Boundless

Welcome to the FOSS4G Community

Introduction

Jody Garnett
Community Lead
jgarnett@boundlessgeo.com
@jodygarnett

Boundless
Boundless provides geospatial tools and services for managing data and building applications.

Open Source Projects
GeoTools
GeoServer
uDig

Open Source Geospatial Foundation
Board Member
OSGeo Incubation Chair
GeoTools Project Officer

Eclipse Foundation
LocationTech Project Steering Committee
LocationTech Technology Project


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CARTOGRAPHIER
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IGN


IGN


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FOSS4G
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2017
GERALD FENOY


FOSS4G
BONN
2016
JAKOB


2016
FOSS4G
ARGENTINA
FOSS4G BONN 2016
24th - 26th AUGUST


FOSS4G
NORTH AMERICA
2016
John
Fay
Duke University


FOSS4G 2006
Free and Open Source Software for Geoinformatics
September 12-15th 2006 • Lausanne • Switzerland


LOVE
YOU


São Paulo, SP, Brazil


FOSS4G
7.0


FOSS4G
NOTTINGHAM 2013


sinsai.info


Opening
Session
FOSS4G 2006
Free and Open Source Software for Geoinformatics
September 12-15th 2006 • Lausanne • Switzerland


FOSS4G 2010
Barcelona
Free and Open Source Software
for Geospatial Conference
Barcelona
6-9 September, 2010
FOSS4G 2010
Barcelona
Autodesk
ESRI
Google
SimpleGeo


FREE AND OPEN SOURCE SOFTWARE
FOR GEOSPATIAL CONFERENCE
VICTORIA
CONFERENCE
CENTRE


OSGeo

Free and Open Source Software for Geomatics

Presented by **FOSS/GRASS 2004 International Organizing Committee**

Free/Libre and Open Source Software for Geoinformatics: GIS-GRASS Users Conference

Held at Chulalongkorn University
Department of Survey Engineering
Patumwan
Bangkok, Thailand
10330

September 12 - 14, 2004

ABOUT THE CONFERENCE

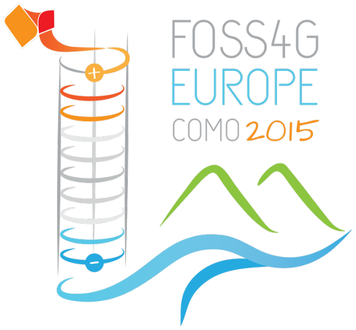
The Free/Libre and Open Source Software (FOSS) for Geoinformatics: GIS - GRASS Users Conference will be held in Bangkok, Thailand, 12-14 September 2004. An extended successor to a long series of GRASS-GIS Users Conferences (**last held on September 2002 in Trento, Italy**), the series will be in Asia for the first time. The conference joins GRASS developers and users worldwide to foster closer relations, and to share ideas for improving software and applications. (Unlike at closed-source software users meetings, anyone can turn findings of this meeting into new code and improved applications.) The Bangkok conference will cover all aspects of FOSS for Geoinformatics, in addition to GRASS itself. Thus the aim of the conference is twofold: (a) exchange of experiences between GRASS users and developers and (b) provide first-hand information on FOSS capabilities for developing national/local spatial data infrastructures, with emphasis on Asian countries. One unique aspect of the conference will be the ***INSTALLFEST***. Bring your computer (or buy one in Bangkok), install GRASS and other geoinformatics software, and begin to use it, all at the conference!

Venue and Organizers

The conference is being organized by the Faculty of Engineering, Chulalongkorn University, Thailand, with support from several other institutions. The Organizing Committee includes prominent experts in FOSS for Geoinformatics.

