

Spreadsheet Connector for data aggregation and pre-calculation



Challenge

The International Rescue Committee (IRC) is a global humanitarian aid, relief, and development non-governmental organization. Founded in 1933 at the request of Albert Einstein, the IRC offers emergency aid and long-term assistance to refugees and those displaced by war, persecution or natural disaster. The IRC is currently working in over 40 countries and 22 U.S. cities where it resettles refugees and helps them become self-sufficient.

Case

One of our projects for the IRC was about creating a tool which would aggregate and help to pre-calculate huge amounts of data collected by field workers during emergency programs managed by the IRC. It was supposed to replace usage of Microsoft Excel, as well as multiple redundant manual operations necessary for the achievement of such a result.

The Spreadsheet Connector Project started as a proof of concept. Then, it was evaluated and accepted by the IRC management to be developed into a fully functional tool. So far, we have developed three versions of the application.



Solution

The team implemented the Django web application in accordance with the client's requirements. We also added multiple ideas of our own to the product. The main feature is the 'wizard' application which enables one to create a connector based on the uploaded Excel spreadsheet.

Connector acts as a middle-man between 'raw' data and calculated data sent to DHIS2. The connector defines the calculation and transformation processing of 'raw' data to match data structure in DHIS2. End users are able to use hundreds of calculation combinations and leverage the Python programming language to define complex formulas. We were also responsible for the creation of a simple Open Web App which serves as a plug-in for the DHIS2 platform.

Numerous other features were developed, such as the browsing of imports history, connector export and import or cloning the connector definition and external authentication into the DHIS2 user base.



Result

The application was deployed in multiple IRC systems. It is used in various countries, e.g. in Nigeria or Greece. For instance, in Greece, field workers gather data concerning conditions and the number of people, as well as many other different factors in refugee camps. Then, the monitoring officer calculates and transforms such 'raw' data with the use of Spreadsheet Connector, depending on reporting requirements. At the end of the process, the results are uploaded into DHIS2/COMET. On the basis of these statistics, important conclusions and decisions can be made by the management in order to influence conditions in camps.

The project was considered very important by the IRC, and the solution was really appreciated because it saves a lot of time, which would otherwise be spent on manual work.



Technologies used

#python #django #AngularJS #jQuery #postgresql



www.soldevelo.com/contact-us / office@soldevelo.com

