



Archemy™ Showcase Solution

ArchNav™

An Extensible Ontology-Driven Search Engine and Knowledge Repository

Business Context

Many descriptive datasets contain multiple, diverse entities and may be classified by a large number of dimensions and values. Searching for entities within the dataset that may conform to orthogonal criteria can be difficult, especially for an average user. In addition, maintaining a GUI that can be extended as the Ontology and Taxonomy that describe the entities in the dataset is expanded can be laborious and time-consuming. The ArchNav™ application allows users to create their own queries and assign weighted values to each of the dimensions and values they use to filter the data. Application administrators merely need to maintain the Ontology and Taxonomy and the application does the rest. ArchNav™ provides a choice of algorithms that may be applied to perform the search. It is also possible to add additional algorithm on a “plugin” basis. The same is possible with visualization widget although ArchNav™ includes a default GUI interface. Finally, the application also includes feedback management capabilities and integrated feedback analytics.

Initial State

Archemy™ needed a user-facing search tool to make it possible for users and prospective users to leverage a repository of potentially quite diverse solutions and allow them to identify best practice technology solution candidates for their business problems. Providing a query facility for complex, multidimensional datasets requires a significant amount of coding and development. Maintaining the application to keep up with an evolving Ontology or Taxonomy can be laborious and time consuming.

Archemy™ Solution

ArchNav™ is a user-accessible, GUI-based search application that allows queries with unlimited dimensions and values. Once implemented, it is virtually maintenance-free.

Technology Employed (latest software versions)

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| Tech Types: | TechTech – Enterprise Analytics, Enterprise and Solution Architecture |
| Website Framework: | Django, Bootstrap |
| Application Server: | Oracle ADF Essentials on Glassfish or WebLogic |
| Languages: | Java, Python |
| Security Components: | Apache Fortress and Open-LDAP or Apache LDAP directory server |
| Database Systems: | MySQL (alternative RDBMS, optional) |

End State

ArchNav™ has been incorporated into Archemy™’s website, allowing users to search the Archemy™ Business Technology Solutions Catalog, use their search results as the starting point to drill down into the finer detail available through ArchDoc™ and to save their search criteria so that searches can be rerun if necessary. The Apache Fortress Role-Based Access Control (RBAC) security component allows fine-grained management of user’s access privileges to the various features of ArchNav™, making it easy to manage an environment in which licensed and non-licensed users may coexist. The ArchNav™ TechTech product was since reused in a HealthTech setting to implement a Lymphoma diagnosis software application for a major hospital.

Reusable Components

ArchNav™ may be accessed as-is on the Archemy™ Web site (one month free trial license). ArchNav™ may also be installed on your Windows, Mac OS, or Linux server. To do so will require: (a) setting up a MySQL compatible SQL database with tables containing the Taxonomy and tagging details, (b) deploying ArchNav™ and Oracle ADF Essentials on Glassfish or WebLogic, and (c) deploying Apache Fortress on Open-LDAP or Apache LDAP. ArchNav™ may also be made available as a SaaS solution.