Annual Global Event

Regional Events




•it is a lifestyle choice
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FOSS4G Community

Welcome to the FOSS4G Community

FOSS4G Community

- Open Data
- Open Standards
- Open Source
- Open Collaboration
- Open Science and Education

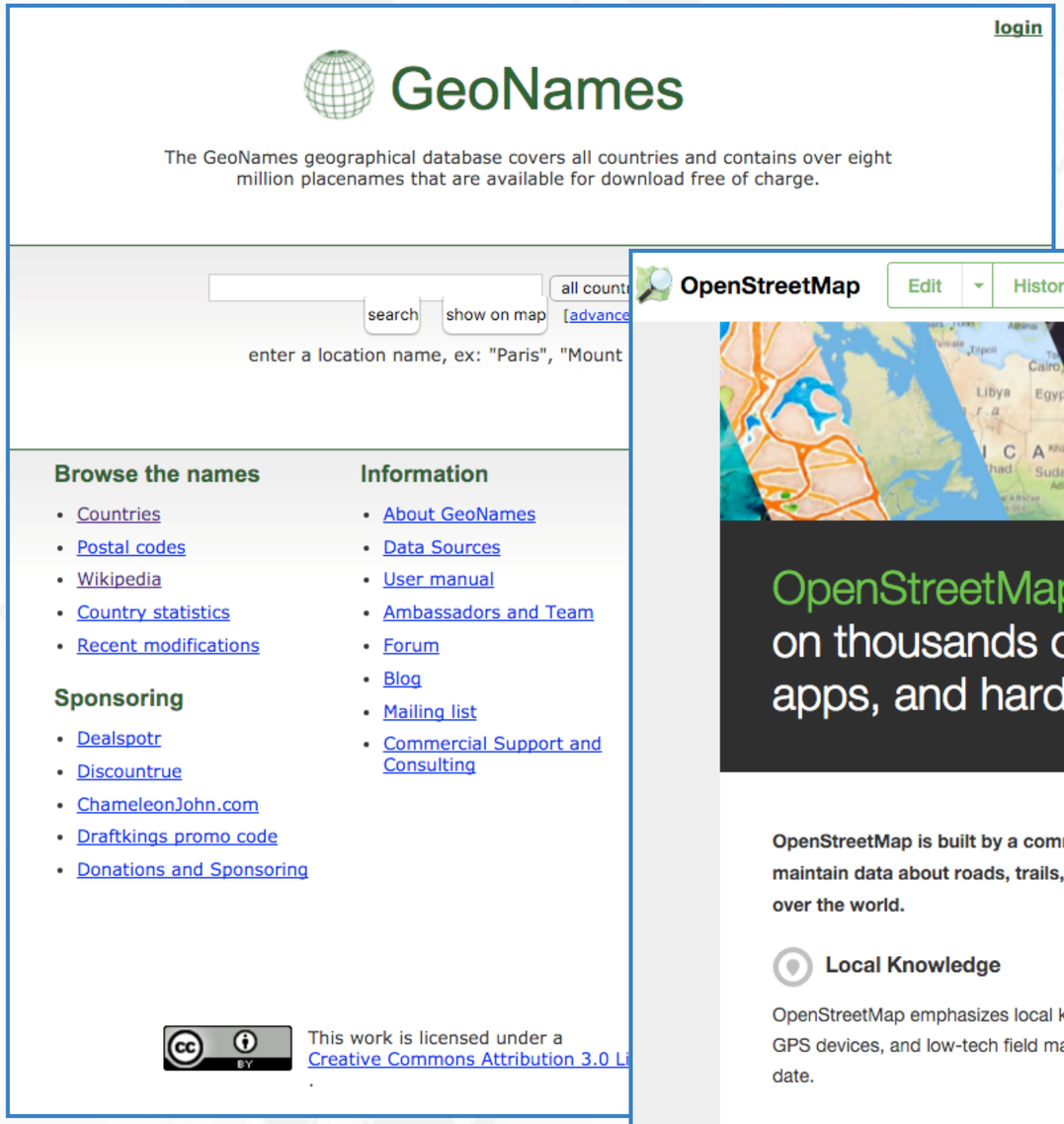

Boundless
Open Data - software without data is like a piano without music

Spatial Data is important

- Expensive and time-consuming to collect
- Use of standards facilitates the reuse and repurposing of existing data
- Datasets tend to have a very long lifespan
  - It is common for datasets to outlast the product that created them.
  - It is not uncommon to work with historical data from the 1970s or 1870s

