



FOSS

Bharath Setturu

EWRG,
CES, IISc

What is Free and Open Source?

- Free and Open source describes a broad general type of **free software license** that makes source code available to the general public with no copyright restrictions.

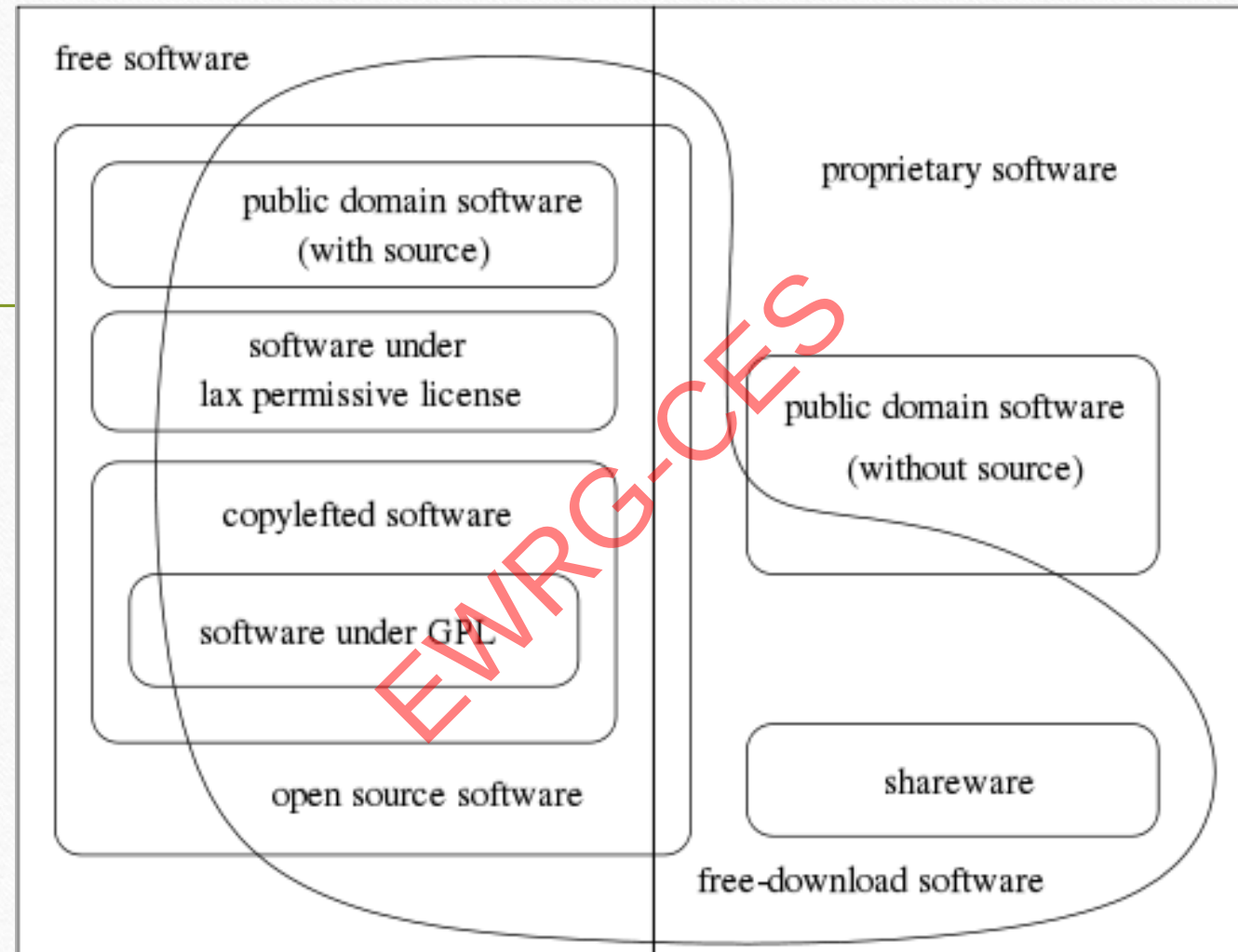
What is Free and Open Source?

- Free to use
- Free to change
- Free to distribute
- An alternative to commercial software

Freedom rules

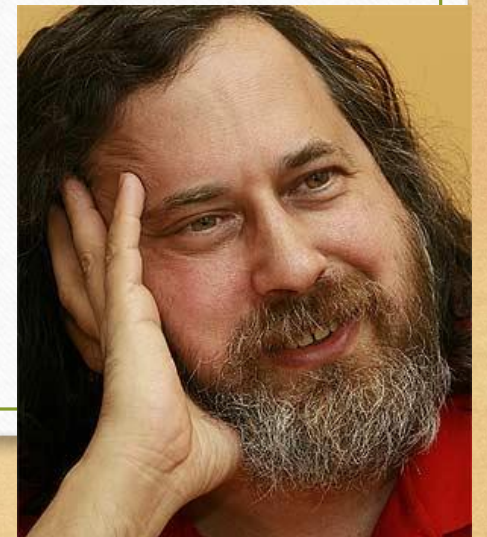
- A program is free software if the program's users have the four essential freedoms:
- *The freedom to run the program* as you wish, for any purpose (freedom 0).
- *The freedom to study how the program works, and change it so it does your computing as you wish* (freedom 1). Access to the source code is a precondition for this.
- *The freedom to redistribute* copies so you can help your neighbor (freedom 2).
- The freedom to distribute copies of *your modified versions* to others (freedom 3). By doing this you can give the whole community a chance to benefit from your changes. Access to the source code is a precondition for this.

