

Demonstration on QGIS

- Basic GIS operations and analysis

FOSS4G

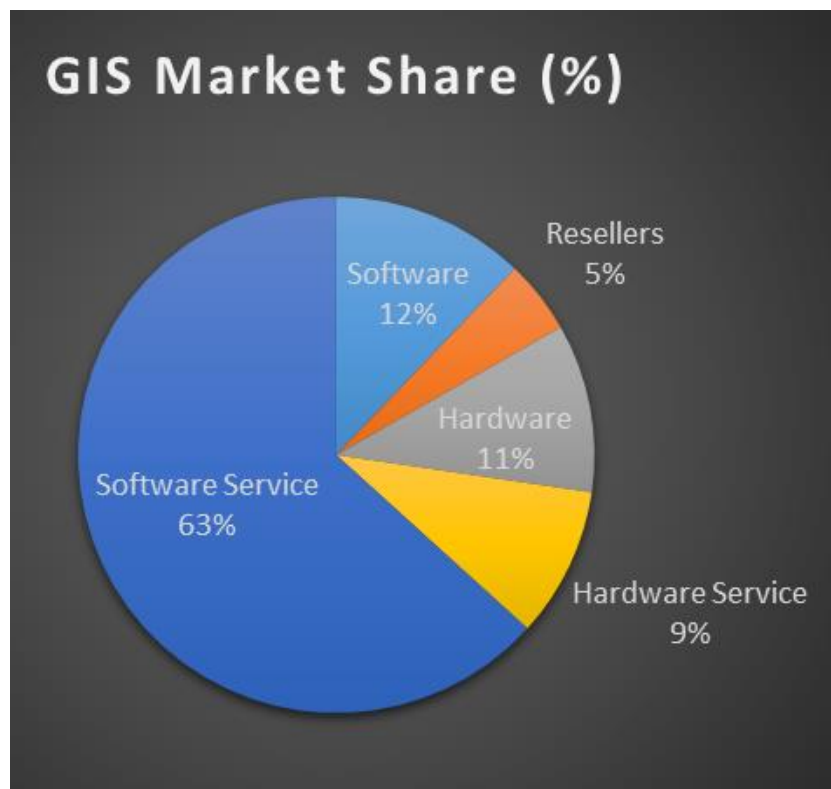
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Size of GIS Industry

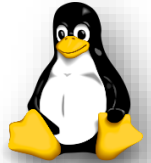
“With an estimated market size approximating **US\$ 300 billion**, the geospatial industry is likely to grow between **15 to 20% CAGR** over the next few years...”



(Source: Geospatial Industry Outlook & Readiness Index, 2018)

Open Source is the right choice

- Free (\$0) “**free speech**” \neq “free lunch”
- Control & Flexibility
- Quality (more eyes, more contributors)
- Privacy, Security & Innovation



Freedom to^{*}:

- to **run** the program,
- to **study** and change the program's source code,
- to **redistribute** exact copies, and
- to distribute **modified** versions



^{*} as specified in the GNU project philosophy

Free & Open Source software for Geoinformatics (FOSS4G)

- **Desktop** GIS: QGIS, JUMP, ILWIS, μ DIG, SAGA, (for expert users) GRASS-GIS, OSSIM
- Spatial **databases**: MySQL, PostGIS
- **Code** library: GDAL, GeoTools, Proj
- **Web mapping**: GeoServer, GeoExt, OpenLayers
- Data **visualization**: GeoDa, grADS
- Spatial **catalogue**: GeoNetwork

FOSS based data collection

1. List questions



An officer list the questions a survey may consist with other data types such as Pictures, GPS, Audio, etc



2. Design Questionnaire

The officer designs the forms with xForm designer / Odk build with good controls and features, in an electronic survey form. Access rights and controls e.g. skip logics are then assigned by officer. Uploads the forms to aggregate



3. Download forms



Enumerators download the survey form remotely using ODK Collect app on their android phone.



4. View data on server

The officer manages and conducts analysis of the data collected or export the data to external systems like Google Fusion Tables or ArcGis for further analysis and sharing information

Intuitive mobile apps with different data types

ODK Collect > Reconnaissance Damage Evaluation Test

12:00

Type of Structure

☐ Residential

☒ Commercial

☐ Industrial

☐ Lifeline

ODK Collect > Reconnaissance Damage Evaluation Test

12:00

Number of Stories

3

Number of Basements

2

ODK Collect > Reconnaissance Damage Evaluation Test

12:01

What is the Lateral Load System?

