and the time for developing?

3. To consider the planning of their further projects with rest elements from the Project Management.

The students will can:

1. To develop a micro project on student level.

2. To use actively the learned software during dev loping their project.

3. To use the received knowledge not only in their future work, but also in other similar subjects.

The education as I said before is taken with lectures and practice in computers laboratories.

The lectures include two main parts. They treat the possibilities for implementing automation in the managing of projects.

The first parts treat some theoretical formulations concern basic moments from the theory for Project Management. The name of the first part is: "Main theoretical directions of project management "[13], [16].

The separate topics of the lectures are:

➢ Theme 1: Project management concept.

➢ Theme 2: Project life cycle and organization.

➢ Theme 3: Project Management processes.

➢ Theme 4: Integration management in projects.

➢ Theme 6: Project time management.

➢ Theme 7: Project expenses management.

➢ Theme 8: Project quality management.

➢ Theme 9: Project human resources.

➢ Theme 10: Project communication management.

➢ Theme 11: Project risk management.

➢ Theme 12: Project supplies management.

The name of the second part is: "Automated control systems project management ". The separated topics of the lectures are:

➢ Theme 13: Why ProjectLibre?

➢ Theme 14: Project planning.

➢ Theme 15: Project framework description.

➢ Theme 16: Project Completion.

After the lecture cycle ends, are following practices with the students, and the trainings are based on

their business plans. After that the students are preparing a course work for Project management

The subject finishes with completing an exam, which starts with a test and ends with argument of the course work in front of the examiner.

4. Automation of Project management

After passing the theoretical course students pass practical one, using project management software. Initially, training was conducted using proprietary software -Microsoft Project. Subsequent to discussions with the students passed the open source software. Consistently over time it was OpenProj, but by 2015 ProjectLibre.

The basic moments while using the tools of Automation of the Project management and the possibilities which they can provide.

The product OpenProj was developed by Marc O'Brien, Howard Katz and Laurent Chretienneau in 2007 by Serena Software [3]. It moved out of beta with the release of Version 1.0, on January 10, 2008 [2]. As of early 2009 support for OpenProj and communication about development of OpenProj seem to have been suspended [4]. There has been no improvement in the past four years and it is not longer compatible with new versions of Microsoft Project and in particular there was good compatibility of new versions 2007 and 2010.

Recently, the original founders of OpenProj started to develop a complementary server for OpenProj, comparable to Microsoft Project Server for Microsoft Project. During development they realized, that the fact that OpenProj had not been updated anymore by Serena Software during the last four years will become problematic to their goal, so they needed to develop first an significantly updated version of OpenProj. This version was released as a fork called ProjectLibre in August 2012[4]. Source forge has issued a note that ProjectLibre http://www.projectlibre.org has superseded ProjectLibre and is the new replacement.

ProjectLibre project management software is an open source alternative to Microsoft Project [10],[11]. It has been downloaded in 146[5] countries the first month of release and was just voted "Project of the Month". ProjectLibre is compatible with Microsoft Project 2003, 2007 and 2010 files. ProjectLibre runs on the Java Platform, allowing it to run on a variety of different operating systems [1]. You can simply open them on Linux,

Mac OS or Windows and if desired save results back.

A ProjectLibre is envisaged that in the future to moan could be used as an alternative to a cloud/server replacement of Microsoft Project Server.