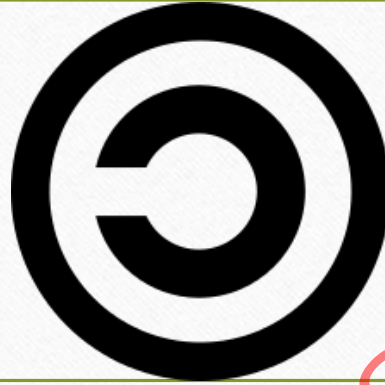
Categories of free and non-free software



Free software moment

- In 1983, **Richard Stallman**, at the MIT Artificial Intelligence Laboratory, announced the GNU project, to change in culture of the computer industry and its users.
- Software development for the GNU operating system began in January 1984, and the Free Software Foundation (FSF) was founded in October 1985.
- An article outlining the project and its goals was published with significant explanation of the GNU philosophy, Free Software Definition and "copyleft" ideas.





-
- Copyleft (a play on the word copyright) is the practice of offering people the right to freely distribute copies and modified versions of a work.
 - Copyleft is a form of licensing, and can be used to maintain copyright conditions for works ranging from computer software, to documents, to art.
 - In general, copyright law is used by an author to prohibit recipients from reproducing, adapting, or distributing copies of their work.
 - In contrast, under copyleft, an author **may give every person who receives a copy of the work permission to reproduce, adapt, or distribute it**, with the accompanying requirement that any resulting copies or adaptations are also bound by the same licensing agreement.

Who uses open source?

90% of supercomputers

80% of internet servers

70% of smart phones *

Who uses open source GIS?

