meraka
INSTITUTE
African Advanced Institute for Information & Communications Technology

Libre Knowledge, Libre Learning

and

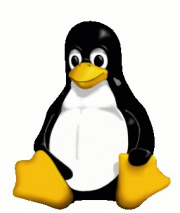
Global Development

Kim Tucker

Meraka Institute
(managed by the CISR in South Africa)

presented at

Overview



- FLOSS and Libre Resources
- Governments and FLOSS Policy

- Some Research Findings

- Trends in Learning

- Sustainable Development Vision
  - Challenges: access, licensing

- Libre Knowledge, Libre Learning.

Libre

Open Source Software definition

- free distribution
- source code
- derived works
- integrity of the author's source code
- no discrimination against persons or groups
- no discrimination against fields of endeavour
- distribution of license, license must not be specific to a product
- license must not restrict other software,
- license must be technology-neutral.
- http://opensource.org

Free (libre) software

0. The freedom to run the program, for any purpose (freedom 0).
1. The freedom to study how the program works, and adapt it to your needs (freedom 1).
2. The freedom to redistribute copies so you can help your neighbour (freedom 2).
3. The freedom to improve the program, and release your improvements to the public, so that the whole community benefits (freedom 3).

http://www.gnu.org/

Libre Resources

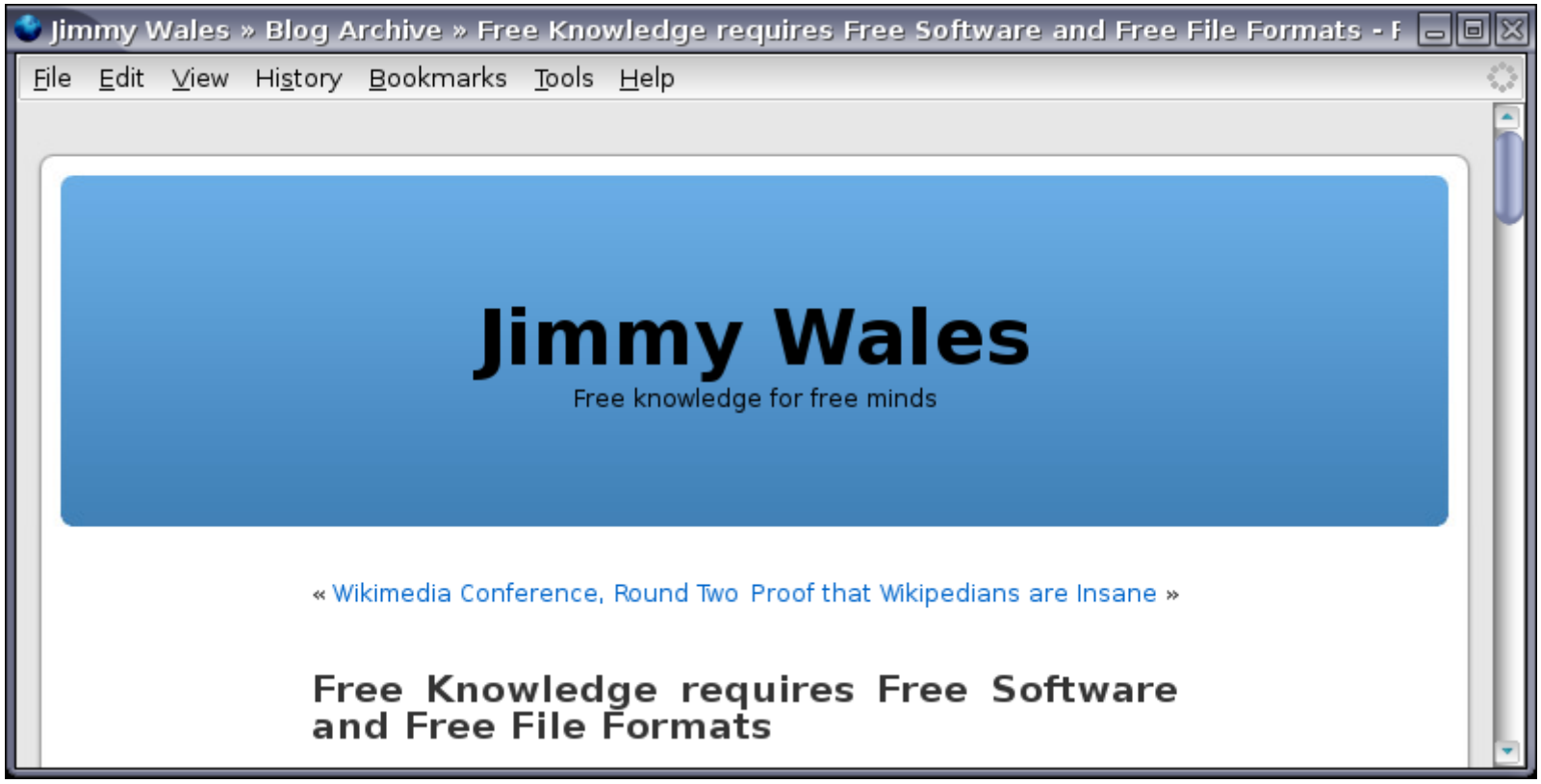
- Libre implies freedom to access, read, listen to, watch, or otherwise experience the resource; to learn with, copy, perform, adapt and use it for any purpose; and to contribute and share enhancements or derived works.

http://communities.libre.org/

Users are free to

0. use the work for any purpose
1. study its mechanisms, to be able to modify and adapt it to their own needs
2. make and distribute copies, in whole or in part
3. enhance and/or extend the work and share the result similarly

- Freedoms 1 and 3 require free file formats, and free software as defined by the FSF: gnu.org


Jimmy Wales » Blog Archive » Free Knowledge requires Free Software and Free File Formats - F
File Edit View History Bookmarks Tools Help
Jimmy Wales
Free knowledge for free minds
« Wikimedia Conference, Round Two Proof that Wikipedians are Insane »
Free Knowledge requires Free Software and Free File Formats

Links (definitions)

- http://opensource.org
- http://gnu.org
- http://en.wikipedia.org/wiki/Free_software
- http://communities.libre.org/
- http://freedomdefined.org/
- http://blog.jimmywales.com/index.php/archives/2004/10/21/free-knowledge-requires-free-software-and-free-file-formats/

Flagships

- FLOSS
  - GNU/Linux, FreeBSD, distrowatch.com, ...
  - Apache – jakarta, xml, server, cocoon, lenya, etc.
  - OpenOffice, Eclipse, Hybernate, Spring, JUnit, ...
  - etc. - http://sourceforge.net & http://freshmeat.net/
- Free Knowledge, free culture
  - Wikipedia, communities.libre.org, plos.org, doaj.org, cnx.org, ocw.mit.edu, sciencecommons.org, dmoz.org, creativecommons.org, ccmixter.org, http://www.free-culture.cc/, ...

Links (just a few)

- http://distrowatch.com/
  - http://www.ubuntu.com/
  - http://www.getopenlab.com/
- http://www.apache.org/
  - http://jakarta.apache.org/
  - http://xml.apache.org/
- http://www.wikipedia.org/
- http://www.elephantsdream.org/
- http://www.ktdms.com/

There is much to be proud of

You are good citizens :-)

An inspiration to us all!

Global knowledge networking and collaboration to produce some really impressive work

Sustaining our world will require global collaboration

Governments are Noticing :-)

Governments & FLOSS Policy

- A growing number of governments have something to say about FLOSS.
- In Africa, few countries mention FLOSS in their ICT policies.
- South Africa:
  - Strategy document
  - National Advisory Council on Innovation
  - Declaration ... some implementations
    - in progress
















Links (SA govt policy etc.)

- 2002 NACI 1:
  - http://www.naci.org.za/floss/
- 2003 SA OSS Strategy Document
  - http://www.oss.gov.za/
- 2004 NACI 2:
  - http://www.naci.org.za/floss/
- 2005 Declaration:
  - http://wiki.go-opensource.org/wg/Declaration

SA OSS Declaration 22-23 August 2005
"National Open Source Strategy"

1. We, ... declare our common desire and commitment to the strategic use of information and communications technologies in order to further socio-economic development and affirm the central place that free and open source software and open content (FOSS/OC) have in realising this goal.
2. We recognise that FOSS/OC include both technological and environmental elements that are characterised by accessibility, collaboration, interoperability, open standards, transparency, customisability, contribution, and open licensing and that FOSS/OC involve those who use, modify, enhance and create such technology and content.
3. We recognise that the South African national strategic objectives for socio-economic development are to improve competitiveness, support local innovation and investment, broaden BEE participation in the economy, build a better world, improve the reach and efficiency of government service delivery and in doing so reduce poverty and redress imbalances of the past.

National OS Strategy continued

4 We affirm that FOSS/OC help achieve these objectives by contributing to socio-economic development nationally, regionally and internationally in significant ways that other technologies and forms of content do not.

5 We conclude that it is strongly in the interest of all spheres of Government to adopt, support, develop and promote the use of FOSS/OC and its underlying principles

National OS Strategy POLICY

6 The foundation of policy is for government to implement FOSS/OC unless proprietary software is demonstrated to be significantly superior.

...

Current proprietary software must be migrated to FOSS/OC whenever comparable software exists.

...

All new software developed using Government resources must be based on open standards; adhere to FOSS principles, and licensed using a FOSS license where possible.

7 An environment supportive of FOSS/OC must be created, ensuring that existing legislation on copyright, patents, trademarks, etc., do not present barriers to FOSS/OC utilisation.

National OS Strategy POLICY

8 Government should utilise the opportunities presented by the open and collaborative culture associated with FOSS/OC to promote access to information by citizens, ...

9 All content produced by Government or using public resources must be open content, ... Open content and open standards will be encouraged generally within South Africa.

National OS Strategy We Recommend:

10 That national Cabinet formally adopt this policy on FOSS/OC within six months.

11 That national Cabinet mandate an appropriate multi-stakeholder entity to implement the National Open Source Strategy within twelve months.

12 The development of a FOSS/OC scorecard that will be used to evaluate progress of individual departments or clusters toward implementing this policy.

13 That relationships with regional and continental African organisations should be given special attention, including NEPAD's e-Africa Commission and information society Partnership for Africa's Development (ISPAD), and SADC, among others, in order to share the benefits of the National Open Source Strategy and for alignment with other ICT-related African development strategies. Similar attention should be given to IBSA collaboration.

National OS Strategy CONCLUSION

14 As the policy, strategy legislative processes and their implementation move forward and in anticipation of their completion, we are committed to the implementation of FOSS/OC projects and open standards in our own organisations and areas of activity, and to helping address the many challenges that will be faced as the National Open Source Strategy is pursued.

15 As a multi-stakeholder conference with delegates from all spheres of government and across all government departments, from private sector companies, from civil society, and as private individuals with specific expertise in the area of FOSS/OC we urge the recommendations in this Declaration be carried forward.

Participating Organisations

- Private sector
  - Accenture, Canonical Ltd, Computers 4 Kids, Dipalo School of ICT, Hewlett-Packard, IBM, IMPI Linux, Junior Chamber International, Magna FS, Mohwiti Technology - Innovation Hub, Obsidian, Olamandla (Pty) Ltd, Procentrica Africa, Radian, Redscreen, Sasol, Silverline Consulting, SLR Consulting, Target Training & Technologies, T-Systems.

Participating Organisations

- Public sector
  - Akani Retirement Fund, Cosatu, CSIR / The Meraka Institute, E-schools Network, NAFCOC, NAFCOC Youth Chamber, Netday, OSISA, SA Post Office, SA Revenue Services, SchoolNet Namibia, SITA, The Shuttleworth Foundation (TSF), Training Trade Unions, Translate.Org, Ubuntu Education Fund.
- Academia
  - E. Cape Technikon, Rhodes University, UNISA, University of Cape Town, University of W. Cape.

Participating Organisations

- Government
  - The Office of the President, National Department of Arts and Culture, National Department of Communications, National Department of Correctional Services, National Department of Education, National Department of Government Communications and Information Services, National Department of Local & Provincial Government, National Department of Public Enterprise, National Department of Public Service and Administration, National Department of Science and Technology, National Department of Trade & Industry, National Department of Water Affairs & Forestry, The Presidential National Commission on information society and Development, Centre For e-Innovation (Provincial Government of the Western Cape), City of Johannesburg, Gauteng Office of the Premier, Gauteng Province (Sport, Public Works and Transport), North West Provincial Government, Eastern Cape Education Department, free State Education Department, Gauteng Education Department, KwaZulu-Natal Education Department, Mpumalanga Education Department, Northern Cape Education Department, North-West Education Department.

Policy Challenge

Running the process and Implementation

Some Research Findings

FLOSSWorld.org (in progress)

FlossPols

Benkler and others on Wikipedia

why it works so well

modular

continuity not as critical (as for books etc.)

well structured

small communities form around clusters of entries.

FLOSSPols, FLOSSWorld etc.

