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Case Study:

Academic Leadership Profiling System

Situation:

I was working as an IT Advisor at TAJMA Consulting when it was looking forward to be an important player in Web Based Psychometrics. At that time the company received a call for a proposal for an Academic Leadership Profiling System. I was then approached by the CEO to design an online psychometric profiling system and prepare a proposal draft to handle this project. The project was to find a solution to profile the potential candidates in terms of demographics and multiple psychometric tests, suggest top rated people through statistical analysis of data for the candidates. This would enable the authorities to shortlist potential candidates taking the academic leadership roles in all educational institutions.

Task:

I was required to design a solution and assign an approximate budget for each part of the project and to meet the deadline of the proposal submission. The project development timing and budgeting had to be prepared in a practical way for an SMB type company. The focus was to generate a new solution and re-organize the IT division to decrease development time by 40% and decrease cost by 30%, and make it ready for agile project management.

This software was to run cross-platform and cross-browser, and responsiveness was a requested feature. And the system was expected to receive a big number of concurrent visitors and users. The plan was to minimize the pressure on the server CPU by creating a balance between the server side and the client side running codes.

Action:

As the architect of ALPS solution, my responsibilities were to design a flexible and easy to expand web-based solution with optimized cost and time for the first version, with an aim to keep the future maintenance and upgrades as low as possible.

Innovation and creativity in optimizing the strategies and tools for this project were among top priorities which were accomplished very well. To achieve that, I had to synthesize my previous knowledge in designing business solutions, with the experience of the IT team in developing previous psychometric software. Then old strategies and development procedures were modified and a brand new development culture was born which led us to design and develop faster with minimum difficulties.

The IT division was re-energized and became ready for the ALPS project by making many changes and running new procedures. Some key actions and decisions were as follows:

- I selected the open-source platforms with GNU General Public License (GNU GPL), e.g. WordPress and LimeSurvey, as the complementary part of future projects to reduce costs and time of future developments. (The projects were designed to be developed and delivered in two different sections to protect the copyrights of the company while using the GNU GPL software).
- I completed the technical proposal for the ALPS project in a very limited time which was in harmony with non-technical section, Psychometrics.
- I worked as part of a team of three, developing the prototype of ALPS, using PHP, C# .NET, ASP .NET, MySQL, JavaScript, HTML, CSS.
- I developed the codes to unify the subsystems of this solution, CMS, Membership Management, Email Server, Psychometric Test System and Report Panel.
- Object-Oriented PHP became the main programming language in the IT team
- CakePHP was selected to be the framework for most parts of the project.
- I monitored the codes and kept an eye on how it ran on both front-end and back-end sides, by applying the Unit Testing method (e.g. by using FirePHP).
- I ran daily group discussions to help the team members to communicate easier, share their experiences and learn from one another.

Result:

Through careful research and synthesizing experiences and updating development methodologies and tools, I was able to minimize the time of development to 50% and cost to 35% compared to the prior projects. This led to a dramatic increase in ROI of the company on this project. The ALPS launch was a great success. Thereafter we signed a contract for the ALPS phase 2 for adding new features, upgrading, maintenance and support. There was no crash report during whole project life after implementing the software. The team received financial bonuses for their outstanding job and I got a promotion to the position of IT Team Leader.