Understanding Clients to Make Better Products

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Abstract-- Client requirements are set characteristics or specifications that must be included in a project for it to be considered successful and desirable by said client. Determining the client's requirements is one of the first and the most important stages of the project development. Properly defined requirements and needs can help the project grow and can make it successful.

The main approach used was to analyze what client expects of the project – creating a system that would connect the client and selected organizations with children and families in Bathurst region to improve their lives and create more opportunities for them. In the case of the project described an analytical review was conducted that stated the client’s requirements provided through the course of several client meetings. It allowed the team to properly define the needs of the client and requirements for the system to start working on the project.

As a result of following a set up plan for the project, this paper demonstrates how the production team was able to create a working system, that fulfilled the customer's requirements. Following the client defined criteria makes the whole process of creation more efficient, faster and it also demonstrably improved the quality of the final product.

I. INTRODUCTION

Client satisfaction is demonstrably one of the most important metrics in defining the success of a given solution or product. After all, if a product doesn’t function in a manner which meets the needs, expectations and requirements of a client then the product will be of very little value to the client and could not be considered successful.

As such it is of critical importance to acknowledge and internalize the needs, expectations and requirements of the client at the inception of a project. By doing this at an early stage it makes it dramatically easier for both the client and production team to understand both what is required by the client as well as what is feasible to produce given the constraints of the project (e.g. budget limitations, time constraints, etc.). Essentially by having a clear understanding of exactly what is required by the client the production team is able to use their technical expertise to build the product that the client wants. However, as is true in most cases the devil lies within the detail and translating a client’s stated requirements into a tangible product is easier said than done.

As such this paper details, how a client’s needs, expectations and requirements were implemented into a project and how this ultimately resulted in a better end product for the client.

II. PROBLEM BACKGROUND

Every project made has a set of problems and issues that needs to be solved in order for the project success and client satisfaction. It is crucial to always consider what the client requests and needs, and to understand it to develop effective solutions. In this case, the project was commissioned by BCFN (Bathurst Child and Family Network) a non-profit organization network of educators, early childhood service providers, organizations and members from all sectors and range of services, whose goal is to improve the lives of children, create more opportunities for them, promote the value of early years, children, young people and families within the wider community and to create a child-friendly community.

The main purpose of the project was to create a system that would allow BCFN (and selected partner organizations) to connect with children and parents in the Bathurst region to help them get access to resources and information help foster better growth of children and also to connect them with each other to create a better community in the regional area like Bathurst. The client wanted to reach out to the local community to improve the lives of children and make the lives of parents simpler as the system would allow them to access information about the schools, organizations that help children and families, and community news and events that can benefit the children and help with their growth.

The client specified a set of criteria that the project would require to be considered successful by the client. First of all, the system itself needs to be easily accessible by the user and easy to understand, and child friendly (as BCFN desired to have the system that would allow, not only the parents, but also the children to use it easily).

The main problem that the team faced while working on the project was how to develop a system to fulfil all the needs and requirements of the client, which was to create a working system that could be easily accessible for everyone, what can sometimes be difficult considering that the resources (the Internet and proper devices like desktops or tablets) in regional area might be limited to some and are not as easily accessible as in the metro area. Additionally, the team had to decide what solution would be the best to implement, to comply with requirements – how to create the system to make sure it will be able to reach the parents and children and fulfill its purpose.

One of the ideas was to create a mobile application (for both Android and iOS phones) as smartphones are easily accessible by most of the people in regional area, and so is mobile Internet on these devices. The second idea was to create a website, what could be conveniently available from both a smartphone and a desktop computer.
III. DO CLIENTS KNOW BEST?

While it is very likely that a client will be aware of what their needs are in an abstract sense, they may lack the technical literacy required to determine which tangible solution or product will be most suitable for them.

