Graduation Preparation

Contents

Introduction

My first internship, which was in the 5th semester (February, 2023 – June 2023) of my studies, I was working on a project for Nedschroef Holding B.V. The project was titled "SetupWizard" and I was under the supervision of Digital Product Manager, Mr. J. Smit. The company specializes in high performance components and solutions in motorsport, automotive, future mobility, and aerospace sectors.

Assignment Description

The "SetupWizzard" project focuses on addressing the specific challenges in the racing series environment, focusing on making the wheel alignment and suspension setup optimal for racing teams. The product is used in many racing series, like the Formula series, World Rally Championship, DTM, etc., by different teams. The main deliverable was a Progressive Web Application (PWA) developed using .NET Blazor, integrating seamless offline and online functionality and efficient data synchronization. These functionalities are crucial for the teams since they cannot rely on a stable internet connection while on the racing track.

Evaluation

What my goal for the bigger picture of the project in the company was to prove that such upgrade of the current product is possible and to develop it as an R&D project. By providing the evidence that the upgrade of the current (at the time) software is possible with the technology and methods that I used, the company had optimistic goals for the future of the product and future plans were made based on that.

Strengths

My personal benefits were that I learned a lot of new things and put the things I learned in the previous semester in practice. The goals that were set in the beginning of the internship were met. I successfully developed a PWA that functions both offline and online, providing continuous operation under all conditions.

During the development process I got to better my skills in .NET Core, Blazor, and modern web application frameworks. I got to learn about data synchronization patterns and how to manage the data processing while providing no disruption of the application in the events of unstable or non-existing network connection.

Challenges

When I was choosing the internship I knew nothing about the potential technology stack that I had to use after that, but it was not that big of a concern for me. During the initial phases of the project I was given the opportunity to decide what my technology stack would be for the project and discussing that with my mentor. Since the whole idea of developing PWA was completely new to me none of the technologies were familiar. After I chose the most suitable option which was .NET and Blazor, because the original software is written using .NET, I had to get comfortable and acquainted with the new for me technology. This was not as straight forward as I thought, because Blazor at the time was a 3-year-old technology with not big community and documentation. This led me to a lot of reseaching and self-studying to meet the project demands.

These challenges did not prove to be big problems because where I failed to understand something or I was struggling with implementing a feature, I found great support from my mentor. He was fast-responding and even provided me with the opportunity to do a paired programming session when I was stuck.

Personal reflection

A great learning experience was the opportunity to work in a real company environment, although only my mentor, Mr. Johann Smit was the only one involved in the development of this R&D project. I am very satisfied with the work that I have done and the experience I had during my internship. The automotive and racing industry is something that I am very interested in and began the project with high hopes and expectations for the semester, and they were met. The mentorship that I received was more than I could ask and the company as a whole and the other colleagues made the internship experience great.

Graduation Project Proposal

Type of Company

For the graduation project, I am inclined towards working with a technology-driven firm that specializes in software solutions for motorsport or automotive applications. Since I will be doing a minor in AI for society, it is also a thing that may be present in my project.

Example Graduation Project

As an example of a graduation project that I could choose is a project that Crossyn have posted on ASAM. Interestingly I have worked on their project in my 3rd semester for my group project.

The goal of this project is to expand the capabilities of Crossyn's existing platform by developing new features that make vehicle data connectivity better. The focus will be on improving real time data processing and integration, which would enable more precise insights for users. The tech

stack consists of Java and related technologies to build and improve these features, with the possibility of using machine learning algorithms to predict maintenance needs or optimize fleet operations.

General Strategy and Time Plan to Obtain a Graduation Project Internship

Timeline
September – January (Before the start of the semester in February)

September – Identifying Opportunities
- Research potential industries and companies that align with my interests in software engineering. I will focus on companies that have experience with students and internships. In the case that my general options are limited I will start looking in the ASAM tool that Fontys provides.

October – Making Contact and Networking
- Attend Fontys hosted events like the markets they do occasionally. I am not aware of the exact times at the moment so it could be that October is wrong for the timeline.
- Use platforms like LinkedIn to connect with people from my program who are currently working in a company that I desire. As well as that start contacting HR departments, expressing my interest in a gradation project and asking about available opportunities.

November – Preparing and Submitting Applications
- Prepare CV and cover letters tailored for each company, highlighting the relevant skills and projects that I have. After that send the documents to the companies and if I have received any responses, start preparing for interviews or discussions.

December – Interviews and Negotiations
- Attend interviews and engage with the companies' supervisors to refine the scope. After that finalization of project details should be done so they suite both parties and comply with the requirements of Fontys. Negotiate the start dates, objectives, and necessary resources or support from the company.

January- Final Preparations
- Receive final confirmation and contract or paperwork. Review and sign the necessary documents.
- Possibly start initial research for the internship and prepare logistically. This may include setting up access to company resources for example.