

Computer Science Education with Free Software - A Brazilian Viewpoint

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- São Paulo, population 10M (greatSP: 18M)
- USP: 5K profs., 50K undergrads, 20K grads
- Computer Science Department
 - 38 professors
 - Bachelor in CS: 250 students (50/year)
 - Masters and Doctoral: 200 (40 degrees/year)
- Continuing education:
 - 500 to 800 students in short 1-week courses

FOSS in Undergraduate Courses

- All practical courses are based on FOSS tools:
 - Intro to CS, Programming lab., Compilation, OS, Databases, Middleware, Software Engineering, OOP, Agile Methods, AI, Computer Vision, etc.
 - Linux lab.: about ~80 PCs administered by the undergrad students themselves.
 - Senior admins train freshmen continuously
- Undergraduate research projects
- 50 students in Extreme Programming lab develop new FOSS every year.

FOSS in Graduate Courses

- We have issued about 300 graduate degrees
 - About 50% either used or developed FOSS
 - Linux-based research since 1992, 80% of professors and students use Linux daily.
 - Nowadays: Eclipse, Java, RoR, PostgreSQL&MySQL, Apache/Tomcat, etc.
- Research incorporated into FOSS projects:
 - AcMus
 - InteGrade
 - Tango
 - Vision, AI, Graph Theory, etc.

Challenges

- Problem: Brazilian IT market is very active; it sucks our students before they graduate. This harms their education badly; harms innovation.
 - Action: create internship opportunities inside the university. Collaborate with software companies to bring innovation projects into the university.
- Problem: historically, our students are very passive. Technically very good but lacking leadership.
 - Action: promote entrepreneurship both in FOSS projects during the course and in creating start-up companies when they graduate.

Questions?

- Come visit us: fellowships available for:
 - Doctoral students
 - Post-doc researchers
 - Visiting professors
- Qualipso Competence Centre in USP:
 - <http://ccsl.ime.usp.br>
 - Prof. Fabio Kon - kon@ime.usp.br