

**Systems Development, Data Mining, and Knowledge Discovery**

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## **Abstract**

The primary role of the Technical Integration Office is to provide technical solutions and services to different branches at KSC (Kennedy Space Center) and NASA program customers. The Technical Integration Office helps support KSC's operational needs by providing services such as digital connectivity, data center services, modelling and simulation tools, and communication video services. To learn the necessary technology and processes for my internship, I am working on two projects: learning C# with SQL and developing requirements for a PX (Communication and Public Engagement) inventory management system. To learn how to efficiently program with C#, my mentor assigned me to complete a sports informatics application that would let users discover facts and rules about various sports. The sports informatics application comes with search capabilities, report generating features, rule lists that users can modify, and diagrams for various sport strategies. To further build upon this project, I also developed a sport simulation game with the application. Once I begin more SQL-based projects, I will have the opportunity to learn how to manage databases and link SQL servers with C# programs. To develop requirements for the inventory management system, I have met with PX representatives and toured their storage facilities to see how they organize and store their items and equipment. I will also be meeting with representatives from the budget office to find out what information must be in a system budget report. The main components the system must have are customer request management, a search feature for items and equipment, report generation capabilities, and automated system warnings when item quantities reach or go below administrator-specified threshold levels. I have drafted questions and shall statements that will ultimately become part of the inventory management system requirements document.