Source: Rishab Ghosh

UNU-MERIT, The Netherlands

from slides presented at

7th Asia Open Source Symposium
Kuala Lumpur, Malaysia, March 7, 2006

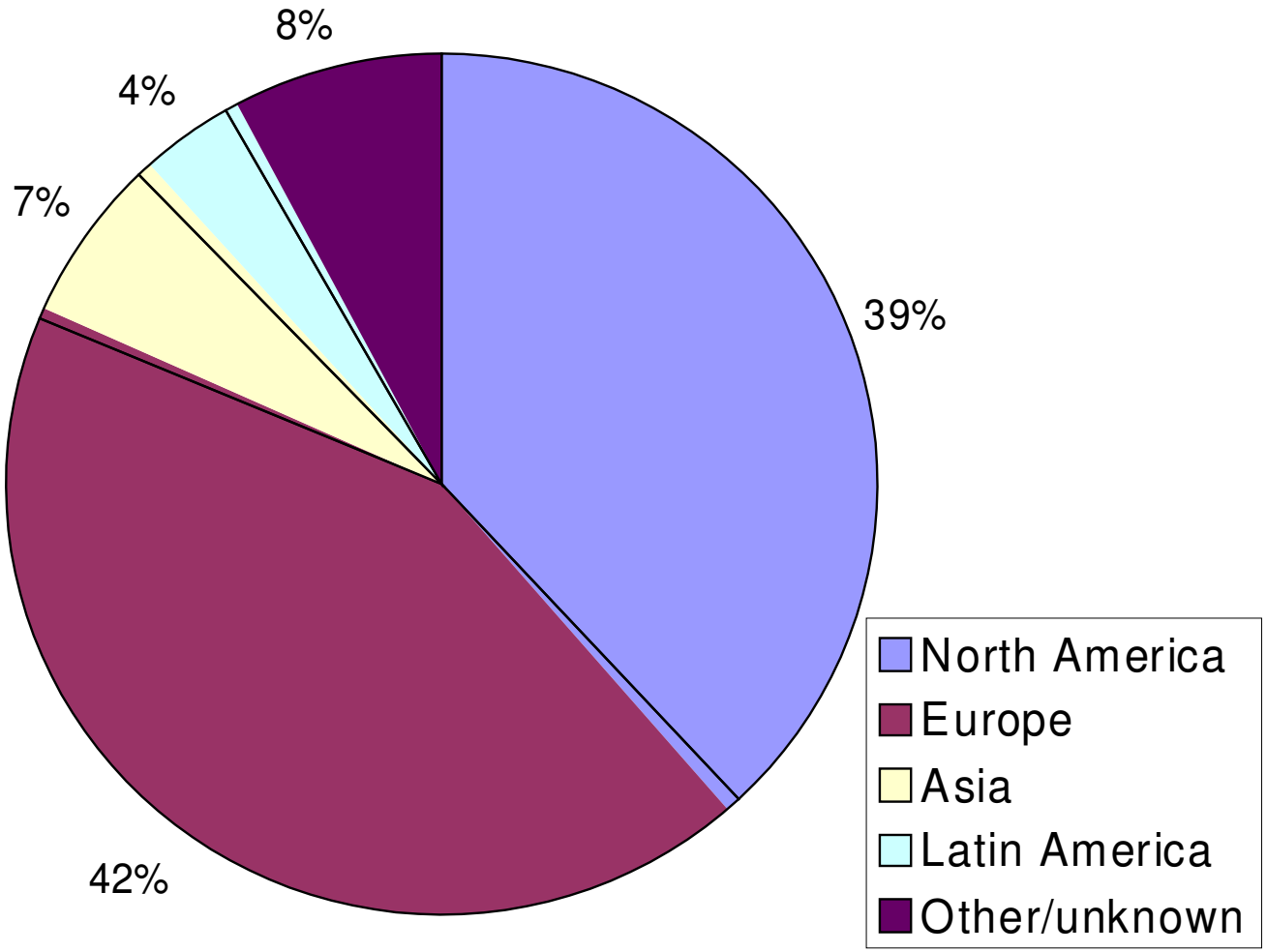
Cooking Pot Model

- Monetary Markets
  - exchanging money for goods
- Bartering
  - exchanging goods - e.g. m potatoes : n tomatos
- Cooking-pot
  - potatos, tomatos, lentils, onions, ...
  - we share everything
  - in a virtual cooking pot – we all get everything :-)

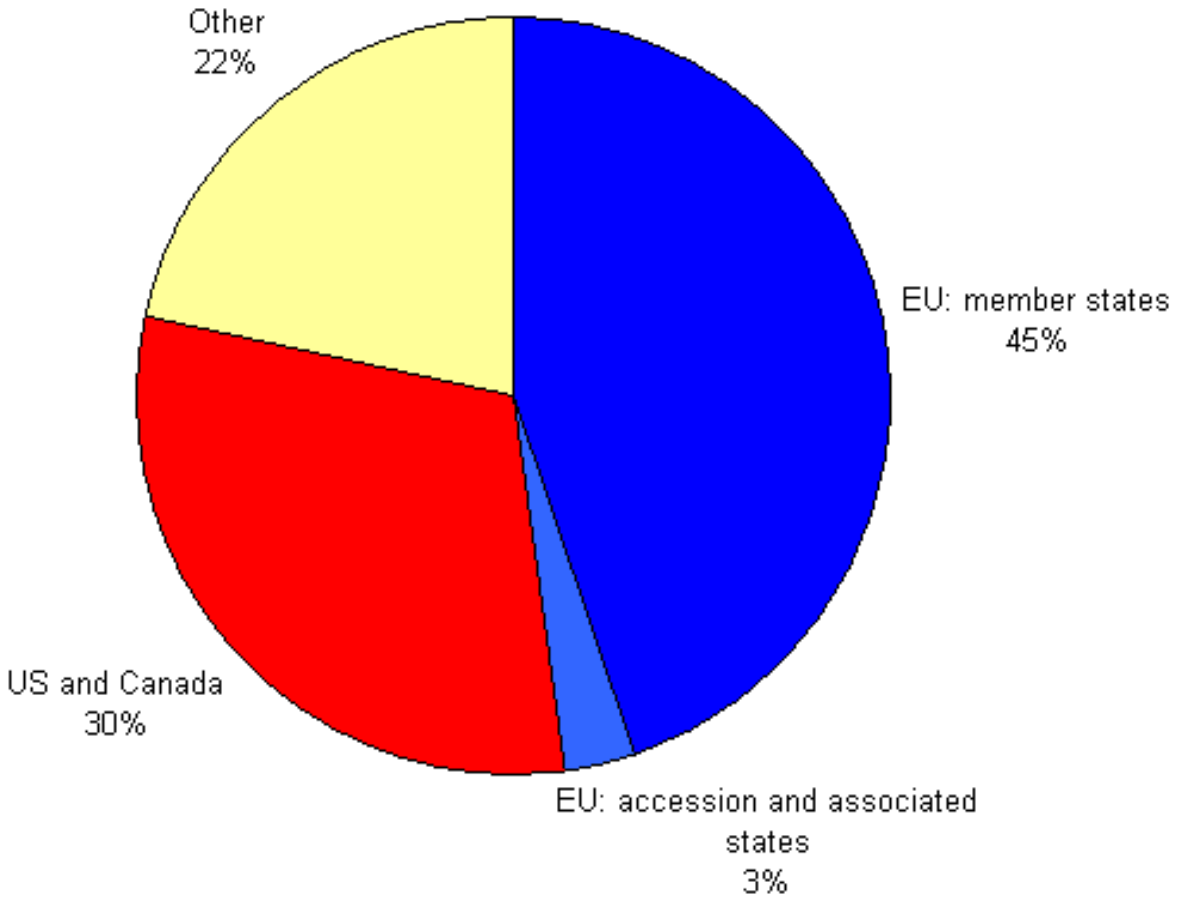
Cooking Pot: Sustaining economics

as long as someone somewhere contributes,
for whatever reason, everyone benefits

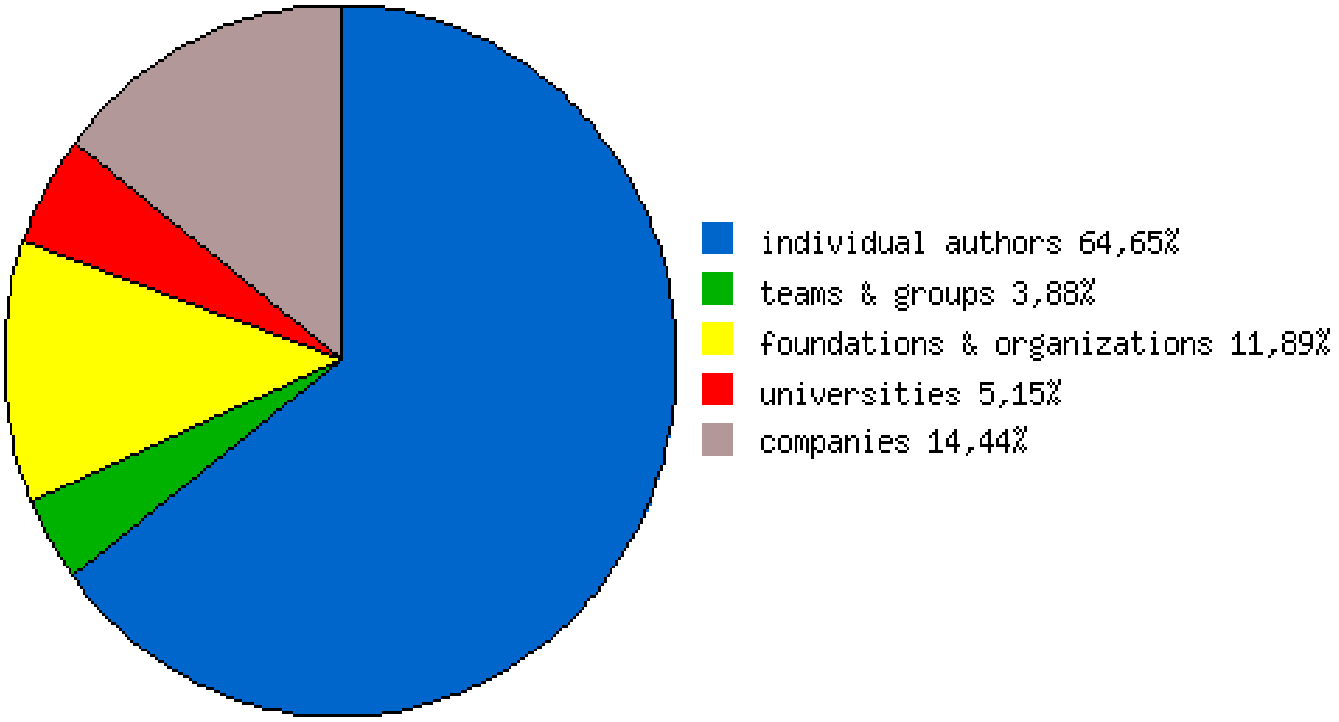
Where are the developers?



Debian Project Leaders



FLOSS Contributions



Costs, Skills & Economic Growth

- Costs

  Windows Office, US$560, is 14.5 months of average income in India, equivalent to US$ 42 725 in the US, and 1.8 months of income in Malaysia, equivalent to US$ 5 341 in the US. Cost does matter.
- Skills development: “the ability to create”

  FLOSS is a training environment that increases the earning capacity of community participants without any explicit investment in training: a novel form of technology transfer
- Economic growth: “ability to add value”

  FLOSS allows local entrepreneurs to provide a greater share of total value added, thus retaining a greater share of profits within the local economy

Local Value Addition: PS

- Building over a platform
  This applies equally to any platform, which is simply used as a (non-modifiable) base on which new services or software are built: 100% of the added value is local
- Sales commissions
  Something which is rarely possible with free software, but also represents little value. Only the commission is retained locally, which is a small part of the total value.
- Support, integration, customisation...
  Local value addition limited, as “deep” (high-value) services require “deep” access – only the proprietor has it.

Local VA: FLOSS

- Building over a platform
  As with proprietary software, free software platforms can be used as a (*modifiable!*) base on which new services or software are built: 100% of the added value is local
- Sales commissions
  Rarely possible with free software, but also represents little value. However, the entire “sale price” can be retained locally, as no proprietor has to be paid a royalty or licence.
- Support, integration, customisation...
  Local value addition extensive, as “deep” access is available. 100% of such services can be provided locally, retaining 100% of the value locally.

Deep support, more local value

- Local companies are limited in the integration and support services they can provide for proprietary software
- Deep support: fixing software bugs, customising it to user requirements, or integrating extensively with other software requires deep access.

Deep support, more local value

- Deep access to proprietary software is controlled by the proprietor (limits access or requires royalties, diminishing value retained locally)
- Deep access to free software is available to anyone – limited only by their skills. This allows every provider to potentially provide deep support services, and retain 100% of the value.

Customisation ...

- Custom or in-house software represents about 67% of total software produced (in the US; more elsewhere)
- If based on free software, custom solutions greatly benefit the solutions provider who captures 100% of the total value, not just the value added locally – no royalties/licences paid

Code re-use, higher service levels

- Free software allows providers to reuse code rather than build from scratch, and to reuse a huge base of code written by others
- Re-using (and modifying) allows the creation of much better end-user solutions for the same effort than writing from scratch
- Put together, this provides better value for money for customers and better profit margins for local service providers

