Department of Information Technology

Code camps at LUT

Possibilities for students and companies

Prof. Jari Porras

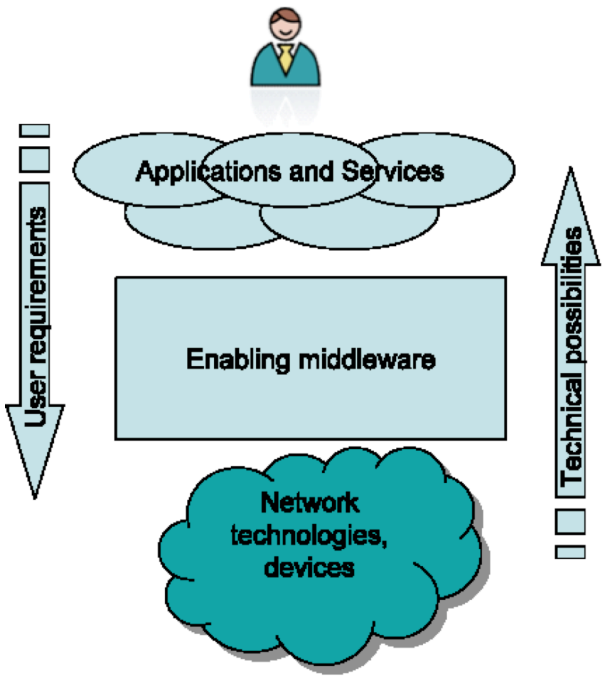
Communications Software Laboratory

Introduction

- Jari Porras
  - MSc 1993 LUT (fi) & MTU (us)
  - DSc 1998 LUT
- Professor since 1999
  - Courses 50+
  - MSc thesis 250+
- Parallel computing & simulation, Wireless & ad hoc & p2p networking

Communications Software Laboratory (ComLab)

Efficient Mobile Applications



- Leader: Professor Jari Porras
- Team: 16 members
  - 2 professors
  - 3 post docs
  - 11 Ph.D. Students
  - + undergraduate workers
  - + international visitors
- Results:
  - 7 PhD degrees, over 200 scientific publications, national and international projects (2011 two Eu FP7 projects)
- Objective: 1 PhD/year

ComLab Research: Efficient Mobile Applications

- **Intuitive and Efficient Applications**
  - User centricity in application and UI design
  - E.g. Ampers, MoMUPE, UMSIC (FP7)

- **Intelligent Mobile Software and Services**
  - Software and services as the basis of future applications
  - E.g. PTD, UMSIC (FP7), MOBISERV (FP7)

- **Integrateable and portable software**
  - Integrated solutions for the industry needs
  - E.g. MoMUPE, ETAP, Mobilding, MobTool, UMSIC (FP7), MOBISERV (FP7)

- **Extendable Middleware**
  - Middleware solutions for seamless networking
  - E.g. WLPR.NET, PTD, UMSIC (FP7)

Activities & Academic Cooperation

UMSIC (FP7)
OU, JYU, LUT (FI)
UCLAN (GB)
ULondon (GB)
UZH (CH)
Systema (GR)
Nokia

MOBISERV (FP7)
Systema (GR)
LUT (FI)
Robosoft (FR)
UWE (GB)
AUTH (GR)
CSEM (CH)
Smart homes (NE)
Smartex (IT)
ANNA (NE)

eMobility

Domestic
TUT, HIIT, VTT

International
UniK (NO)
CTIF Aalborg (DEN)
Aarhus Univ (DEN)
Uni Kassel (DE)
Josef Stefan (SLO)

MIU (EG)
Shanghai, Beijing (CN)

EUROPEAN SCIENCE FOUNDATION
SETTING SCIENCE AGENDAS FOR EUROPE

WIRELESS WORLD
RESEARCH FORUM

CODE CAMPS

- Code camp is a short time, social, collaborative learning effort
  - Main emphasis in programming
  - Topics may concentrate on some special, hype issue or basics of some topic

- Excellent opportunity for both students and companies

HISTORY

- Started in 2003 as a part of our International Summer School on Telecommunications
  - 1 day – 24h event
  - Symbian programming
- In fall 2005 first 1 week code camp
  - Nokia MUPE + context awareness
- 2008 Grant from Finnish Technology Industry Foundation for code camp series
- In fall 2008 code camp in Egypt

