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Photo Language Translation

Saumya Gurtu
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Organization: Systers, an Anita Borg Institute Community

Short description: This project aims at continuing the development of initial ruby on rails project to help Peace Corps (PC) volunteers located in Micronesia in developing local language. Currently, the Chuukese people have no written language. The PC volunteers need a generic web application specifically for all of their volunteer sites that would work offline (Internet access is scarce or low performance) through which PC volunteers could upload photos taken around town and add Chuukese and English translations.

GSOC Student Application

Questions 1-5 required.

1. Are you a Syster (www.systers.org)? Would you join if you are accepted? (Note: Systers is only open to women in computing; if you are male, you may not join, though you are welcome to join systers-dev, our development list.)

Yes I am a Syster.

2. How can we reach you (email, IRC, etc.) if we have questions about your application?

I am available on IRC channels #systers-dev and #systers-soc, my handle is: sam95_
My personal email id: saumyagurtu@gmail.com

My work email id (provided by my institute): saumya.gurtu@students.iiit.ac.in

My contact number: (+91) 8790533025

My launchpad Id : saumya

My skype id : saumya gurtu

3. What is your github and/or launchPad username(s):

Github: SaumyaGurtu

My launchpad Id : saumya

Project Specific Questions

If you are answering questions for a specific project, please DO NOT remove/delete questions. Simply add "N/A for this project." for that question.

4. Which Systems GSoC project are you applying for (please submit a separate application for each project):

Photo Language Translation:

The PC volunteers need a generic web application specifically for all of their volunteer sites that would work off-line (Internet access is scarce or low performance) through which PC volunteers could upload photos taken around town and add Chuukese and English translations.

The following problems have to be solved in the project:

- User Interface design/development
- Login at organization level (this could potentially be something other organizations can use)
- Admin dashboard :

a. Organization profile

b. Administrators

c. Sites

- Individual users:

a. Upload photos and add text/translation

b. Categorize

- Web-page must be able to use off-line

The idea is to do the following:

- Platform used: Ruby on Rails
- User interface must be clear, concise, familiar, responsive, consistent, attractive, efficient, forgiving.
- Login for a user can be done using its user-id, organization name and password.
- The admin of the application, the administrators of different organizations and the volunteers will have a different interfaces since there is difference in the accessibility of functions like add, delete, upload, comment, etc.
- Interface of admin of application: add new organizations and their respective administrators in the application, make changes in the profile of each organization.
- Interface of administrators of respective organizations: make changes in their organization profile, add new volunteers, add new sites of their organisation in the application.
- Interface of volunteers of each organization: upload selected photos, add text/translation of English as well as Chuukese language, categorize them according to the volunteer sites available in drop down box.
- A technology which will ensure updating the application automatically whenever Internet is available will be used in the project.

Advantages of adding these features:

- People will be able to figure out how your application works or where to go on your website hence they'll not get confused and frustrated. Thus, usability of application will increase.
- Different interfaces for different category of users will ensure that only a particular category will be able to access a particular data or a particular functionality. Thus new functionalities can be added in future to the application without compromising security.
- Just after the login we will get to know the organization of an individual user.
- Application will work off-line and will update whenever gets Internet access.

4a. What do you plan to accomplish over this summer for this project? (Please tell us what project you want to work on, how you will approach that project portion, and what your milestones are. You may want to ask for help from the systers-dev@systers.org list if you have not created project milestones before, or if you are unsure what is realistic to accomplish. GSOC divides the summer in half, and at the midpoint, you are paid if you are reasonably close to the milestones you proposed to reach by then, and again for meeting your milestones at the end of the summer.

If your project proposal is accepted, you will have a chance to work with your mentors to revise these milestones, and we always take into account "unforeseen circumstances", such as discovering that the code you were going to build on top of is incompatible with mailman. However, being able to realistically estimate how much you will be able to accomplish is an important part of this proposal.)

Following points briefly summarize how I would approach the project:

- Login of admin of the application, the administrators of different organizations and the volunteers using user-id, password and organization name (drop down box containing a list organizations added by the admin of application). The user can select an organization from the given list only.

- The new sites and profile of an organization can be updated by the administrator of respective organizations.
- Administrator of an organization can be changed by the admin of the application only.
- The volunteers can upload the photos, add translation in both the languages and categorize them according to the volunteer sites provided in drop down list box (Sites are added by administrator of particular organization only.)The user can select a volunteer site from the given list only.
- User can upload photos of format: .png, .jpeg and .jpg.

