

IT314 Software Engineering Team 7

Project Proposal

[Keywords: Proposal, Objectives, Approach, Entelechy, WordPress]

Version 1.1

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Winter 2012-13
DA-IICT, Gandhinagar

Overview

This document consists of the technical proposal as part of software engineering course project. A basic technical proposal listing down the problem and the proposed approach to providing a solution have been laid out here.

Target Audience

Mentors

Developers

Document Revision History

| Version | Primary Author(s) | Description | Reviewer(s) | Date |
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| 1.0 | Sandeep, Swena | Project Proposal | Sumit, Surabhi | 15 January, 2013 |
| 1.1 | Sandeep | Revised Milestones | Sumit | 30 March, 2013 |
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1. Introduction

1.1 Overview

Our project topic is to – "Rebuild the Website of DA-IICT's Campus Magazine 'Entelechy'". We plan to modify, redesign and recondition Entelechy's website as per the requirements of our client – Press Club, and the readers of the magazine – the DA-IICT community at large. As per the preliminary requirements of our client, we have decided to work on Wordpress' hosting platform instead of starting the development from scratch¹. If required we would also develop a mobile application for Entelechy.²

1.2 Origin and Relevance of the Problem

Entelechy is published online by the student club – 'Press Club' since academic year 2004-05. As the magazine has grown over the years, and as its writers and readers have increased, the technical platform on which it operates is becoming seemingly inadequate. The website – *entelechy.daiict.ac.in* is currently hosted on popular, open source publishing tool and content management system (CMS) – 'WordPress' (*wordpress.org*). Although WordPress provides lots of features and services, and the flexibility to develop one's own plugins, themes, etc but the website in its current structure and design is not able to make good use of them—there are number of issues which the editors of the magazine face while editing/publishing articles and managing the website, some examples –

- No direct upload system. Status quo - Writers send their articles to Press Club via mail and the editors have to copy-paste articles on Wordpress
- Categories and tags system is inefficient as they have to be re-created for every edition
- Archival system is inefficient – the entire list of the articles of a particular edition appear instead of section/category wise look
- User profiles have very few options – no place to find articles author wise

¹ Details about this choice are presented in our Feasibility Study Report –

"The rationales behind this choice are: 1. The volume of the work will fit in the project duration as we won't have to implement full fledged database management, etc. 2. WordPress, being the most popular content management system¹, provides reliable stability and security which otherwise won't be feasible for us to provide, as most of our team members are first time web developers. "

² If our client is not satisfied with the level of optimization of the web site on a mobile device only then, we would consider developing a mobile application – for which we'll conduct a study of smart phone penetration in the DA-IICT community. Our reasonable hypothesis is that Android is the most used platform – within our group two members have relevant experience of developing android application. We'll revisit our feasibility study and proposal in case we decide to develop a mobile application.

Also there are many new features which the editors, writers and readers would like to see on the website to enhance their reading experience³, some examples –

- Recommendation system – to allow system to recommend a article to reader based on the kind of articles the reader has read before, and person to person recommendation
- Proper and more robust 'like' and 'comment' functionality
- Twitter integration based on hashtags of tweets
- New improved designs and themes

The Press Club, because of its focus on 'writing' part of the magazine hasn't been able to work much on the technical platform so, there is an essential requirement for reconstruction and redesign of the Entelechy website in a systematic manner which could meet the needs of the Press Club as well as the DA-IICT community at large, which constitutes the readers of the magazine.

2. Project Details

2.1 Objective

We aim to develop a website for Entelechy which satisfies various requirements of our client and the end users – readers of Entelechy, i.e., the website solves the problems faced by the editors and provides the new desired features, listed above.

2.2 Scope

The new website will have the same accessibility and scope as the currently functional one – anyone can access the site from DA-IICT intranet and it would require webmail ID and password from anyone trying to access it from outside the campus. Target audience is the entire DA-IICT community at large – students, faculty and alumni.

2.3 Environment

We will work on the WordPress platform. It mainly requires programming in PHP and MySQL, along with good command over HTML, CSS and JavaScript.

³ Based on the inputs from our client – Press Club. We will analyze these claims in depth during our requirement gathering and user study phase.

