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## Extending BIRT with Geospatial Data Visualisation Capabilities by Integrating the SOLAP Mapping Component



Product logo of SOLAPLayers and company logo of Spatialytics

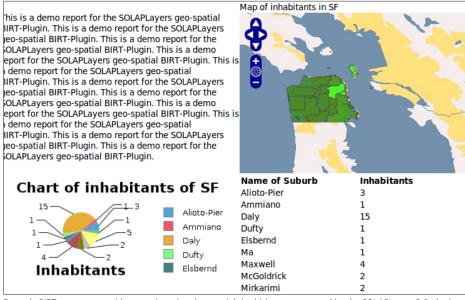


Overview of the technologies used

Introduction: This bachelor thesis consists of two goals. Firstly, to refactor a reporting tool called SOLAPLayers 2.0 from Spatialytics. This improves code quality and allows a more flexible, extendable and dynamic use of SOLAPLayers. Secondly, to create a BIRT map plugin prototype which allows users to add map visualisations in their reports. This prototype plugin needs to be flexible enough to integrate into other reporting tools. It will mainly be used for demonstration purposes to show the potential of SOLAPLayers.

Approach/Technologies: Both parts of the bachelor thesis were completed sequentially. Spacialytic's requirements played a large part in the development of "SOLAPLayers 2.0 Extended". To develop the BIRT map plugin, knowledge of business intelligence tools, online analytical processing, geospatial data and different Java libraries had to be acquired. The findings of this state-of-the-art project have been thoroughly documented.

Result: The first goal of the bachelor thesis was reached by providing an extended version of SOLAPLayers 2.0. This new version allows new data sources and output formats to be added to the framework in an easy way. Additionally, a driver for relational databases was developed. The second goal of the bachelor thesis, a BIRT prototype plugin, has also been reached. The plugin, which has been deployed to the repository of Spatialytics, allows the usage of SOLAPLayers as data sources with augmented geospacial information. Finally, comprehensive research into the state of the art for reporting tools has been conducted.



Example BIRT report page with a map item (on the top right) which was generated by the SOLAPLayers 2.0 plugin.