

## Research area:

- GIS -
- Computer Graphics -
- Virtual Reality -
- Expert Systems -
- Artificial Intelligence -
- CAI -



**CG & GIS L@b**  
Design the future ...

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# GeoScopeAR

GIS-augmented Video Surveillance



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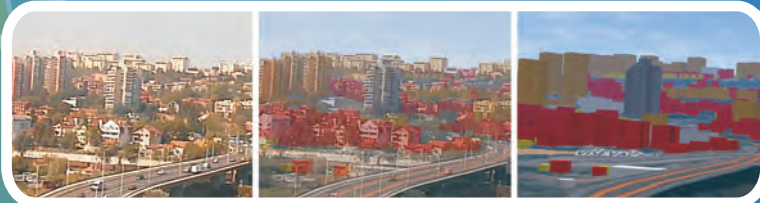
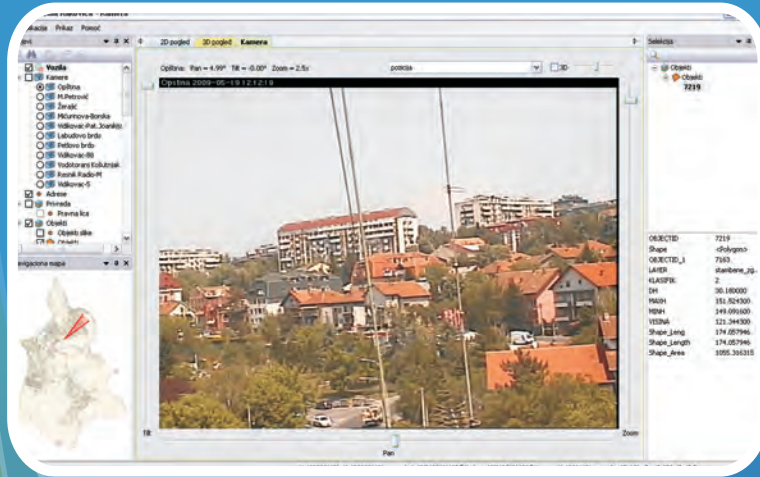
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- Several video streams can be interactively displayed giving better comprehension of surveillance area
- Smart transparency and overlapping is used to produce best possible viewing results
- Video demonstration is available at:

[www.youtube.com/watch?v=wGjQXLTrv0](http://www.youtube.com/watch?v=wGjQXLTrv0)  
[www.youtube.com/watch?v=8S-MhtEj200](http://www.youtube.com/watch?v=8S-MhtEj200)

- 2D and 3D visualization of various geospatial data
- 3D scene is dynamically constructed from DEM, 2D geodata, simple and complex 3D objects
- Support for basic GIS functions (layer selection, panning, zooming, object identification, query, zooming to object, etc.)



- Integrates multiple PTZ video surveillance camera image with underlying GIS
- Enables identification of objects directly from camera image (each pixel in camera image is georeferenced)
- Enables controlling of selected camera (changing pan, tilt and zoom, virtual joystick, zoom to object)



- Mixing of real world camera image with virtual 3D GIS world using AR (augmented reality) techniques
- Besides semitransparent mixing it is possible to project camera images into virtual 3D GIS world
- Projected videos can be viewed from an arbitrary angle and position