GSoC 2016 Proposal to Kivy (Python Software Foundation)
Project: Plyer

Sub-organization information

Sub-organization with whom you hope to work: **Kivy**

Student Information

Name: Kuldeep Singh
Email: kuldeepbb.grewal@gmail.com
Telephone: +917727935906/ +918398988656
Time Zone: Jaipur, India UTC+5:30
IRC: kiok46@irc.freenode.net
Source Control Username: http://www.github.com/kiok46
Skype: kuldeep grewal
Blogs: http://kiok46blog.wordpress.com

University Information

University: The LNM Institute of Information Technology, Jaipur
Major: Computer science and Engineering
Current Year: 3rd Year
Expected Graduation date: In June 2017
Degree: B-Tech

Project Proposal Information

Proposal Title: Kivy: Plyer

Proposal Abstract: This Proposal is based on the idea page provided by Kivy Organization. The goal of the project will be to provide stable API to the users for accessing features of their desktop and mobile devices.

Project Description:

- The table below shows the current available features in plyer and are marked as “X” and left blank if not available. My goal would be to fill the table with as many “X” as possible. This table could never be complete as there is always a possibility for some new entry.

Platforms	**Android**	**iOS**	**Windows**	**OS X**	**Linux**
Accelerometer	X	X		X	X

Audio Recording	X				
Barometer					
Battery	X	X	X	X	X
Bluetooth Low Energy					
Call	X				
Call (interface)					
Camera (capture video)					
Camera display					
Camera (taking pictures)	X	X			
Compass	X	X			
Contacts					
Email (Open mail client)	X	X	X	X	X
Flash	X	X			
Gallery					
GPS	X	X			
Gyroscope	X	X			
In-app Browser					
Internationalization					
Native File Chooser			X	X	X
NFC					
Notifications	X		X	X	X

Notification (Interaction)					
Orientation	X				
Sharing					
Sms (interface)					
Sms (Sending Messages)	X				
Speech Recognition					
Text to Speech	X	X	X	X	X
Unique ID	X	X	X	X	X
Vibrator	X	X			
Wi-Fi					

- **Testing and improving already available pull requests:**
  - There are currently 28 Pull requests waiting to be approved and merged in the master branch.
- **Solving issues:**
  - There are about 46 open issues created by users. I will try my best to reduce this number and solve as many issues as I can.
- **Access to required hardware:**
  - I personally own Linux, Windows, Android, OS X and iOS systems.
- **Moving code from p4a and kivy-ios to plyer:**
  - There are some modules that are required to be moved to plyer.
- **Dividing the work flow:**
  I will be dividing my work in 5 phases and the features in 3 categories (Easy, Medium, Hard).
  - Phase-1: Categorizing available pull requests and issues.
  - Phase-2: Work on features, pull requests and issues in easy category.
  - Phase-3: Moving code from p4a and kivy-ios to plyer.
  - Phase-4: Work on features, pull requests and issues in medium category.
  - Phase-5: Work on features, pull requests and issues in hard category.

Timeline:

Up to 23rd May	For android I need to access Java cases for which I will be using PyJNIus, for iOS and OS X I need Objective-C for which I will be using PyOBJus, for Windows and Linux I will be using commonly found libraries like ctypes for windows and (dbus and gtk3+) for Linux. I will be reading about the implementation for these features, gain more knowledge of Pyjnius, Pyobjus and kivy-ios and try to improve them if required. I will be in touch with my mentors and take suggestions. I will discuss with my mentor and divide the entire table into the Easy, Medium and Hard category. During this time, if my mentor thinks that I am ready to start programming then I will start working on my Phase-1.
23rd May – 30th May	**Phase-1** I will be categorizing the already available pull requests and issues in the easy, medium and hard category and each would be implemented at its respective phase. Move to phase-2 if time left.
31th May – 16th June	**Phase-2** • During this phase I will be working on features and pull requests in easy category. • Documenting and testing will be done along with feature implementation.
17th June – 27th June	**Mid-Term Evaluation** • Make Preparation for the mid-term evaluation. • Seek feedback and make revisions based on that. • Continue implementing features in easy category. • Submit the evaluations before 27th June.
28th June – 06thJuly	**Phase-3** • Will take the feedback from the evaluation and make changes (if required). • Will implement features from easy category (if any). • During this phase I will be moving the code/ modules from p4a and kivy-ios to plyer. • Documenting and testing will be done along with feature implementation.
07th July – 23th July	**Phase-4** • During this period, I will be working on features and pull requests in medium category. • Documenting and testing will be done along with feature implementation.
26th July – 14th August	**Phase-5**

	• During this phase, I will be working on features and pull requests in the hard category. • Documenting and testing will be done along with feature implementation.
15th August – 23rd August	• Continue to Implement features from hard category (if left). • Complete any missing documentations. • Complete evaluations and send them before 23rd August.
Onwards	Keep contributing to Kivy and its sister projects and make use of these features.

- **Link to a patch/code sample, preferably one you have submitted to your sub-org (*):**
  I have implemented the following for plyer:
  1. **Calling feature for android. (Merger)**
  2. **Calling feature for iOS. (Waiting for approval)**
  3. **Bluetooth feature for android. (Waiting for approval)**
  4. **Added Notification Ticker functionality to Notification, updated GPS example and added a Battery example. (Merged)**
  5. **Text Sharing for android. (Waiting for approval)**

- **Related Work:**
  - PyJNIus: A Python module to access Java classes as Python classes using JNI.
  - PyOBJus: A Python module to access Objective-C classes as Python classes using Objective-C runtime reflection.
  - P4a/ Python for android: It is a project to create your own Python distribution including the modules you want, create an apk including python, libs, and your application.
  - Kivy-ios: It is designed to compile the necessary libraries for iOS to run the application and manage the creation of the Xcode project.

Other Commitments:

- Have you applied to any other organization? No.
- Do you have any other commitments during the main GSoC time period? No.
- Do you have exams or classes that overlap with this period?
  - I have 2 exams in first week of June and 2 in first week of July. (But not a big issue).

Why am I apt. for this project:

Familiarity with Plyer and its coding style. I love to code and have been doing it for past 2 years with principle language Python, Java and C. I have been contributing to Kivy and its sister projects for past 6-7 months(mainly Kivy-Designer and Kivy-Garden). After some years when millions of people would be using Plyer's API, I want to be remembered as the guy who made them.

Other Schedule Information:

None.