



Section 1: About Me- I am interested in a career as a Database programmer/administrator. I am currently attending South Central College, North Mankato in pursuit of and Information Systems AAS Degree. Math and puzzles have always been a strong suit of mine. I enjoy manipulating data to see results. I have always had a specific interest in programming and find that a creating software is VERY rewarding. I have an interest in the Microsoft Office Suite and customizing it for ease of use. I prefer the Visual Studio platform and was very fortunate to find an internship that uses this particular software for managing a database application.

A. Personal Reflection- I have always had an interest in computers and took college courses after high school to advance my knowledge in addition to business practices. I have had a successful career in Medical Administration and each position I have held has had an advanced computer/technology component. My interest in programming was sparked when I was working for a company that developed a proprietary .Net software system. I was privileged to work directly with the programmers as the administrative representative for the project. I helped to develop, test and tune, train staff, maintain databases and continue to provide insight for growth of the software. My experience as an end user had grown as far as it could. I have a hunger for knowledge and want the ability to be the creator of such fascinating software.

- **Occupational Career Plan:** Working with a company preferably in a medical business setting. Providing help-desk support, QA or Database management as a first step in my career plan. Long term success being a Project Manager and writing and maintaining database software.

- **Projects:** Working as an independent contractor for a Mary Kay Sales Director, I have had an opportunity to expand my knowledge in computer programs. I created various publications, additional excel documents to manipulate data and created a Visual Studio/.Net program as a prototype to take my knowledge and apply it to a practical business solution.

B. Education: I am in my second year of my Associates Degree at South Central. This Spring semester is my last semester with program courses and I will graduate after the upcoming summer session that is needed to complete my English and Elective requirements. Some courses I have taken in preparation for the Capstone graduation requirement/Internship are:

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| • Foundations of Computing | • Web Programming | • Interpersonal Communications |
| • Spreadsheets & Databases | • Visual Basic.Net | • College Algebra |
| • Programming Fundamentals | • Web Services | • Intro to Data Communications |
| • Web for Business | • PC Hardware & Software | |

Section 2: Internship – I began my internship with CFC Tech (Creative formulation Concepts) in June, 2018, in Mankato, MN as a Software Developer. I worked directly with Mark Weber, a co-owner and the product developer. Mark has been a fantastic instructor/supervisor and would challenge my knowledge and provide back to basics comparisons to assist with my problem solving.

A. About the Company: CFC Tech is a company that specializes in Formulation and Management Software relating to the needs of commercial animal feeds, pet foods and other blended products.

- CFC Tech products include Concept 5 (a single product formulation), ProMax (a maximum return optimization model), Multi-Step Formulation, MOP (Multiple Product Optimization), and many more.
- Each sale is tailored to fit the individual company requirements with additional on-going support.

B. Mentoring- I worked directly with Mark Weber, a co-owner and the product developer. Mr. Weber has been a fantastic instructor/supervisor and would challenge my knowledge and provide back to basics comparisons to assist with my problem solving.

- I very much looked up to Mr. Weber and his grand knowledge and understanding and would love to one day have that level of understanding and ease.

C. About the Project- The specific product I worked with was Concept 5. CFC Tech was upgrading from a program called Tsunami to VB.NET/VB6. The Tsunami code would retrieve a full table worth of information from the database and then extract the requested information from the table that was imported. This was consuming valuable resources within the program. The update using VB.NET/VB6 is designed to retrieve only requested information from the database.

- **Project Activities:** It was my responsibility to create and write the code in VB.NET/VB6 that would mimic procedures in Tsunami and maintain the functionality of the software.

- I would also write and maintain stored procedures in SQL to function with the new code.
 - Maintaining a database with test data was critical as each procedure was thoroughly debugged and tested.

- **Programming Competencies:** Software Development Project Management, VB.NET/VB6 Application, SQL, SQL Stored Procedures, Database Management, Table Management and File Management.

- **Personal Skills Learned:** I learned how to collaborate with others working on the same system. I was able to conform to preset company standards for documenting work completed, what I was working on and what changes had been made. I was able to learn from and utilize other Programmers completed updates. I acquired skills on how to prioritize and streamline job duties for good time management.

