

Project Idea: OpenPrinting Web Site

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Education

M.Sc. (hons.) Biological Sciences

(August, 2008 - May, 2013)

Birla Institute of Technology and Science Pilani, Goa Campus - India

B.E. (hons.) Chemical Engineering

(August, 2008 - May, 2013)

Birla Institute of Technology and Science Pilani, Goa Campus – India

Skills

Programming Languages

C, C++, Java, Javascript, Php, Python, Actionscript 3, OpenCV, XML, XHTML/CSS,
Android, Linux, HTML5

Web Technologies

REST, SOAP, AJAX, MVC, Flex, OAuth

Frameworks

Flex, JQuery, JQuery Mobile, YUI, Zend, Joomla, Mediawiki, Yii, Memcache, APC, Blueprint, SVN/GIT, Facebook SDK

Interests

Music, Books, Coding, Entrepreneurship, Bioinformatics, Artificial Intelligence, Geo Mapping Services, Web Security, Cryptography

Work Experience

Professional Assistant

at Practice School division, BITS Goa (January, 2012 - April, 2012)

Lead Developer

at MyPriceIndia.com (November, 2011 - Present)

Global Fellow

at The Kairos Society (Dec, 2011 - Present)

Research Intern

at MSR INRIA Joint Lab, Paris (May, 2011 - Aug, 2011)

Team Leader, Technology

at BITSAA International (August, 2010 - Present)

Chairperson

at ACM, BITS Goa Chapter (August, 2010 - July, 2011)

Google Summer of Code Student

at GenMaPP (May, 2010 - August, 2010)

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Professional Assistant

at Research and Consultancy division, BITS Goa (January, 2009 - May, 2009)

Projects

Fitness application for Android

at *BITS Goa*

Working on a Android application for keeping track of user fitness based on the running exercises and the dietary intakes.

Techs used: *Android, GIS, Google Maps*

Formal Verification of OAuth2 Protocol and CSRF Analysis

at *MSR INRIA, Paris*

Worked on the formal verification and modelling of OAuth2 Protocol using ProVerif. Further, carried out security analysis of several popular websites and discovered several security vulnerabilities.

Techs used: *ProVerif, Php, Javascript, OAuth2.*

AlumClub - Alumni networking Platform

for *AlumClub.net*

Lead the development of a SaaS based product for an angel funded Startup. Its a white label solution for educational institutions to build their online alumni communities and networks. There are a host of features like discussion boards, profiles, social media integration, job listings and more.

Techs used: *Php, MySQL, JQuery, Blueprint, APC, Yii, Facebook/LinkedIn API*

Exploring and Visualizing relations between Pathways

for Google Summer of Code '10

As my GSoC 2010 Project, developed a framework for finding and visualizing relationships between Biomedical Pathways and processes. The project involved writing various algorithms to cache and calculate relations and then visualize the same using a Flex application.

Mentored by Thomas Kelder, from the University of Maastricht.

Techs used: Php, MySQL, Shell Scripting, Actionscript 3, Flex

Pathway Annotation with Ontology Tags

for Google Summer of Code '09

Developed a plugin for semantically tagging and browsing pathways using Bio Medical Ontologies. The plugin is based on the MediaWiki framework, YUI framework and uses several API from BioPortal. The project was mentored by Alexander Pico, Bioinformatics Group Leader at The Gladstone Institutes - UCSF.

Techs used: *MediaWiki, Php, MySQL, YUI/Javascript, CSS, AJAX, SOAP, REST*

Analyzing and Profiling User Browsing Patterns

Built a framework which categorizes web pages, using which cumulative user interests are calculated and visualized over a period of time. It also generates an Ontology tree structure which gives contextual information about the content of the web pages.

Mentored by Mangesh Bedekar, Faculty of Computer Science at BITS Goa.

Techs used: *Php, MySQL, Yahoo Search API*

Grayscale Design Studios

Completed several Web2.0 projects for various International and national Clients.