ESRI

IDRISI

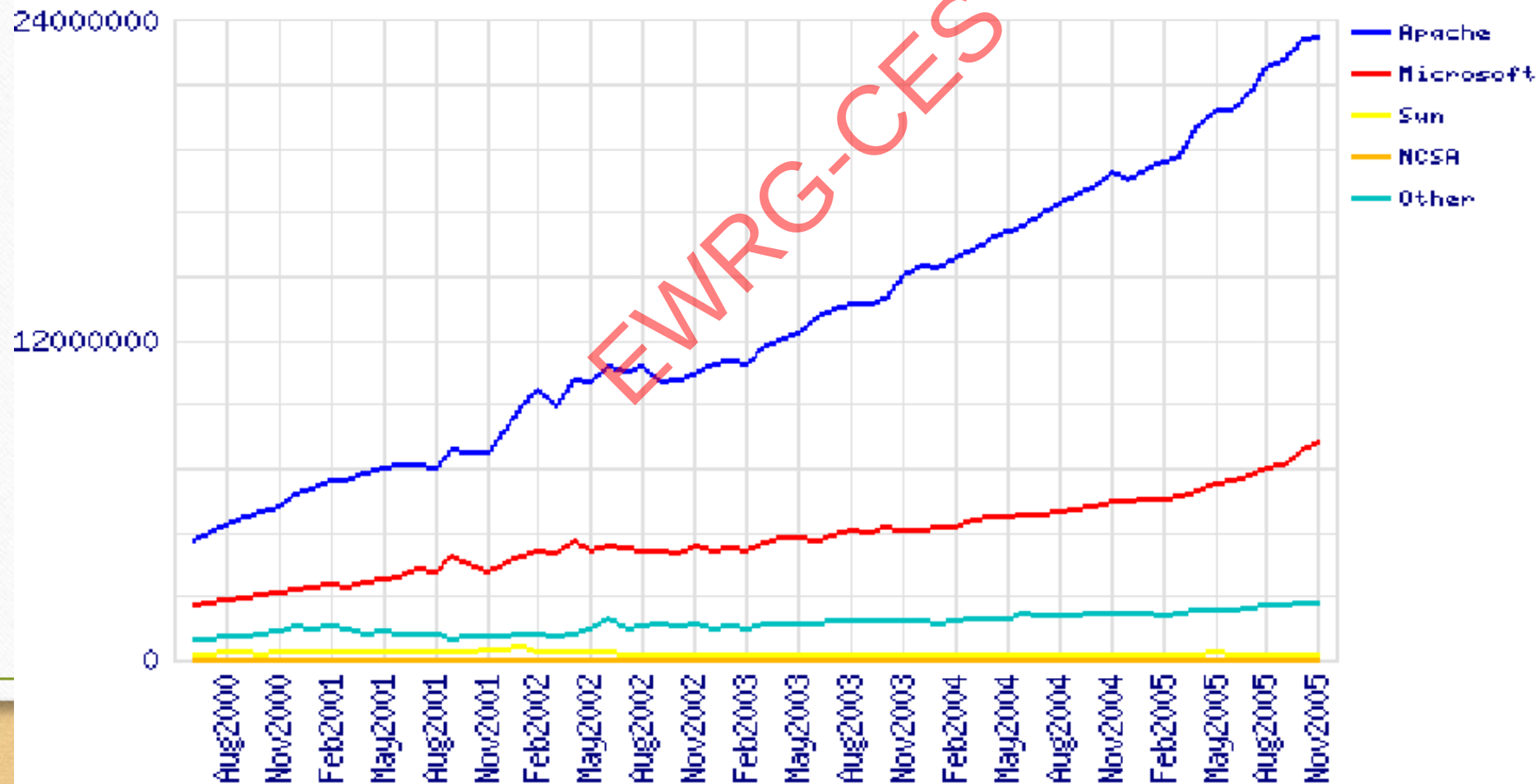
ERDAS

Google

many others . . .

Market Share: Web Servers

- Active Sites: Apache 69.36%, IIS 24.31% [Netcraft]



India



chooses

open source

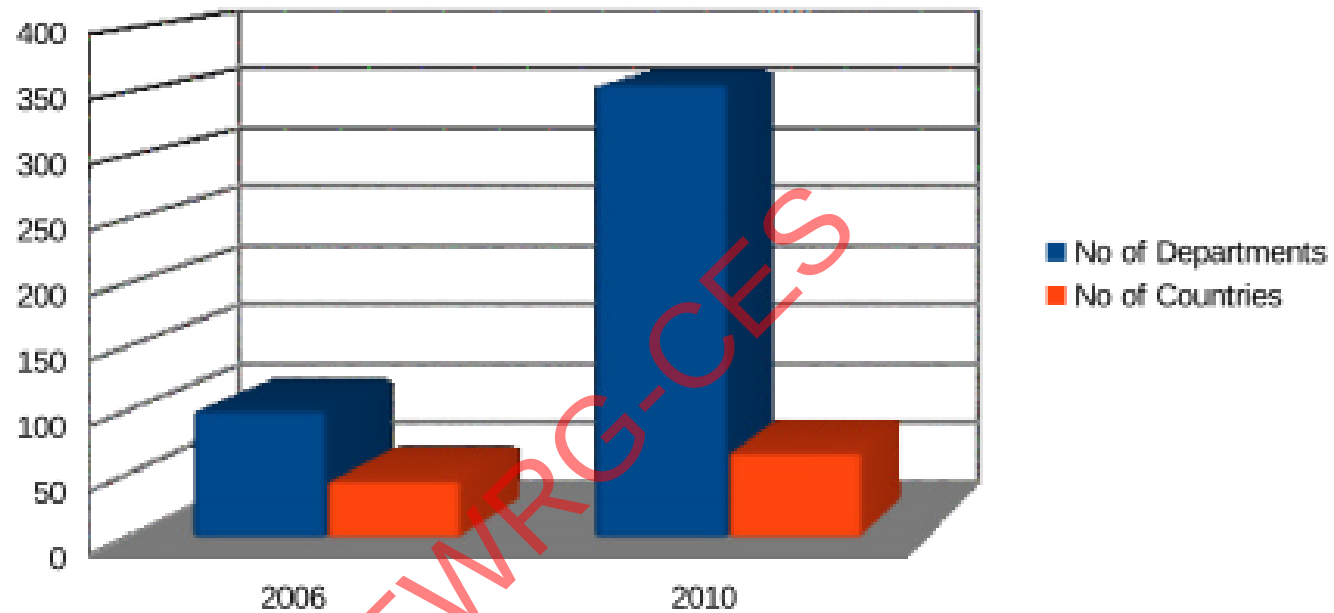
In an important policy change, the Government of India announced that it will adopt the open source software and make it **mandatory for all the government software services and applications.**

Narendra Modi led government said that as a part of its **Digital India campaign**, all the e-governance projects will use the free and open source software (FOSS).

The savings from using FOSS in schools across India can be to the tune of **Rs 8254** crores (USD 1.3 billion).

Kerala stands out, amongst the states, for its adoption of FOSS for schools

Government Departments and Countries with FOSS Policies



FOSS Adoption in Government (Source: Centre for Strategic and International Studies).

