

Autonomous Solutions Inc.

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Summer UI Development Internship 2018

I was fortunate enough to land a summer internship at Autonomous Solutions Inc (ASI), located in Petersboro, Utah. ASI is a company focused on vehicle automation in industries such as agriculture and mining. I became a member of the Desktop Platform Team and was able to work on Mobius, their Command and Control software.

The primary focus of my internship was the Localization and Internationalization of Mobius. Our team practiced Agile Scrum methodologies and I attended daily standups, participated in 2-week sprints, sprint review sessions, and sprint planning meetings. I was also given the opportunity to work on bugs, security issues, and help with improving the performance of Mobius.

Overall this internship was an invaluable experience. I worked with some amazing people and learned many new things daily. Listed below are summaries of the main skills I gained during my time at ASI.

C# and XAML

The language we used was C# and XAML from day one I was given access to their large codebase, which was overwhelming, to begin with, but by the end of my experience, I became much more comfortable navigating the code. We focused on the SOLID principles and I became most familiar with was the dependency inversion principle. I made sure to follow dependency inversion as I was making changes to support localization of Mobius.

Agile Scrum Experience

Our team practiced Agile Scrum methodologies and we held daily standups, our sprints were two-week intervals and I participated in the sprint review and planning meetings. I helped the team estimate story points and committed to completing a number of story points each sprint. I was also able to attend a few backlog grooming meetings where we cleaned up and maintained our backlog. I thoroughly enjoyed being part of this development team, when I finished my stories early I would often be given the opportunity to help out other team members and learned so much from working with the senior developers.

Localization and Internationalization

The purpose of my internship was to internationalize Mobius and get the framework ready to support localization. I began by researching best practices and standards for app localization and was asked to determine which file format would be best for our localization files as they were just using XAML and it was a bit clunky.

The next step of this process was to internationalize Mobius. I worked with our developers to design and implement the framework for localization. This was such a fun experience for me because I was able to take our design and write the actual code to implement it.

Bug Fixing

While Localization and Internationalization was my primary focus, sometimes the team priorities shifted, and I had the opportunity to work on finding and fixing software defects. Finding the source of these bugs was probably the hardest part of my experience at ASI, but it was such a rewarding experience. From my first sprint to my last sprint I noticed such a huge improvement in my skills. I went from fixing my first bug in about a week compared to my last week where I fixed a very similar bug in just a few hours.

Performance Improvement

Another area I was able to gain experience in was improving the performance of our Mobius software. I learned all about memory profiling Mobius and helped clean up various memory leaks we found. I learned about unique C# situations that would cause memory problems, such as binding leaks, collection leaks, and event handler leaks. I worked with our developers to patch up any leaks we found and learned best practices for avoiding leaks in the first place.