Open Data

- freely available to reuse and republish
  - Open Street Map
  - GeoNames
  - EPSG Geodetic Parameter Dataset
- slightly different from "free data" (which is available free of charge)


login
GeoNames
The GeoNames geographical database covers all countries and contains over eight million placenames that are available for download free of charge.
search
show on map
enter a location name, ex: "Paris", "Mount
Browse the names
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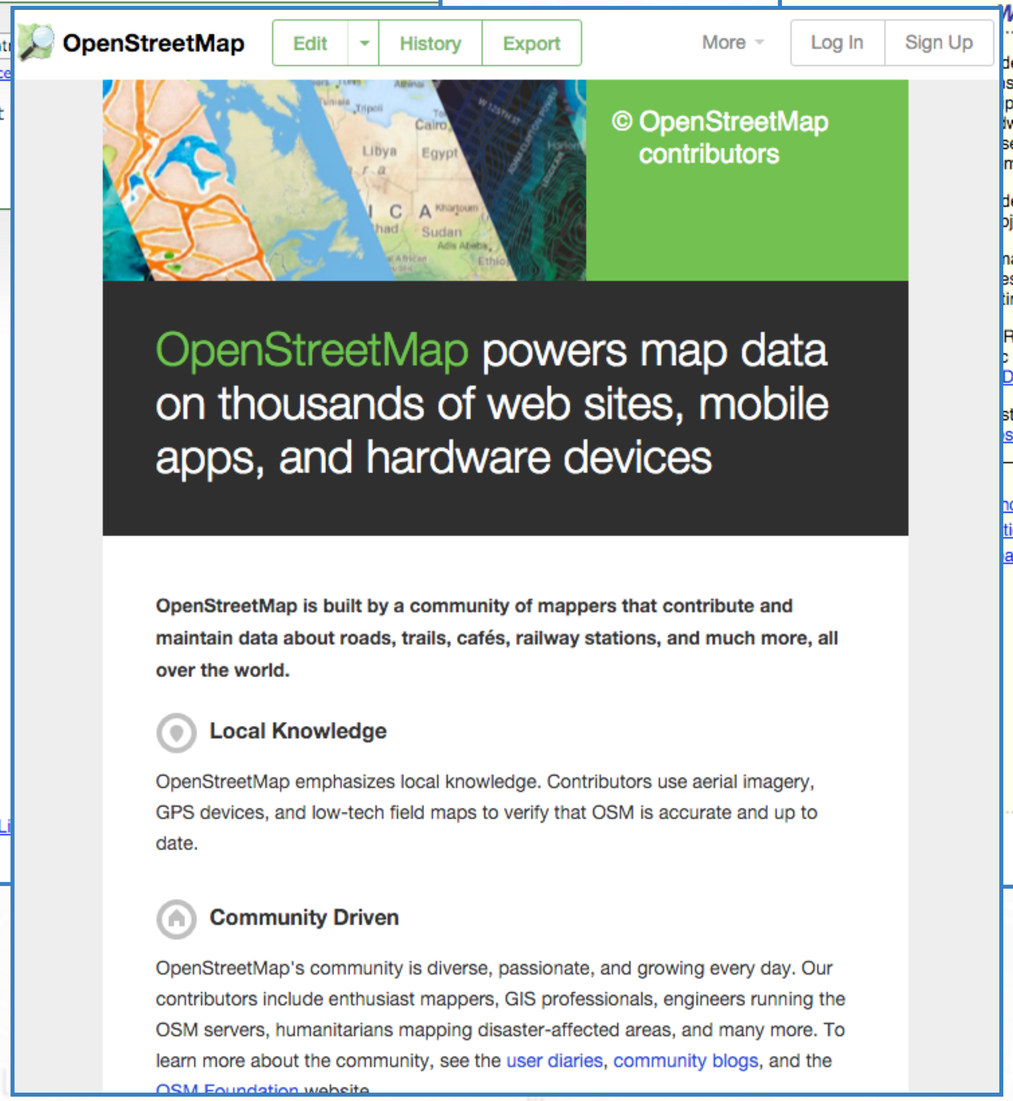
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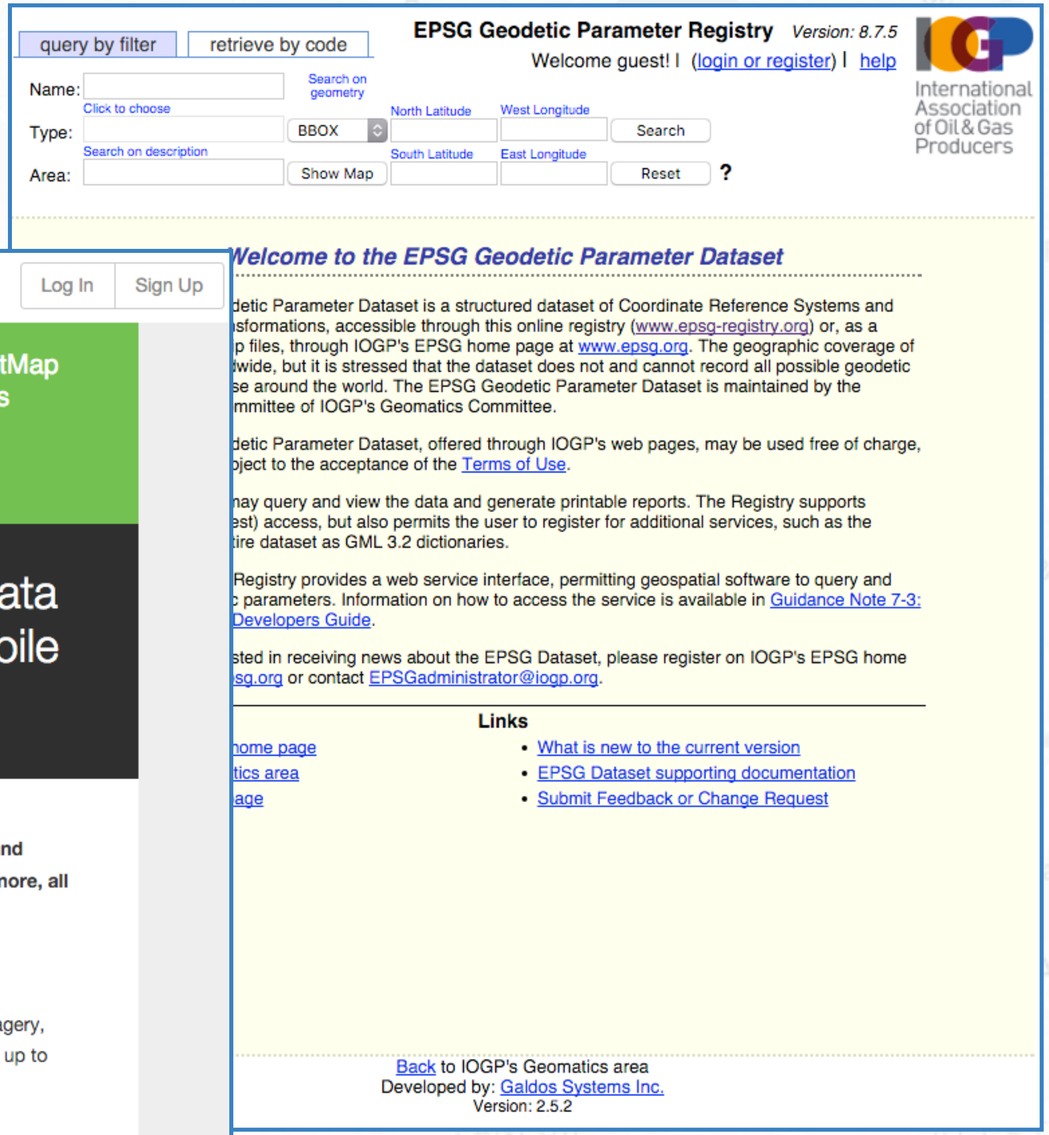
OpenStreetMap powers map data on thousands of web sites, mobile apps, and hardware devices
OpenStreetMap is built by a community of mappers that contribute and maintain data about roads, trails, cafés, railway stations, and much more, all over the world.
Local Knowledge
OpenStreetMap emphasizes local knowledge. Contributors use aerial imagery, GPS devices, and low-tech field maps to verify that OSM is accurate and up to date.
Community Driven
OpenStreetMap's community is diverse, passionate, and growing every day. Our contributors include enthusiast mappers, GIS professionals, engineers running the OSM servers, humanitarians mapping disaster-affected areas, and many more. To learn more about the community, see the user diaries, community blogs, and the