- 1 Accessibility
- 2 Accounting
- 3 Animation
- 4 Association / Non-Profit Management
- 5 Artificial Intelligence (AI)
- 6 Astronomy
- 7 Audio Editing
- 8 Billing
- 9 Bittorrent
- 10 Business Intelligence
- 11 CD/DVD Creation
- 12 Church Management
- 13 Communications
- 14 Computer Aided Design (CAD)
- 15 Crowd Sourcing
- 16 Customer Relationship Management
- 17 Desktop
- 18 Desktop Publishing
- 19 Development Environments
- 20 Disaster Management
- 21 Dispatching
- 22 Document Management
- 23 Ebook Readers
- 24 E-commerce
- 25 Education
- 26 Email & Calendar
- 27 Email Marketing
- 28 Emergency Services
- 29 Engineering
- 30 ERP
- 31 File Compression
- 32 Flight Simulator
- 33 Forums
- 34 Genealogy
- 35 Graphics
- 36 Graphing
- 37 Groupware (email, contacts, calendar, notes, tasks)
- 38 Health / Medical / Dental
- 39 Human Resources (HR)
- 40 Instant Messaging

Applications

- 41 Inventory Management
- 42 ISP Management
- 43 Issue Tracking
- 44 Label Printing
- 45 Library Software
- 46 Mathematics
- 47 Mind Mapping
- 48 Modeling
- 49 Multimedia
- 50 Notes
- 51 Office Suite
- 52 Optical Character Recognition (OCR)
- 53 Password Managers
- 54 PDF Viewers / Editors / Writers
- 55 Photography
- 56 Point of Sale
- 57 Presentations
- 58 Printing 3D
- 59 Project Management
- 60 Real Estate
- 61 Reporting / Charts / Graphs
- 62 Resource Management
- 63 Screencasting
- 64 Search Engine
- 65 Social Networking

- 65 Social Networking
- 66 Sound Editing
- 67 Survey Software
- 68 Terminal Emulation
- 69 Timesheet & Time Tracking
- 70 Typesetting
- 71 Video Capture
- 72 Video Players
- 73 Video Conferencing
- 74 Video Editing
- 75 Virtual Desktop Clients
- 76 Virtual Private Network
- 77 Virtual World / Simulator
- 78 Vision
- 79 Voice Calling
- 80 Voice Recognition
- 81 Website Analytics
- 82 Web Browser
- 83 Web Conferencing
- 84 Website Content Management Systems (CMS)
- 85 Website Development
- 86 Wiki
- 87 Workflow



Video Editing

- Avidemux [↗](#) - good video conversion, rotation tools.
- CamStudio [↗](#)
- Cinelerra [↗](#)
- Liconcomp [↗](#)
- PiTiVi [↗](#)
- Kdenlive [↗](#)

Virtual Desktop Clients

Also see [Virtual Desktop Servers](#) [↗](#).

- kNX [↗](#)
- OpenNX [↗](#).
- Remmina [↗](#)
- qtnx [↗](#)
- x2go [↗](#)

The Free Software Directory

The Free Software Directory is a catalog of useful free software that runs under free operating systems.

FSD staff and volunteers work together to collect detailed information about free software programs and organize it in a clear and accessible format.

- 15,000 individual programs and tools listed in the FSD/UNESCO free software directory.

The Free Software Directory

Free software to use for ...

copying
compressing
editing
education
email
gameplaying
hobbies
interface
internet-application

library
live-communications
localization
mathematics
mixing
organizing
playing
printing
reading
science

security
software-development
storage
system-administration
text-creation
timekeeping
video
web-authoring
more...

Free software that interfaces with ...

command-line
console
daemon
e-mail
library

web
x-window-system
accessibility
desktop-enhancement
file-manager
frontend

gnome-app
kde-app
text
window-manager
more...

Free software for business ...

accounting
addressbooks
barcoding
cad
calculating
calendar

ecommerce
faxing
pim
productivity
project-management
specialized

spreadsheet
stock-market
telephony
timekeeping
timetracker
more...

Free software that works with ...

addresses
archive
audio

ebooks
email
fax

spreadsheet
sql
text



While most open source geospatial software is built on the standards of the Open Geospatial Consortium (OGC). <http://www.opengeospatial.org>



OSGeo is the organization that supports the development of the highest quality open source geospatial software. <http://www.osgeo.org>

Sharing & Standards

OSGeo Projects

Web Mapping

deegree
geomajas
GeoMoose ♦
GeoServer ♦
Mapbender
MapBuilder
MapFish
MapGuide Open Source
MapServer
OpenLayers
ZOO-Project ♦

Desktop Applications

GRASS GIS
Quantum GIS
gvSIG ♦
Opticks ♦

Geospatial Libraries

FDO
GDAL/OGR
GEOS
GeoTools
MetaCRS ♦
OSSIM
PostGIS
rasdaman ♦

Metadata Catalog

GeoNetwork

Other Projects

Public Geospatial Data
Education and Curriculum

♦ Project in incubation

OSGeo

- The Open Source Geospatial Foundation
- OSGeo was created to support the collaborative development of open source geospatial software, and promote its widespread use

About the Open Source Geospatial Foundation

The Open Source Geospatial Foundation, or OSGeo, is a not-for-profit organization whose mission is to support the collaborative development of open source geospatial software, and promote its widespread use. The foundation provides financial, organizational and legal support to the broader open source geospatial community. It also serves as an independent legal entity to which community members can contribute code, funding and other resources, secure in the knowledge that their contributions will be maintained for public benefit. OSGeo also serves as an outreach and advocacy organization for the open source geospatial community, and provides a common forum and shared infrastructure for improving cross-project collaboration.

