Motivation

Background Information
Currently, Excellus customer service representatives use a Visual Basic 6 application named TIGRESS to retrieve subscriber information and manage transactions. The current application has adequate functionality and excellent performance, however with their growing customer base and increasingly distributed centers of operation, the limitations of the technology in terms of maintainability, extensibility, and reusability are becoming apparent.

The proposed plan for replacing TIGRESS is an architecture based on JAVA/J2EE technology, with an expressed interest in a Portal-based solution. This new application, jTIGRESS, could be used internally for claims processing, membership and billing functions, customer service, and externally via the Web for Excellus subscribers.

Objective
The goal of the RIT and Excellus senior design partnership is to research and provide answers to a group of questions regarding the capabilities and limitations of IBM WebSphere Portal technology. This research will influence the design of jTIGRESS.

The ultimate question to be answered from this study is: Is Portal technology a feasible solution for the new jTIGRESS application?

Specific research questions include:
- Interface Design (including look and feel; customization)
- Application Design (including inter-portlet communication)
- Portlet Families
- WebSphere Portal Limitations and Capabilities (including single sign-on)

Process Phase 1
- First 10 Weeks (Winter Quarter)
- Configured IBM WebSphere Portal Extend v5.1, Application Developer, and Portal Toolkit
- Initial research and development effort to discover the high level capabilities and limitations of WebSphere Portal.

Process Phase 2
- Second 10 weeks (Spring Quarter)
- Agile process of research and development aimed to address the specific concern areas identified by Excellus.
- After 3 iterations of this process, deliver a research report on the findings and conduct an informational workshop for the developers.

Research Results
- Interface Design (including look and feel; customization)
  - WebSphere has extensive support for presentation personalization at the content level using business rules, as well as individual user profile level, including customization based on usage.
- Application Design (including inter-portlet communication)
  - Portlets support both two-way and broadcast communication.
  - Data can be retained during portlet navigation in various predefined objects. Lifetime of these objects is a key design consideration.
- Portlet Families
  - Families of portlets with interface and logic reuse can be achieved with the appropriate split of functionality among the HTML and JSP.
- WebSphere Portal Limitations and Capabilities (including single sign-on)
  - WebSphere supports multiple ways to implement a single-sign-on environment, including shared application authentication and a credential vault concept.

Deliverables
- Research Documentation
- Portlet Technology Overview (including API discussion)
- WebSphere Software Configuration and Analysis
- Learning Curve
- Development Tutorials
- Reference Information
- Prototype (including source code)