Projects offered to undergraduate and graduate students to participate in the program

Project 1: (for two undergraduate students)
To find and test on-line tutorial materials to write Android apps, and to develop a workshop for students based on those materials. No experience necessary.

Project 2: (for two undergraduate students)
In the past year or so a number of small, inexpensive and easy to use micro-controllers and ARM based computers became available. These boards are small but powerful enough to be used in various applications where dedicated tasks are required, such as robotics. The most popular platforms are the Arduino, Beagleboard and the Raspberry Pi. In this project we plan on evaluating at least two of these boards to be used as a platform for the development of a data acquisition for a cosmic ray experiment. The data acquisition will be used to measure cosmic ray flux. To this extent it will count the number of cosmic rays, and store locally for later processing. Time synchronization is also desired. The candidates must have some prior knowledge of computer programming in C or C++.

Project 3: (for one graduate student and two undergraduate students)
To facilitate the interaction among all participants in our educational projects we would like to implement a Site that is based on the social network paradigm. This site will be used to exchange information, tutorials on how to carry on data analysis, setup meetings, download data, store relevant documentation, and store experimental data. All site users will receive a rank that gives them special privileges. Due to the educational nature of the experiment, senior personnel will monitor the member's activity as far as the academic performance. The site should also report news, used to schedule workshops, and other activities. It can be built on ELGG or Drupal, or any other platform that has enough flexibility for a modular implementation. For the continuing experiment follow up the concept of a experiment wide log book should be implemented. This project will be divided into a planning phase, initial implementation, and follow phase where others can implement new modules. Development of this site should be done in such a way that allows other science experiments to use it.