Skills and Economic Growth

- Skills development: “the ability to create”
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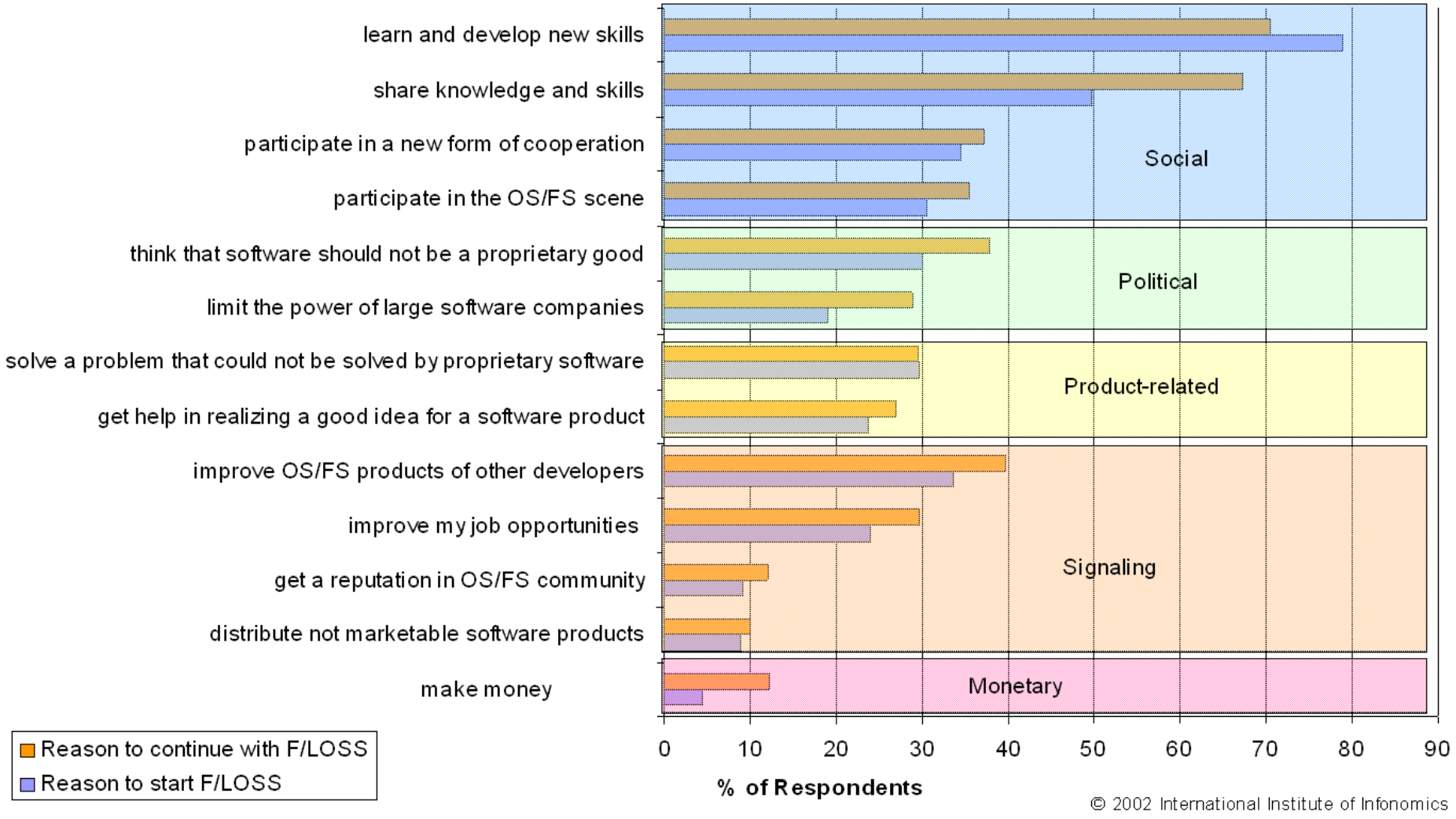
FLOSS Develops Local Skills

- FLOSS encourages not only passive “use” but active participation in the creative process
- FLOSS provides a very low barrier to entry for creativity – you don’t *have* to be creative but if you want to, you easily *can* be

How many of us want to Program?

- How will we know, unless we can try?
- HTML/javascript – the web only took off because it was open, so people could learn to write their own sites just by “viewing source”, copying and modifying other websites
- “Programming” covers a very broad range of skills from HTML to C; FLOSS allows entry at any degree with little investment in time or effort

Why Developers contribute



(Source: "FLOSS Final report", Ghosh et al)

FLOSSPOLS Skills Survey

- Aim: to study both skills learnt and impact on employability.
- Separate questionnaires sent to:
  - developers (worldwide)
  - employers (EU)

FLOSSPols Skills Survey

- How is learning organised in the FLOSS community?
- What mechanisms and patterns can be observed?
- For which purposes do community members learn?
- What is the impact of skills learnt on employment potential?

FLOSSPols Skills: Findings

- Technical skills
  - New participants learn various skills
  - Experienced participants learn too
- Management skills
  - New and experienced participants learn teamwork, coordination and management skills

Skills Survey findings

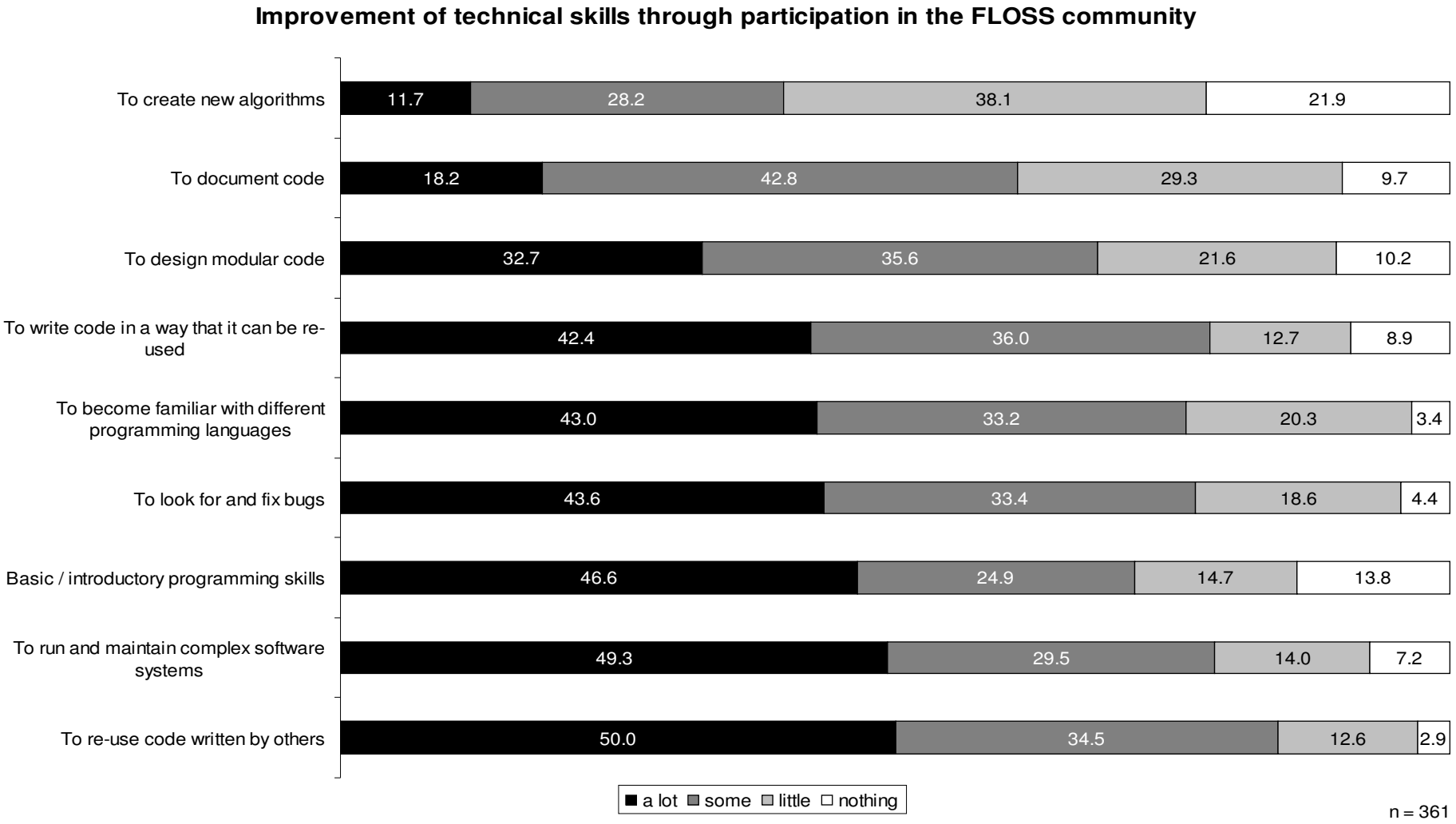
- Legal skills
  - Participants learn legal skills, more than in formal (non-legal) courses
- General skills
  - e.g.Non-English speakers improve their English

Findings: formal learning

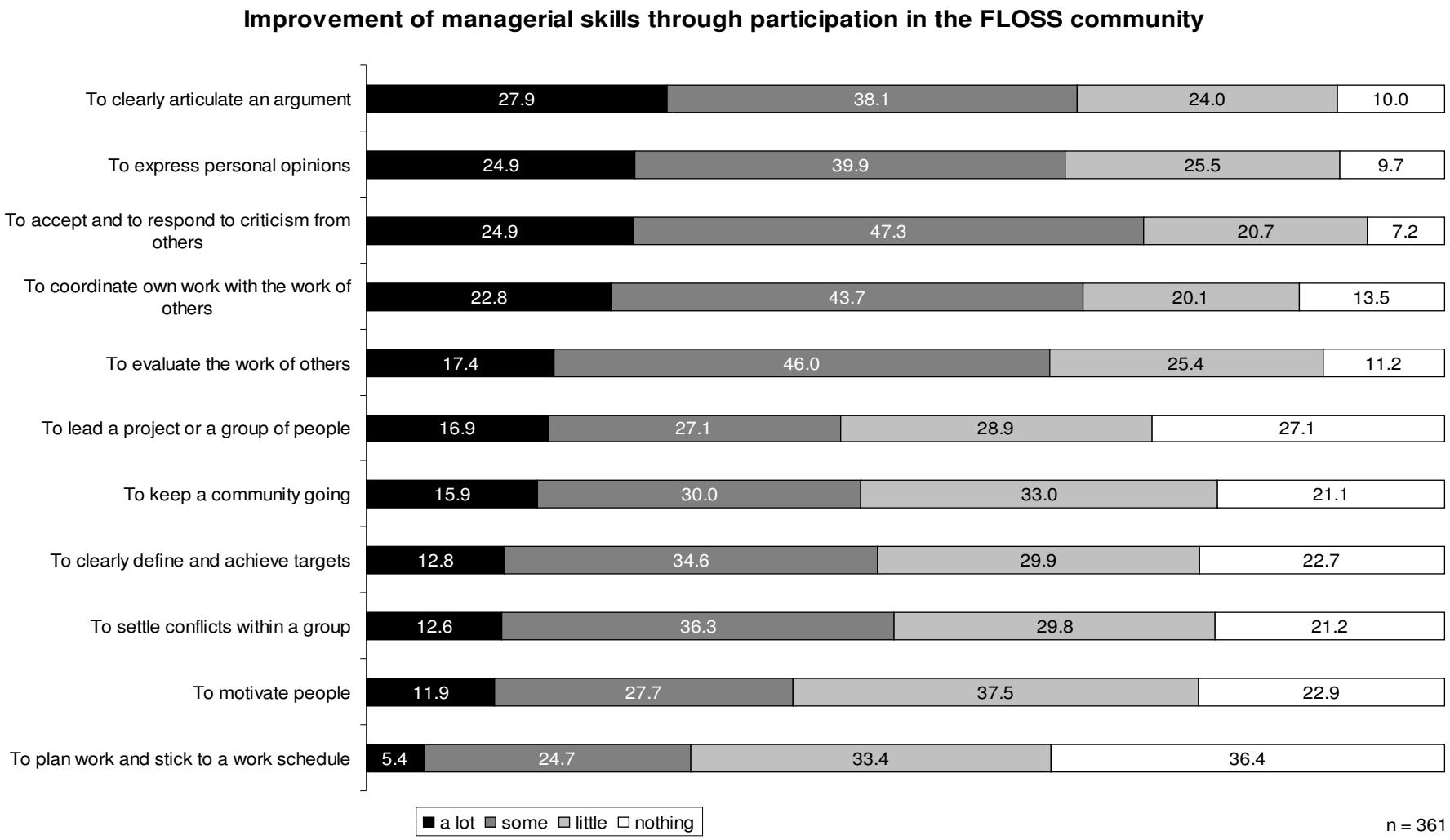
In comparison with formal ICT courses:

- FLOSS provides a better, practical learning environment for many technical skills:
  - Writing re-usable code & debugging
  - Working with code written by others
- FLOSS provides a better learning environment for most legal and teamwork skills, which are rarely taught in formal ICT courses