Worked on several projects which included coding Wordpress themes, customizing CMS and developing large applications from scratch. Also, interacted and worked directly with the clients. Some of the projects are:

Alumclub.net, Productology.in, Artoo.in, ExamCrunch.com, ResumeStock.com, AlacerSolutions.com, Go2BSchool.com, Mypriceindia.com

Techs used: *Php, MySQL, Zend Framework, Lucene, Various API from Google and Yahoo, Wordpress, Joomla, Facebook API*

You and Us

Were you involved in development in the project's group in the past?

What was your contribution?

Well, I haven't contributed to this project in the past.

Were you involved in other OpenSource development projects in the past?

As a part of my Google summer of Code '09 project, I developed a module for Wikipathways for tagging and categorizing Pathways using BioMedical Ontologies. Using these tags, users can browse and relate Pathways with each other. The project was mentored by Dr. Alexander Pico, UCSF.

For GSoC 2010, I developed a framework for finding relationships between Pathways and visualizing these relationships using an Interactive web application. The relationships are calculated based on various algorithms and use the textual labels and encoded genes for finding relations. Further, I created web services so that this data can be visualized through Cytoscape and other applications. More information about the project can be found here:

http://www.rbvi.ucsf.edu/trac/GenMAPP/wiki/Google_Summer_of_Code_2010/Chetan

I have also made patches for some opensource softwares like Geeklog.

Why have you chosen your development idea and what do you expect from your implementation?

I have chosen this particular idea because it gives me a unique opportunity to use my Web Development skills for developing a full fledged web site for collecting Printer information in a collaborative manner.

The website will be a complete Web application built in a modular manner with proper Authentication, Authorization, Notification, etc. mechanisms. The project will give me a chance to improve my technical skills.

What makes you suited to carry the project?

I have 3+ years experience in Web development. The required skill set matches perfectly with my profile. I have also collaborated on several International research and freelance projects,

Your Project

Modules:

a) **Forms with JS and Server side Validation**

For input, merge, add similar links. Protection will be added against CSRF, XSS, SQL Injection.

b) **Notification Module**

For sending email alerts for various events. Option to get digest/single email/unsubscribe. A separate Web page for viewing recent notifications.

c) **Messaging Service**

To enable communication between moderators and users without revealing their email addresses (specially of the moderators).

d) **ACL - Access Control List**

To grant moderator privileges and block spam users.

e) **Moderator Panel**

For approval, rejection, merge.

f) **Logging Module**

A site wide logging module to log various actions and events by the moderators and users.

g) **Extra Features**

Optionally, we can also have a analytics module to generate statistics such as % approved submissions, total submissions and so on. We can also have a history feature, where all the edits for a particular printer can be viewed in a chronological manner like a Wiki.

Implementation Details:

I propose to use MVC architecture in order to keep the code clean. For the frontend we can use JQuery and a rich text editor (like CKEditor) for messaging/editing/etc. Also, to ensure its scalable, we can use a file or a memory based cache (like Memcached) based on the requirements and the Server Specs.

Timeline:

- **May – 20th May**

1. Checkout the existing App.
2. Setup a local server of the app including MySQL db.
3. Finalize the specs and the modules for the new Website.

- **21st May – 30th May**

1. Finish frontend design (Photoshop/Balsamiq).
2. Convert the design to XHTML/CSS.
3. Complete the Db schema and structure.

June – June 15th

1. Finish the forms and the authentication modules.

- **June 15th– July 10th**

1. Finish the moderator, messaging and the notification modules.

- **July 10th – July 20th**

1. Complete the ACL , logging modules and the extra features.

- **July 20th – August 20th**

1. Documentation.
2. Exhaustive testing of the application.
3. Collect feedback from the community.
4. Benchmark and optimize the application for various critical factors such as load test.
5. Bug fixing.