On the site of OpenProj / ProjectLibre can find various examples of projects. You can take advantage of opportunities to download, for each subproject that you remember, and the overall management of your business.
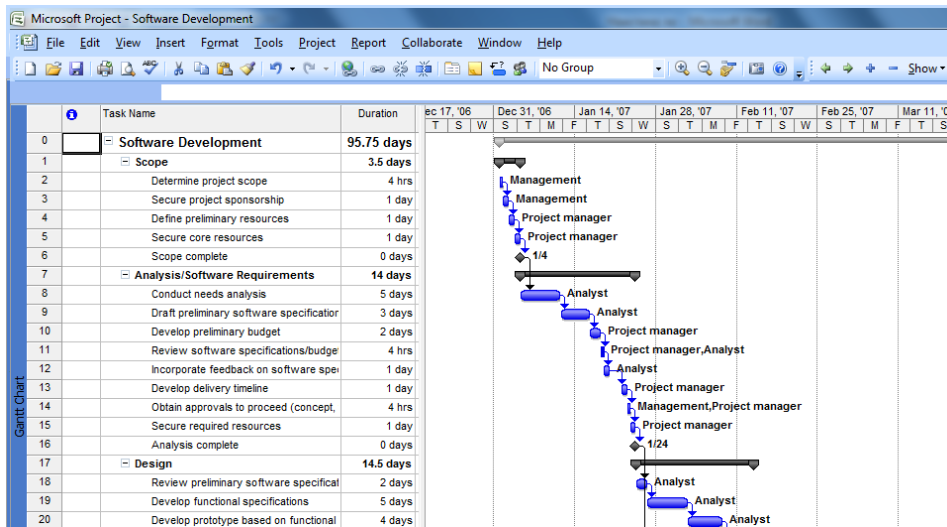
Working with the program is very intuitive and hardly difficult even people who are not engaged in project planning. From a technical point of view, we do not comment on the performance of the program.

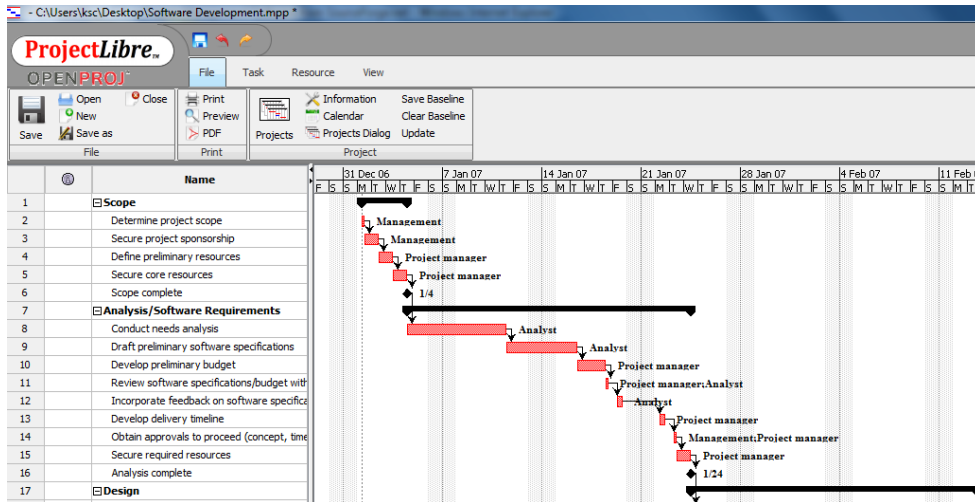Example proximity of MS project 2007 (GRAPH 1) with ProjectLibre (GRAPH 2) is the design of the task solved with both product the conclusion is "it's the same." When comparing MS Project and ProjectLibre (GRAPH 1 and GRAPH 2) clearly visible large external similarities between the two products.

GRAPH 1 shows the Gantt chart for project implementation, it is used to test for compatibility option.

The most popular program in the field of project management is undoubtedly the package Microsoft Project [12],[15]. Microsoft Project is suitable for everyone it meets basic needs for project management and has a very large set of highly complex tools for collaboration and management. There is however one of its features, which certainly is not positive and this is the price - $ 999. Naturally for such a price, one has to wonder if there is any other program with similar functionality that is compatible with MS Project and with a lower price. The answer is there and the price is so low that less cannot be - they are free.

Graph 1. Gantt chart of MS Project 2007

Graph 2. Gantt chart in ProjectLibre

What are the main differences in the two platforms of Project management, implemented on the basis of open and proprietary software, which also belong to the advantages / disadvantages comparing two packages?

> Application based on open source is free. Everyone would have loved to use the free software that is legally free, not pirated. In the case of ProjectLibre it is, and in the words of its creators, will always be free.

> Updates open source application is also free. This is a direct consequence of the philosophy of the license under which it is running these applications. Microsoft updates are also generally free, but they can make them pay when they want without due explanation to someone about it.

