Purpose/Motivation
The Department of Development and Alumni Relations at RIT works to elicit donations from alumni and to create an RIT community. The Department tracks its own performance through the use of metrics, tiny snapshots of data related to a single task. These data can relate to alumni directly (such as the phone-ability of RIT’s current alumni base) or indirectly (such as the Total Attendance at Brick City). These metrics are stored in a handful of locations, on and off campus including ITS, and Harris Online, and managed by a third party.

Currently, these metrics are tracked by four different mechanisms. The first two, Advance and Campus Call, are Oracle databases held on campus. The third source, Harris Online, is hosted by an external vendor. Finally, there are some metrics such as Skills Baseline Rate, Technical Communications, and Total Training Delivered that are tracked the old-fashioned way, by pen and paper at an employee’s desk.

The Performance Management System aims to combine these various data sources into one, easy-to-use, highly accessible portal. The System will offer a mechanism in which new metrics could be tracked and a method of generating and saving reports.

Process
The project lifecycle chosen for the Performance Management System is a modified Waterfall model. Weekly assessment of risks, status updates posted to the team blog, and frequent meetings were chosen to facilitate the large amount of communication between all parties involved within this project.

We had a normal requirements gathering phase of three to four weeks and a design phase for the next four weeks. Implementation and Testing was divided into three iterations, with the highest priority use cases delivered in the first two sprints. At the end of each iteration, a stable release was to be delivered to the sponsor.

Key Features
Primarily, the Performance Management System will provide an interface to several databases storing metric data that the Department tracks. Key functional points include: Metric CRUD (create, read, update, and delete) operations, Report Generation, User/System Administration, and User Dashboard functionality. Reports generated in the system will be either PDF documents or Excel-accessible CSV files.

Three major quality attributes have been identified by the team which the customer would like stressed: Extensibility, Usability, and Security.

Once deployed, the System will reside on ITS’ servers; that department will be partly responsible for maintaining its operation and therefore it must be developed on Solaris 10 and work with Oracle. This also means that the system must conform to RIT Information Security Standards.

Technology Choices
- Tomcat 5.5: Tomcat is being used to serve our Flex and Java applications. The Java is secluded from direct calls to the server while the Flex is openly viewable to the end users.
- JDBC: Thin driver between Java and Oracle on ITS servers
- Adobe Flex: Flex is the Presentation Tier. The team chose this technology since it integrates with Java and provides a professional look to the content.
- BlazeDS: This technology was chosen to integrate Java and Flex seamlessly.
- Solaris 10: Solaris 10 was chosen to meet the needs of the customer for serving environment.

Design/Architecture
The System has been designed as a typical 3-tier web-application consisting of a Presentation, Application, and Database tier. The Presentation tier uses a Model-View-Controller (MVC) architecture, More specifically, the Cairngorm micro-architecture hosted by Adobe Labs. The Application tier contains web services and is exposed by BlazeDS, which provide information to the Presentation tier by making requests to the Database tier. The Database tier represents the data stores and their interfaces. The tables in this tier (collectively called Homebrew) hold information regarding the other data sources, custom metrics, and system information.

The diagram below shows a clear distinction made between client code hosted in Apache and the web services hosted by TomCat.

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