YEAR	TOPIC	Company	Participants	Notes
2003	Symbian	Digia		SSOTC
2004	MUPE	Nokia		SSOTC
2005	MUPE	Nokia		
2005	PAN	LUT		SSOTC
2006	RSA/J2EE	IBM		
2006	Maemo	LUT		SSOTC
2007	.NET	Microsoft	44	
2007	Maemo	LUT		SSOTC
2007	MUPE	Nokia	15	
2007	MUPE	Nokia	32	MIU (Egypt)
2008	.NET	Microsoft	36	
2008	Maemo	LUT		SSOTC
2008	Lively Kernel	SUN	7	
2009	.NET	Microsoft	61 (Lut, Tut, Tkk, Saimia, MIU)	
2009	Maemo	LUT		SSOTC
2009	Vaadin	IT-Mill	24	
2010	.NET	Microsoft	~30 (Lut, Tut, Tkk)	
2010	Android	Digia	44 (Lut, Saimia)	
2010	XNA	Microsoft	~30	
2010	MeeGo	Nokia		SSOTC
2010	Qt	Digia	~30	
2011	.NET	Microsoft	24	
2011	“Robotics”	LUT		SSOTC
2011	Android	Digia		

FIGURES

- 22 arranged code camps in 9 years
  - 9 summer school code camps, 4 code camps with Nokia MUPE, 4 code camps with Maemo, 5 code camps on .NET environment
  - Digia, Nokia, Microsoft, IT-Mill as supporting companies in past and forecoming code camps
  - MUPE + Context awareness the biggest code camp with 150+ students
  - .NET code camp 2009 had most locations at the same time in code camp
  - Summer schools are the most international

Code Camp Series

- Code camp series is an effort by LUT, TUT and TKK to promote the code camp methodology
- Various approaches
  - Separate code camp in each location – hard work
  - Video lectured code camp for each location – collaboration
  - Single code camp
- Each organization arranges one per year

.NET CODE CAMP

- Arranged already 5 times (last one this January)
- Each year something new emerges
  - New students, new ideas, new challenges
  - 2009: Students from LUT, Saimia, MIU, TUT, TKK
  - Always hard work – sometimes it pays off

ImagineCup

- Excellent concept for supporting code camps
- Gives the application area for the code camp
- Success in ImagineCup requires
  - Excellent idea
  - Hard work
  - Participation

- Imagine a world where technology helps solve the toughest problems facing us today

CODE CAMPS FOR STUDENTS

- Possibility
  - to learn new
  - to refresh old
  - to challenge oneself
  - to learn from other
  - to teach others
  - to be a part of a bigger group
- Have fun – enjoy – work together

CODE CAMPS FOR COMPANIES

- Possibility
  - to challenge students
  - to recruit new workers
  - to create new ideas
  - to test old ideas

