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ArchaeoGRID, a Laboratory for the Past on e-Infrastructures

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A primary goal of ArchaeoGRID as simulation engine is the development of simulation of integrated human-in-natural-systems models, which are treated as complex hypotheses, tested against the archaeological record and used for reconstructing the ancient societies history integrated with the Earth history.
In our study cases archaeological and non archaeological data are multivariate geospatial and temporal data. Grid technology has been developed for general sharing of computational resources but has not been designed for the specialty of geospatial data. In order to make Grid technology applicable to geospatial data, it needs integrate the technologies for the geospatial data with the Grid technology. Grid service-oriented geospatial standards, compliant to Grid framework, are developed for giving to the researchers the possibility to build up their models, to execute them and to have back the desired geospatial products.

3. Impact

The ArchaeoGRID system has a complex structure that needs the availability of services for the access, analysis, visualization of archaeological data and results and for the final narration by production of some digital document, where text, data and results are simultaneously accessible independently from their geographic distribution. With geospatial Grid services, ArchaeoGRID needs the integration on the e-Infrastructure with Virtual Laboratory services, with Digital Library services and with Multi-Agent System Platform services integrated with Archaeological GIS. The interoperability and accessibility with other Grids (Earth Sciences Grid, Bio-Medical Grid, etc.) is also useful for sharing data and methods of analysis.

4. Conclusions / Future plans

ArchaeoGRID applications are installed and run on GILDA t-Infrastructure and on EUMEDGrid e-Infrastructure. The installation of ArchaeoGRID System on new e-Infrastructures and the extension of ArchaeoGRID Community to new researcher groups will be the goal in the near future.

Provide a set of generic keywords that define your contribution (e.g. Data Management, Workflows, High Energy Physics)

Archaeology, GIS, MAS (Multi-Agent System), Digital Library, Virtual Reality

1. Short overview

The ArchaeoGRID project is proposed as a Laboratory for the Past on e-Infrastructures for the reconstruction, management and access of Archaeological Heritage, focused on combination of analysis tools and data from many human and natural sciences in a multidisciplinary and interdisciplinary approach and related to innovative methods. The ArchaeoGRID applications are in the fields of Archaeological Research and of Archaeological Heritage Management and Economical Exploitation.

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