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BuildmLearn - mConference App & Framework

**Google Summer of Code 2016**

# About Me

I currently in the 4th year of my Bachelors in Technology Degree from Delhi Technological University (formerly DCE) in Electronics and Electrical Engineering. I have been tinkering with code since school days. I love working on Android Apps, as well as the Android OS (AOSP), and have spent many of my nights up hacking on electronics projects. I also regularly participate in a lot of hackathons and have won a few of them in the Delhi circuit. As an open source Android evangelist, I have spoken at MODS 2014, and at DroidCon India 2013, 2014 and 2015, on topics such as - “Modifying and Enhancing the Android OS” and “Continuous Integration of Android OS Projects”.

I was a participant at Google Summer of Code 2015 under the organisation FOSSASIA, working on the Open Event Webapp project.

# Overview

I wish to contribute to the development of BuildmLearn’s mConference App framework project. I really like the idea, and I have been driven to work on creating better tools for event organisers for a long time, because I myself am one.

In fact, as part of GSoC 2015, I had worked on FOSSASIA’s Open Event project.

# Work Experience

* Open Source Contributions to -
  + [Android Open Source Project](https://android-review.googlesource.com/#/q/owner:championswimmer)
  + [CyanogenMod](http://review.cyanogenmod.org/#/q/owner:championswimmer)
  + [Arduino IDE](https://github.com/arduino/Arduino/commits/master?author=championswimmer)
  + [AOKP](http://gerrit.aokp.co/#/q/owner:championswimmer)
  + [FOSSASIA - Open Event Webapp](https://github.com/fossasia/open-event-webapp/commits?author=championswimmer)
* Android Apps built -
  + [Recovery Manager for Xperia](https://play.google.com/store/apps/details?id=in.championswimmer.twrpxperia)
  + [SubtleNews](https://play.google.com/store/apps/details?id=in.ac.dtu.subtlenews.free)
  + [Trickle - Open Data Visualiser](https://play.google.com/store/apps/details?id=in.tosc.trickle)
* Open Source Android Libraries built -
  + [SimpleFingerGestures](https://github.com/championswimmer/SimpleFingerGestures_Android_Library) - used by over 40 apps on Play Store
  + [Android Social Buttons](https://github.com/championswimmer/Android-SocialButtons) - used by over 20 apps
  + [LifeLog Library](https://github.com/championswimmer/Lifelog-Android-Library)

# Goals

1. **mConference App Framework:** Basically the fully functional skeleton app for an event/conference, which, when plugged in with a JSON/XML data set can work as a complete app.
2. **Web/desktop App Generator:** The tool with which we can create/edit the JSON/XML dataset in a WYSIWYG way, and patch that onto the framework to generate a finished apk that will work as the final conference app. Similar to BuildmLearn’s desktop toolkit software.
3. **Android Toolkit:** On the lines of the BuildmLearn Android Toolkit, this will perform similar functionality of the desktop app generator, but will work on a Android phone directly, so that event organisers can create/edit their apps from their phones itself.

# Specifications

The project will involve creating an Android app framework, meant to be used for conferences, or similar events. The functionality, in such cases, is usually the same - i.e. About Page, Sessions, Speakers, Registration etc, with only the data and the theme changing from one event to another.

The same way BuildmLearn’s mLearning apps work, where the funcitonality of the app is pre-coded, and the teachers can simply generate new apps, with new sets of data, we can create a toolkit for web/desktop/android with which prospective Event organisers can generate their own event app.

They will, essentially just generate a JSON or XML file that will hold all the data, and the JSON/XML file will be embedded into the framework, and compiled into an APK that will serve as the distributable app for that event.

# Milestones

## Week 1-2

In the first two weeks, I intend to -

1. Decide upon the functionalities to be present in the first version of the framework - i.e. what all pages, what entities, what features like reminders etc can be there
2. Finalise on the API for the dataset.
3. Create a configuration/system by which we can generate new APKs in a simple way with a packaged JSON/XML dataset. (We can take a cue from the process used by BuildmLearn’s toolkit)

## Week 3-6

During this time period, I intend to complete all the core functionality, as decided in 1.A, and follow that with integrating the datasets.

At the end of week 6, we should have a toolkit, via which a person can generate a basic APK for their event.

I intend to have only a functional desktop/web toolkit for this time, and focus on the Android toolkit later.

## Week 7-9

During this time, I wish to work on improving test cases, automate generations, set up mock JSON/XML datasets to test the toolkit, and set up continuous integration via tools like Travis, and try to achieve 70-80% code coverage via unit and instrumentation tests.

I would like to take this time to also test generating APKs for real events - like any upcoming conferences, or any past conferences, and see how the system performs, note bugs and errors, and fix them.

The aim would be to release a production-ready v1.0.

## Week 10-12

During this period, I’ll wrap up the work on the Android toolkit/generator too, so we can have mConference app generation functionality on both desktop and mobile.

I would also try to utilise this time period, to frame new possible features, and create a roadmap for the future, and work on implementing features beyond the scope of v2.0.

# Why me ?

Other than being an Android developer for over 4 years, and a passionate open source contributor, I believe that I am well suited for this project, because I have already worked in the past with FOSSASIA on their [Open-Event project](https://github.com/fossasia/open-event) which was also a tool intended for event organisers to easily generate apps and websites.

Also, previously with a collegemate, I had developed a web-based app generator for college level fests and other events - [preview of which you can see here](http://teamosc.github.io/EventFul_Amoeba_AppDesigner/)

I have also worked on a personal project called [Eventful Android Library](https://github.com/teamOSC/EventFul_Android_v2) which intended to make developing apps for events very easy. It is a convention-over-configuration library that can work as a complete app, with as less as [0 lines of a Java file](https://github.com/teamOSC/EventFul_Android_v2/blob/master/app/src/main/java/in/tosc/eventful2/MainActivity.java), and only a [config.json file](https://github.com/teamOSC/EventFul_Android_v2/blob/master/app/src/main/assets/config.json). The idea was to be able to also configure the UX (sliding vs tabs vs navdrawer) on a runtime basis, after reading the config file.

Since I have worked on projects which are very similar to the requirements for the mConference App, I believe I would be the ideal candidate to work on the mConference Project.