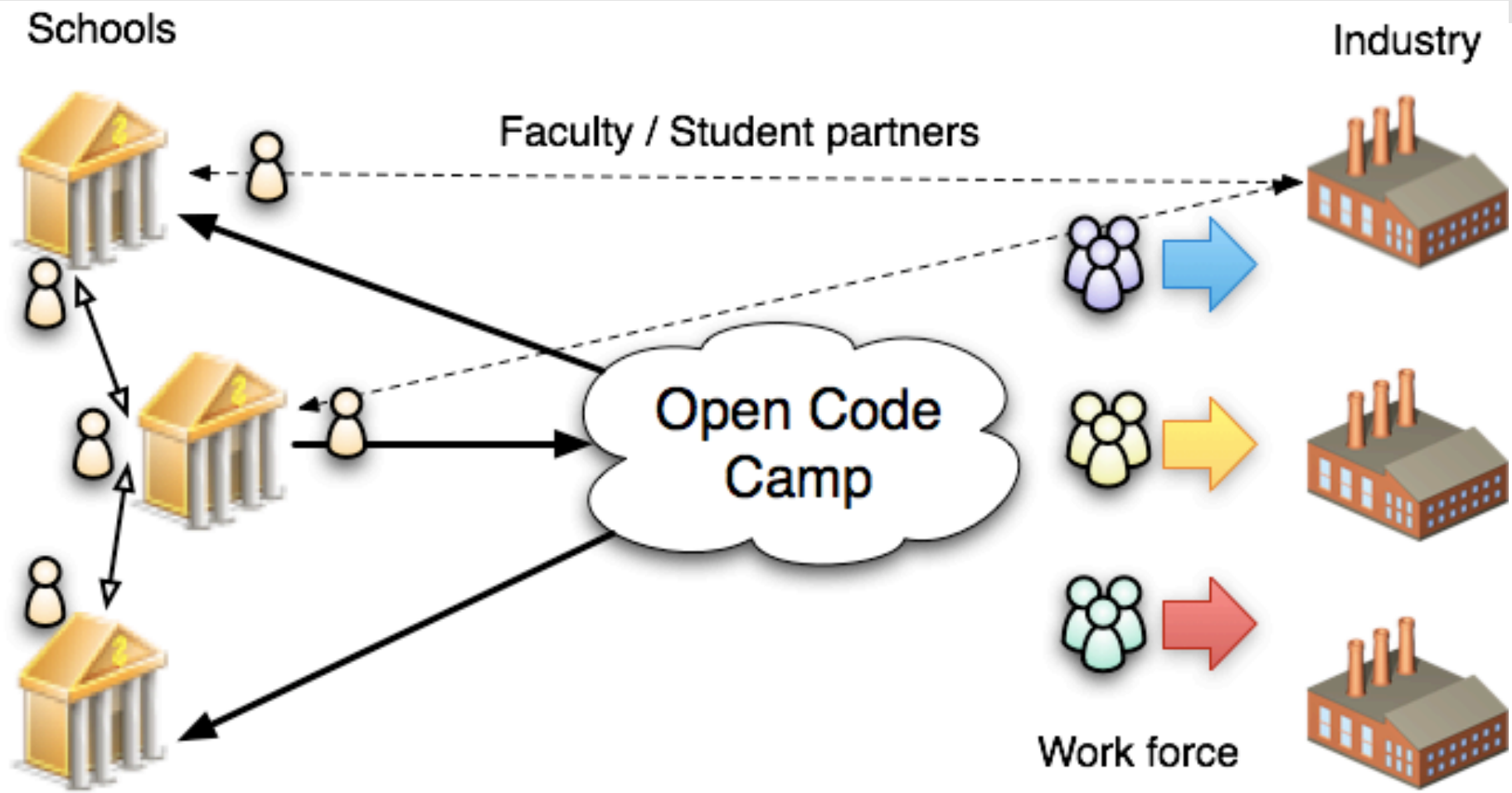
- Code camp requires
  - good environment
  - time for preparations
  - commitment
  - some costs