The following is the detailed time-line of the project milestones I plan to accomplish by the end of GSoC:

21st April - 18th May (Community Bonding Period)

- Get familiar with the Architecture and initial code of photo translation project which is built using ruby on rails.
- Communicate with the PC mentors and Syster mentors selected for this project and work together to design a solution for the problem.

19th May - 3rd June (Coding Period Starts)

- Login of admin of the application, the administrators of different organizations and the volunteers using user-id, password and organization name.
- Interface of admin of application: adding organizations and administrators of different organizations to the application, make changes in the profile of each organization.
- Testing : using suitable test cases- login by different category of users, checking the implemented functionality and checking that only particular category of users get to access that implemented functionality.
- Documenting whatever changes are made to the code for future reference.

4th June - 23rd June (Before Midterm evaluation)

- Interface of administrators of respective organizations: make changes in their organization profile, add new volunteers, add new volunteer sites.
- Interface of volunteers of each organization: upload selected photos to the application.
- Testing : using suitable test cases- checking the implemented functionality and checking that only particular category of users get to access that implemented functionality.
- Documenting whatever changes are made to the code for future reference.
- Code Review: I will find and fix errors that have been overlooked while coding process.I will try to make the code more efficient.

23rd June - 27th June: Midterm evaluation

28th June - 10th July

- Interface of volunteers of each organization: add text/translation of English as well as Chuukese language.
- Testing : using suitable test cases- uploading different formats of photos.
- Documenting whatever changes are made to the code for future reference.

11th July - 27th July

- Interface of volunteers of each organization: categorize them according to the volunteer sites available in drop down box.
- Testing : using suitable test cases- checking the implemented functionality and checking that only particular category of users get to access that implemented functionality.
- Documenting whatever changes are made to the code for future reference.
- Code Review: I will find and fix errors that have been overlooked while coding process.I will try to make the code more efficient.

28th July - 10th August

- I have planned my project time-line in such a way that this time period can be used to handle a major feature request by current moderators of Systers , PC or any “unforeseen circumstances” that may arise.
- Perform thorough Unit Testing of all the units (Individual units are expected to have been tested once already during their development phase itself).
- Integration Testing to make sure that the features are not conflicting with each other.
- Deployment: Making sure that it makes to production ready version without any problems.
- Documentation: I believe documentation is an essential step in Open Source Development. I plan to document all the changes I will make during GSoC along with the purpose of the changes so that it could be used for future reference.

11th August - 22nd August: Final Evaluation

5. If you have your own project to propose, please describe it here:

Already done in question 4.

Systers Projects

Mailman

If you are interested in Systers Mailman project, please answer questions 6 & 7.

You can install [Systers environment](#).

6. Describe how much of the systers-mailman environment you were able to install. Describe what problems you had. And what prevented you from getting the entire system up and running?

I was able to install systers-mailman environment completely. I was able to create list, subscribe to lists, send and receive mails, approve requests and mails, enable dlists, edit essay questions etc.

Here: <http://web.iiit.ac.in/~saumya.gurtu/installation.png> is a screenshot which shows that mailman is allowing me to enable dlists and enable subscription essay. This was just a test I used to check whether I have systers-mailman correctly installed.

7. We have [Trial Bugs](#) (in launchpad) for our Mailman project if you mentioned above,

• **Which one did you try?**

I fixed Bug 514136. The purpose of the bug was to fix missing “+new” in email address of the mailing list (dlist) in digest mails.

• **Describe your approach.**

I tried to locate the piece of code which was generating the incorrect mailing list email address. I found a function `getListAddress()` in `/Mailman/MailList.py` which was being called to get the address of mailing list, bounces email address, owner email address etc. That was the place to add the missing “+new”, but only for dlists. The next task was, given a list, how to know if it is a dlist. I started looking at the Dlist specific files and found a function `enabled(mlist)` which was in `DlistUtils.py`, when we pass a mailing list to the function it returns whether dlists is enabled in the mailing list or not. I imported `enabled` function from `DlistUtils.py` in `/Mailman/MailList.py`. In `getListAddress()`, I called `enabled()`. If it returned 1, I added the missing “+new” in the mailing list address and if it returned 0, I didn't add anything. This fixed the error. Here: <http://web.iiit.ac.in/~saumya.gurtu/MyMailList.py> is the new `/Mailman/MailList.py` file which fixes the bug and here: <http://web.iiit.ac.in/~saumya.gurtu/BugPatch> is the corresponding patch. I have uploaded the same patch in launchPad as well.