OSGeo Projects

Web Mapping

deegree
geomajas
GeoMoose ♦
GeoServer ♦
Mapbender
MapBuilder
MapFish
MapGuide Open Source
MapServer
OpenLayers
ZOO-Project ♦

Desktop Applications

GRASS GIS
Quantum GIS
gvSIG ♦
Opticks ♦

Geospatial Libraries

FDO
GDAL/OGR
GEOS
GeoTools
MetaCRS ♦
OSSIM
PostGIS
rasdaman ♦

Metadata Catalog

GeoNetwork

Other Projects

Public Geospatial Data
Education and Curriculum

♦ Project in incubation

OSGeo Mission Statement

To support the collaborative development of open source geospatial software, and promote its widespread use.

OSGeo Goals

<http://www.osgeo.org/>

The following more detailed goals support the overall mission:

- To provide resources for foundation projects - eg. infrastructure, funding, legal.
- To promote freely available geodata - free software is useless without data.
- To promote the use of open source software in the geospatial industry (not just foundation software) - eg. PR, training, outreach.
- To encourage the implementation of open standards and standards-based interoperability in foundation projects.
- To ensure a high degree of quality in foundation projects in order to build and preserve the foundation "brand".
- To make foundation and related software more accessible to end users - eg. binary "stack" builds, cross package documentation.
- To provide support for the use of OSGeo software in education via curriculum development, outreach, and support.
- To encourage communication and cooperation between OSGeo communities on different language (eg. Java/C/Python) and operating system (eg. Win32, Unix, MacOS) platforms.
- To support use and contribution to foundation projects from the worldwide community through internationalization of software and community outreach.
- To operate an annual OSGeo Conference, possibly in cooperation with related efforts (eg. EOGE).
- To award the Sol Katz award for service to the OSGeo community.

Licensing

All FOSS software packages are licensed.

The license contains the terms for how the software can be used and distributed

FOSS licenses focus on giving users rights

FOSS License Examples:

GNU, GPL, BSD

Proprietary licenses focus on restricting use in specific ways.

The GNU “General Public License” (GPL)

- No standard open source license, but GPL most widely used (roughly 85% of open source software);
- Terms include:
 - User freedom to distribute and/or modify;
 - Requirement that original and modified source code be always made available to the world under the terms of the original license;
 - Must retain copyright notices and warranty disclaimers;
 - Does not include grant of patent licenses;
 - Extremely viral license.

Proprietary Vs FOSS

Proprietary

- Objective: maximize profits
- Planning & Development
- Beta testing
- (May have to pay for privilege)*
- Bugs may or may not be fixed
- Long-term maintenance contracts appear more desirable
- Users need good reasons to pay for upgrades...delayed fixes
- Stable release timed for major events...conferences etc
- Vendors sell software

FOSS

- Objective: creating stable software that solves a problem
- Less distinction between “end user” and “developer”
- No vendors that divide developers from users...communication easier
- New fixes get out quickly
- If a good solution isn't reached the project dies
- As long as it's useful it will go on
- It's always possible for someone new to come in and pick things up...GRASS

Software Examples: FOSS vs. Proprietary

FOSS	Proprietary
Operating Systems	
Linux	Windows / Mac
Mobile Operating Systems	
Android	iOS / RIM / Windows Mobile
Office Software	
Open Office	Microsoft Office
Image Manipulation	
GIMP	Adobe Photoshop
Drawing	
Inkscape	Adobe Illustrator
Web Browsers	
FireFox	Internet Explorer
Web Servers	
Apache	IIS
Databases	
mySQL	Oracle
PostgreSQL	SQL Server
Statistics	
R	S

GIS Software: FOSS vs. Proprietary

FOSS	Proprietary
GeoSpatial Desktop	
Quantum GIS	ArcGIS
MapWindow	MapInfo
gvSIG	Manifold GIS
GRASS GIS	IDRISI
uDig	Intergraph
Field GIS	
BeeGIS / Geopaparazzi	ArcPAD
Remote Sensing	
OSSIM	ERDAS
GRASS GIS	ENVI
Web Mapping	
MapServer	ArcIMS
MapGuide	MapGuide
GeoServer	ArcGIS Server
Spatial Databases	
SpatialLite	ESRI File Geodatabase
PostGIS	ArcSDE

Myths...