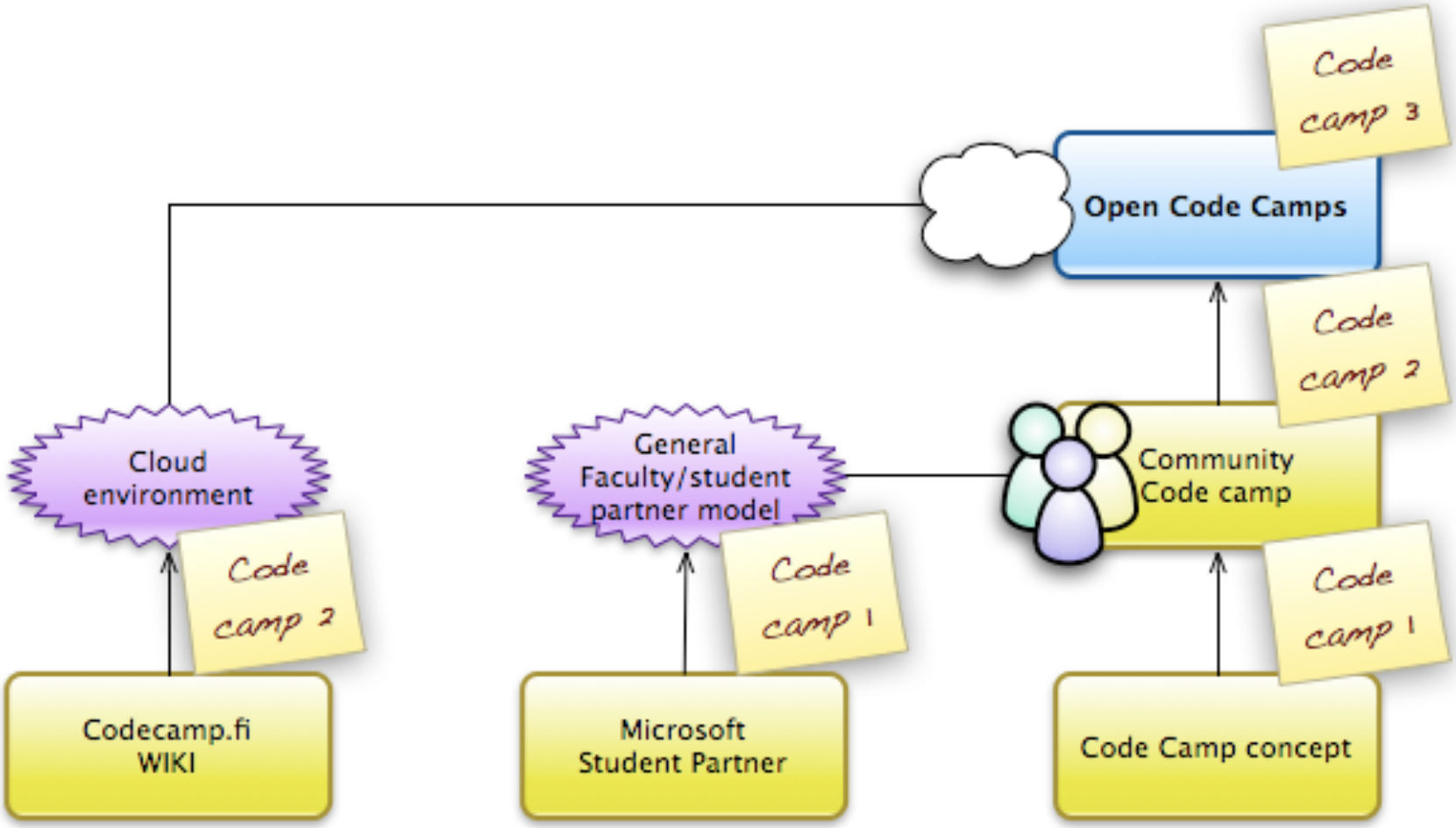
Lessons learned

- Schedule
  - Each school has different exam / teaching periods => hard to find a suitable time for everybody
  - Needs to be set up early enough (look at the next page)
- Advertisement
  - Coordinated actions needed (if the schedule is set up early then advertisement can be performed in each place correctly)
  - Common brand "Code camp series" makes the approach known for the students
- Execution
  - Video based lectures do NOT work in this kind of practical course (LUT experience) => Is it too resource consuming if arranged in each location separately ?
  - Large enough groups are needed to enable real cooperation (e.g. SUN Lively kernel code camp attracted only 7 persons in LUT thus making any kind of cooperation impossible or at least hard)
    - Registration to the course required and cancelled if not enough participants (5 * 3 student groups = 15 students)
- Follow-up
  - The original idea of giving credits from the arranging university needs to be practiced a bit more
    - Necessary documents need to be filled early enough

Open Code Camps

- New approach to extend the Code Camp concept into several schools
  - Use of experts in various places
  - Networking through cloud based approach
  - Faculty/student partner approach to


Schools
Industry
Faculty / Student partners
Open Code Camp
Work force


Code camp 3
Open Code Camps
Code camp 2
Cloud environment
General Faculty/student partner model
Community Code camp
Code camp 2
Code camp 1
Code camp 1
Codecamp.fi WIKI
Microsoft Student Partner
Code Camp concept

OTHER ACTIVITIES

- Forming an industry board for the IT department for industry feedback
  - Once per year workshop, targeted for curricula analysis and learning outcome definition
- Erasmus Mundus program on Green IT
  - LUT: Sustainable software and services
  - Cloud computing focus