• **if you got stuck, where did you get stuck?**

It took me some time to understand the code. After locating the piece of code which was generating the incorrect email address, it was quite straightforward to fix it.

• **What kind of help did you ask for/get?**

I did not ask for any help while trying to fix the bug. However, while installing systers-mailman, I required and got constant help.

• **How would you test whether your solution works? What were the specific test cases you would run? (if you solved it, tell us what you did; if you didn't solve it, describe a set of test cases that would tell you whether your solution works)**

To test if my solution works, I would have to run the following two test cases:

1. Check if missing “+new” gets fixed for dlists in digest mails.
2. Make sure that “+new” is not getting added for non-dlists in digest mails.

I followed the following series of step to run the above test cases:

1. Create a mailing list with dlist enabled and create another one with dlist disabled.
2. Subscribe to both the mailing lists in digest mode.
3. Send mails to both the mailing lists.
4. In the admin UI of mailman, in Digest options there is a “send-digest-now” option, it sends an immediate digest mail to all the subscribers subscribed in digest mode (if there are any pending mails to be included in the digest mail). I used that option to send a digest for both the mailing lists.
5. I checked if the missing “+new” was present in digest mail for the dlist and it was present. I also confirmed that there was no “+new” present in digest mail for the non-dlist.

(We aren't that interested in whether you were successful, but more in how you went about learning about the code and solving a problem. Please describe your experience from that perspective)

Volunteer Management System (VMS) or Portal

If you are interested in VMS or Portal projects, please answer questions 8-10.

8. Have you used CMS (Content Management System) before? E.g. Wordpress, Drupal, et. If so, which one?

N/A

9. Do you have experience in developing themes or extending CMS before?

N/A

10. Have you used PHP, MySQL, Python/Django, Ruby/Rails and/or other frameworks? If so, please elaborate on what project/assignment you used these development tools.

N/A

Peace Corp Projects

If you're interested any of the Peace Corps Projects, please answer questions 11 & 12.

This year we are working on various Peace Corp (PC) projects. This is truly an agile environment and working with Systers, technical mentors and/or PC reps and PC volunteers (PCVs). Engagement will be crucial and encourage everyone to join systers-dev if you are interested in these projects.

11. Have you worked in mobile development? Android or iOS? If so, please describe your experience or project. Whether it is a school assignment, personal project or other experience.

I have no experience in mobile development , android or iOS.

12. Some PCVs are located in remote areas and most mentors are scattered across the globe. Have you worked on projects with remote classmates/professors/teams? If so, how did you best communicate with them and how frequently?

Yes, I have worked on the project "PG Thesis Portal" (as described in question 14 with a remote mentor. Our project was completed in 3 months and during this period we had meetings with mentor and team-mates once in every 2 weeks , Release 1 and Release 2 (final submission of code) of our project. We used SVN (version control) for committing our work since we worked in a team of 4. We used skype , facebook chatting facility and emails to communicate with each other. We used to submit a progress report in every meeting and all proper documents with full code in Release 1 and Release 2 of our project.

I understand this fact that while working for GSoC, my mentors and I might not be from the same time zone so we need to agree on a certain time when we all are free to discuss for the project. If I am selected for this project proposal , I will communicate with my mentors through IRC channel ,email etc. according to their convenience . Also , I will submit proper progress report to the mentors periodically.

General Development and Education Questions

All questions (13-20) must be answered in this section.

13. Why do you think you are a good candidate for these projects? Describe the skills you confidently bring to the project, and what you hope to learn from working on this project, and your interest in the Systers mission.

I am very well versed in python. I have a lot of programming experience and I have worked on many projects. I work hard and follow my deadlines and milestones strictly. I assure timely completion of my project. I always thoroughly test every program I write. Most importantly, I am really very interested in doing this project.

I observed that Peace Corps Volunteers serving in Micronesia are very skilled people who are trying to develop Chuukese language. I would like to help them by building a generic web application that would work offline.

If I get accepted, I am hoping to learn a lot from my mentors. I am looking forward to get in touch with some highly qualified developers across the world, it would be very enriching experience. It would be my first open source work experience. It would be a very exciting shift from class projects to a project which has the potential to affect so many users across the world. At the same time it is a much bigger responsibility. I believe doing this project would help me learn how to execute such a huge responsibility successfully as well as the basic etiquettes of IRC.

I will be honoured to work for the Peace Corps Organisation and its volunteers who tackle challenges such as pandemic disease, food security, gender equality, empowerment, etc.