query by filter
retrieve by code
EPSG Geodetic Parameter Registry
Version: 8.7.5
Welcome guest! | (login or register) | help
Name:
Search on geometry
Click to choose
Type:
BBOX
North Latitude
West Longitude
Search
Search on description
Area:
Show Map
South Latitude
East Longitude
Reset
International Association of Oil & Gas Producers
Welcome to the EPSG Geodetic Parameter Dataset
Links
What is new to the current version
EPSG Dataset supporting documentation
Submit Feedback or Change Request
Back to IOGP's Geomatics area
Developed by: Galdos Systems Inc.
Version: 2.5.2


•puts this sharing into open data
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Open Standards

Open Standards

- define how software can communicate together
- is available as a spec for anyone (even/especially us) to implement
- this is the "glue" that allows so much of our open source software to work together and thrive

International standards

- International Organization for Standardization (ISO)
  - interoperability between geospatial systems (known as TC 211)
- World Wide Web Consortium (W3C)
  - communication on the web
  - protocols used for machine-to-machine communication

Industry standards

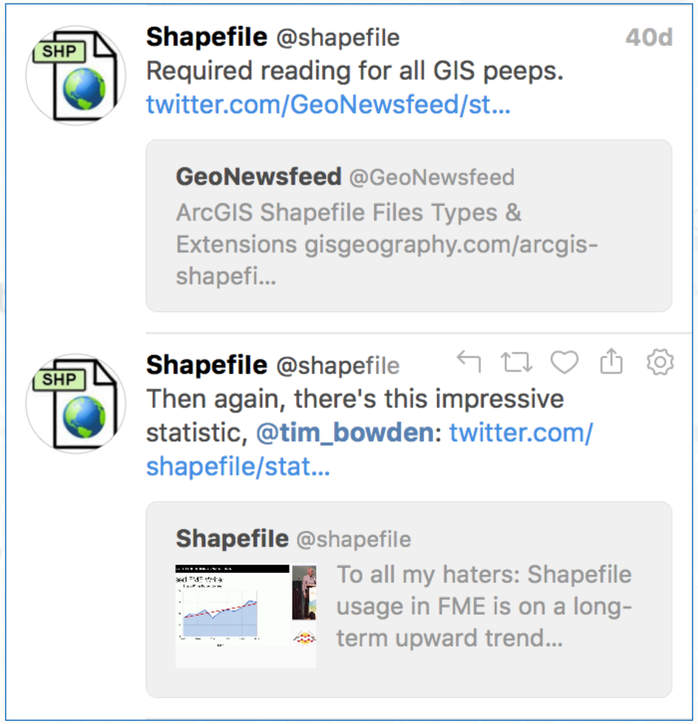
- Open Geospatial Consortium (OGC)
  - web standards we used for publishing spatial information
- OGP Geomatics Committee (OGP)
  - the EPSG Geodetic Parameter Dataset (facilitate communication between geospatial systems)

Community Standards

- ~~GeoJSON~~ (now W3C standard)
- GeoTIFF
- MBTiles
- MBStyle
- WMS-C
  - informal tile standards defined right here at a foss4g event

Defacto Standards

- We of course have to respect existing investment in data
  - Shapefile
  - Oracle Spatial
  - MapInfo TAB



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Resource area

Standards Development › Technical committees › ISO/TC 211

ISO/TC 211 Geographic in

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Liaisons Meetings

Secretariat: SN
Secretary: Ms Bjørnhild Sæterøy
Chairperson: Mr Olaf M. Østensen until end 2015
ISO Central Secretariat contact: Mr. Andrew Dryden
Creation date: 1994

Scope:

Standardization in the field of digital geographic information. *No*
aims to establish a structured set of standards for information c
objects or phenomena that are directly or indirectly associated
relative to the Earth.

These standards may specify, for geographic information, meth
services for data management (including definition and descript
processing, analyzing, accessing, presenting and transferring su
digital / electronic form between different users, systems and lo

The work shall link to appropriate standards for information tech
data where possible, and provide a framework for the developm
specific applications using geographic data.

nfo@opengeospatial.org

OGC® Making location count.

Menu

Welcome to the OGC

The OGC (Open Geospatial Consortium) is an international not for profit organization committed to making quality open standards for the global geospatial community. These standards are made through a consensus process and are freely available for anyone to use to improve sharing of the world's geospatial data.

OGC standards are used in a wide variety of domains including Environment, Defense, Health, Agriculture, Meteorology, Sustainable Development and many more.

Our members come from government, commercial organizations, NGOs, academic and research organizations.

