

# Building Virtual Research Environments: The Lion grid Experience.

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Research & Development (R&D) statistics is one of the key indices and important component in measuring a country's National Innovation System (NIS). The R&D landscape has changed so much within the 21st century. Many countries are categorized as developed or developing based on their ability or inability to rise with the tide of research and technological advancement. Poor research funding, chronic lack of research infrastructure, lack of appreciation of research findings and scanty information base on who is working on what or lack of collaboration remains the recurring decimal that affect the development of research in developing countries. Research in the 21st century requires skills in the area of the 4Cs of (Critical thinking and problem solving, Communication, Collaboration, and Creativity and innovation), all of which are addressed by Virtual Research Environments (VREs). Virtual Research Environment is an online system that helps researchers to collaborate, by providing access to e-infrastructures and tools for simulation, data analysis and visualization, etc. In 2011, we deployed the first-ever Grid Computing e-infrastructure in Nigeria, the Lion Grid, under the HP-UNESCO Brain Gain Initiative project. This led to the building of the first VRE in Nigeria. Our VRE database has grown through workshops, demonstrations, and training close to 500 members from heterogeneous research backgrounds. The project has developed applications for the local research community, deployed existing apps for its VRE, demonstrated the use of Science Gateways and Identity providers, as well as trained hundreds of researchers and technical support staff. In this paper, we present our experiences, prospects of the VRE and future plans.

## Summary

In this paper we report the work done previously and current research projects.

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