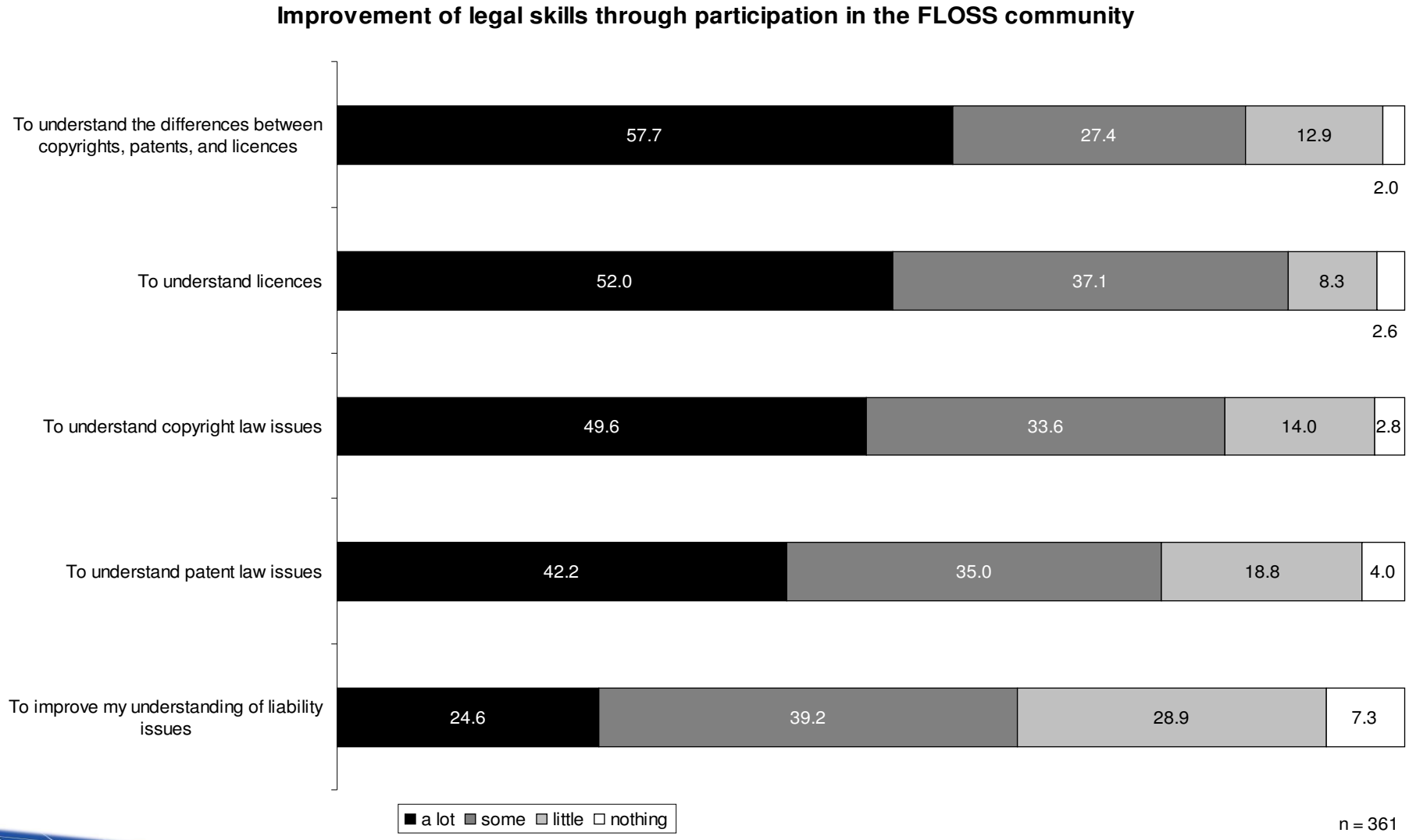
Technical Skills



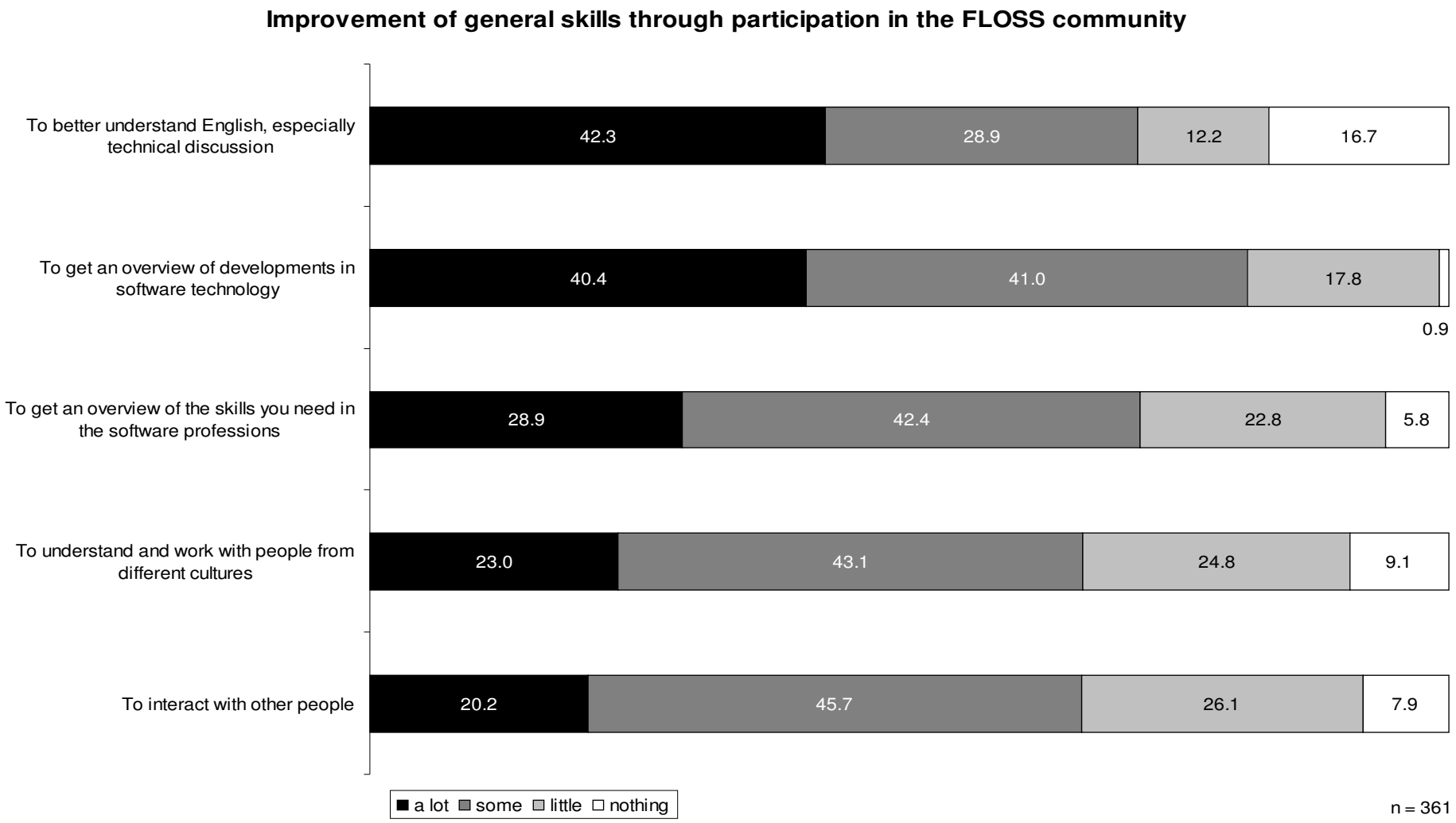
Management Skills



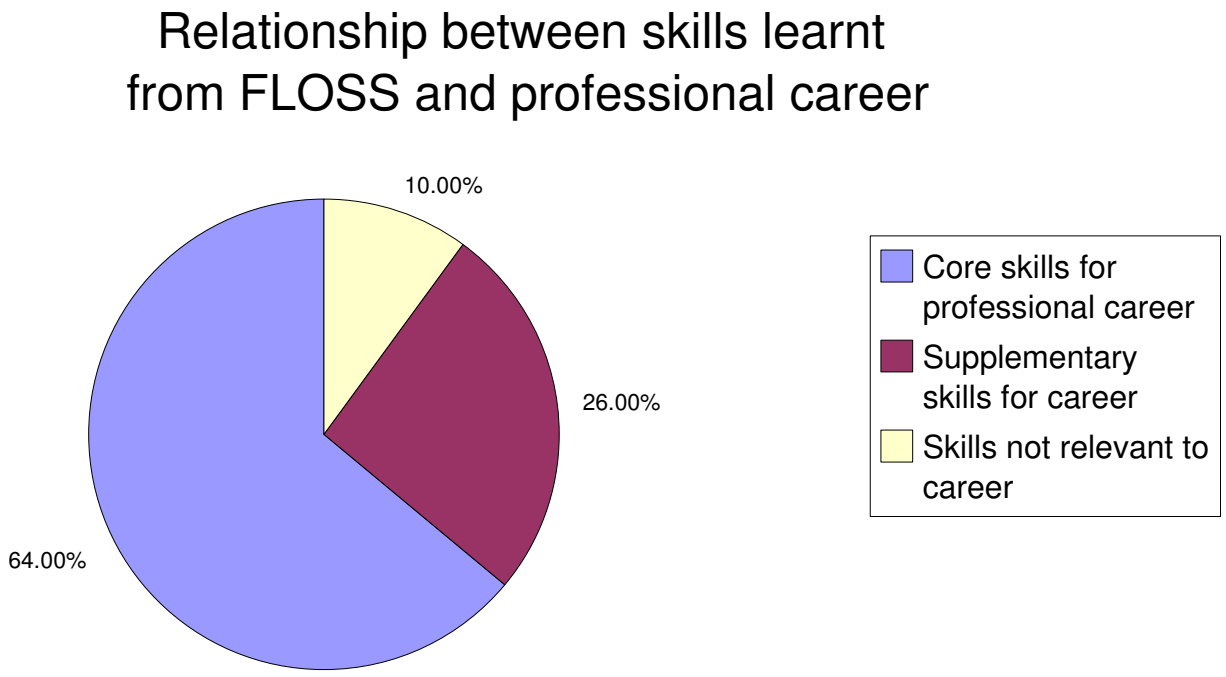
Legal Skills



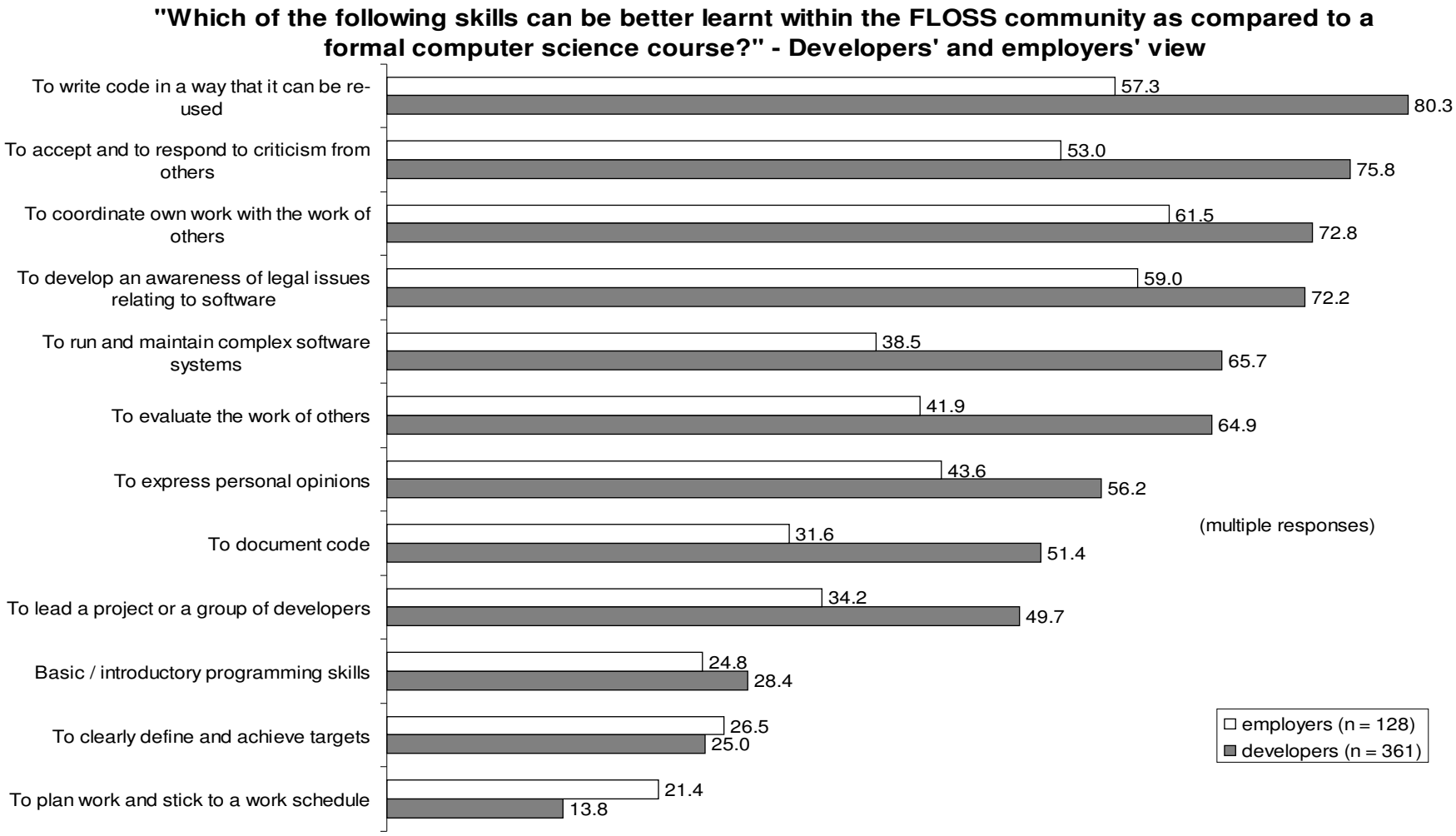
General Skills



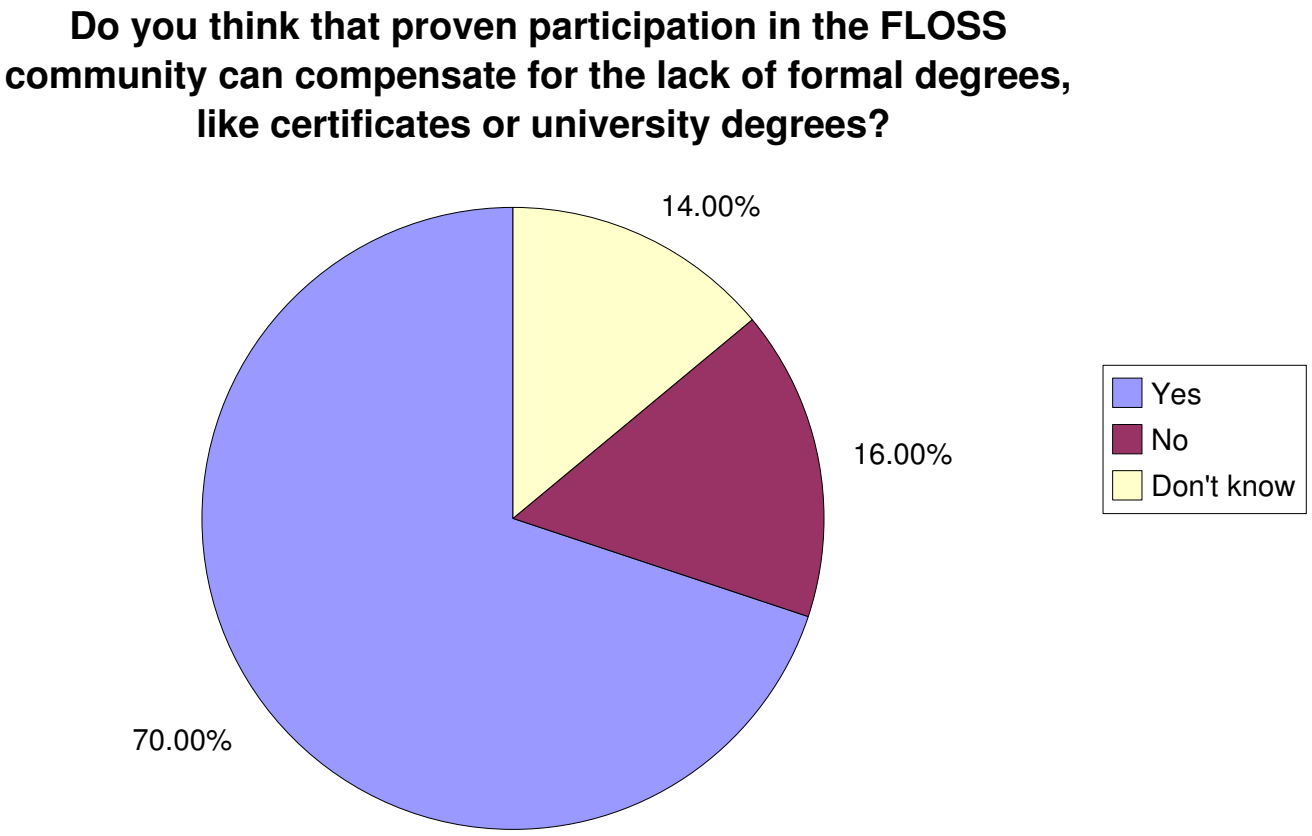
Skills relevance to profession



Skills via FLOSS vs formal training

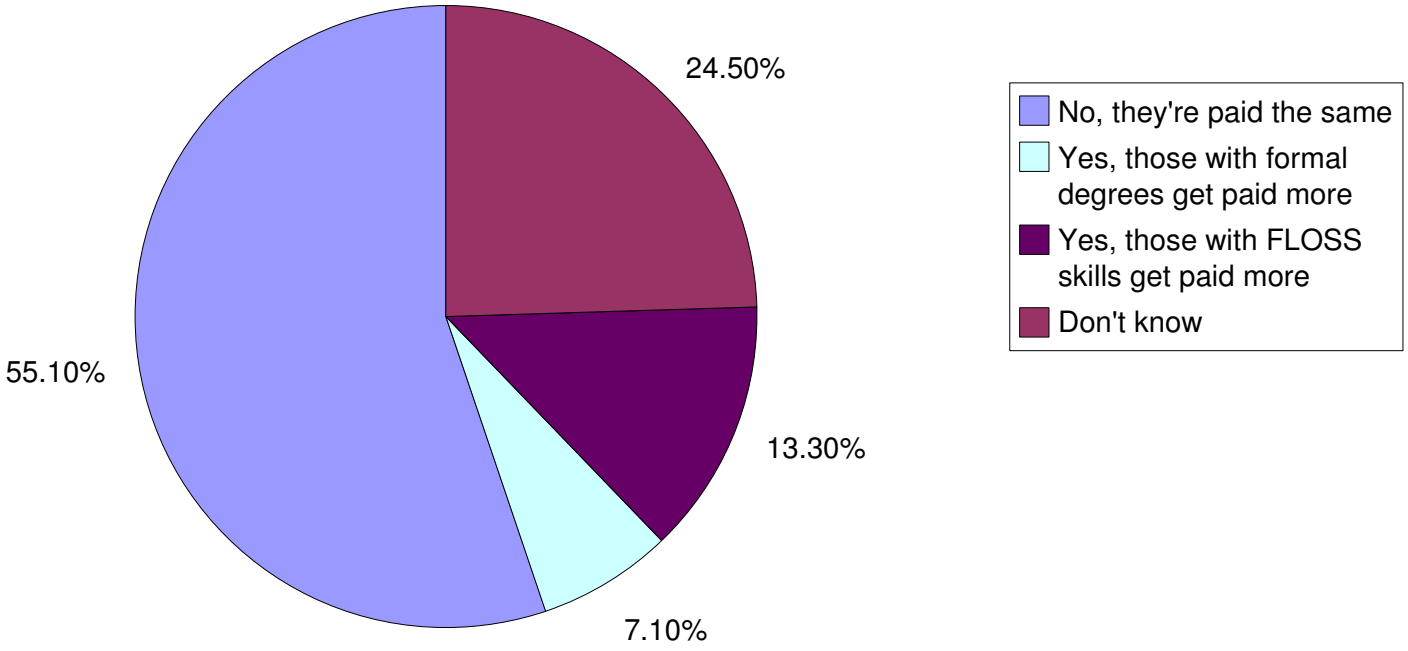


FLOSS learning recognised?



Recognised by employers?

Employers' perspective: Do you offer prospective employees with FLOSS experience different pay than those with a formal degree?:



Res Conclusion

- Skills are learnt in FLOSS community
- Learnt skills not just technical, indeed legal skills are learnt “a lot”
- Those with prior skills learn new ones, especially relating to bug-fixing, writing reusable code
- Wide variety of learning strategies
- Even those taking formal courses rate it relatively poorly as a learning environment

Res Conclusions continued

- Several skills are learnt better than in formal courses (learn-by-doing skills – reusable code, bug-fixing, teamwork and coordination)
- Proven FLOSS experience can compensate for lack of formal degrees in order to get a job
- But developers feel those with proprietary experience often get paid more
- Employers seem to agree, though awareness of FLOSS among employers increases their perceived value of skills learnt from FLOSS.

Skills and Economic Growth

- Skills development: “the ability to create”
  FLOSS is a training environment that increases the earning capacity of community participants without any explicit investment in training: a novel form of technology transfer