- **Myth: FOSS unsupported**
 - **Businesses support FOSS.**
Red Hat, Novell, HP, Sun, IBM, DMSolutions, SourceLabs, OpenLogic, Carahsoft, ...
 - **Community support often good;**
InfoWorld “Best Technical Support” award won by Linux User Community
- **Myth: Only programmers can work with FOSS**
- **Myth: Developers are inexperienced**
 - **BCG study: Average FOSS developer 30yrs old with good experience**
- **Myth: FOSS is no cost**
 - **Training, support, transition, etc. are not free-of-cost**
 - **Competition often produces lower & higher OSS**

FOSS @ IISc

Free & Open Source Software (FOSS) at CES, IISc, Bangalore, India

<http://wgbis.ces.iisc.ernet.in/foss/>

Welcome to Free & Open Source Software (FOSS) at CES, IISc, Bangalore, India

- Home
- GRASS Mirror site in India
- GRDSS
- Geovisualisation
- What is FOSS ?
- FAQs
- Scripting Language
- Open Web Server
- Open Source Database
- Open Content Management System
- Open Source Libraries
- Statistical Softwares
- GIS Softwares
- Useful Softwares
- List of Free Software
- Free Operating Systems
- Linux Command Help
- FOSS by OSGeo-India
- FOSS Foundation
- FOSS Group
- Contact Us
- Energy Research Group
- Centre for Ecological Sciences
- Indian Institute of Science
- Search

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E-mail

GRASS / GRDSS

GEOVISUALISATION OF CHERUVANNUR VILLAGE PANCHAYAT, KOZHIKODE, KERALA, INDIA

FOSS4G-INDIA FIRST NATIONAL CONFERENCE ON

"OPEN SOURCE GEOSPATIAL RESOURCES TO SPEARHEAD DEVELOPMENT AND GROWTH"

Home

NEW

LAKE 2012
6-9 November, 2012



LAKE 2012

NEW

"NATIONAL CONFERENCE ON CONSERVATION AND MANAGEMENT OF WETLAND ECOSYSTEMS"

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Open Source Scripting Language

Free Operating Systems



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Open Source GIS

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[Last update: 12/8/2013 - About 350 projects listed.]

This effort represents an attempt to build a complete index of Open Source / Free GIS related software projects. In addition to those alphabetized here, many great projects are listed at the end and will be integrated soon. And this will all move to a proper database. The definition of GIS is kept loose to encompass a broad range of projects which deal with spatial technology.

If you know of other efforts that should be listed please tell me about them. More importantly if I have made any errors in characterizing a project, let me know: bglewis<at>gmail.com.

This effort stands on the sturdy shoulders of other projects, most notably [OSGeo](#), [FreeGIS.org](#), and [freecode](#).

Descriptive text gathered from the project site is in quotes. Almost all of these projects fit the definition of Open Source Software as defined by the [Open Source Initiative](#), and most of them fit the stricter definition of Free Software as defined by the [Free Software Foundation](#).

[AVCE00](#) "AVCE00 is an Open Source (i.e. Free!) ANSI-C library that makes Arc/Info (binary) Vector Coverages appear as E00! It allows you to read and write binary coverages just as if they were E00 files." [License: ?]

[BASINS](#) "BASINS Version 4.0 is an open source GIS that integrates environmental data, analysis tools, and modeling systems." [License: ?]

[Batik](#) "Batik is a Java(tm) technology based toolkit for applications or applets that want to use images in the Scalable Vector Graphics (SVG) format for various purposes, such as viewing, generation or manipulation." [License: [Apache Batik](#)]

[BBBike](#) "BBBike is an information system for cyclists in Berlin and Brandenburg (Germany). The application has the following features: 1) Display a map with streets, railways, rivers, parks, altitude and other features. 2) Find and show routes between two points. The route-finder can be customized to match the cyclists preferences (fastest or nicest route, keep wind direction and hills into account etc.). 3) A bike power calculator. 4) Automatically fetch current Berlin weather data." [License: [GNU General Public License \(GPL\)](#)]

[BLM GIS Utilities](#) "Bureau of Land Management's FTP site of GIS utilities" [License: Public Domain]

[BRL CAD](#) "The BRL-CAD Package is a powerful Constructive Solid Geometry (CSG) solid modeling system." [License: ?]

[BuddySpace](#) "BuddySpace is an instant messenger with four novel twists: (1) it allows optional maps for geographical & office-plan visualizations in addition to standard 'buddy lists'; (2) it is built on open source Jabber, which makes it interoperable with ICQ, MSN, Yahoo and others; (3) it is implemented in Java, so it is cross-platform; (4) it is built by a UK research lab, so it is 100% free with full sources readily available. [License: [Academic Free License \(AFL\)](#), [Jabber License](#)]



GRASS GIS

Bringing advanced geospatial technologies to the world.