Recent Tweets

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RT @unggim: @opengeospatial @ISOTC211 @iho #geospatial #standards #companion document now available @UNGGIM website: ggim.un.org/docs/Standards…
Expand

GeoJSON

GeoJSON is a format for encoding a variety of geographic data structures.

```
.6, 10.1]

lands"
```

ollowing geometry types: `Point`, `LineString`, `Polygon`, `ing`, and `MultiPolygon`. Geometric objects with `e Feature` objects. Sets of features are contained by `ts`.

for more detail. See also `org/doc/draft-butler-geojson/`, an Internet-Draft the original specification.

ic JSON Working Group

g Task Force, in conjunction with the original as formed the Geographic JSON WG to standardize ues on GitHub at https://github.com/geojson/draft-


•If you download the app, you can download the source
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Open Source

Open Source

- Open Source:
  - when you receive software you also receive the source code
- Accomplished using a software license

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Open Source Licenses

- The Open Source Initiative maintains a list of recognized open-source licenses.
- Licenses differ in how they balance
  - the freedoms granted to users of software
  - how they protect software developers

Berkley Software Distribution

BSD

- BSD
  - The Berkeley Software Distribution license permits commercial use, such as including the software in your own application or website.
  - The only restriction is the inclusion of a license and copyright notice in the OpenLayers file you use.
  - Your own work (that is, the website) remains unaffected.
  - This ability to be freely mixed with your own work makes BSD an excellent choice for OpenLayers.

