

Assignment

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Components of GIS

GIS has 5 key components :-

1) Hardware :-

Hardware includes the computers, networks and peripheral devices like printers, plotters, digitizers, scanners etc, on which the GIS operates.

It may range from centralized computer servers to desktop computers, which may operate in stand-alone or network configurations.

2) Software :-

GIS software provides the functions and tools users need to store, analyze and display geographic/spatial information.

- The key software components are :-

(1) A database management system (DBMS).

(2) Tools for the input & manipulation of the geographic information.

(3) Tools for geographic analysis & visualization

(4) A graphic user interface (GUI) for easy access to tools.

Examples: ERDAS, Arc GIS etc.

3) Data :-

Data is possibly the most important component of a GIS. It is absolutely essential that data be accurate.

- Its types include:

(1) Spatial data :-

This provides the location information of the features.

- Vector data
- Raster data.
- Image data.

(2) Attribute data (non-spatial) :-

This describes the characteristics of the features.

4) People :-

GIS technology is of limited value without the people, who manage the system and develop plans for applying it.

→ GIS users include a wide range of people like administrators, researchers, GIS technicians, application experts, consumers etc.

5) Methods :-

Methods are well-designed plans and application specific business rules describing how the technology is applied. They can vary with different organizations. These organizations document their process plan for GIS operation.

It includes guidelines, specifications, standards and procedures.