Shear walls

1. Text
2. Integer
3. Decimal
4. Radio button
5. Check box
7. Date / Time
8. **Geopoint**
9. Image
10. Barcode

Get the data in real-time!

Visualize

- Bar Graph
- Pie Chart
- Map

image	Location Latitude	Location Longitude	Location Altitude	Location Accuracy	Description	BuildingInformation StructureType	BuildingInformation NumberOfStories	BuildingInformation DamageType	BuildingInformation DamageLevel	BuildingInformation DamageMaterial
	37.8043199	-122.2722993	.0	50.0		C				
	37.8042051	-122.2726658	.0	28.0		R	2			
	37.804121	-122.2726296	.0	42.0		I	3	1		masonry
	37.8041476	-122.2726889	.0	23.0		L	0	0		steel
	37.8042229	-122.2724571	.0	59.0		R	1000	0		steel
	37.6658321	-122.4432387	.0	941.0		L	0	3		steel
	37.80449739	-122.27421558	109.0	5.0		C	13	2		steel
	37.7043611	-122.4702385	.0	842.0		L	0	0		concrete
	37.64590088	-122.46811808	162.0	10.0		R	2	0		wood
	37.80397214	-122.27257976	68.0	15.0	My desk	C	3	2		concrete
	37.8042588	-122.27216913	33.0	20.0		C	3	2		steel
	37.70615553	-122.46918367	63.0	10.0	Daly city Bart	C	1	0		concrete
	37.73051184	-122.50652924	-20.0	10.0	Lake merced		0	0		
	37.74794045	-122.5078245	-16.0	15.0			0	0		
	37.76410156	-122.46490999	40.0	15.0	Naan n curry	C	1	0		steel
	37.76410156	-122.46490999	40.0	15.0	Naan n curry	C	1	0		steel

IIRS app:
QRealTime

Other apps:
GeoODK
InputApp.io

Possible Application Areas

- Completing surveys about households
- Crisis mapper tasked to capture images and locations of damaged areas
- Collecting multimedia data - audio, video
- Baseline surveys and project evaluations for collecting both quantitative and qualitative data

Success Stories

- MAp the Neighbourhood in Uttarakhand (MANU), for damage assessment post Uttarakhand disaster' 2013
- Geotagging the post offices of India
- Monitoring of watershed under IWMP for change detection
- Digitisation of assets of NYKS under Ministry of Youth Affairs and Sports, Govt. of India

Welcome iirs3

Logout

Project Details

Select project

MANU

Select Profile

All

Select State

All

Date Mode

☐ Day
☒ Period

Start Date:

October 6, 2013

End Date:

