

DEVELOPING WEB SOLUTIONS: A PROJECT MANAGEMENT APPROACH FOR FREELANCERS

Georgiana CIOANĂ¹
Alexandru-Nicolae COSTACHE²

ABSTRACT

The popularity and the spread of Web technology has resulted in the growth of the related needs. This has spurred the development and the improvement of the existing system as well as the emergence of new programming languages, software and applications that expanded the initial functions, serving many fields of activity and different industries. Gradually, both individuals, companies and organizations or institutions began using the WWW as a method of communicating information, of promotion or sale of services or products, as an additional method integrated with their main activity. This contributed to the development of the market of web projects. Along with this came the need to manage this type of work, the people and the resources involved.

The present paper aims at underlining the importance of acknowledging the necessity of web developers to handle and use project management tools and techniques in order to perform better and to offer greater returns to clients. In this regard, we chose to refer to freelancers in the field of web development as they are one of the newest and most controversial form of employment in this field nowadays.

KEYWORDS: *web project, project management, freelancer, client, outsourcing.*

JEL CLASSIFICATION: *M15, O33, O39.*

1. INTRODUCTION

About the market of web projects one can state without exaggeration that it was born concomitantly with the origination of World Wide Web (also known as WWW) in 1991. The Web was invented in 1989 at the European Centre for Nuclear Research (CERN) as a consequence of the need to allow researchers scattered around the world to collaborate using collections of reports, plans, drawings, photographs and other types of documents that were in constant change.

The initial proposal for the creation of a collection of documents with links between them (Web) was made by Tim Berners-Lee, who was physicist at CERN, in March 1989. The first prototype (text-based) was operational 18 months later. In December 1991 there was a public demonstration at the Hypertext'91 Conference in San Antonio, Texas (Tanenbaum, 2003).

The free and easy-to-access Web technology, the open standards have contributed to the extraordinary development of the WWW network. If at the beginning this network was mainly used to communicate information between researchers, throughout the years, in a very rapid pace, more and more people from various fields have begun to see the usefulness of such technology and adapted it to their needs. Thus, apart from the documents and the information necessary for researchers around the world, personal websites and corporate websites started to appear. The popularity and the spread of Web technology has resulted in the growth of the related needs. This has spurred the development, the improvement of the existing system as well as the emergence of

¹ Bucharest University of Economic Studies, Romania, georgiana.cioana@man.ase.ro

² Capitan Seo, C.B., Spain, alexandru@capitanseo.es

new programming languages and software that expanded the initial functions. The aim of the development of this system was to be spread and used by more and more people, with as much ease in order to turn the WWW into a universal form of communication. From personal and corporate pages that appeared in the '90s and delivered the users static content, the WWW network evolved into online applications with complex variables that deliver both static and dynamic content, serving many fields of activity and different industries. Gradually, both individuals, companies and organizations or institutions began using the WWW as a method of communicating information, of promotion, or sale of services or products, as an additional method integrated with their main activity. This flexibility and adaptability to the requirements of almost any field have made the supply and demand for web products to grow at the same rate as the evolution of this technology. This contributed to the development of the market of web projects of any type for almost every field of activity. In this market the demand is represented by web developers, which can be companies or freelancers.

2. CURRENT STATE AND FUTURE PERSPECTIVES OF FREELANCERS IN IT & PROGRAMMING – SOME FACTS

In the present article we chose to treat some aspects regarding the newest and most controversial form of employment (self-employment as a matter of fact) of the two categories: the freelancers.

The term freelancer is a customary one used by workers, end-users of labour services and others to refer to particular kinds of worker or work relationship (Kitching & Smallbone, 2012). Although very popular nowadays, this category of workers does not have a very well defined status by the law and it is not such an important subject of research (Süß & Becker, 2013).

The idea of observing this new form of work in the IT field came out while undertaking some research related to the use of web solutions to improve the performance of small businesses. It was at that point that we discovered the comments of Jeff Wald (2013), the founder of Work Market, in one of the posts on Forbes' blog on the results of the jobs' report made by the Bureau of Labour Statistics. Among the results of this report there is one that calls for attention - the fact that the number of freelance workers will most probably surpass the number of full-time workers by 2020 and this is the case not only for the USA but also for many countries in Europe and throughout the world (Elance, 2013; Kjetil, 2013). This could be a consequence of many changes that took place in the workforce distribution and structure in nowadays new and constantly evolving economy. Some of these changes are influenced by: the evolution of jobs and of the working conditions, the new perspectives regarding unemployment, underemployment and full-time employment, the needs of companies to hire personnel on a project-based basis (short-term basis), the presence on the market of labour platforms, the economic potential of small firms, the innovation in technology and the optimized use and control of resources, the need for independence and self-esteem of workers who no longer want to be associated with a certain job in a certain company and many others. There has always been a higher need for web developers to work independently and to enjoy the results of their work, to feel positive and content about it, like in the case of freelancers from other domains like arts, finance etc. (Daum, 2005)

The specific of this type of workers and their fragmentation according to the field in which they perform makes it very difficult to keep track of the statistical information, being an impediment if there is to make an evaluation of the current state of freelancers worldwide (number, income, number/field of activity, average working hours etc.). However, through the means of labour platforms the access to real time data about freelancers is easy to gain lately since these category of workers subscribe to these platforms looking for new projects or collaborations and to get in touch with different businesses.