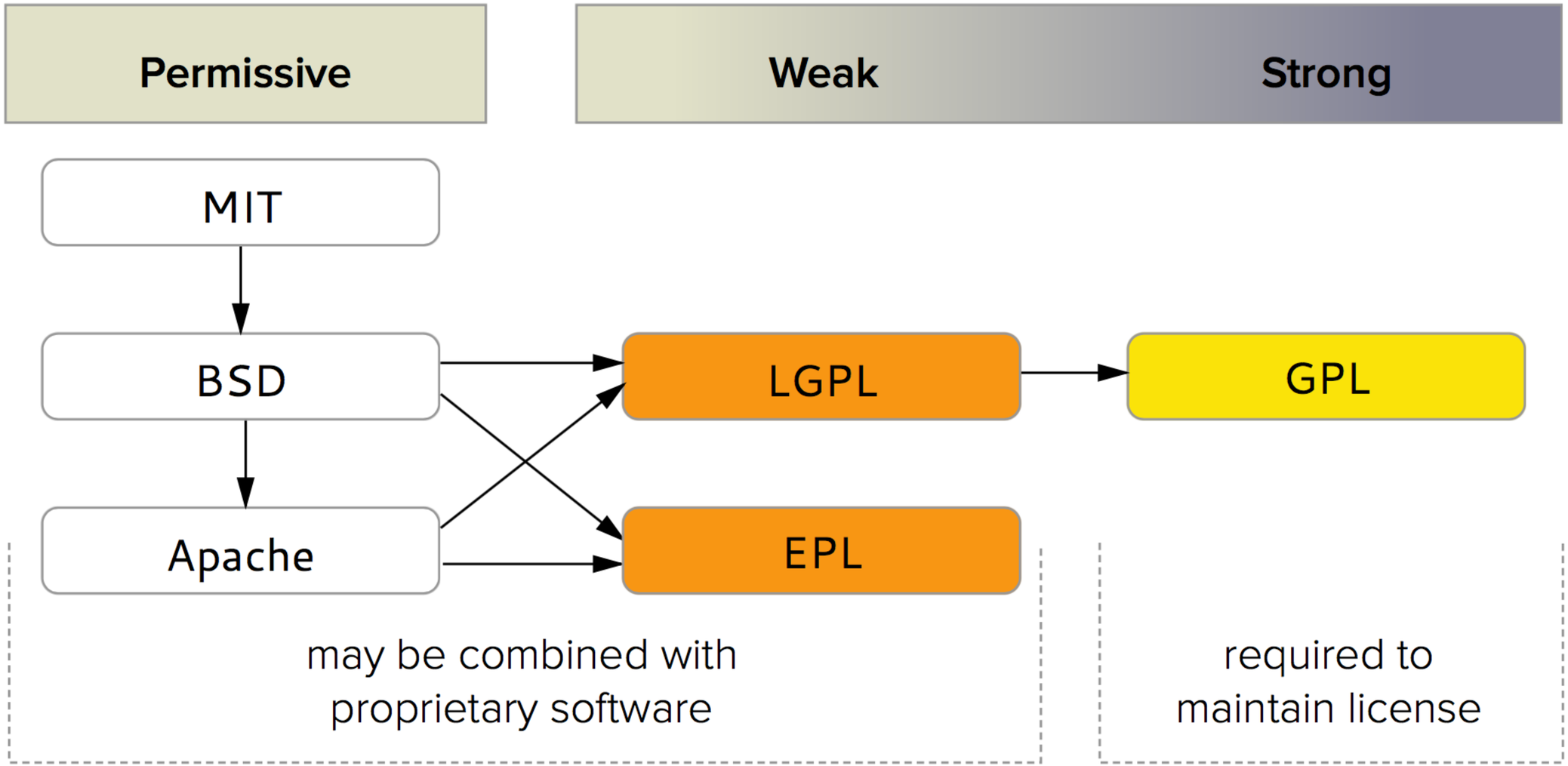
GNU Public License

- GPL: The GNU General Public License
  - is arguably the most popular open-source license
  - Any modifications made to the original application must be provided to those running the application.
- This is the license used for GeoServer
  - It is especially appropriate, in that system administrators want to be sure exactly what is running on their server, while ensuring that any customizations made are available.
  - The GPL license is also used by Oracle for the distribution of the OpenJDK implementation of Java.

Lesser GNU Public License

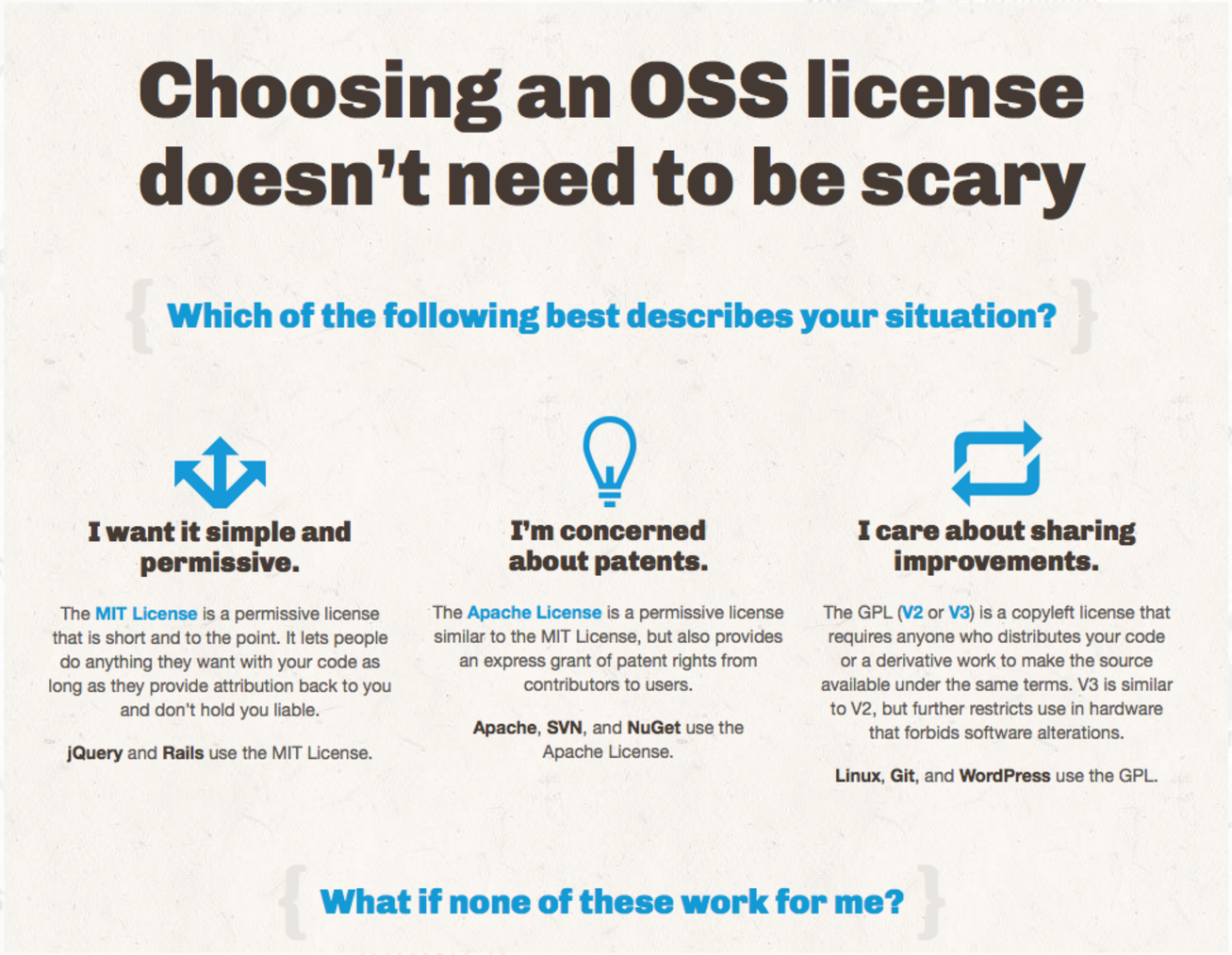
- LGPL: The Lesser General Public License
  - formerly the Library General Public License
  - Allows the mix of open source and proprietary technology, making it a little more relaxed than the GPL.
- This license is employed by the GeoTools library
  - Pragmatic choice, allowing GeoServer to smoothly integrate with proprietary systems such as Oracle Spatial and ArcSDE.

