Geoinformatics – What is the BIG word about?
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Geology

An earth science concerned with the solid Earth, the rocks of which it is composed, and the processes by which they change over time. Geology can also refer to the study of the solid features of any terrestrial planet or natural satellite, (such as Mars or the Moon).
What is Geoinformatics all about?

Talk about Geoinformatics and most people will draw a blank. Mention Google Maps, satellite navigation systems or GPS enabled cabs and faces light up with interest immediately!

This information and communication technology along with other varied tools comprises the exciting field of Geoinformatics (also known as Geographic Information Science – GIS or Geographic Information Technology- GIT). It is a key emerging and evolving industry that offers an excellent career avenue with immense potential and many undiscovered opportunities.

In simpler terms, it deals with the tools and technology used to acquire, analyse and visualise our planet and its resources from space – like the geographic location of Earth's boundaries, oceans, natural features, man-made structures, etc. This geospatial information (along with geographic information systems) is used to tackle varied problems of geography, geosciences and related branches of engineering.
Geoinformatics is the science and therefore the technology that develops and uses IP infrastructure to deal with the issues of geosciences, geographics, and connected branches of engineering.

Geography and Earth Sciences rely on geoinformatic data as well. Geoinformatics is an interdisciplinary field with wide-ranging applications in almost all walks of life.

The geoinformatics field is in its nascent stage and expanding at a rapid pace as more and more industries are employing spatial data to manage their activities. Almost no developmental project is complete without geospatial information and it will soon become imperative.
Branches of Geoinformatics include:

- Geographic Information Systems
- Web mapping
- Spatial Analysis
- Global Navigation Satellite Systems etc
- Geoinformatics analysis

Many fields are benefited by Geoinformatics, which includes

- Urban designing and land use management
- Virtual globes
- Public health
- In-car navigation systems
- Military
- Transport network designing
- Agriculture
- Environmental modeling
- Meteorology
- Temperature change
- Earth science
- Atmosphere modeling
Telecommunications
Design and archaeological reconstruction
Sociology crime simulation
Maritime transport.

As we study the history of GIS we came to know that in 1960’s the GIS term was came into existence but there were fewer people and professionals involved in it. In 1990’s more researchers were taking GIS as a researching tool but the real boost for GIS was in 2005 when Google launched Google Maps and Google Earth web applications, this is where everyone came to know the importance of GIS. The three major and basic components of Geographic information (GI) technologies are Global Positioning System (GPS), Remote Sensing (RS) and Geographic Information System (GIS).
GPS
As we all are familiar with GPS, it is a system which tells geographical location from the earth’s surface through satellite. It saves time, money and has more accuracy than any other methods. Previously companies used to hire expensive surveyors who had to physically visit the locations to gather the desired information, it was a great hassle in the past and sometimes it was impossible to gather the accurate and precise information. But with the technological advancements, GPS is accessible to every part of the world.

RS
Remote Sensing (RS) is about collecting and measuring data without having a direct contact with the objects; use of satellite, aircraft and now drones are used to capture this information of earth’s surface. It saves time and money from the expensive physical field surveys. For environmental studies (RS) is more commonly used technology.
**GIS**

Geographic information system (GIS) is software that converts data into productive information by getting data from GPS and RS, and then analyzes the data and displays it as productive information. It gives an inexpensive way of map production, displaying the information on the map and makes the analysis easier.

**Facts – do you know them?**

GIS systems allow you to view multiple layers of data simultaneously.

GIS is a powerful tool for visualization, spatial analysis, and mapping.

Geocaching is an activity in which an item, or a container holding a number of items, is hidden at a particular location. It requires GIS for this activities to take place.
BASIC CONCEPTS OF GIS

AN INTRODUCTION

GIS is a science of Location
Tells which thing is where and why?

Major technologies
- GPS
- Remote sensing
- GIS

1
GPS is the system which tells the geographical location from the earth’s surface through satellite

2
Remote Sensing (RS) is collecting and measuring data without have a direct contact with the objects. Using satellite, Aircrafts and drones

3
GIS is the integration of RS, GPS and other data modelling technologies

4
helps in making decisions for environmental protection, surveillance and disaster management.

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Power Words

• **Geospatial**: relating to or denoting data that is associated with a particular location
• **Interdisciplinary**: relating to more than one branch of knowledge
• **Nascent**: (especially of a process or organization) just coming into existence and beginning to display signs of future potential
• **Imperative**: of vital importance; crucial

Article adapted from:

1. [https://www.omicsonline.org/geoinformatics-scholarly-open-access-journals.php](https://www.omicsonline.org/geoinformatics-scholarly-open-access-journals.php)
Ask your interesting question and stand a chance to win attractive prizes!

Submissions are to be dropped online through the website.

The submission should include your name and class. Each student can only make one submission by 2.30pm every Tuesday.

Please send in your most interesting question to the link below.

Quiz URL: https://tinyurl.com/ScienceRead2018