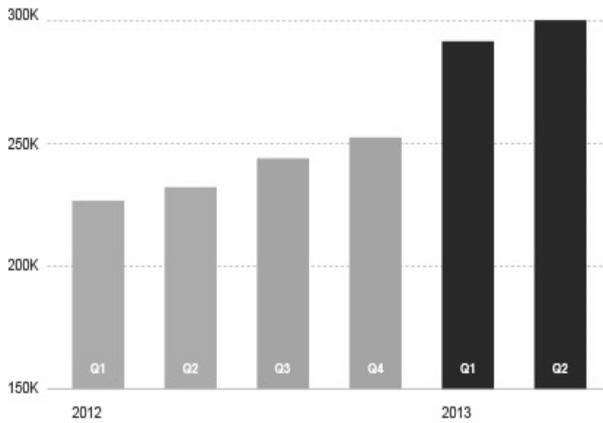


Figure 1. Jobs posted – quarterly
 Source: Elance.com, 2013

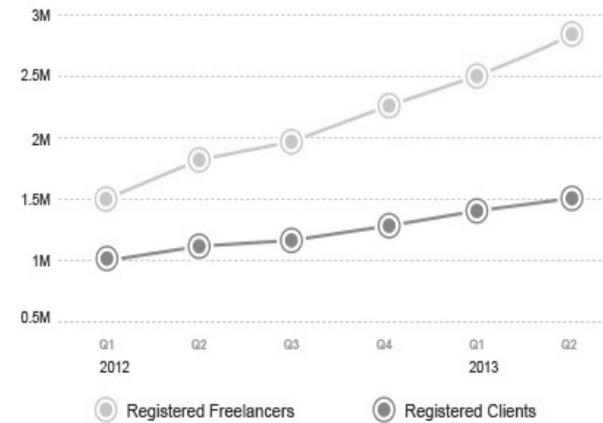


Figure 2. Registered users (clients & freelancers)
 Source: Elance.com, 2013

Elance and Econsultancy are two of the most renowned labour platforms that provide reports regarding freelancers. According to the statistics presented on Elance (2013), the number of registered freelancers increased from about 1.5 million in the first quarter of 2012 to almost 3 million in the second quarter of 2013, in the first quarter of 2013 610,000 freelancers joining the platform. As you can also see in Figure 2, the number of registered clients also increased but in a smaller amount.



Figure 3. Hiring trends - % of jobs posted by category
 Source: Elance.com, 2013



Figure 4. Top 10 freelancer countries by earnings growth
 Source: Elance.com, 2013

In the top 10 freelancers countries where earnings have increased year over year, the first position is occupied by the USA, followed by India, Ukraine, Pakistan, United Kingdom, Russia, Canada, Romania, Philippines and China, as shown in Figure 4. In United Kingdom, where they celebrate annually the National Freelancers Day, the demand for specialist skills such as social media marketing (+157%), marketing strategy (+136%) and lead generation (+136%) were all up significantly in 2012, rivalling IT and programming, which are traditionally the top categories for online employment (Kjetil, 2013).

3. ADVANTAGES, DISADVANTAGES AND SOLUTIONS FOR THE MANAGEMENT OF WEB PROJECTS

Web development services can be provided in two ways: outsourcing or direct relationship with the customer. Each of these has advantages and disadvantages but both have a common weak point, characteristic to this market and typical to the development of web projects.

The outsourcing implies the existence of intermediaries between the client and the end developer. The intermediary is the main pawn in communicating customer requirements to the developer and in transmitting changes, questions or other characteristics back to the client. It is a method prone to create problems, which makes it quite risky.

The existence of an intermediary in this relationship creates a distance between the client and the developer. This distance is the cause of the non-compliance and the dysfunctions of a web project. A lot of time is lost in the transfer of information, there are a lot of reconsideration requests from the client to clarify some unsettled issues or there is a risk of not understanding certain requirements, implementing them inappropriately, making them inconsistent with the client's needs or there may also be the risk of remaking the project entirely or part of it for the final result does not coincide with what the client wanted.