License Compatibility



Choose a License

http://choosealicense.com/



Keep in Mind

- An open source license:
  - only describes how software is distributed
  - How the software was obtained (and how the project is managed) are a matter of "Governance"

•participation without representation is no way to play

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Open Collaboration

Managing Risks

- Adopting a new software component
  - has well-understood risks for procurement
  - Open-source software helps mitigate some risks (such as vendor lock-in) while exposing an organization to others (such as the license incompatibility)
- This is the responsibility of the project team's "governance"
  - Although you probably want to perform an audit
  - A software foundation is standardize governance (and reduce the risk of using open-source software).

Open Governance

- Open Development = Transparent and Inclusive
  - Perform decision making in an open and public manner.
  - Key factor success factor - projects that practice open development are in position to recover if one or more contributors fall by the wayside
  - The ability to see what is being worked on, and the opportunity to take part, is the key test of open development.
- GeoServer
  - maintains a public issue tracker which can be used to report problems
  - Uses a public email list for development, discussions and questions
  - Public "developers guide" documents procedures (including how to join the project)

Open Source Review

- An open source license is the terms under which users receive software, need to check license applied correctly
  - Failure to check prevents the open source license from being effective.
  - Each source code file contains an introduction header describing who wrote the file and under what terms it has been provided to the project.
  - GitHub projects include a CONTRIBUTING file describing what is needed
  - Some projects ask for a contributing license to be signed

How to fail

- Failure to check prevents the open source license from being effective.
  - This can result in a project being pulled from the market until such time as the problem can be addressed or the section of code rewritten.
- A common mistake is an employee contributing a fix in their own name.
  - In this case, it is their employer who owns the fix and needs to provide correct authorization.
- Your legal department, or a software foundation, are in a position to conduct code audits (or intellectual property checks) on software before it is released.
  - This is done both to protect their own liability
    (and to let your legal department verify the results prior to use.)

Software Foundation vs Forge

- Software foundation
  - provides "vendor neutral" governance
  - can offer strong legal projection for a project (and its users)
  - most common lawsuits are copyright and patent infringement
- Software Forge
  - GitHub is focused strictly on hosting source code (similar to how gmail hosts email messages online)
  - GitHub does not operate as a software foundation (instead it makes money by selling services to corporate customers)

Software Foundations

Open Source Geospatial Foundation

- Empower everyone with open source geospatial

LocationTech

- working group developing advanced location aware technologies.

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Open Science and Education

Open Science

- It is simply better science
  - Include the data
  - Include the software
  - reproduce the result

Open Education

- It is simply better education
  - Open document license applied to course and syllabus material
  - Shared risk, shared benefit
  - Available to all

GeoForAll

Welcome to the FOSS4G Community – enjoy the event!

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Check out our booth #103