- Economic growth: “ability to add value”
  FLOSS allows local entrepreneurs to provide a greater share of total value added, thus retaining a greater share of profits within the local economy

Building *local* ICT competencies

- Be passive users of “black-box” software or active participants in global ICT?
- Being active requires being able to create, locally – and choose with the least barriers the level of creativity
- Skills development requires access to the ability to create – you don’t have to be a programmer, but you *should* have the choice.
- Relative local value addition is much higher with free software, as compared to proprietary (where the vendor controls and provides the most value)

FLOSSWorld: global research

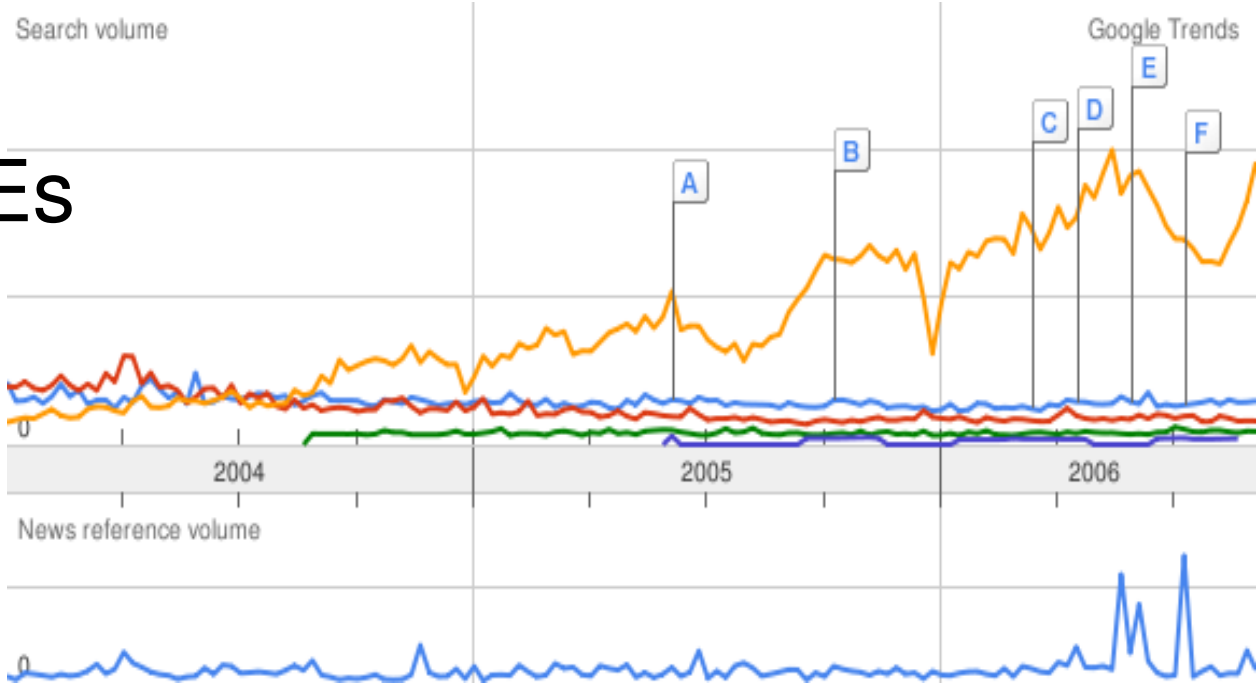
- EU-funded project to conduct similar research, on skills, employment, education, government use of FLOSS in non-EU countries
- Led by MERIT, Netherlands
- Funded partners in Bulgaria, China, Croatia, India, Malaysia (MIMOS), South Africa and Argentina
- May 2005 to April 2007

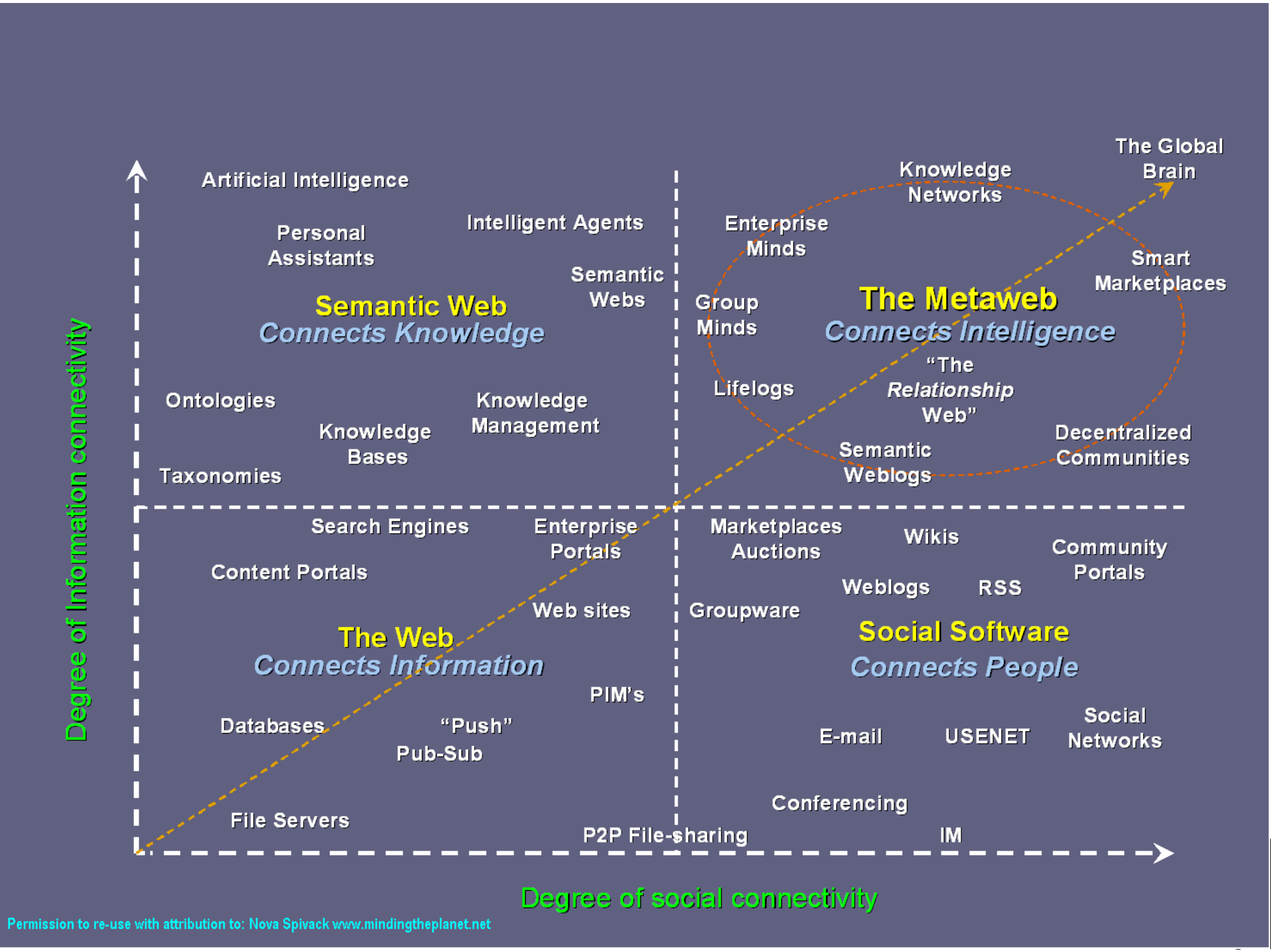
More Info.

- FLOSSPOLS: http://flosspols.org
- FLOSS Project report (2002) http://flossproject.org/report/
- FLOSSWorld: http://flossworld.org

Trends: Learning & Technology

- Chalk and talk
- LMSs, OER, VLEs
- Mobile Learning
- PLEs
- Rip, mix, share
  - Collaboratively in the global networked knowledge society.
- Web and global knowledge trends ...





Imagine a world characterised by ... freedom to learn ... freedom to share ....