November 7, 2013

Download Format

☐ KML
☒ Shape

☐ Accepted Points
☐ Rejected Points

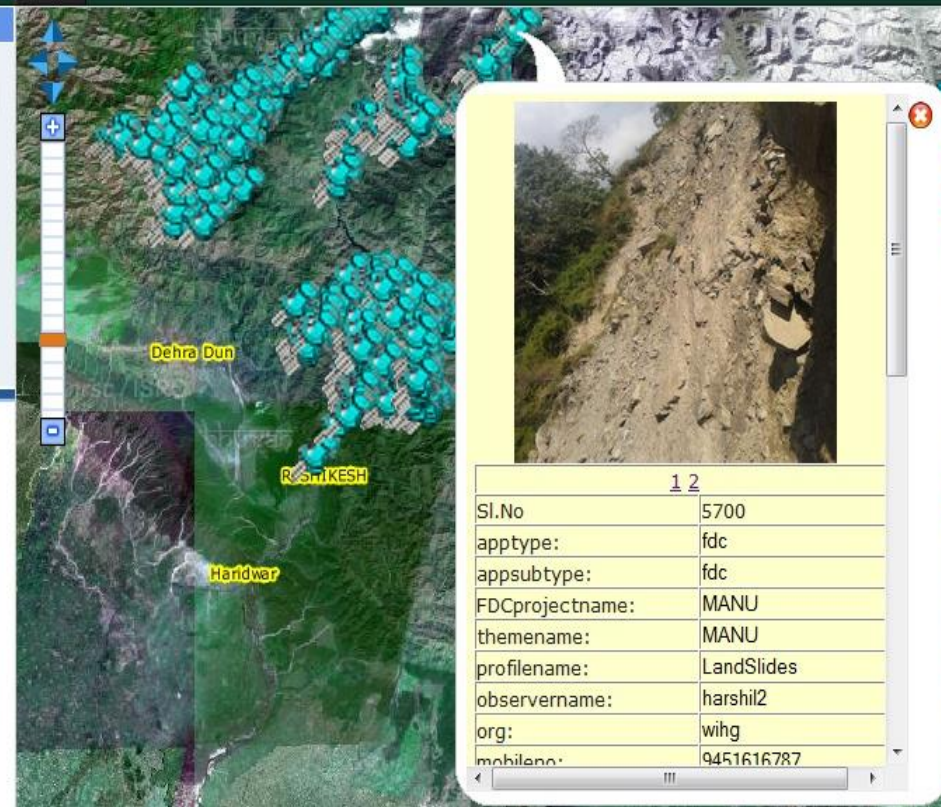
Remove


Download

Contact Us

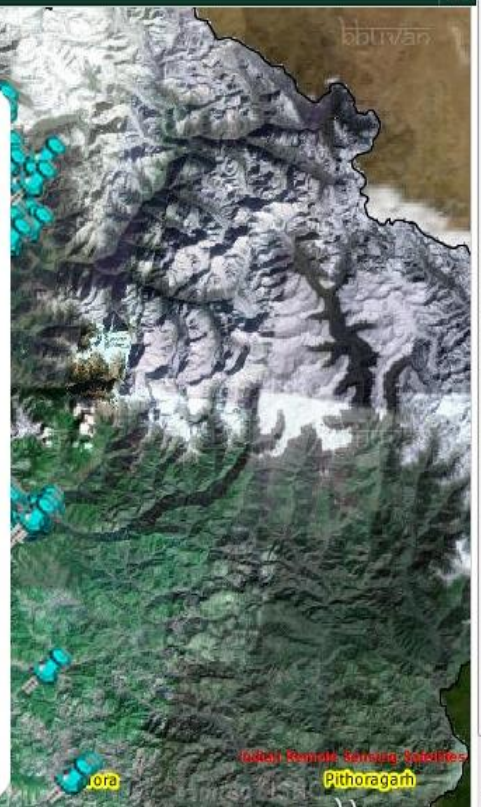
Disclaimer


Feedback

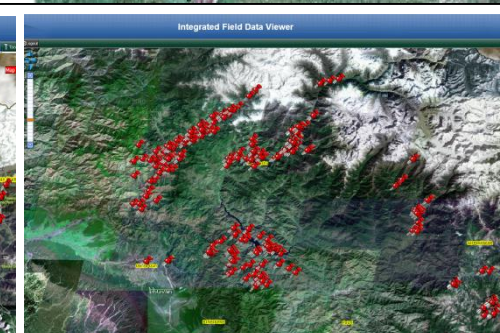




Sl.No	5700
apptype:	fdc
appsubtype:	fdc
FDCprojectname:	MANU
themename:	MANU
profilename:	LandSlides
observername:	harshil2
org:	wihg
mobileno:	9451616787







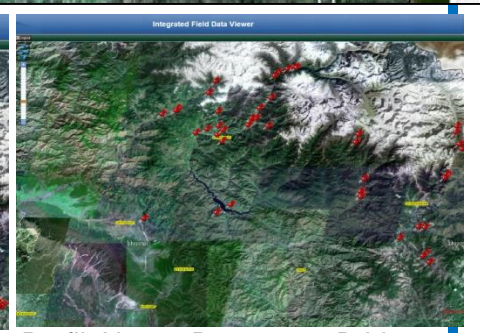
ProfileName: Damage to Buildings

No. of Points Collected: ~1000



ProfileName: Damage to Roads

No. of Points Collected: ~460



ProfileName: Damage to Bridges

No. of Points Collected: ~50

Common **Misconceptions**

- Not suitable for cartography
 - Outputs not accepted in Journals/
- No support, Not safe, Not stable
 - May stop working any day
 - You data & maps become open/public
 - Prone to vandalism
- Not for professional
 - Made in bedrooms & garages
 - Requires programming language
- Outputs cannot open in other software
- Do not use open source as you are a commercial company / enterprise
 - Cannot sell outputs prepared in open source



LIES PEOPLE TELL ABOUT OPEN SOURCE

live.osgeo.org


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Welcome to OSGeoLive 13.0

OSGeoLive is a self-contained bootable DVD, USB thumb drive or Virtual Machine based on [Lubuntu](#), that allows you to try a wide variety of open source geospatial software without installing anything. It is composed entirely of free software, allowing it to be freely distributed, duplicated and passed around.

