IAF SPACE EDUCATION AND OUTREACH SYMPOSIUM (E1)
On Track - Undergraduate Space Education (3)

Author: Mr. Andreas Hornig
University of Stuttgart, Germany

Mr. Kai Wilke
AerospaceResearch.net, Germany
Prof. Dieter Fritsch
Institute for Photogrammetry (IFP), University of Stuttgart, Germany
Mr. Manfred Ehresmann
Institute of Space Systems, University of Stuttgart, Germany
Ms. Blagica Jovanova
AerospaceResearch.net, Germany
Dr. Mario Merino
Universidad Carlos III de Madrid, Spain
Mr. Ulrich Beyermann
Jugendforschungszentrum Herrenberg-Gäu Aerospace Lab e.V., Germany

SUMMER OF CODE: BRINGING TOGETHER STUDENTS WITH OPEN-SOURCE SPACE ORGANIZATIONS

Abstract

There is an age-old problem of scholastic backsliding: During the academic year students study hard and learn a great deal, but with a lack of the right employment opportunities or other pursuits outside of school, technical skills atrophy rather than get honed and expanded. And during the semester breaks from university, students normally have the opportunity to start an internship in a company as required by their course of studies, earning money for their tuition fees and their living expenses, or just having vacation.

So it is difficult for students to find the time to develop their professional skills or it is difficult to reach the desired company due to the distant location of the company of choice.

In the software development field, Google Summer of Code (GSOC) is trying to solve this optimizing problem. It firstly encourages students to participate in open source projects because the development occurs online. That is solving the geography problem as well es giving students the chance to work in a globally distributed team. Working on an open source project provides exposure to the entire software development process and tool chain. And lastly it grants cash stipends from Google allowing students to focus on their development work rather than getting a job unrelated to their academic pursuits. The idea for the Summer of Code came directly from Google's founder Larry Page.

The exection itself is organized by volunteering organizations from the open-source movement that are providing the project ideas for the students and most importantly, the mentors supporting the students and teaching them how to work on their 3 month programming projects and finish it within a team under the team's conditions. This programm was so sucessfull that it was copied and adapted unde the name Summer of Code in Space by the European Space Agency (ESA) with a pure emphasis on space software.

This paper describes the experiences and the lessons learned of 5 GSOC and 4 ESA SOCIS participants of the AerospaceResearch.net organization. The importance of a merger of software and algorithms for earth observation in the age of big data with the knowledge of space missions will grow within the next

years. Programmes like these can help to bring together international students of other fields with space organizations, agencies and companies. It will create new, innovative interdisciplinary solutions for the benefit of the space sector and also expand space open-source community.