FLOSS in Education Links

- http://moodle.org
- http://avoir.uwc.ac.za/
- http://atutor.ca/
- http://wikieducator.org/ http://exelearning.org
- http://fle3.uiah.fi/
- http://www.lemill.net/ and http://www.lemill.org/
- http://oerwiki.iiep-unesco.org/

FLOSS in Education Links

- http://cnx.org/
- http://rhaptos.org/
- http://www.greenstone.org
- http://dspace.org/
- http://www.schoolforge.org.uk/
- http://educommons.org/
- http://eduforge.org
- http://www.edubuntu.org/
- http://www.tuxlabs.org/ and http://www.schoolnet.na/
- http://www.netday.org.za/
- http://www.getopenlab.com/

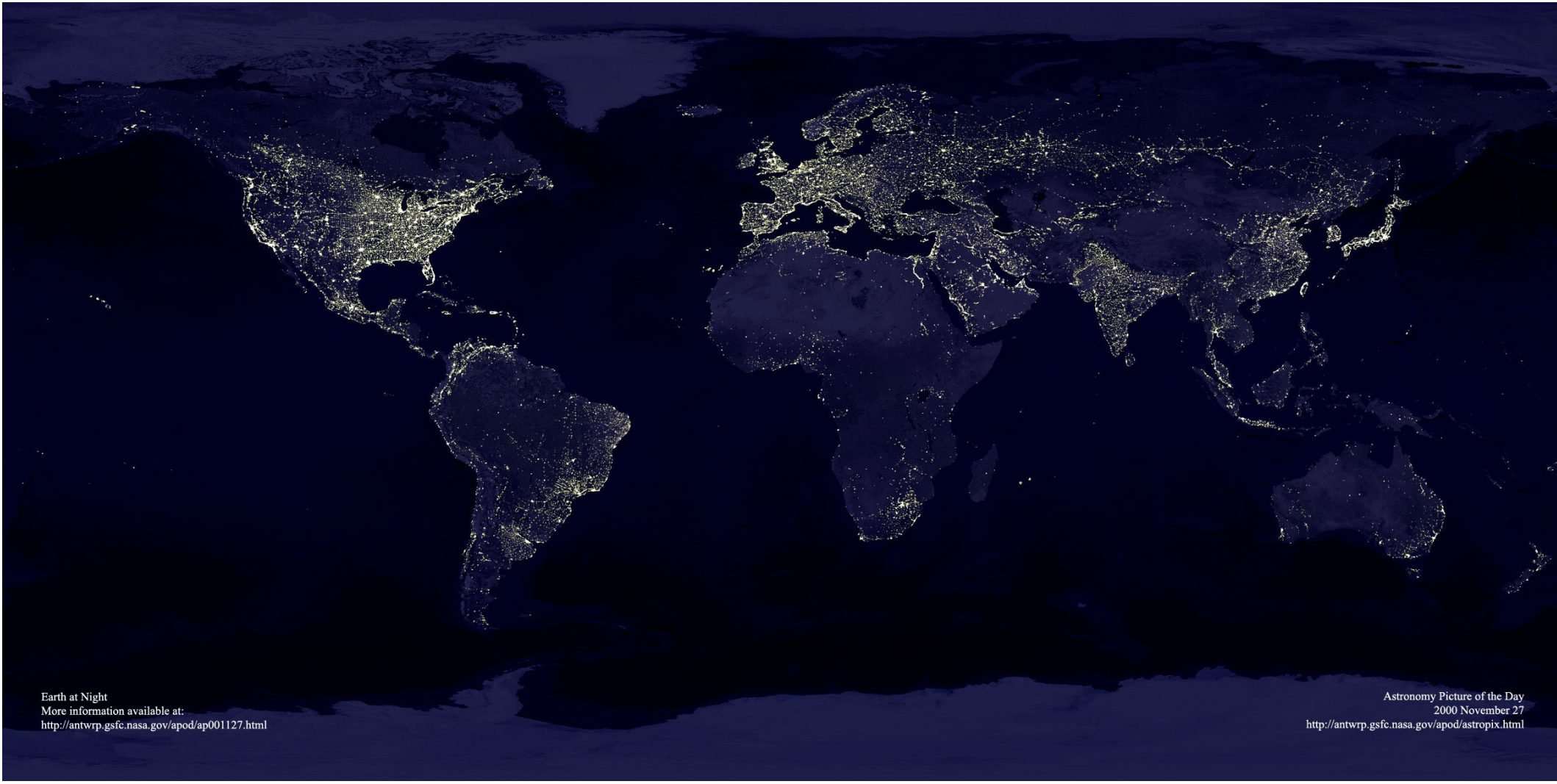
but there are barriers ...

... challenges

opportunities for innovation

... at many levels

Global Picture


Earth at Night
More information available at:
http://antwrp.gsfc.nasa.gov/apod/ap001127.html
Astronomy Picture of the Day
2000 November 27
http://antwrp.gsfc.nasa.gov/apod/astropix.html

Global Issues – e.g. UNEP

- Biodiversity
- Climate Change
- Business and Indistry
- Freshwater
- Land
- Sustainable consumption
- Energy
- Poverty and environment, etc.

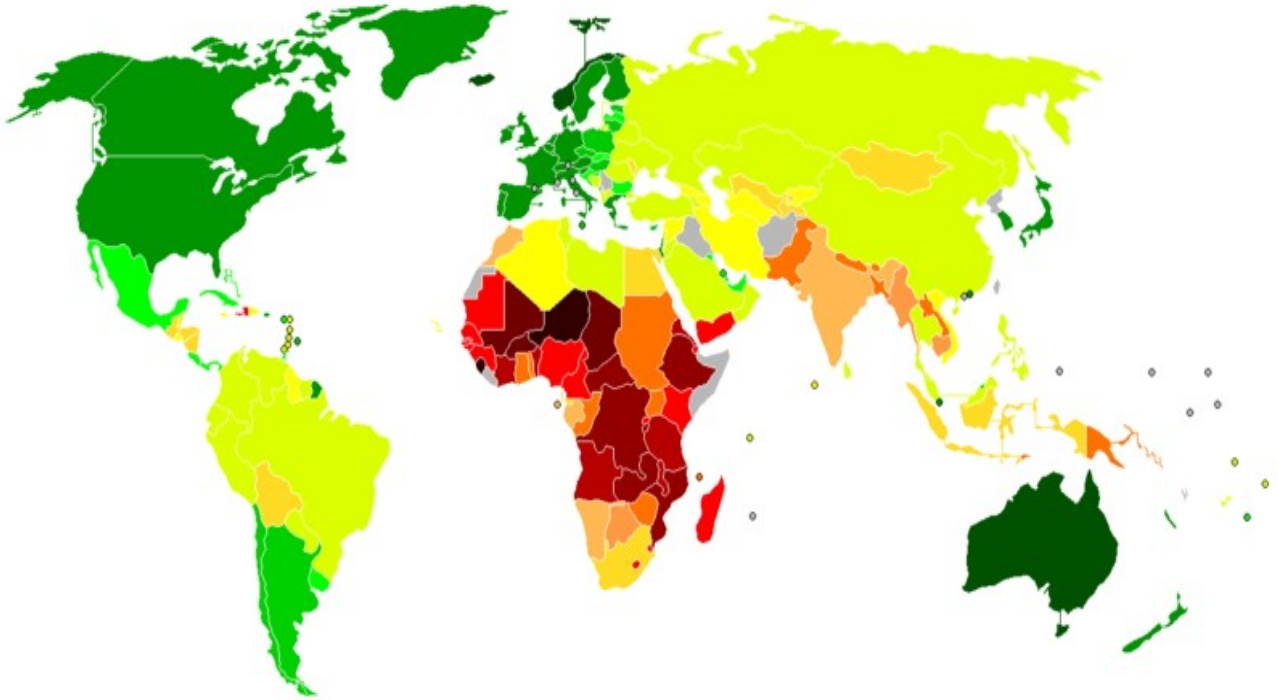
Human Development Index

Human Development Index (HDI) is a comparative measure of poverty, literacy, education, life expectancy, childbirth, and other factors for countries worldwide. It is a standard means of measuring well-being, especially child welfare. It is used to distinguish whether the country is a developed, developing, or an under developed country, and also to measure the impact of economic policies on quality of life.

http://en.wikipedia.org/wiki/Human_Development_Index

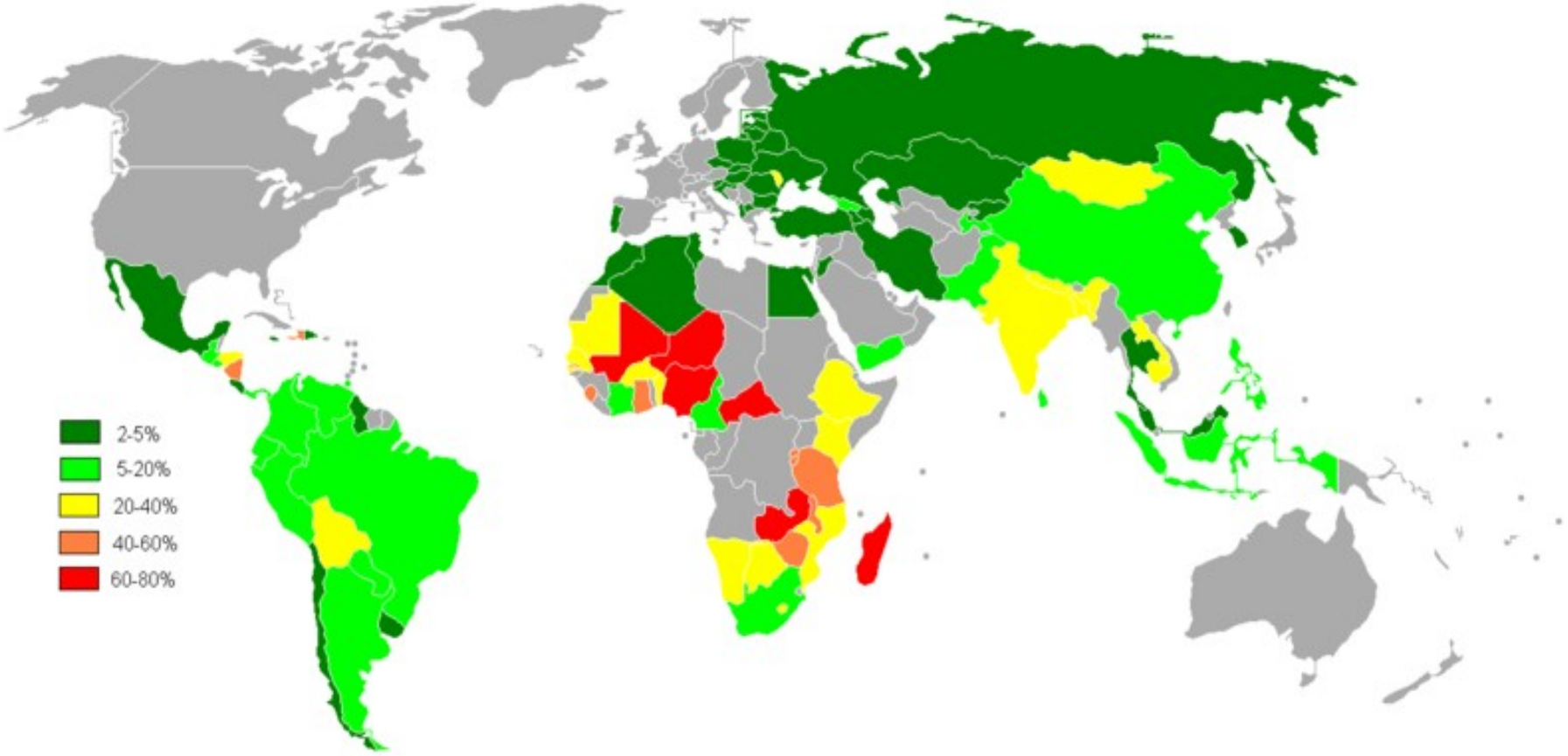
Human Development Index

- poverty
- literacy
- education
- life expectancy
- childbirth



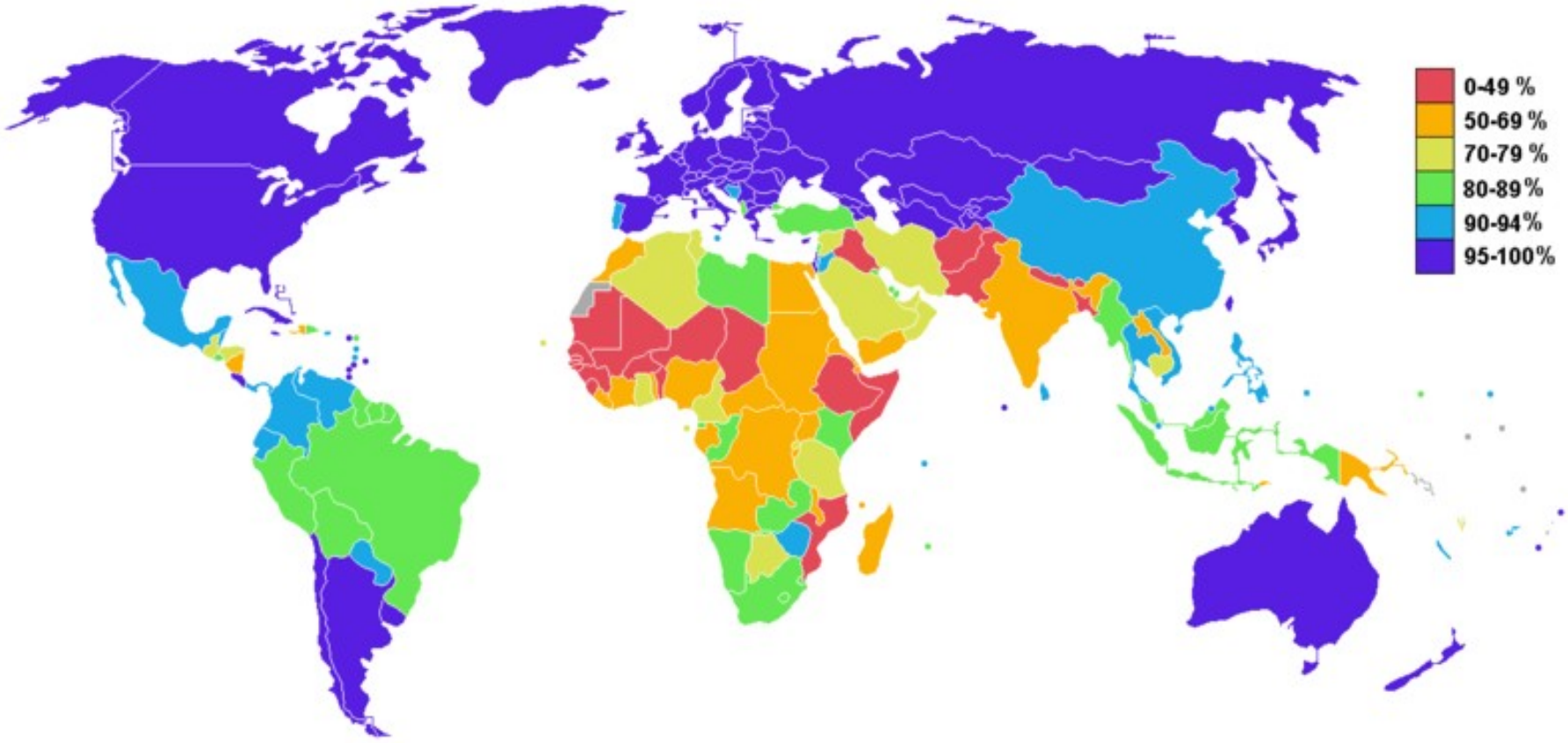
- and other factors for countries worldwide.
- http://en.wikipedia.org/wiki/Human_Development_Index