For example, the initial project proposal from BCFN was to create a mobile application. The application would have functioned as an outreach tool for the parents and children of Bathurst that informed them of the educational facilities, community resources and community events in the local area. BCFN requested a mobile application for their problem as they believed it could capitalize on the popularity of smartphones in the general public. When using the application, the user would be presented information about the educational, and recreational, services and events in Bathurst. This was to assist the parents of Bathurst in picking a school for their children, as well as advertising social events to them. It would also include a feature that would present images of individual schools in a “storybook” format for children, in which a slideshow of pictures with captions is shown to the user. This aimed to describe the facilities of the schools in Bathurst to children in a format and language that they could understand. However, upon further review and discussion of BCFN’s needs, it was determined that a mobile application would not satisfy their interests. Essentially the application proposed functioned similarly to a website, but with a higher degree of complexity. BCFN also did not have a website at the time, which caused a decision to be made that the project should focus on creating a website to better fulfil the given requirements. If the project was to continue with building a mobile application, the cost of the project would rise. To increase the availability of the application, it would need to be launched into both the Apple App Store and the Google Play Store. Both of these platforms require an investment to launch the application. A mobile application would also require investment into software which could allow cross-platform development, increasing the complexity of the project. Based on the stated requirements given by BCFN, it was determined that a website was more valuable to their organization, as a mobile application would be more complex to develop and would be more expensive.

IV. DEVELOPING A SOLUTION BASED ON CLIENT NEEDS

Upon determining that a website would likely better suit the needs laid out by BCFN discussions began regarding building a website rather than building a mobile application. A set of five requirements was then agreed upon between BCFN and the production team. These requirements being:

1. The website should be accessible and visually appealing on a wide variety of devices including both desktop and mobile
2. BCFN should be able to update and add content to the website easily with minimal technical knowledge and minimal outside help (eg. BCFN should not be required to use HTML and CSS when adding content to their website)
3. The website must take online safety for the target demographic (children) into consideration
4. The proposed solution should be mindful of the cost considerations of BCFN given that they are a nonprofit organization
5. The proposed solution must be able to run on server space which has been donated to BCFN

With clearly defined requirements the production team was able to use its technical expertise to find a solution which satisfied all of the client’s requirements. The solution in this case was to use WordPress as a content manager and a custom WordPress theme installed on a LAMP server.

- **WordPress**
  WordPress is a server side application that serves as a content manager that provides administrative and publishing tools used for administrative tasks such as account management and publishing capabilities such as adding posts to the website respectively

- **Custom Theme**
  Customized HTML, CSS, and PHP files which make the graphical interface of the website

- **LAMP Server**
  A web server running Linux, Apache, MySQL and PHP all required for the installation of WordPress

![Figure 1 A simplified UML diagram of the BCFN website](image)

By utilizing this solution, the aforementioned requirements were satisfied as follows

1. As the name suggests the custom theme allowed for a highly customized and visually appealing graphical interface. This accounts for both desktop and mobile viewing by detecting the size of screen and displaying a full or mobile version of the theme accordingly allowing for greater accessibility.
2. All website updates can be made through WordPress which the tools needed to make updates to the content of the website without any knowledge of HTML or CSS
3. Online safety is also handled by WordPress which gives the website administrators control over whom may publish or post to the website preventing unwanted or
potentially inappropriate material from being published.

4. Cost to BCFN is minimalized to a large extent as the donated server space provided is capable of running a LAMP instance which further mitigates cost as Linux, Apache, PHP and MySQL as well as WordPress are all free

The production team then presented these findings to BCFN who approved the continuing development of the website. This solution led to a product that far better suited the needs of the client than the initial proposal, thus making the product far more successful than it would have been had the production team failed to conduct a comprehensive analysis of the client’s needs. This allowed for a more useful tool to be created which will remain a valuable asset for BCFN for years to come.

V. CONCLUSION

To ensure the success of a project, it is essential that the project team discusses the user requirements with the client to fully understand what is needed and expected. This is to ensure that the final solution satisfies the clients’ needs and expectations.

It is important that the user requirements are discussed early in development, with both the project team and the client. This form of discussion is required to understand what is needed to build the final solution. This also helps to ensure that the client understands what solution they need, as it is possible that the client might not be fully aware of the available solutions that will best satisfy their needs.

The scope of the project is another important factor to be discussed, as the client may not be aware of what is achievable in the project.

Discussion of the client’s requirements and expectations are a critical part of the development process and help ensure that the final product will be a success.