

Terrain Animation Techniques

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Basic concepts of Animation

- Wikipedia officially defines animation as:
 - “The rapid display of a sequence of images of 2-D or 3-D artwork or model positions in order to create an illusion of movement”
- Based around three variables
 1. Duration
 2. Rate of Change
 3. Order
- Typically, 30 frames per second is needed for the best quality animation

The Two Display Methods

- Frame by frame
 - Used for full-screen animation
 - Each frame is saved separately
- Bitblt
 - Takes up less memory than frame-by-frame
 - Does not use up the entire screen

Fly-Through vs. Walk-Through

- Fly-Through
 - A bird's eye view of the virtual landscape
 - Viewpoint can move in any direction
- Walk-Through
 - A human's eye view of the virtual landscape
 - Viewpoint is restricted in direction
 - Can be thought of as a really low fly-through perspective
- Both viewpoints can be user-controlled

Animation in ArcGIS

- Useful to those who seek to find trends in statistics over time
- ArcMap has an “Animation” extension
- An animation in ArcMap is known as a “track”
- Steps to animating graphs in ArcMap
 - Create a time layer
 - A field with “time” values in a layer’s attribute file is needed
 - Specify which time field and format you want
 - Specify your frame duration in the Animation Controls dialogue

Animation in ArcGIS

- Time slices can be previewed in the Animation Manager
- More than one layer can be attached to your animation track

Questions

1. What are the three variables of basic animation
2. T or F: Walk-through animation can be thought of as low fly through animation
3. ___ frames per second provides a threshold for clean animation
4. T or F: Animation is not possible in ArcMap

Sources

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