Poverty % < $1/day



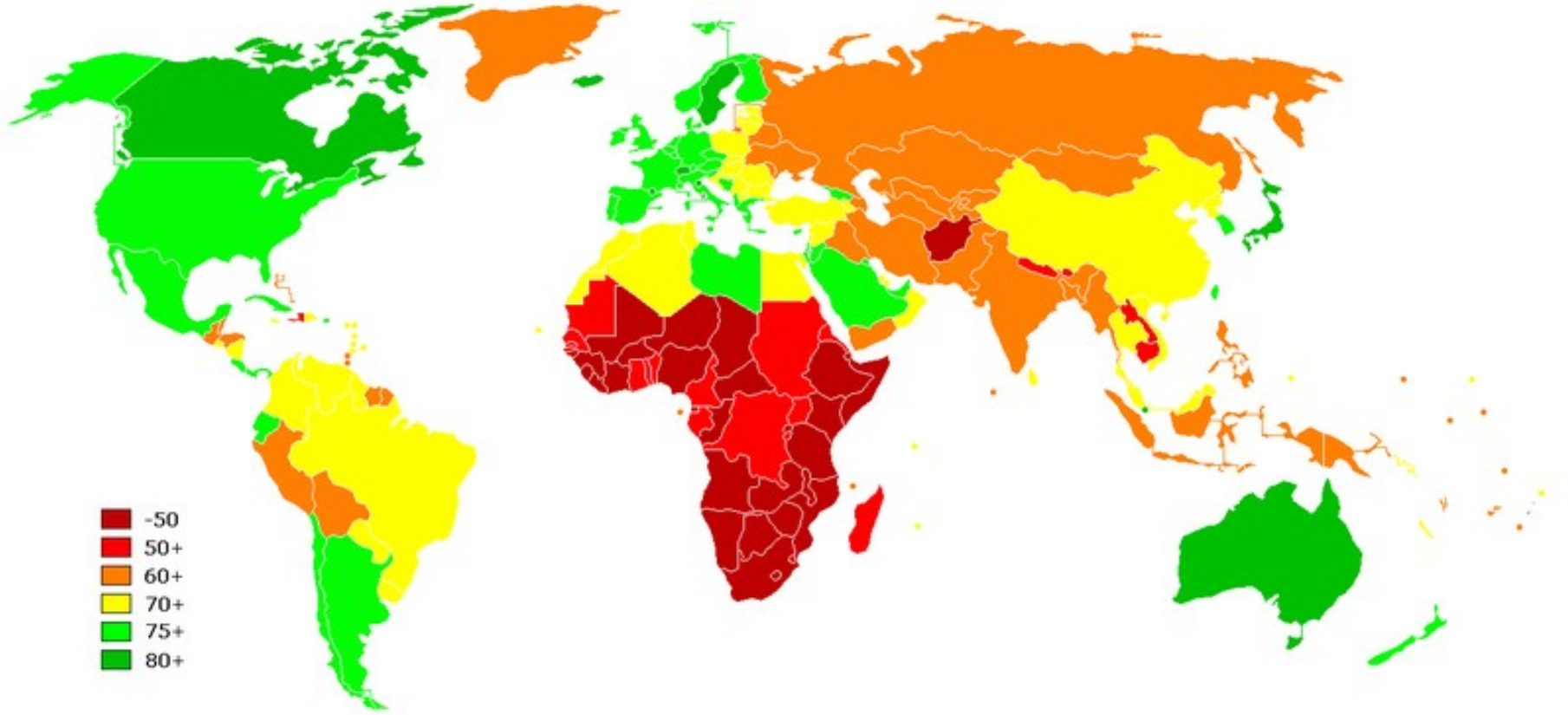
http://en.wikipedia.org/wiki/Poverty

Literacy



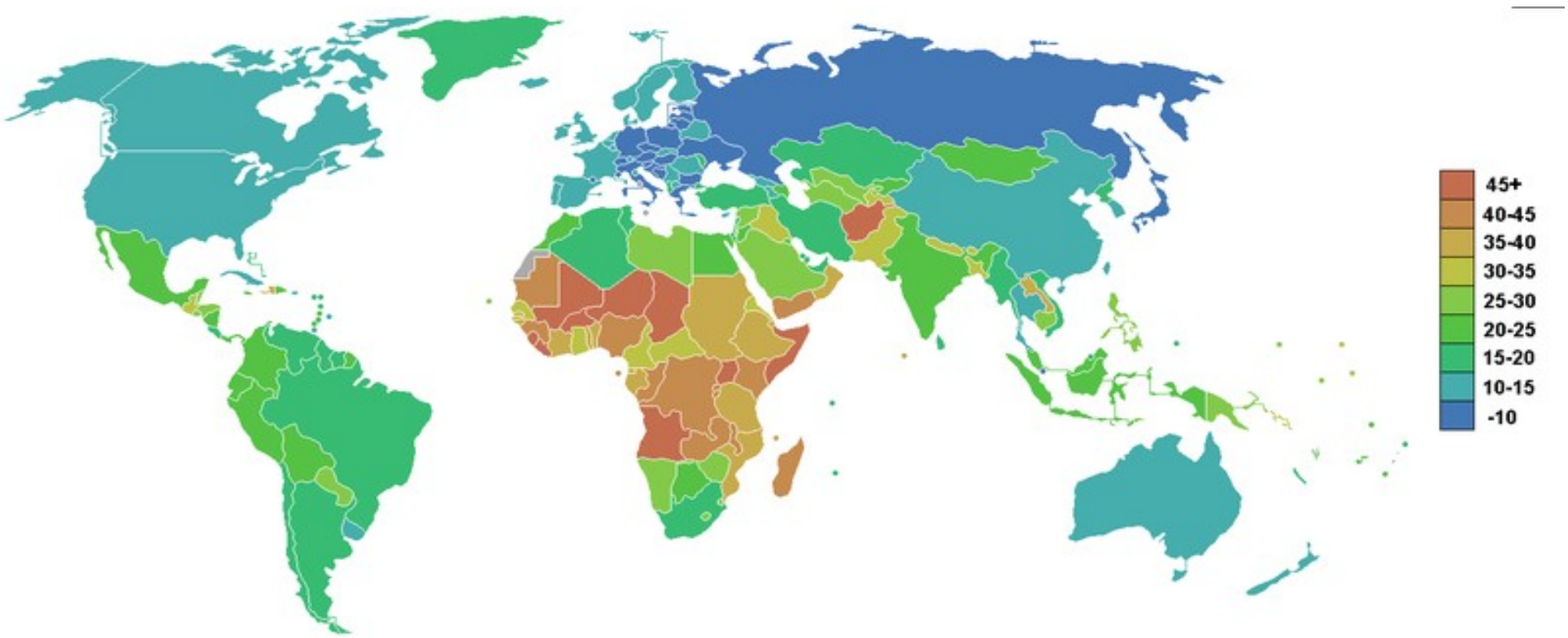
http://en.wikipedia.org/wiki/Literacy

Life Expectancy



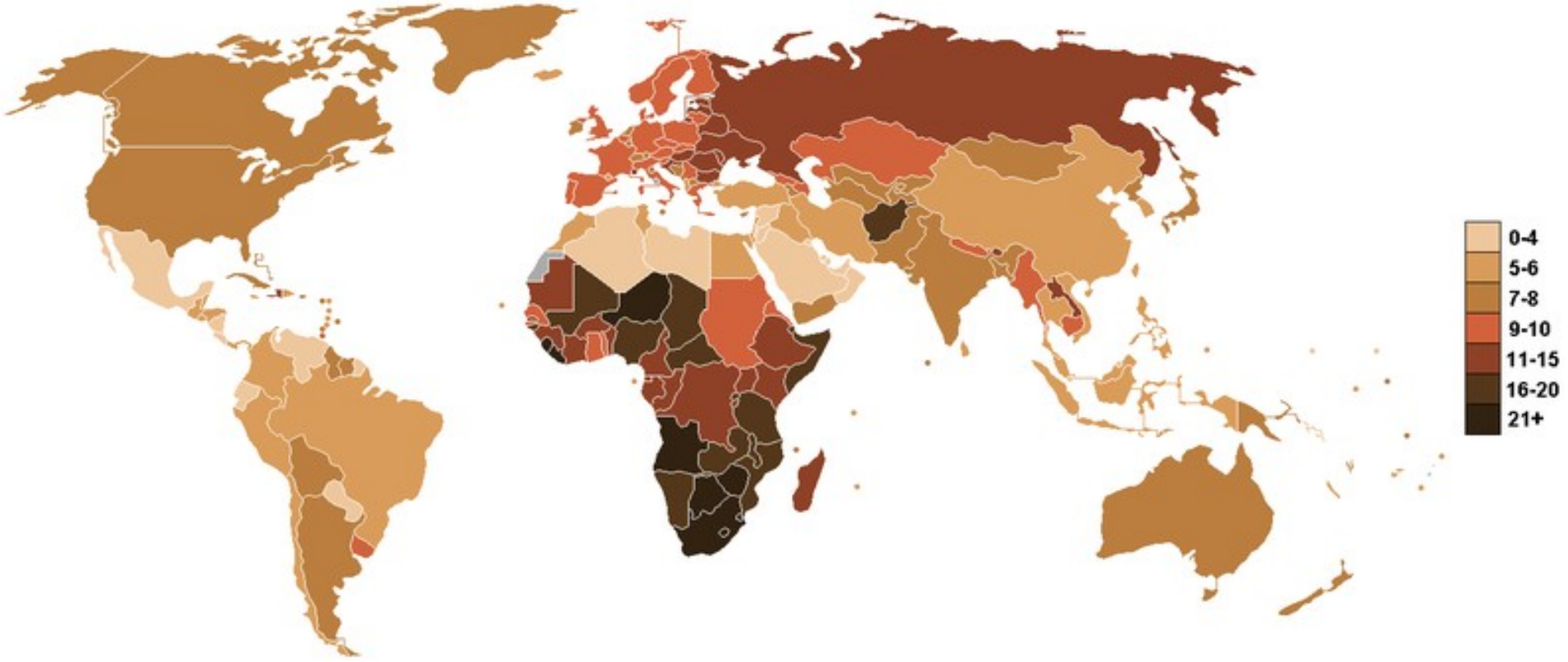
http://en.wikipedia.org/wiki/Life_expectancy

Births n/1000 of Population



http://en.wikipedia.org/wiki/Birth_rate

Deaths n/1000/pa



http://en.wikipedia.org/wiki/Death_rate

Sustainable Development vision

- Social, economic, environmental by definition
- MDGs
  - Eradicate extreme poverty and hunger
  - Achieve universal primary education
  - Promote gender equality and empower women
  - Reduce child mortality
  - Improve maternal health
  - Combat HIV/AIDS, malaria, and other diseases
  - Ensure environmental sustainability
  - Develop a global partnership for development.

MDGs 1 - 2

- Eradicate extreme poverty and hunger
  - Reduce by half the proportion of people living on less than one U.S. dollar a day.
  - Reduce by half the proportion of people who suffer from hunger.
  - Increase the amount of food for those who suffer from hunger.
- Achieve universal primary education
  - Ensure that all boys and girls complete a full course of primary schooling.
  - Increased enrollment must be accompanied by efforts to ensure that all children remain in school and receive a high-quality education

MDGs 3 - 5

- Promote gender equality and empower women
  - Eliminate genders disparity in primary and secondary education preferably by 2005, and at all levels by 2015.
- Reduce child mortality
  - Reduce the mortality rate among children under five by two thirds.
- Improve maternal health
  - Reduce by ¾ the maternal mortality ratio.

MDGs 6 - 7

- Combat HIV/AIDS, malaria, and other diseases
  - Halt and begin to reverse the spread of HIV/AIDS.
  - Halt and begin to reverse the incidence of malaria and other major diseases.
- Ensure environmental sustainability
  - Integrate the principles of sustainable development into country policies and programmes; reverse loss of environmental rscs.
  - Reduce by half the proportion of people without sustainable access to safe drinking water.
  - Achieve significant improvement in lives of at least 100 million slum dwellers, by 2020.

MDGs 8

- Develop a global partnership for development
  - Develop further an open trading and financial system that is rule-based, predictable and non-discriminatory. Includes a commitment to good governance, development and poverty reduction—nationally and internationally.
  - Address the least developed countries' special needs. This includes tariff- and quota-free access for their exports; enhanced debt relief for heavily indebted poor countries; cancellation of official bilateral debt; and more generous official development assistance for countries committed to poverty reduction.
  - Address the special needs of landlocked and small island developing States.

MDGs 8 (continued)

- Deal comprehensively with developing countries' debt problems through national and international measures to make debt sustainable in the long term.
- In cooperation with the developing countries, develop decent and productive work for youth.
- In cooperation with pharmaceutical companies, provide access to affordable essential drugs in developing countries.
- In cooperation with the private sector, make available the benefits of new technologies—especially information and communications technologies.

Links

- Governments and FLOSS
  - http://europa.eu.int/information_society/activities/opensource/cases/index_en.htm
  - http://www.openia.com/resources/open-source/governments
- MDGs
  - http://en.wikipedia.org/wiki/Millennium_Development_Goals
- Research
  - http://flossworld.org
  - http://flosspols.org

Access to Knowledge

is key to meeting all of these goals

to enable communities to empower themselves
with knowledge

towards self-determination
with global collaboration

Access – e.g. via Schools? - e.g. NEPAD e-Schools: 600,000 in Africa.

- Devices – computers - etc.
- Connectivity – and bandwidth
- Physical access to the material
- Being able to use the resources
  - translation, localisation/contextualisation
  - interact and produce.
- Quality and relevance.

Reality: many schools are still short of

- Buildings?
- Tables/Desks?
- Books?
- Water?
- Food?
- Electricity?
- Teachers?

Singazenzela

“we can do things for ourselves”

a new project

and a general principle

WirelessAfrica.meraka.org.za

MobilED.uiah.fi

The MobilED (mobile education) initiative is aimed at designing learning and teaching environments that are meaningfully enhanced with mobile technologies and services.

