The Computerworld Honors Program

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Final Copy of Case Study

Status:
Laureate

Year:
2013

Organization Name:
Infosys Limited

Organization URL:
www.infosys.com

Project Name:
Open Source Drug Discovery (OSDD)

Please select the category in which you are submitting your entry:
World Good

Please provide an overview of the nominated project. Describe the problem it was intended to solve, the technology or approach used, how it was innovative and any technical or other challenges that had to be overcome for successful implementation and adoption. (In 300 words or less.)

The Council of Scientific and Industrial Research (CSIR) has launched an innovative Open Source Drug Discovery (OSDD) programme to combat the scourge of infectious diseases that afflict the developing world. OSDD is a CSIR-led consortium with global partnership. Its vision is to provide affordable healthcare to all by providing a global platform where the best minds can collaborate & collectively endeavor to solve the complex problems associated with discovering novel therapies for neglected tropical diseases like Malaria, Tuberculosis, Leshmaniasis, etc., especially to the weaker sections of global populations. It draws inspiration from the success of open source movements in software and the Human Genome Sequencing Project. The success of Open Source models in Information Technology (e.g., Web Technology, the Linux Operating System) and Biotechnology (e.g., Human Genome Sequencing) sectors highlights the urgent need to initiate a similar model in healthcare, i.e., an Open Source model for Drug Discovery. Thus, OSDD is truly a novel and path-breaking initiative. The

website is based on the Wiki-based model, designed to enable anyone to contribute or modify content in a collaborative mode. These ideas and suggestions will be peer reviewed and the contributor commensurately acknowledged. OSDD thus rests on three cardinal principles of Collaborate, Share & Discover. It aims to bring openness and collaborative spirit to the drug discovery process with the objective of keeping drug cost low.

When was this project implemented or last updated? (Please specify month and year.) Has it incorporated new technologies and/or other innovations since its initial deployment? (In 300 words or less.)

OSDD was last updated on DEC 2012. It has incorporated a portal for the Malaria Community and has undergone the implementation of high-availability architecture (Apache failover, Tomcat cluster and MySQL replication) since its initial deployment.

If this is a previously submitted project that has been significantly updated and/or expanded, please describe the nature of the update here. (In 300 words or less.)

It has been significantly updated by incorporating Malaria Community, providing High Availabilty Architecture and Making Galaxy System (Workflow Management) at Garuda Cluster.

Is implementation of the project complete? If no, please describe the project's phases and which phase the project is now in. (In 300 words or less.)

Yes, implementation of the project is complete.

Please provide at least one example of how the technology project has benefited a specific individual or organization. Feel free to include personal quotes from individuals who have directly benefited from the work. (In 300 words or less.)

Crowdsourcing can boast of many success stories today, but in 2008, when the Council for Scientific and Industrial Research (CSIR) launched such an effort for drug discovery, there weren't many. Four years on, its Open Source Drug Discovery (OSDD) network is emerging as a cyber platform to garner resources for developing drugs that pharmaceutical companies don't find attractive enough. So far, the network has crowd-pulled some 5,500 participants in 130 countries, 80 percent of whom are in India. Realistically speaking, open innovation is the future of drug development, says Samir Brahmachari, director general, CSIR Sysborg: Facebook for Scientists; Geetha Sugumaran, How Open Source Drug Discovery Is Helping India Develop New Drugs; Seema Singh; Forbes India Magazine, April 9 2012,http://forbesindia.com/article/breakpoint/how–open–source–drug–discovery–is–helping–india–develop–new–drugs/32668/1

Would this project be considered an innovation, a best practice or other notable advancement that could be adopted by or tailored for other organizations and uses? If yes, please describe that here. (In 300 words or less.)

OSDD can be considered as an innovation where users (scientists, doctors, technocrats) can collaborate, share their knowledge/ideas and implement them to find out low-cost drugs for particular diseases like Tuberculosis, Malaria, Leshmaniasis. In this portal, ideas are shared by like-minded research volunteers which are taken up for execution. Workflow of experiments and results from projects can be reused by another project, therefore providing faster results compared to traditional approach. Selected OSDD features are available as web services that can be used from outside the OSDD Portal.

If there are any other details that the judges should know about this project, please note them here. (In 300 words or less.)

OSDD provides a collaborative platform for scientists, doctors, technocrats, software professionals, students and others with diverse expertise to facilitate the drug discovery process. The OSDD portal, Sysborg 2.0 (http//sysborg2.osdd.net), is the platform for such collaboration. OSDD was conceived by Prof. Samir K. Brahmachari, the present Director General of CSIR. The program was officially launched by Shri. Kapil Sibal Hon`ble Ministry of Science and Technology, India, on 15th September 2008. We can get the following benefits from the OSDD: availability of low-cost drugs, reduces long gestation period, R&D cost by sharing and reusability, collaboration of ideas/minds, re-usability & sharing.