Geographic information Systems

Assignment No. 3

Name- Adhyyan Tripathi

Sec/Dept. – C/CSE

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1. What is the difference between a map and a scene?

Ans- A scene is similar to a map in that they are a mashup of data layers you can view in a browser. Scenes are different from maps because, unlike maps, scenes display data in a 3D environment and allow navigation in any direction and angle.

2. List five different types of layers that can be represented on a map.

Ans- Five different types of layers that can be represented on maps are –

1. Streams and lakes
2. Terrain
3. Roads
4. Political boundaries
5. Building footprints.

3. What is the difference between a basemap and an operational layer?

Ans – <u>Basemap -</u> The basemap layers in a scene give context for your operational layers. A basemap layer can provide reference for surrounding areas. A basemap provides a reference map for your world and a context for the content you want to display in a map.

<u>Operational layer-</u> Operational layers are overlaid on top of the basemap of a scene. Operational layers are often interactive and tell the story of a scene. They can include KML layers, feature layers, LAS dataset layers, scene layers, and raster layers. Operational layers can be visualized differently depending on the source data.

4. What does smart mapping give to the online user?

Ans- Smart mapping is designed to give people confidence and power to quickly make maps that are visually stunning and useful. This makes it easier than ever for users to create attractive maps, maps that tell important stories. Continuous colour ramps and proportional symbols, improved categorical mapping, heat maps, and new ways to use

transparency effects to show additional details about the data are all delivered via a streamlined and updated user interface.

5. What kind of data is available? Definitive, authoritative basemaps.

Ans- Types of data are –

1. Imagery
2. Boundaries and places
3. Demographics and lifestyles
4. Basemaps
5. Transportation
6. Earth observations
7. Urban Systems
8. Historical maps

6. What are the steps of spatial problem solving?

Ans- Step 1: State the problem

Step 2: Break down the problem

Step 3: Explore input datasets

Step 4: Perform analysis

Step 5: Verify the model result

Step 6: Implement the result

7. What makes 3D cartography powerful?

Ans – Following reasons make this powerful –

1. Can display information in Vertical orientation.
2. Extra dimension enables it to include more readily recognized symbols to make the maps more intuitive.
3. Showing real-world, bird's-eye views
4. Human-style navigation
5. Immersive information.

8. What two factors are involved to create a feeling of virtual reality?

Ans- Virtual world

An imaginary space that independently exist from the real world. The medium used to create this space is of course a simulation made of visual elements rendered with

computer graphics. Relations and interactions between these elements are defined by rules set by the creator.

Immersion

The users are placed in a virtual space, cut from the real world on a sensory level. VR headsets allow this by occupying their whole field of vision, while headphones achieve the same results with sounds, thus fully immersing the users in another world.

9. What are the three choices of styling 3D content?

Ans- There are three choices available:

1. fully photorealistic,
2. fully thematic,
3. or a combination of photorealistic and thematic.

10. List two ways to illustrate thematic views.

Ans- Choropleth Map

Description: These maps contain areas that are shaded or patterned in proportion to the statistical variable being displayed on the map. Data are aggregated over predefined areal units (politically-defined area or administrative—census or zip).

Dot Map

Description: Uses dots to show the presence of a feature or occurrence; displays a spatial pattern and relative density. Individual dots can represent single or multiple occurrences. Optimal Uses: Best used for count data; can also show multiple data sets (by using different symbols or colors).