Google Summer of Code – 2013

Name:Prannoy Pilligundla

Age:18yrs

E-mail Address:<prannoyp.1994@gmail.com>

<prannoy@conquest.org.in>

Telephone No:+91 9701549193,+91 8441000486

Nationality:Indian

Studying:B.E(Hons) Electronics and Instrumentation Engineering at Birla Institute of Science and Technology,Pilani(BITS-Pilani),India

Preferred Communication Language:English

Time Zone:UTC+5:30

About Me:

Programming languages that I know:C,Java,Python

Projects that I have worked/currently working on:

1. Project SmartLab – This is an alumni funded project under the guidance of a professor which aims at developing automation systems by using embedded

systems such as Beagleboard. The current modules that we have worked on

are:( i.) Image Processing: Two cameras used to imitate the human stereoscopic vision producing a depth map of moving blobs in the room so as to precisely locate the objcect in the x-y-z plane with origin centered in beween the cameras. (ii.) Speech Recognition: Use of “Julian”-speech recognition engine to detect commands to turn on/off electrical appliances.

(iii.) Login terminal – A python script to poll for infrared interrupts to keep track of people entering and leaving the room and a login and logout service. Built using PyQt. (iv.) Embedded C coding – to control lights across the room using Xbee wireless communication. (v.) Cross Compilation and Linux concepts – All the programs developed on an Intel based development machine was cross-compiled to ARM based beagleboard's processor architechture. We also have stripped off all the unnecessary features of Angstrom distribution of Linux to make the processing faster on beagleboard.

2. Making an Image Processing application which tags multiple targets in its view(Bull's eye). – Using android phone as the main processing unit for a robot and interfacing it with arduino to control the movements of robot using FSK and TRRS protocol.

3. Represented BITS-Pilani in Robocon 2013 held at Pune,India from 7th -9th March 2013. Robocon is the largest annual congregation of budding engineers and top tech enthusiasts from across the globe interested in field of Robotics and Artificial Intelligence.

4. Automatic Irrigation System.It keeps track of moisture content in the soil and switches on the water power supply and starts watering the field when the moisture content goes down a particular level which we can be set manually according to the requirement.It automatically switches of the water power supply when required moisture content is reached

Familiar Python Modules: PyGTK,PyQt,SciPy,NumPy

Image Processing:OpenCV

I think the essential skill for being successful in GSoC is to be able to quickly grasp code and understand how to code using Documentation and example code. I think I have this skill

inherently.I have pursued programming not as a hobby but as a full-time passionate job. I

am keen on learning new things and I think GSoC will provide me a wonderful platform. I

believe in the OpenSource philosophy and would like to continuously contribute quality

code to the community. I am committed and I'll definitely maintain a good relationship with the mentor and other developers to complete the project in time.

No commitments during summer and this is my first project in GSoC

Proficient in English,Hindi and Telugu.

Project Description:

Ideas page link:

<http://wiki.samba.org/index.php/SoC/Ideas>

Problem Statement:

Improving Samba-GTK.  Extending GTK+ frontends further and porting them to GTK+3.Fixing the issues with the DCE/RPC python bindings.

I selected this project because I was interested to work and learn more on PyGTK and I think this will be the right platform to do so.It involves identifying several corner cases which I think is challenging and I would love to do it.I think it will be a great experience working on this project because I will be developing for a open source community

Approximate Schedule of my project:

1st -2nd Week:

Identifying few showstopper bugs affecting some functionality of the toolkit and solve the issue which is to do with the samba-python bindings.

3rd -4th Week:

Porting regedit in the bin to GTK3 and adding the missing functionalities to the rpc based implementation in the sambagtk package.

5th-6th Week:

Improving and solving issues related with binutilities and user manager which are arising due to lack of proper MSDN documentation

7th Week:

  Identifying and fixing certain rare corner cases which cause Regedit module to crash seemingly at random

8th-9th Week:

Final review of all the modules.

Debugging Started.

10th Week:

Final Documentation

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(GSoC Done!!!!)

I think I would gain a lot of experience in debugging with this project apart from the original experience of contributing for a open source organisation.I think I would also learn basics about how SMB/CFID networking protocol actually works

I would be associated with Samba community even after the GSoC period because there is lot more to contribute other than my project.I would love to contribute in improving the userexperience and GUI of samba because I enjoy doing it.