

Visual Languages for Spatio-temporal Applications

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For spatio-temporal applications which are very 2D- or 3D-oriented, visual languages look more attractive than alphanumeric languages. In this presentation, an overview will be given to the evolution and characteristics of visual languages for those applications, overall for accessing and manipulation information. Examples will be taken especially from urban and environmental planning.

For visually accessing spatio-temporal information, several metaphors can be used such as portals, city-hall gates, hypermaps, argumaps, and variations of Ben Shneiderman's starfields. Advantages and drawbacks of those metaphors will be detailed.

Then, for querying and manipulating, several languages will be presented, namely SKETCH, CIGALES for spatial querying, and LVIS for spatio-temporal querying and manipulating. For instance LVIS has some interesting mechanisms for describing spatio-temporal criteria by means of an anchor/balloon mechanism.

By nature, visual queries can sometimes present ambiguities: some solutions to solve this problem will also be presented.

To conclude this presentation, a rapid introduction to AIGLE, a Visual CASE tool for the visual generation of geoprocessing applications will be detailed.