Summer 2022 Co-Op at The Goodyear Tire & Rubber Co.

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Introduction

Matthew Shehata worked as a Software Engineer Co-Op for The Goodyear Tire & Rubber Co. at its headquarters in Akron, OH. Goodyear is one of the world's largest tire and rubber manufacturers. They make tires for passenger vehicles, trucks, aviation, race-cars and more. Matthew worked in the Summer of 2022, which was his 3rd co-op rotation at Goodyear, previously working there in Summer 2021 and Fall 2021.

Abstract

This research poster presents the author's co-op experience as a software engineer at The Goodyear Tire & Rubber Co. NASCAR tire plant. The poster highlights the author's contributions to the plant's production processes, including designing and implementing software solutions to optimize efficiency and improve quality control. The poster also showcases the author's collaboration with cross-functional teams, highlighting the importance of communication and teamwork in achieving project goals. Through their co-op experience, the author gained valuable skills in problem-solving, project management, and software development, which are all vital to the technology and manufacturing industries. The poster concludes by reflecting on the author's personal and professional growth throughout the co-op and discussing how this experience has prepared them for their future career as a software engineer.

Learning Objectives

- Create web dashboards that display live data for tire-building machines
- Use SQL to manipulate data and extract it from specific databases
- Use Java, JSP, HTML, and CSS languages to import data from Oracle and AS400 databases and create dashboard UI and backend

Figure 1. Goodyear Headquarters in Akron, OH.

Responsibilities and Projects

My primary project was the web dashboard that displayed various data about 32 different machines in the manufacturing plant. The data displayed was machine name, tire code, which NASCAR race the tire was being manufactured for, how many tires per hour, etc. A lot of the data was stored on an Oracle server and my task was to extract this data and put it on a web site that displayed the information in a readable fashion.

Figure 2. Tire building machines that were the focus of the project.

Application of College Courses

A lot of my work during my co-op rotation involved programming, which I've taken many courses in throughout my college career. Notably, my work in Data Structures & Algorithms, and Systems Programming taught me a lot of what I needed to know for the job. In those courses I was introduced to Java and the Linux environment, both of which I used extensively in my day-to-day functions.

Lessons Learned

- Communication is key. A 15-minute conversation with team members can save hours of technical work.
- Continuous learning is extremely important to ensure compatibility with new and upcoming technologies and efficiency.

Figure 3. A Goodyear tire shown on a NASCAR racecar.

Future Career Objectives

Goodyear helped me to realize the potential of software engineering and just how important it can be in the real-world. It helped me to solidify my choice in computer engineering, as I had a true passion and liking of the work I was doing daily. I'd like to explore a similar field of work in software engineering in my future, especially with data/databases.

Acknowledgments

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References

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