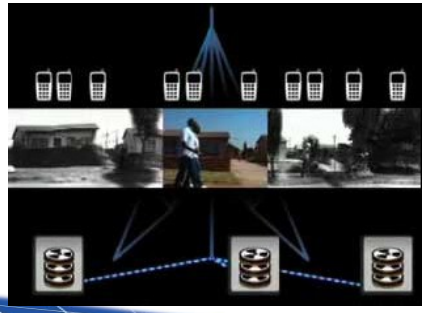
MobilED - Partners

- Principle Partners
  - Meraka Institute, managed by the Council for Scientific and Industrial Research (CSIR)
  - Media Lab of the University of Art and Design Helsinki
- Associated partners and advisors
  - Centre for Research on Networked Learning and Knowledge Building, University of Helsinki (FI); Tshwane University of Technology (SA); University of Pretoria (SA); Escola do Futuro Universidade de São Paulo (BR); WikiMedia Foundation (US), and Center for Knowledge Societies (IN).
- Funded by
  - the Principle Partners, Department of Science and Technology, South Africa and Embassy of Finland in Pretoria. Handsets sponsored by Nokia

Project Deliverables

- A set of scenarios and guidelines of how mobile technologies could be used for teaching, learning and empowerment of students within and outside the school context
- A set of concepts, prototypes and platforms that facilitate and support the scenarios and guidelines developed
- Testing, evaluation and dissemination strategies for the scenarios, guidelines, concepts, prototypes and platforms in real contexts with real people

Technology



- Mobile devices: GSM phones, multimedia/smart phones, Internet tablets
- Wireless networks: GSM, 3G, WLAN
- Voice, speech and language technologies: speech interfaces, audio information systems etc.
- Social software: Mediawiki, blogs, Knowledge Building tools.
- Wikipedia: The Free Encyclopaedia.

Pedagogy

- Student and group-centred learning
- Project-based learning
- Problem solving
- Inquiry learning

Open Source/Content “Products”

- MobilED KIT – a box with mobile tools, software and a guidebook that a teacher can use in a classroom or club to carry out collaborative mobile learning projects.
- MobilED SERVER – a technology platform that makes it possible to make the most of the MobilED KIT.
- Governments, organizations or operators willing to support the use of mobile phones in collaborative learning projects may install the technology platform.
- There are also many other possible applications in noneducational type environments (such as e-government).

Pilot plans and concepts

- Access to and contribution of content via “lowest common denominator” – SMS and voice (Mobile audio wikipedia)
  - Pilot 1 – Cornwall Hill College
  - Pilot 2 – Irene Middle School
- More advanced functionality – MMS (Street Memory)
  - Pilot 3 – joint project between the schools

Pilot 1: Cornwall Hill College Stage 1

- A mobile audio wikipedia can be accessed by sending an SMS with a key word.

- 

- The service calls back and plays the information, making use of text to speech conversion.

Pilot 1: Cornwall Hill College Stage 2

- Learners could make their own audio castings on related topics.
- This information is added to the audio wikipedia for other people to listen to.

Some Results

- Enthusiastic support from the learners
- Learners needed more time to familiarise themselves with the particular cell phone model used
- Gender issues – boys tended to monopolise the cell phones
- Learners wanted individual access to cell phones
- The text-to-speech engine was a major problem, resulting in poor quality audio
- The sound quality from the speakers was poor
- There were a few technology “hiccups”

More Results from pilot 1

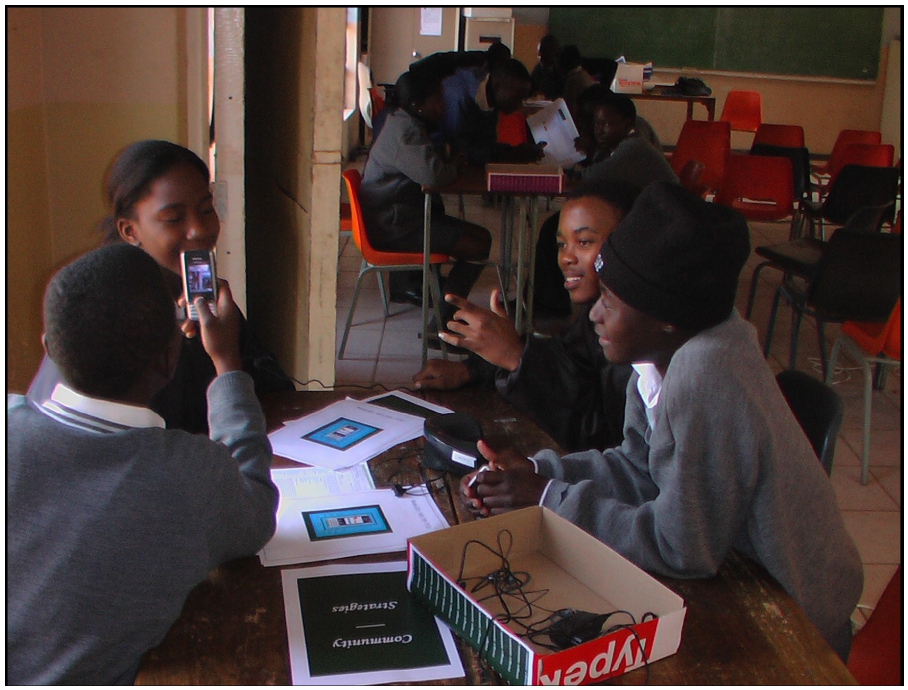
- Spontaneous sharing of capabilities amongst the learners
- Learners responded positively to the SMS option (both with teacher and mobile audio wikipedia)
- Learners preferred to use their own phones
- Pilot 1B?

Unexpected consequences

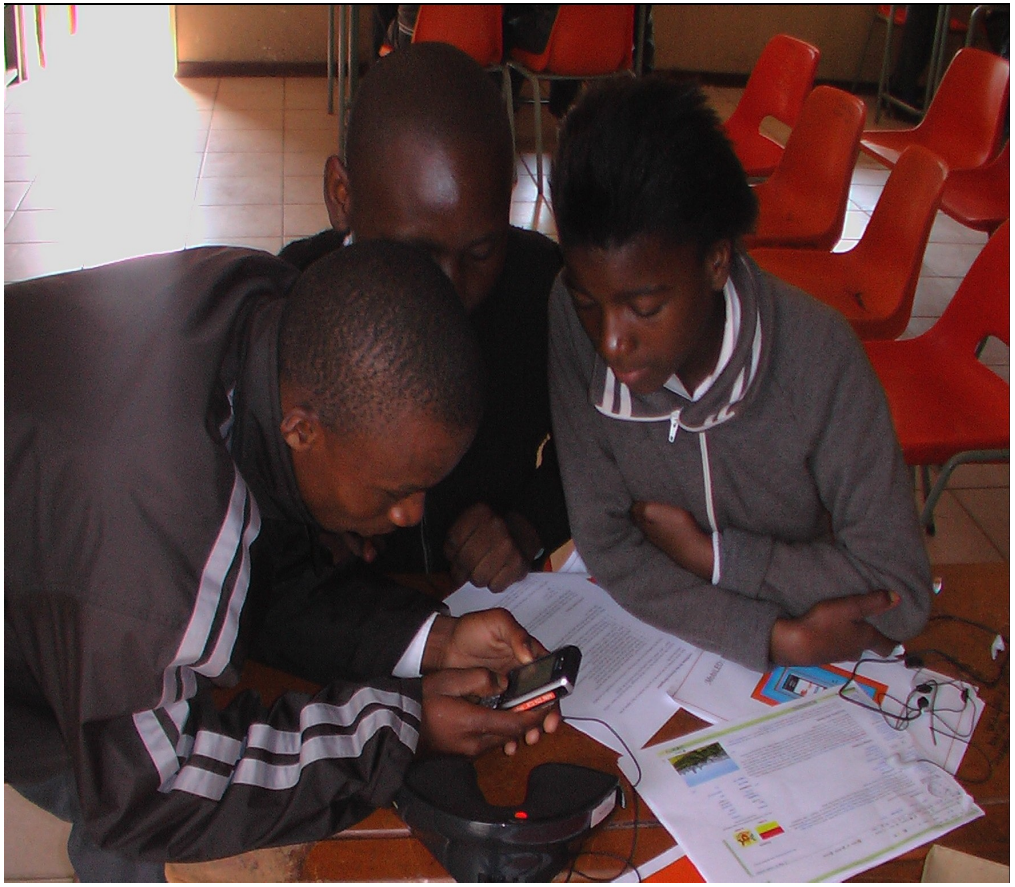
- Request from Cornwall Hill teachers for an additional pilot – Pilot 1A
- Learners taken on a field trip to Gold Reef City as part of a science project (gravity, acceleration, etc.)
- Learners used their own phones
- All information communicated was via SMS
- A wiki was seeded with information they would need
- MobilED platform extended to provide information via SMS
- MobilED used to gather information “in the field” and the phones used to record the information (video clips, audio clips, notes)
- Each group had to create a presentation on their findings

Pilot 2 – Irene Middle School

- Similar lesson about HIV/AIDS, different approach, building in the results of Pilot 1 (also Grade 8)
  - More time for learners to experiment (with the phones and technology)
  - Printouts of a Wikipedia webpage
- Improvement of the technology
  - Improved speakers
  - Different text-speech system
  - Fewer bugs



Some results from Pilot 2



- Enthusiastic support from learners (once again)
- Issues like language a “non-issue”
- Learners happy to share the cell phones in the group
- Learners comfortable with the technology in a short period of time
- Spontaneous use of audio wikipedia for other learning areas

Next Steps

- Pilot 3
  - “Street Memory” currently being planned
  - Scheduled for early October
- Planning for pilots for next year
- Data synthesis and analysis for all pilots in progress (3 Masters dissertations)
- Similar pilots in Finland, Brazil, Colombia, India

Acknowledgement

- Merryl Ford
  - mford@csir.co.za
  - http://www.meraka.org.za
  - http://mobiled.uiah.fi

- and the MobilED Team

Links

- Singazenzela project in formation: http://wiki.metalab.co.uk/
- WirelessAfrica: http://wirelessafrica.meraka.org.za/
- http://mobiled.uiah.fi
- http://www.meraka.org.za
- Human Language Technologies (research): http://www.meraka.org.za/hlt

So, that is a little on access and learning.

Now: licensing !

A Brief History of Copyright

1662	Licensing Act passed: regulated publishers, giving them a monopoly, so that the Crown could have some control over what was published. Expired in 1695.
1710	Statute of Anne, the first "copyright" act, adopted by British Parliament. Copyright term: 14 years, optionally renewable by the author for an additional 14. Previously published works covered by copyright for 21 years from 1710. Restricted the right to copy a particular book to a particular machine.
1731	*Romeo and Juliet* should have entered the public domain. However, there was still an issue in 1774 as common law seemed to indicate that copyrights are perpetual.
1774	House of Lords voted against perpetual copyrights – the public domain was born, and culture freed.
1790	Copyright covered only "maps, charts, and books."
1831	Copyright extended to cover music, and the initial term was lengthened to 28 years (still optionally renewable for another 14 years).
1870	Copyright extended to apply to paintings, statues, and derived works such as translations and dramatisations.
1909	A semantic error in a statute extended copyright beyond "publish" and "re-publish" to the right to "copy". Renewal period lengthened from 14 to 28 years to give a possible total of 56 years.
1928	Mickey Mouse born. 1928 + 56 = 1984.
1962	The practice of extending existing copyrights starts - mostly short extensions of a few years for existing copyrights, and occasionally of future copyrights.
1970s	Photocopiers became widely accessible and became the target of "extensive litigation".
1976	All existing copyrights extended by nineteen years.
1976	Renewal requirement dropped: for works created after 1978 the maximum term available applied (life plus 50 years for "natural" authors, and 75 years for corporations).
1976-	To simplify copyright law, amendments were made leading to the current situation of all works being automatically covered (© all rights reserved).
1992	Renewal requirement dropped for all works created before 1978 that were still under copyright: ninety-five years after the Sonny Bono Act.
1998	Existing and future copyrights extended for 20 years[1].

Sources include http://www.free-culture.cc/ and other articles by Law
Positive Intellectual Rights and Information Exchanges, in CODE,
Rishab Ghosh (ed.), 2005, MIT Press.

Copyright Trend

Since 1710, when copyright restricted the right to copy a book to a particular machine (usually a bookseller's printing press) with no restrictions on use, there has been a progressive reduction in formalities required to register copyright, for an ever increasing duration, and with incumbent restrictions on use of the work by others. Currently, authors automatically have exclusive rights to copy, distribute, perform, etc..

The effect is a severe restriction of the flow of creativity and knowledge that supply the publicly available pool of resources and contribute to cultural development.

Part of the Solution

CreativeCommons.org

“some rights reserved”

For accelerated development

Libre Knowledge, Libre Learning

collaborative knowledge generation

rip, adapt, mix, share

unencumbered by the automatic restrictions
built in to current copyright law

pick a free/libre license

Libre

enables community ownership

empowerment - towards self determination

increasingly important with globalisation

promoting a culture of sharing

interdependence

Accessing Global Knowledge

- Localisation is always required
- Collaborative knowledge generation and dissemination is required
  - engaging with the knowledge society
- Need to encourage entrepreneurship in terms of such knowledge services

- Hence the need for FREE/LIBRE licences.

Libre Knowledge requires software libre and free/open file formats

Readings

- http://wikimania2006.wikimedia.org/
  - Lessig and Benkler u. proceedings (video & audio)
- http://www.benkler.org/
  - The Wealth of Networks (PDF available)
- http://www.free-culture.cc/
  - Free Culture – various formats and variations
- and listen carefully to RMS !!! Essays & talks.
  - http://gplv3.fsf.org/ - still open for discussion.

Thank you :-)

Contact

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- MobilED Slides:
  - Merryl Ford: mford@csir.co.za
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  - Rishab Ghosh: rishab@dxm.org
- Globe icon via: http://antwrp.gsfc.nasa.gov/apod/ap960819.html
  - (slide 2)
- and many others referred to on the slides, etc.