- **Programming Skills Learned:** I was able to work with an in-depth, fully functional database application. I was able to see how clearly documenting, segmenting, and formatting code appropriately is crucial for readability. I learned how to manage a

high number of tables to integrate into the working software system. I was also shown and adapted to different techniques of debugging and problem solving. I was able to identify and use naming conventions to continue code integrity.
Section 3: Competencies Completed- Working with Mr. Weber at CFC Tech on this project I gained the insight on how all of the processes taught to me at school come together and create this big picture.
<p>A. Communication- I believe that the overall most important thing I have learned is how to communicate with other programmers. I find that programming is solitary in most day to day activities.</p> <ul style="list-style-type: none"> • I found that it is imperative to communicate/document clearly what you are working on for your own benefit as well as for others who may use the code. It was amazing to see notes of updates and of things to-do, or not yet working. • I was able to expand my vocabulary so I could clearly communicate between others who have been in this profession for many years. In the beginning I would not use the correct terminology and it would not relay the correct message. • I think it would have been beneficial for my learning style to have asked for an additional orientation of the company products and services prior to starting with the coding. I found that I was tripping up and making mistakes because I did not understand the industry.
<p>B. Critical and Creative Thinking- Problem solving was at the core of this programming project. The most rewarding part of the internship project was when I was faced with a problem or presented with challenging obstacles and I was able to work through it logically and thoroughly for a correct outcome.</p> <ul style="list-style-type: none"> • It was an amazing feeling to know I had learned and comprehended so much information in addition to feeling successful. I would often go home and continue to research solutions. • Some days I would not make as much progress as others. I learned on these days to be sure to keep good notes for future use and to record positive outcomes to prevent struggles in the future. • I very much enjoyed learning each program more in depth and where I can go to find the information I need or where in the system I can go to ask for help if there isn't a coworker colleague available.
<p>C. Civil Engagement and Social responsibility & Cultural Competences- The internship with CFC Tech has allowed me the opportunity to utilize the skills learned in the classroom and apply it to my vocational goal in addition to spending time in an office environment specifically focused around software development while becoming the professional in the organization instead of a member of the support staff.</p> <ul style="list-style-type: none"> • I developed an understanding of how to best utilize down time. I was taught how to solve common problems associated with applications including secure connections, principal of least privilege, understanding other devices on the system and how they could affect the resolution of coding or debugging issues. • I would often continue my problem solving outside of the internship to try to gain an understanding of the code, or continue to problem solve when I found I was stuck on a particular issue. • I was able to work in an office setting with a diverse range of individuals. I have found myself as the minority gender and was pleased to see another female working in the office. It was also very inspiring to be able to work with Mr. Weber and many years of experience as well as another intern in the office.
<p>Summary, Outcomes and Findings – I am so blessed to have had this opportunity to challenge my skillset with Mr. Weber and all at CFC Tech. It was an amazing way to get real world experience!</p>
<p>I found that testing/QA was my favorite part of this project. I enjoyed reviewing and researching the outcome of my newly created process. I also enjoyed trying to break my code- sometimes a challenge. My second favorite had to be learning new ways to test different subsections of code and how to manipulate the system to avoid a time consuming. The least desirable aspect of this type of position is hands down the frustration when I am looking at a block of code designed for a specific purpose and it doesn't work. Troubleshooting when theoretically it should work. Most often though, I found it was an error with something unrelated to the code.</p>
<ul style="list-style-type: none"> • Expectations- I did not expect for the code behind a database software to be so LARGE. There were thousands of line of code to go through and understand. It was overwhelming at first, but when I was able to break it down and focus on one procedure at a time it all became very manageable. • Challenges- The biggest challenge I faced was understanding what the existing application was to be preforming. I have never had end user experience in a company of this nature. I struggled with learning the industry jargon and how it applied to the programming system as a big picture. • Changes to my occupational career plan- After completing this project I have more solidified my career plan. I have been finding myself narrowing in on the Visual Studio platform and considering VB6, .Net, C++, & C# as career avenues. I am also more confident and feel that I would be able to adjust to an industry other than medical. Although it proved to be a challenge, I felt I have overcome the obstacle of not having end user experience in the industry prior to writing the code. • Recommendations- I would definitely recommend an Internship in Software Development using the VB6/.Net program in addition to recommending CFC Tech and Mr. Weber as an understanding and patient teacher. • Next Steps- The experience with this project/Internship has allowed me to build confidence. I felt a sense of understanding and was willing to be vulnerable and ask questions. I have a much better understanding of what my expectations are when I am able to open the next chapter of my story. Also, I have enjoyed going to school and learning about so many different aspects of the "Computer Careers" program. I am interested in exploring my options further and taking additional classes to get a more in-depth look at some of the programs I have explored.