UNIMAS student at SLAC Duties

Introduction

Students have a local superviser in Kuching. We start with a couple of graduate students interested in network monitoring.

- They learn about the PingER and other projects
- They work on assigned tasks working in Kuching
- We meet regularly (e.g. weekly) via phone (Skype) to review progress.
- Meeting includes Les at SLAC, any Kuching students at SLAC, students and supervisor in Kuching
- Daily emails, skype calls & instant messaging to keep in contact
- Tasks will involve programming (typically in perl) of network measurements, analysis and presentation (GUIs) of information
- The best of the best graduate students are invited to SLAC for 1 year as an intern/visiting scientist

Up to 2 graduate or beyond students at a time at SLAC, Funded by UNIMAS:

- They will work together with the SLAC team on projects such as PingER, perfSONAR
- Depending on the student there may be opportunities for presentations, talks, and contributing to publications
- If interested then fairly early on it would be good to have a face to face meeting in Kuching and/or SLAC to go over expectations, do some publicity, introductions etc.

Visit information

Typical duration at SLAC is 1 year. Nara raised the question as to whether the invitations could be for 2 years. Les checked with the US immigration folks. Unfortunately for IT specialists the limitation is 1 year.

Nara also asked as whether there was a way to get a certificate issued on their work at SLAC to assist with a future career. Les is happy to provide a ltter of recommendation on SLAC letter head concerning their work st SLAC.

Typically visits are expected to be for about a year. UNIMAS are on a 2 semester system. There is a a break of 3 weeks. The semesters start September and February.

Duties

Share an office with Les. This will provide quick response to questions and suggestions. Les will provide supervision and mentorship. there should also be a superviasor in UNIMAS. Have access to SLAC facilities (computing account, office space, facilities etc.)

The exact tasks to be performed will depend to some extent on the students interests for example do they lean more to.

- Building network monitoring tools tools (measurement, analysis, GUIs)
- Analyzing data, producing case studies
- Research, writing papers

The following are potential areas for tasks.

Work on PingER Wide Area Network monitoring (also see potential tasks).

- Using and extending the PingER project tools. This would include the measurement agents, the gathering and archiving, the analysis, the graphical presentation tools, the documentation etc.
- Provide improved PingER management tools to automatically discover problems, reporting relevant detailed information.
- Mining the data for research; analyzing to provide case studies of Internet events (such as cable cuts, new installations, political turmoil, earthquakes, tsunamis, trends, correlations with other non Internet indices etc.); providing status reports; devising new ways to analyze the data; identify, filter and report on anomalies in near real time; correlate the anomalies across multiple links and multiple metrics.

Work on graphical front ends for the perfSONAR network monitoring. This will be mainly with Dr Yee Ting Li.

Work on geo locating target hosts by means of ping Round Trip Times from known landmarks to provide information for trilateration.

Coordinate fortnightly phone meetings with UNIMAS.

Coordinate regular phone meetings with NUST Pakistan.

Consult higher education for funding

- Funding for extended (1 year) internships at SLAC…