The human resource effectively involved in completing the project as well as its availability are questionable. Programmers are usually prospected on freelance websites such as elance.com, freelancer.com or by consulting an internal database containing resumes of dozens, hundreds or thousands of specialists in various web programming languages. Also, if outsourcing is done with a team or an individual speaking other language than the contractor there comes the difficulty of communicating in different languages and understanding the message. The advantages of this method are the lower cost of the project and the ability to cover a much wider area of web applications based on the internal or external database of freelancers specialized in different areas of the web.

The direct relationship assumes the disappearance of the distance between the client and the end developer. The intermediary disappears in this relationship and the client and the end developer meet face to face to create the functional document of the project, to clarify certain doubts or misunderstandings of the requirements. Through the direct relationship there is a lot of time gained for the development of the project and also the design, the development, the testing and the launching phases become clear and transparent (Emond & Steins, 2011). When the programmer and the client are facing each other there is an appropriate environment for generating ideas, one can make demonstrations and can discuss various options and directions for the development of the project. The technical consultancy gains ground and helps beginning and completing the development in good conditions. The disadvantage of the direct method is the higher cost.

Although there are advantages and disadvantages to both sides, the outsourcing and the direct relationship are two different ways to develop a web project having a common problem – the lack of project management. Both methods focus on developing the functionality, but do not take into account the professional framework in which the developers should operate. Although there are many books on the technical aspects of web development, there are few resources to deal with the methodology, the management of such projects. The lack of such a framework affects the quality of

the final product, the relationship client-developer and last but not least the long-term perspectives of freelancers.

Successful web project development depends on how successful the developer is in dealing with the project, and that depends not only on what he does, but also on how he does it.

The practical basis for this framework would be a so-called online control tower, an online platform for communication between the project team and the client - a cloud platform for shared tasks, discussions and files (Teambox, 2013). Most of the time it is helpful to think of contracting a team of web developers rather than separate individuals specialized on specific fields. In this respect it is better to view the project team as a fairly autonomous entity for the reasons that they can better celebrate success, brainstorm the ideas and learn from experience, they can make better schedules, they are more likely to finish on time (Knowlton, 2012), and this, of course, depends on what tools and techniques they use to manage their work – and we will discuss this issue next.

Communication is a key factor in the smooth running of the project, the collaboration of the parties involved should be easy and accessible to anybody at any time. This control tower considerably helps to improve the productivity of the developers. The main features of this kind of online platform should be:

- to have online availability all the time to all those involved;
- ease of use and accessibility from anywhere there is an Internet connection;
- independence regarding the type of device, being able to work on both mobile devices like smartphones and tablet as well as on PCs, laptops etc.;
- the storing of documents should be in the Cloud with very well defined security and privacy options;
- integration with other Cloud services like Google Drive, Box, Dropbox;
- file and content management - pooling of resources regardless of their format - documents, pictures, functionality etc., to be able to easily share, find and work on current documents (TeamLab Office, 2013);
- to have a timeline and time management – a project map, a Gantt chart and budget control, to be able to define roles in the project team, specific people responsible for specific tasks (definition of roles and tasks management);
- the ensure smooth communication between the client and the project team – the discussions and the team communication should be organized and stored by project in a spam-free environment; it should also have the possibility to convert discussions to tasks;
- to ensure real-time communication (video conferencing, screen sharing and group chat to communicate with the team in real time);
- to easily organize teams and projects to ensure visibility and accountability, enabling the team to get more accomplished, to have a calendar where to share the work progress and work schedule of the team members (TeamLab Office, 2013);
- to be able to instantly see progress and milestones with a workload view;
- to ensure task reporting to the team - internal control of the project;
- to ensure task reporting to the client;
- to ensure budget control and management - when there are additional coming on the way or modifications of previously settled tasks, what amount of money should be allocated (to have centralized information for when changes occur in the operation of the project)
- to easily create and manage tasks;
- to be able to capture and control project costs – to easily allocate resources to project, to reduce conflicts and analyze utilization, to easily create project budgets and track performances.