I was very happy when I found out about Systers organisation and its mission. The male:female student ratio in my university is 10:1 (a very disturbing ratio) and most of my professors are males. Systers is composed of so many successful women in the field of technical computing, which provides encouragement for more women to join the field. Systers organisation provides a platform to talk to these inspiring women. I feel glad to have the opportunity of being guided by these female role models.

14. We have various projects in Python, Ruby, Android, iOS and Ushahidi. Describe the largest project you have completed in any of the programming languages mentioned. If you haven't used any of the programming languages, describe the programming experience you have that will allow you to learn a programming language quickly and be successful on this project.

The largest project I did in python is PG Thesis Portal (currently been used in IIIT - Hyd : my college). It was done by a team of 4 people, I being one of them (team leader).

This project was done using web2py framework, html , css , bootstrap : Designing a complete portal which will look after the MS/Dual Degree/PhD (student) works and proceedings (various reports and forms to be filled and submitted) and the whole workflow of the approval emails , acceptance emails, receiving alerts and reminders by various users other than students (PG committee , Dean R&D , faculty (guide) , external/internal examinees) from GRF(Graduate Request Form) submission (GRF excluded)of a student till the final thesis report approval by the Dean R&D.

I have a lot of programming experience in other languages as well, if you wish to know what other work I have done, my major projects can be found here: <http://web.iiit.ac.in/~saumya.gurtu/projects.html>

15. We use GitHub and LaunchPad for our projects. Do you have experience with any version control software?

Github: SaumyaGurtu

My launchpad Id : saumya

Yes, I am familiar with the working of SVN (Subversion). I have used SVN while working on my PG Thesis Portal project

16. Describe any plans you have over the time period of GSOC (including the community bonding period) in addition to GSoC, such as classes, a summer job, vacation plans, master's thesis, etc.

<http://www.google-melange.com/gsoc/events/google/gsoc2014>

I have classes starting from mid August, which wouldn't take more than 12 hours per week. I assure my classes wouldn't interfere with my GSoC work.

17. Education:

· **What year are you in school?**

I am a second year student at International Institute of Information Technology Hyderabad, India. (<http://www.iiit.ac.in/>)

· **What programming courses have you taken?**

I have taken C Programming, Python, Data Structures, Algorithms and Graphics.

o **What did you like about them? What did you not like?**

The professors of my University believe that the only way to learn programming is by actually doing it. In all the programming courses I took, I was given a lot of assignments. I liked doing the assignments very much. I learnt a lot by doing them.

· **What is your major?**

My major is Computer Science.

o **Why have you chosen that?**

I participated in International Informatics Olympiad in 6th class from my school and got selected for the national round at Delhi. I am interested in computer science ever since.

· **Have you done group projects (programming or otherwise)?**

Yes, I have done group projects. If you would like to go through the details, all the major group projects I have done can be found at <http://web.iiit.ac.in/~saumya.gurtu/projects.html>

o **What was your primary contribution to/role in the group?**

Primarily I have been Programmer/Software Developer in the group. I have also been Team Leader in a few projects.

· **What made working in a group better than alone? What made it harder?**

Working in a group increased the quality of the work. It also taught me how to write codes which can be easily understood by others. In a group its a necessary that the code you write is understandable so that the other members can extend the code. Working in a group also helped in finishing the project early as we would divide the work and work parallely and then integrate afterwards. Working in group also ensured helping each other mutually if someone is stuck.

The only hard part in working in a group is that sometimes it becomes difficult to communicate unambiguously. Frequent meetings and progress tracking help in better communication and synchronization.

18. Do you have work experience in programming? Tell us about it.

My work experience in programming is as follows:

- Python,html,css,web2py : I have worked for PG Thesis Portal (as described above), a prototype for stack exchange (a fast-growing network of users & experts wherein questions , answers & comments can be posted on diverse topics).
- MySQL , Python , web2py : Database Application: Designed and developed a Relational Database Application - Camera Store Management System (CSMS) for a camera store in Hyderabad. This application maintains the data for the company by enabling the users to view the relevant database and administrators to modify it.
- OpenGL : 2D game Archnophobia (A shooting & canon game with spiders ,laser shooter ,baskets) and 3D game Fossil Park Ride (The player will be riding a motorbike through the rocky park and the goal is to collect as many fossils as possible within a given time limit.)

19. Do you have previous open source experience? Tell us what you have done.

No, I do not have any previous open source experience.

20. Tell us one interesting fact about yourself.

I work hard without losing heart till the end.

0 comments

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