# Towards the new open source GIS platform AEGIS

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**Abstract.** In past years, geographical information systems have undergone spectacular development. Beside traditional applications some new areas have been opened by the spread of navigation systems and the publication of geoinformation via Internet. These areas are in need of efficient data handling due to the changing spatial and descriptive data of objects.

This article presents the AEGIS framework, which is a currently developed spatio-temporal data management system at the Eötvös Loránd University, Faculty of Informatics. The framework introduces a data model that aims to uniformly represent raster and vector data, and therefore introduces a new indexing structure based on MV3R-tree and B-tree to monitor changes of spatial and descriptive data in time. To demonstrate the usage of this model, a simple agent-based traffic simulation has been development, which is also presented in the article.

**Keywords.** Geospatial information systems, spatio-temporal data, indexing structures, agent-based traffic simulation

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