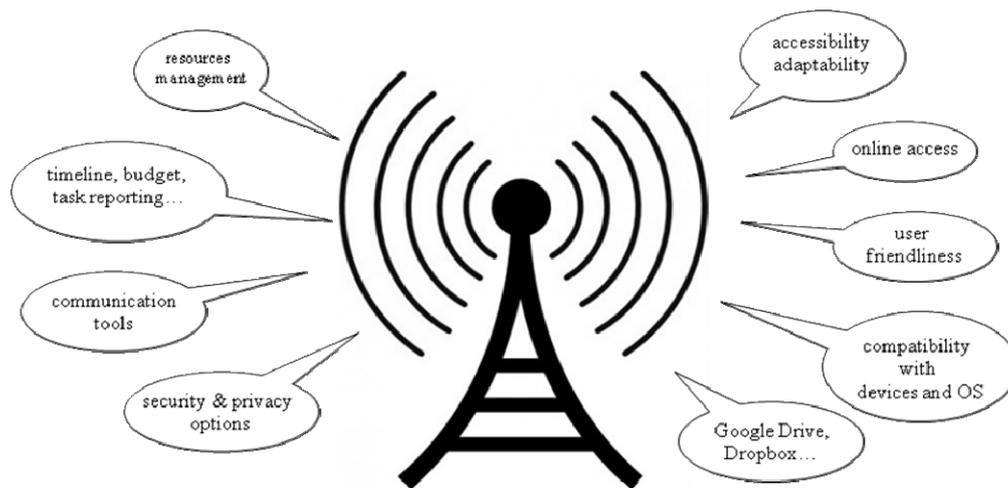


Figure 5. An example of control tower

Source: the authors

This kind of solutions to be adopted by project teams or individual freelancers who want to improve the performance of their work and the satisfaction of the client are available online at certain prices. There are applications that offer in a smaller or greater amount functions that ensure this kind of support. The costs of buying and implementing such an application are to be considered when deciding to change the way project management is performed and how the collaboration is done. However, this is not the main impediment. There is still a small degree of compliance with the requirements and the needs of project teams or individuals, these applications not being able to ensure all the facilities presented above in one compact solution. The development of such an application is to be taken into account and since both clients and freelancers usually deal with small budgets, an open source project management solution for web projects (designed and upgraded with the help of web developers) might be an interesting opportunity. In Figure 5 we presented an example of such a solution.

4. CONCLUSIONS

No matter the form in which web development services are provided (outsourcing or direct relationship with the customer), the success of the web project development process depends on how successful the developer is in dealing with the project, and that depends not only on what he does, but also on how he does it. Nowadays web developers and freelancers in particular, lack the knowledge and the best practices when speaking about project management tools and techniques. Although there are many books on the technical aspects of web development, there are few resources to deal with the methodology, the management of such projects. This affects the quality of the final product, the relationship client-developer and last but not least the long-term perspectives of freelancers. Hence there is a need to create a framework of collaboration between project teams and clients. The solution underlies in a so-called online control tower, an online platform for communication, where both clients and web developers feel comfortable that their work is done on time and with great returns. The development of such an application is to be considered by both researchers and practitioners in the field for the future, and the integration of the experience and best practices of web developers would be a plus.

REFERENCES

- Darie, C. & Bucica, M. (2006). *Php 5 si MySQL pentru comert electronic*. Berkley, CA: Teora USA.
- Daum, K. (2005). Entrepreneurs: the artists of the business world. *Journal of business strategy*, 26(5), 53-57. Retrieved October 23, 2013, from <http://www.taeinternational.com/Entrepreneurs.pdf>
- Elance – work differently. (n.d.). Global online employment report. Retrieved October 10, 2013, from <https://www.elance.com/q/online-employment-report>.
- Emond, J. & Steins, C. (2011). *Pro web project management*. New York: Apress.
- Kitching, J. & Smallbone, D. (2012). Are freelancers a neglected form of small business? *Journal of Small Business and Enterprise Development*, 19(1), 74-91. doi: 10.1108/14626001211196415
- Kjetil, O. (2013, January 17). State of the freelance nation: stats. *Econsultancy – Digital Marketing Experience blog*. Retrieved November 5, 2013, from <http://econsultancy.com/ro/blog/61799-state-of-the-freelance-nation-stats>.
- Knowlton, B. (2012). *A practical guide to managing web projects*. Penarth, UK: Five Simple Steps – the Coach House.
- Shelford, T. J. & Remillard, G. A. (2003). *Real web project management: case studies and best practices from the trenches*. Boston, MA: Pearson Education, Inc.
- Süß, S. & Becker, J. (2013). Competences as the foundation of employability: a qualitative study of German freelancers. *Personnel Review*, 42(2), 223-240. doi: 10.1108/00483481311309393
- Tanenbaum, A. S. (2003). *Computer Networks*. Upper Saddle River, NJ: Prentice Hall.
- Teambox (2013). Learn how to collaborate online. Retrieved October 29, 2013, from <http://teambox.com/platform/webinars-tutorials/>.
- TeamLab Office – Cloud Business Solution (n.d.). Tour: Teamlab highlights. Retrieved October 29, 2013, from <http://www.teamlab.com/highlights.aspx>.
- Wald, J. (2013, July 3). Forget the jobs report - focus on the freelance economy. *Forbes Magazine*. Retrieved October 10, 2013, from <http://www.forbes.com/sites/groupthink/2013/07/03/forget-the-jobs-report-focus-on-the-freelance-economy/>.