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## ArbyTrary, a cloud-based service for low-energy spectroscopy

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Radiation detectors usually require complex calibration procedures in order to provide reliable activity measurements. The Milano-Bicocca group has developed, over the years, a complex simulation tool, based on GEANT4, that provide the functionality required to compute the correction factors necessary for such calibrations in a broad range of use-cases, considering various radioactive source types in different geometrical arrangements, paired with a large variety of possible detector setups. This simulation tool, so far, has only been used interactively in a command-line mode with very limited flexibility for what concerns user interaction, input and output. We present a prototype of a novel approach to the simulation, via a dedicated web-server, provided with a sophisticated web interface based on a public-domain standard Javascript framework (EXTJS). The current prototype features a desktop-like environment placed in a browser window, allowing users to drive the simulation as if they were running interactively on their desktop/laptop computers. The actual code, instead, runs in a remote, cloud-like environment, shielding users from the complexity of the underlying computing structure. The project aims at developing an infrastructure that allows a complete decoupling between the simulation code (a compiled, static framework with a library of plugin services) and the graphical user interface. By adopting the MVC (Model View Controllers) Architecture we were able to provide this system with a high degree of flexibility, making it suitable for a generic interface to a service of simulation programs hosted on a cloud-based system.

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