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Latest News

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May 1, 2016

GRASS GIS 7.0.4 released

We are pleased to announce the **new stable release** of **GRASS GIS 7.0.4**

[\[More\]](#)

Apr 19, 2016

GRASS GIS 7.0.4RC1 released

We are pleased to announce the **first release candidate** of **GRASS GIS 7.0.4**

[\[More\]](#)

Next event



BONN 2016
24th - 26th AUGUST

Home

[GRASS GIS feed](#)

Celebrating 30 years!

GRASS GIS, commonly referred to as GRASS (Geographic Resources Analysis Support System), is a **free** and open source [Geographic Information System](#) (GIS) software suite used for geospatial data management and analysis, image processing, graphics and maps production, spatial modeling, and visualization. GRASS GIS is currently used in academic and commercial settings around the world, as well as by many governmental agencies and environmental consulting companies. It is a founding member of the [Open Source Geospatial Foundation](#) (OSGeo).

New stable long term support (LTS) release: [GRASS GIS 7.0.3](#)



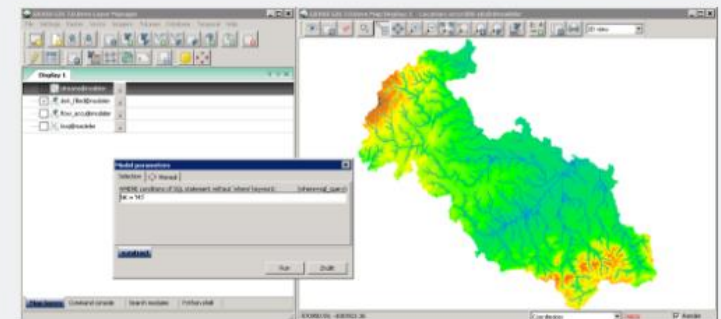
[...and Addons](#) | [Source Code](#)



Newcomers: How to start with GRASS GIS?

- [About GRASS GIS](#)
- Read the [First Day Documentation](#)
- Go through [Tutorial and Courses](#) in various languages
- Learn more with the [GRASS GIS migration hints](#)

Screenshots (click for more)



Module of the Day

[t.create](#) Creates a space time dataset.



ENVironmental Information System [ENVIS]

CES, Indian Institute of Science, Bangalore

Sahyadri: Western Ghats Biodiversity Information System

Communication

ENVIS Team



ENVIS	✂
Envis@CES	✂
NIC, Other Ministries	✂
Environmental Info. Sys	✂
Sahyadri	✂
Sahyadri: Database	✂
Sahyadri E-news	
Geospatial Portals	✂ In India
Sustainable Development	Worldwide
Books & Reports	✂ Grass
Digital Libraries	✂ Geospatial Data Portals
Publications	✂ Climate Data & Modelling
Training Programme	✂ Softwares
Lake Symposium	✂ FOSS Geospatial Tools
GRASS Mirror site	FOSS Servers
Open Source Softwares	✂ FOSS Databases
Contact Information	FOSS CMS
	Other Information



NEW Messages from The MoEFCC & Ministers



Ministry of Environment, Forest
& Climate Change

001605322

Visitors



ENVironmental Information System[ENVIS]

CES, Indian Institute of Science, Bangalore

Sahyadri: Western Ghats Biodiversity Information System

Geospatial Portals



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[ENVIS](#)

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Geospatial Data Portals

- [Open Layers](#)
- [Earth Explorer](#)
- [Glovis](#)
- [Consortium for Spatial Information \(CGIAR-CSD\)-for SRTM data sets](#)
- [Landsat data search tool](#)
- [Earth Resources Observation and Science \(EROS\) Center](#)
<http://eros.usgs.gov/land-cover>
- [Global Change Master Directory-GCMD](#)
<http://gcmd.gsfc.nasa.gov/add/portals.html>
- [Land Processes Distributed Active Archive Center \(LP DAAC\)](#)
- [MAPCRUIZ](#)
- [KFlog](#)

EWRG-CES

E-mail

Sahyadri

ENVIS

Energy

GRASS

CES

IISc

E-mail

Capacity building

EWRG-CES



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Short Term Courses

Energy & Wetlands Research Group, Centre for Ecological Sciences Indian Institute of Science, Bangalore

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Indian Institute of Science, Bangalore 560 012, India
Telephone: 91-080-22933099 / 2293 3503 (extn. 101/107), Fax: 91-080- 23601428 [CES-TVR]
E mail: cestvr@ces.iisc.ernet.in , energy@ces.iisc.ernet.in
Web: <http://ces.iisc.ernet.in/energy>, <http://ces.iisc.ernet.in/biodiversity>

