Introduction
There is a need for an integrated information system that manages the data and computational-logic used by an experimental physics facility (EPF) during its design, construction, commissioning, and operation. Such a system can be used to manage design lattices, model them, run what-if scenarios, tune the beams, troubleshoot, manage calibration data, maintenance records, alignment information and quality metrics, and generate reports for funding or regulatory agencies. A critical component of such a system is the configuration database. It manages devices, their layout, measurements, alignment, calibration, signals, and inventory. Proteus is an implementation of such a component. It is being developed and used at Facility for Rare Isotope Beam (FRIB).

Components
A component is any entity in the accelerator facility’s configuration: magnet, power supply, cavity, rack, controller etc. Components can be looked at in different ways, and have different kinds of information associated with them: design data, measurements, test data, alignment information, physical characteristics etc. We define two kinds of components:
- Physical-Component: This represents physical entities; things that exist in the real world. A physical-component has attributes such as measurements, calibration, traveler data, manufacturer model etc
- Logical-Component: It represents the entities that exist on the blueprint or configuration (layout) of the Accelerator facility.

Physical Model

Conceptual Model

Implementation
- DBMS: MySQL
- Framework: Java EE
- Service: EPICS V4 and RESTful
- GUI: ISF and Primefaces
- App Server: Glassfish

Logical Model

Component Tree

Component Relationships

EPICS V4

Live Control Signals

EPICS V4 Service

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