2.4 Outcome

Redesigned, revamped, enhanced and advanced Entelechy website which can provide a robust system for editors to work with, a rich user experience to the readers of the magazine, and can be utilized, maintained and improvised by many future members of the Press Club.

3. Approach

Adhering to the software engineering principles of systematic practises of software development, we will rigorously execute the pre-development exercises – requirement gathering, user study, data collection and design, before we move on to implementation and coding phase. And meanwhile we will also make sure that we as a team learn essential web programming skills required for working on WordPress, so that we can smoothly code our ideas once we enter the implementation phase.

In the pre-development phase, we plan to undertake extensive study for understanding the needs of our client and the end users – readers of the magazine. We would delegate Client meetings regularly to develop perfect clarity between their demands and our deliverables. And we'll conduct ethnographic studies to understand what the readers of the magazine – DA-IICT students, faculty and alumni want from the magazine and how and to what extent can our website deliver on their expectations. This will be followed by design phase in which we would try to come up with new designs for the website which could provide the required features and ensure better interactivity and user experience than the current website.

Once our clients are satisfied with our designs, we will start adding incremental features and implementing Interface design. Various features will be provided as part of increments over previously delivered working product. This will be achieved by designing new plugins and themes and updating the existing ones. Each increment will be thoroughly tested and integrated. And finally we'll test the system to make sure that it performs optimally under different possible conditions. We'll also ask our clients to test the product – website on their specific servers before we formally deliver it to them.

4. Assumptions

The same as the ones which hold for the current Entelechy website, like – know-how of English language, computer and internet, which are easily satisfied by the DA-IICT community – students, faculty and alumni.

5. Requirements

5.1 Hardware

Other than our own personal computers, for deployment of the website we will require the server which the current Entelechy website is using.

5.2 Software

The project would require PHP for server side programming, MySQL to maintain and manage database at server side, WAMP/LAMP server to provide a local server for running and testing PHP scripts at server side. We would also require the WordPress 3.5 package.

6. Potential Challenges

- Understanding the exact needs of the Press Club and Entelechy's readers.
- Understanding the existing website code – the bare-bone structure which WordPress provides in depth.
- Only four members of the group have previous experience of web programming
- Developing new plugins and themes on WordPress which suit the requirements of our client

7. Timeline

We understand that planning and scheduling is a very crucial factor in a project, especially in software engineering project where one pays penalties for not adhering to deadlines. Our tentative timeline of project milestones is as follows –

| S. No. | Tasks | Deadline |
|--------|--|-------------------|
| 1. | Finalizing Project Idea | 10 January, 2013 |
| 2. | Feasibility Study Report and Proposal | 16 January, 2013 |
| 3. | Requirements Gathering and User Study | 12 February, 2013 |
| 4. | Revising Feasibility as per Requirements | 13 February, 2013 |
| 5. | SRS Documentation | 19 February, 2013 |
| 6. | Increment 1 | 10 March, 2013 |

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| 7. | Increment 2 | 30 March, 2013 |
| 8. | Increment 3 | 5 April, 2013 |
| 8. | System Testing and final Changes | 6-9 April, 2013 |
| 9. | Product Delivery and Final Presentation | 10 April, 2013 |

TABLE 1 – Project Timeline**8. Coordinating Team**

| S.No. | Name | Role |
|-------|--------------------|----------------|
| 1 | Prof Asim Banerjee | Faculty Mentor |
| 2 | Sandeep Mertia | Team Leader |
| 3 | Abhishek Bohra | Team Member |
| 4 | Akash Pandey | Team Member |
| 5 | Manjit Chavda | Team Member |
| 6 | Nitish Mittal | Team Member |
| 7 | Prashant Pandey | Team Member |
| 8 | Sonu Buchasia | Team Member |
| 9 | Sumit Kumar | Team Member |
| 10 | Surabhi Prasad | Team Member |
| 11 | Swena Gupta | Team Member |

TABLE 2 – Coordinating Team

9. References

Solanki, Aakash et. al., Team 16 - NGO Information Management Suite 1.0 - Technical Proposal, IT314 Software Engineering, Winter 2011-12, DA-IICT.

Shelat, Kaushik et. al., Team 18 - Bus Route Finder For Ahmedabad City - Project Proposal and Feasibility Report, IT314 Software Engineering, Winter 2011-12, DA-IICT.
