

Corinthia Comi
Dr. Baumstark
CS 4986 Computing Internship

Internship: Booz Allen Hamilton - .Net Developer

Background

I am a .NET developer with Booz Allen Hamilton and a contractor to the CDC. I have been interning at Booz Allen Hamilton for almost a year and was recently offered a full time position as a .NET developer. Booz Allen Hamilton is mostly known for their government contracts and are most known for technical and strategic consulting. In our contract we help run multiple systems that are used throughout the CDC. Many of these systems are written within ASP.NET, C#, PowerBuilder, and also C and use TFS (Team Foundation Service) as a type of version control. I currently work on a project that is one part PowerBuilder and one part in ASP.Net/ C#. While I cannot say in detail what these systems do and their purpose I can say that it helps with the staffing and budgets. This system is one of the largest systems we use and currently incorporate multiple technologies. For example we used stored procedures to help run some of the back end stuff and display the information or we use web services to help this system communicate information with many others. This system is the one I currently focus all of my time on since we will be upgrading the PowerBuilder portion to .NET.

Web Services Work

When I had continued my internship this Spring I worked on incorporating web services. We needed to incorporate a web service for keeping logs of who accesses the application, what time and date they access it, and if it is accessed by another application we pull the application name and IP address. We spent some time doing some local sandbox projects that compared the efficiency of different web services. The types we compared were: Easy SOAP, WCF, RestFUL, SOAP, and .NET. We had a web services governance council to help decide what would work best and this was also a way we could take in other suggestions from our clients. In the end we decided to move with the most efficient service which is currently the .Net service.

Application Control Proposals

My second largest task was researching new controls (spell checkers, organizational charts, rich text boxes, or new technologies for applications). This process is lengthy in the fact that I was required to find five different controls and collect information about licenses, features, price, and etc. Once my research was done I was required to write a recommendation and create a demo that demonstrated each of the different controls. The decision would have to be made by our application governance council and they help decide if the control has the appropriate price range, is suitable for the application, and whether or not it is secure. During my internship I have done research about updating rich text boxes, organizational charts, spell checkers, and which version of jQuery to upgrade to. I currently do not work on this task anymore but may possibly work on it again if something better comes up in my current project or I find a better control to replace one we may currently use.

Project Documentation

Another task that I was assigned was to document all the current functionality and how the system ran (in the PowerBuilder portion). These documents included state machine diagrams, use case diagrams and documentation of each stored procedure we used. In a state machine diagram, we give a simplified version of how the application works and the ins and outs. This includes the different views that are available, if you close a window then what view does it go back to, when a stored procedure is being called, or when the system starts or shuts down. With the use case diagrams we explain and demonstrate what functionality the user has within the application and all the types of roles/ users that will be using the system. Listing the stored procedures of the project was the most crucial portion to the project documentation. Our system works closely with another system and some of these stored procedures are used to help pull information from a separate database and return the information to the appropriate system. We also use these stored procedures to help display a view portion in the application or do some background requirement checking. I am still currently working on this task only when I have additional time to burn.

Current Work - Development

Currently in my job I work on the .NET portion and help with bug fixes, TFS backlog items, and help make decisions to ensure that we keep up with technology. Every two weeks we have code reviews to review the most recent changes in the code and see if we can come up with better methods of testing or refactoring. Some of these are spent cleaning up code, going over what new functionality the application has, or making sure the new functionality meets the customer's requirements. Every day we have a stand-up meeting where everyone from the team gets together and gives their daily status updates. During this time we also discuss any roadblocks or express concerns to our project managers. We newly upgraded our application and are sending out our next version release. Since we have made upgrades I recently experienced our application go from the development environment to what we call the "QA" environment. In this QA environment our application is thoroughly tested and any bug fixes are assigned to the developers to be fixed. Unfortunately I cannot go into any more details about the environments we have but we will need to go through four more tests so we can publish to four more environments before our application is finalized in the production environment. I will be continuing with this project when I make the transition to full time.

Learning Outcomes

During my internship experience I have learned a lot about environments, SQL, web services, ASP.NET, and application controls. Before this internship I had never heard of web services, stored procedures, or even the fact a control can be integrated into ASP.NET to enhance the page. I also learned that an application can have multiple environments without affecting the customer's application and have been able to see the deployment process. This internship experience has made me a better programmer, taught me how to self-educate, how to work on a team, and how to build a contractor/ client relationship. I have learned new consulting skills that will help me in any future endeavor and even new coding styles that I can carry with me. During this time I have been able to improve on languages like jQuery, linqtoSQL, C#, and XML. I have learned new languages and frameworks such as ASP.NET, MVC4 and entity framework. I was able to sit in on customer meetings and gather all the user requirements and was able to use all

the information that was taught to me in multiple courses so that I may apply them to my current job. I was able to apply my practice with the command prompt from System and Network Administration, collect user stories and apply them similarly to Software Engineering, query basic data like we did in Information Management, and even apply a more efficient algorithm like in Data Structures. This internship has given me a great start into the real world and even if I do not stay in this company within the next couple years, I will be able to carry on these skills and apply them to any future job. Since I will be transitioning to full time, I will continue with this company and eventually hope to transition to different jobs so that I may learn about what other types of work other companies do. I have taken a lot away from this internship and a lot away from the courses I was taught from the university. I will always be able to carry this new knowledge and apply it anywhere else my career may take me.