3.1 Architecture Overview

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THE LAYERED IMPLEMENTATION MODEL

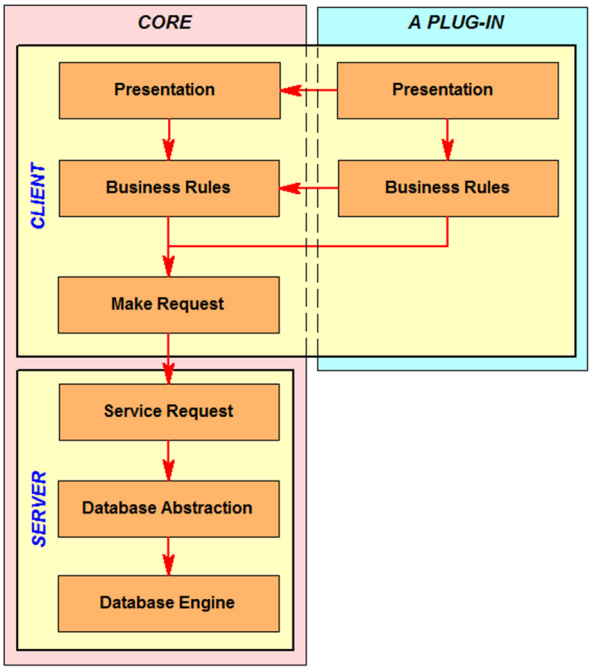
A layered implementation model is the heart of the application. It decouples the Presentation layer (GUI) from the Business Rules where the knowledge about the interaction data and its constraints are managed. It is only the Business Rules layer that can make requests via other lower levels to manipulate the contents of the database. This deliberate decoupling will reduce the reworking of code when features are added or amended.

The HRE application's implementation must allow installation of plugins so that the feature set can be extended. This will done using OSGi technology. All code will need to be developed in a consistent well-documented environment. Plugins will have access to core services and must use them to access the database.

Concurrent collaborative use of data projects is another design requirement. The application code has to be split into a Client component and a Server component. This architecture will allow for Client and Server components to be installed in the same computer or different computers that are connected by a network. [For initial implementation an alternative Bridge component will avoid the additional complexities of inter computer communication.]

The access to the database engine will only be via database abstraction layer. It will map external requests into revised ones when the database schema has been revised.

All database engine specific code will be only be in the perform database request layer. It is only in this layer that any quirks of the database engine are to be dealt with. That is, to swap to a new database engine only requires recoding of the database request layer and nothing above it.



A simplified diagram of the Client-Server structure