> Application code open source is outside the control of a single company. This makes applications independent of the current developers of these products and if the company disappears behind application code will be lost and the product can continue to live.

The application uses open source open standards. ProjectLibre file formats such as publicly documented, consistent and affordable [10],[17]. Many people do not understand what the advantage of file formats that are open is and their specifications are not known, but it is a great advantage in terms of transparency of what makes your computer data. It is also a great convenience

for anyone who wants to create a product that is compatible with that format.

Now let's get to the actual comparison of the two software Project package.

Microsoft Project and ProjectLibre are two very powerful desktop applications for project management with the following features [4],[12],[14],[15],[17],[18]:

> Gantt chart. This is a bar chart that is used for project planning. It divides the design task into several subtasks and shows their relationship, start and end dates - GRAPH 1 and GRAPH 2.

> Project Network. It shows "pre", "next" and "intermediate" tasks in graphical mode. And called PERT chart. Is shown in GRAPH 3 and GRAPH 4. Again seen close to the same product of MS.

> Resources Chart. These are the entries for the available resources are listed to the right of the bars.

> WBS (Work Breakdown Structure). Component structure of the work. It shows the structure of subordination and systematic breakdown of tasks into subtasks.

> RBS (Resource Breakdown Structure). Resource breakdown or RBS is the categorization of resources according to different functions.

> Output. Microsoft Project and ProjectLibre offer several methods for

tracking consolidated financial statements and for the use of tasks / resources

Note: In this article we are not given any figures with diagrams near, but above are analogous according to the authors of the article to those of GRAPH 1-4.
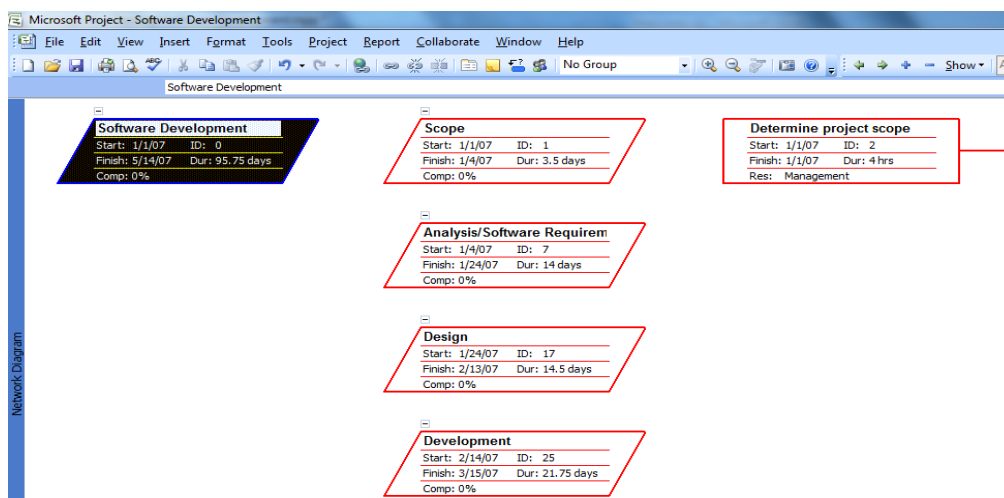
Some advantages of Microsoft Project:

➤ Rich supporting documentation. Microsoft Project has a really good support documentation that is available both online and offline, so that learning is easy.