2016	Brainstorming session on action plan for effective dissemination of Environmental Information (20 th to 21 st May 2016)
2016	Workshop on Free and Open Source GIS - FOSS4G (12 th to 14 th May 2016)
2016	Workshop on Wetland Ecosystems (12 th to 14 th May 2016)
2016	Workshop on Terrestrial Ecosystems (11 th to 12 th May 2016)
2016	Workshop on "Coastal Ecosystem" (9 th to 10 th May 2016)
2016	Workshop on Role of Students in "Coastal Ecosystem Management" (24 th February 2016)
2016	Workshop on Role of Students in "Coastal Ecosystem Management" (20 th February 2016)
2016	Workshop on Role of Students in "Coastal Ecosystem Management" (16 th February 2016)
2016	Conference on Municipal Solid Waste Management - MSWM 2016 (23 rd to 24 th February 2016)
2016	Workshop on Role of Students in "Coastal Ecosystem Management" (28 th January 2016)
2016	Workshop on Role of Students in "Coastal Ecosystem Management" (13 th January 2016)
2016	Workshop on Role of Students in "Coastal Ecosystem Management"

24-12-2011 10:46

EM course

CENTER FOR CONTINUING EDUCATION : SEPTEMBER - DECEMBER 2016

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[Brochure](#)

Course Information - 2016

[Information for Participants](#)

[Course Reference Book](#)

[Route Map](#)

Internet Courses 2016 - 2017



**Course offered :
Environmental Management**

Course Faculty :

Dr. T. V. Ramachandra

Energy & Wetlands Research Group

Centre for Ecological Sciences, Indian Institute of Science, Bangalore

E-mail: cestvr@ces.iisc.ernet.in

Phone: 080 - 22933099 / 22933503(Ext:107) **Fax:** 080 23601428

Information

[Env. Engg. Books](#)

[IISc_COL_Initiative](#)

[IISc_COL_ODL_Guide](#)

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Instructor: T.V. Ramachandra - [Send Message](#)

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Environmental Management

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Chat

TILE Repository
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Questions (FAQ)

Links



Site-map



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Polls



Reading List



Blogs

Announcements

EM 2015 First Contact Session

Uttam Kumar - Sunday October 6, 2013 - 01:05



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5 Environmental Auditing

6 Life Cycle Assessment(LCA)

7 Environmental Management...

8 Environmental Management...

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10 Environmental Economics

Users Online

T.V. Ramachandra

Tara N M

Guests are not listed

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Transcript

Transcript Start: 2014-Nov-06 18:11

Transcript End: 2015-Sep-04 09:22

system User akhil2014 has logged in.
akhil2014 test message
system User shama2014 has logged in.
system User tara has logged in.
system User tara has logged in.
system User akanksha2014 has logged in.
system User gargi2014 has logged in.
system User punit2014 has logged in.
system User chandan2014 has logged in.
akanksha2014 HELLO ALL
system User mahesh2014 has logged in.
mahesh2014 Good evening All
mahesh2014 Tara & Team, thank you for facilitating the chat session without any flaws, hats off !
system User ani2014 has logged in.
system User neha2014 has logged in.
system User sriram2014 has logged in.

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Career opportunities

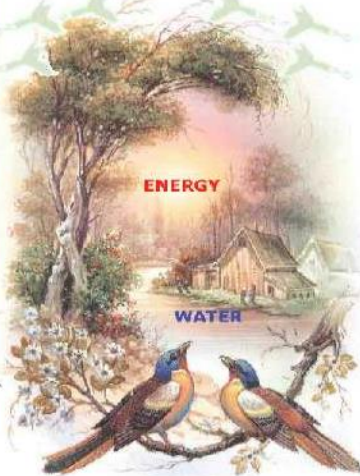
FOSS helps you to be work in

- Software process development, discovery, modeling, and simulation.
- Repository mining to support software visualization, refactoring/redesign studies.
- Comparison of PSE versus FOSS approaches to software inspection and peer review analysis jobs.

energy@ces.iisc.ernet.in
cestvr@ces.iisc.ernet.in
settur@ces.iisc.ernet.in

Thank you...!

Energy & Wetlands Research @ CES



ENERGY

- Research Papers
- Energy News
- Books
- Courses: ST210, ST206
- S T Courses
- Open Source GIS
- Internet Courses **NEW**
- Environmental Management 2016
- RIEP
- Sharavathi
- Sahyadri
- Sahyadri E-News

WETLANDS

- Research Papers
- Wetland News
- Search
- Gundia Report

LAKE SYMPOSIUM

Announcements

- NEW** ENVIS Quarterly - Brainstorming Session 20th - 21st May 2016
- NEW** Pre-Lake Workshops 9th to 14th May 2016
- NEW** Integrated Ecological Carrying Capacity

Current Openings

- Solid Waste
- Limnology & GIS
- Urban Sprawl
- KERF
- Research Station
- Financial Support

RESEARCH OPENING :
ECOLOGICAL MODELLING IN THE HIMALAYAS AND THE WESTERN GHATS

Suggestions

E mail Sahyadri GRASS IISc CES Energy ENVIS Wetland **E mail**

