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Mapserver technology supports the Data Warehouse of Actions and Investments of the Brazilian Ministry for Social Development and Fight Against Hunger

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This presentation will show the solution to represent the information about the Brazilian Ministry for Social Development and Fight Against Hunger Actions, such as the amount of investments and beneficiaries of the Social Programs. There are more than twenty actions all over the country with more than eight million beneficiaries under the Ministry programs. Our challenges were to develop a way to show all this information in an easy way to the society and to the managers of the programs. To solve that we used an open source technology to develop a centralized data warehouse and than a GIS tool to show the results. The MAPServer and PHP Script were the best tools that we found to perform all the activities required, such as gathering the data all over our ministry as well as from other ministries (sites), analyzing and loading the information to the Data Warehouse and showing up the queries results in spreadsheet, maps and graphics form.
The GIS framework accepts all kind of data, because it does not depend on the Data Warehouse structure to update the results. The solution shows the maps without changing any element, being shape file, legend information or map file. The framework can analyze the database tables and show the maps and graphics.
The solution is based in a set of shape files stored in PosgreSQL/PostGis database, and there is another database that stores all information about the Social Program Investments and Actions. There are shape files about the Brazilian states, cities and detailed information about some cities counties. The framework retrieves the themes from a special structure that carries the SQL statement that shows the map information, map title, units of the information and the SQL statement that shows the graphics. The software developed calculates the values to build the legend sharing the frequency of the distribution in quartile. It is possible to get the information about the geographic area (state or city) that the user can select with a mouse click over the map. The detailed information about the geographic area can be the value of the variable or the indicator of a chosen theme. It is also possible to show the

graphic of this variable or indicator throughout the year depending on the social
program. The map themes are stored in SQL statement form, so when the database is
updated the map is automatically updated too.
For some social programs it is possible to show the beneficiaries addresses in a map.
Our solution can retrieve the information about the families and about the county in
order to compare the distribution of the investment with the social status of the
county.
We built a tool to assemble some special areas formed by cities, such as the cities
influenced by Sao Francisco river or Indian communities, and the framework shows the
variables or indicators over these areas.

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