➤ Java is needed (debatable advantage). Unlike ProjectLibre, no need to install Java on your machine to run Microsoft Project.
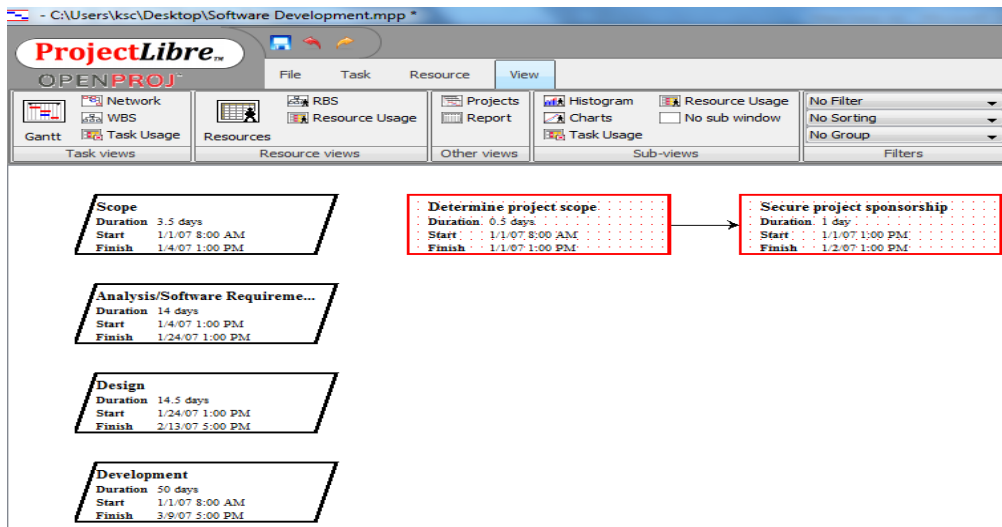
Some of the advantages of ProjectLibre:

➤ ProjectLibre is a free software project management, so you will save $ 700-1000.

➤ Easy to system requirements. In most computers and ProjectLibre and Microsoft Project 2007 & 2010 will go smoothly. In older computers ProjectLibre will have a significant advantage. Its minimum requirements are a Pentium 166 MHz and 128 Mb RAM, while Microsoft Project 2007 & 2010 are Pentium 450 MHz with 266 Mb Ram. Which is more important, ProjectLibre and will run Linux (and Solaris and BSD), and Linux runs much more efficiently than older computers running Windows 2000 or XP. This makes Linux ProjectLibre practical combination even for old computers.

➤ Independence of the operating system. Multiplatform. This is undoubtedly one of the biggest advantages of ProjectLibre. It is available for each architecture, the three major platforms (Windows, Linux, and Mac). It relies on its Microsoft formats, and many others. Own file formats are extremely effective and generally the same document is smaller than the format as MS format. By comparison, Microsoft Project 2007 & 2010 only supports its own formats and is available only for Windows.

➤ Usability, Training, Support. In general, anyone who has used MS Project 2003 & 2007 & 2010 will be feeling comfortable with ProjectLibre. Interfaces are almost identical, see. GRAPH 1 and GRAPH ure 2., even in ProjectLibre syntax is identical. You can think of migration as ProjectLibre migration to Microsoft Project 2007 & 2010. While this is slightly different, but the concepts are the same.

➤ Part of Star Office. OpenProj by 2008 it was part of Star Office at Sun Microsystems; we assume a large percentage of security as its successor and ProjectLibre become part of the package.

Graph 3. Networking diagram of MS Project 2007

Graph 4. Networking diagram of ProjectLibre

Be asked "if there are other programs like ProjectLibre ?", can confidently answer "Yes" and such are Gantter, Teambox, Rally Community Edition, FreedCamp and many others[4],[6],[7],[8],[9],[18].

5. Conclusions

In conclusion, we emphasize three things.

First, the differences between the philosophies of open and closed software mentioned in the beginning, is perhaps the most important argument in favor of this application. These are advantages which cannot be neutralized or removed, no matter how change its competitors.

Second, the flexibility of open source software should be used to implement partial least in the beginning, if possible overall migration. Many open source programs have versions for Windows. Using ProjectLibre under windows, it saves money, even windows have to be paid or otherwise. Sometimes a person just needs the specific commercial applications. But he does not have to use them on Windows. One can use commercial software, without having to pay extra for Windows.

The third thing I want to say is that financial arguments in favor of open source are far from the most important. Since so much of open source programs are free, some people it creates a false impression that these are decisions for poorer ones, and as such are incomplete. These people carry the logic of the material world, where it has no place. And since we're talking about higher education, I can say that even Harvard began steps

for the introduction of open source software in their curricula (for we are not ungrounded - news can be found at http://news.cnet.com/8301 - 13505_3-9916323-16.html) and they all would agree, is certainly not suffering from a shortage of funds, so the example is quite telling, considering the topic of this report.

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