It provides pre-configured applications for a range of geospatial use cases, including storage, publishing, viewing, analysis and manipulation of data. It also contains sample datasets and documentation.

To try out the applications, simply:

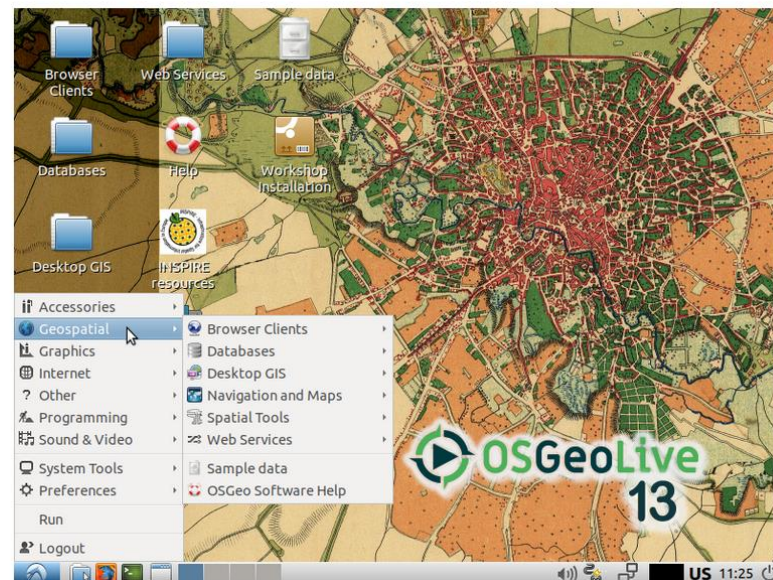
1. Insert DVD or USB thumb drive in computer or virtual machine.
2. Reboot computer. (verify boot device order if necessary)
3. Press "Enter" to startup & login.
4. Select and run applications from the "Geospatial" menu.

OSGeoLive is an [OSGeo Foundation](#) project. The OSGeo Foundation is a not-for-profit supporting Geospatial Open Source Software development, promotion and [education](#).

Quick Starts

- [Getting started with the OSGeoLive DVD](#)
- [Change language or keyboard type](#)
- [Install OSGeoLive on your hard disk](#)
- [Run OSGeoLive in a Virtual Machine](#)
- [Create an OSGeoLive bootable USB thumb drive](#)

[osgeo.org](#) [link in a Hvmor-V Virtual Machine](#)



osgeolive-iso: 4.0 GB / osgeolive-vm: 3.1 GB

All softwares pre-installed with sample data and tutorials in Ubuntu OS;
available as a bootable image (DVD, thumb drive) or in a virtual machine.

[Home](#) » [Resources](#)

Resources

Resources provide guidance on how to use open source projects and tools, alongside stories on how our community are using these tools in their work.




Use the filter below to highlight case studies, course and workshop materials, presentations and white papers.

[Filter](#)



"GIS at school" Guidebook for biology, geograpy, and science...




This guidebook was prepared as a final publication of the EduGIS Academy project...

 2018/06  Course Materials  Get Interactive



"Introducing GIS" Tutorial with QGIS




A GIS tutorial that includes step by step instructions and video clips to help y...

 2018/06  Course Materials  Get Interactive



A Gentle Introduction to GIS

A resource for learners and educators that tries to take a more gentle road to i...

 2018/06  Course Materials  Get Interactive

Recommended resources to learn QGIS

- QGIS Tutorials, Ujaval Gandhi
 - www.qgistutorials.com/
- Spoken tutorial, IIT Bombay
 - <https://spoken-tutorial.org/>

Link to my videos and data
<https://bit.ly/qgis-iirs>

Demo Time

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