

CS3300 - Work Placement



UCC

Coláiste na hOllscoile Corcaigh, Éire
University College Cork, Ireland



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Workplace Mentor Signature: *Tordan Butler*

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1. Summary

My name is Alexander Stradnic, I worked for Teamwork Crew Ltd. My Academic Mentor was Dr Marc van Dongen and my Workplace Mentor was Jordan Butler, Team Lead of Front End Infrastructure.

The work was carried out on the Front-end of the Teamwork Projects Webapp, namely the Front End Infrastructure Team (FEIT). This team dealt with the core issues and features of the webapp, leaving other non-core fixes, features and additions to other teams.

The languages and frameworks used in development in this area were JavaScript, Vue (3rd release), as well as supporting modules and addons such as Luxon for date and time features. Development mainly consisted of creating features and fixing issues on the new Lightspeed project, which is the newest iteration of the Projects webapp, using the most modern industry tools and frameworks such as the aforementioned Vue 3.

After joining the company in March, resources on Vue.js, Vuetify, and more were given to review and prepare before starting to work on the various projects at Teamwork. Then I started working on various issues and features for a few weeks, such as a documentation page for internal use by other Teamwork developers, which used other technologies such as Storybooks, which uses the React.js framework. The company then started shifting focus to developing a new webapp, Lightspeed, to improve performance and reduce technical debt left over by removing legacy code and frameworks.

2. The Company

Teamwork Ltd is a Cork-based Technology Company which specialises in developing client-side project management software.

As such, Teamwork Projects is the primary application that Teamwork develops, although they have developed various supporting apps such as a Crew Resource Management webapp, a Chat app for audio/video calling and text, a Helpdesk app (Teamwork Desk), and a Spaces app (similar to web forums).

Teamwork Projects allows customers of Teamwork to create and manage projects for their own clients, and as such major customers include PayPal, Disney, Spotify and Netflix. The software includes localisation which allows it to be used by non-English speaking companies and organisations, but the main focus is on English as the majority of revenue comes from English-major countries and companies.

Teamwork is a privately held Limited Liability Company, and is owned by founders Peter Coppinger and Daniel Mackey, and various investment groups and individual investors.

The company values are :

- Being trustworthy
- Passion for the work being done
- Prioritising customer satisfaction
- Developing excellent software
- Producing results
- Teamwork between employees

3. Work Placement

Throughout the work placement at Teamwork I learned a varied amount of skills and technologies, though mainly focused around front-end development, also included scripting/config files and a look at the UI/UX process.

Starting off my placement, I went through an extensive induction in the first two weeks, starting off with a video call introducing me to the company, its core values, and expectations and lines to contact if needed. We (the interns) then set about setting up our accounts, and worked on various tasks such as setting up our statuses, getting to talk to coworkers, and more.

I later met with my team lead to discuss the responsibilities of the team, and what I would work on over my internship with them.

The following day I worked with one of my coworkers on the team to set up my development environment and relevant repositories (the front end to be worked on, as well as a test back end, which ran various Docker containers). Finishing the day I made a minor change and committed it to the project through a new branch. Then I made a Pull Request, which asks other developers to check the code being added before it is merged into the main dev branch, using the Git Version Control System.

For the first while I worked on minor issues in the Teamwork Web App (TWA) front end, mainly working in Vue 3, although older legacy components of the client were written using the Knockout.js framework.

I then moved to working on the design-system repository, helping another group of coworkers with developing a unified component library for the company called Teamwork Fragments, to be used across various Teamwork projects, but mainly to unify pages and components in Teamwork Web App. This was in development to reduce technical debt moving forward by making code more clear to understand.

I worked on adding some documentation pages, documenting new Fragments components and their properties, such as what customisable options they had, and what methods they could call. This site was set up using Storybooks, which is designed specifically for this purpose of creating documentation. However, unlike the rest of the modern Teamwork webapps, this was written using the React.js framework, though I knew some React from working with it on personal projects. It could be developed in .js files, or using .mdx, a format that mixed Markdown, and .jsx from React.

After this I worked on the development of an icons documentation page to complement the Fragments using Vue3 to expand my knowledge and practice with the framework. This was to display a gallery of icons, and along with the Storybooks, was to become a full developer design documentation site, similar to pages documenting IBM Carbon and Shopify's Polaris design systems and styles.

I worked on a roadmap for the development, presented the path, and set to work over the next month or two on the project. It included a search, gallery, list, and description and these components were linked together by passing data with Vue.

After finishing work on the icons doc site, I then went back to fixing issues and minor features on TWA, before transferring to a newly decided project, called Teamwork Lightspeed.

This project's goal was to replace Teamwork Web App fully and, being written from scratch using modern technologies, would promise to be easier to develop forward and be more lightweight than the ageing technologies used in prior projects. Unfortunately, one consequence of this decision was the scrapping of a lot of work from Fragments as they used different core modules.

I contributed to this project by working on sidenav features, as well as expanding the localisation. The project used the `vue-i18n` package to handle multiple languages and the changing between them. I generated machine translations for multiple languages, and added missing languages that were supported in TWA. Of course machine translations are not ideal for final release but the focus was starting with a base and working from there. The plans also prioritised English over other languages as current clients and customers of Teamwork products are predominantly English-speaking.

After working with languages for a while I then shifted focus to working with issues in Lightspeed.

An interesting issue was the slow performance of the new timer feature: the dragging of the timer across the page would be slow and cut out. This was discussed during one of the days of Teamwork Grand Council, a week of company-wide meetings, seminars, games and demonstrations. Later on the bug was fixed by a one-liner (single line of code) by one of the coworkers who was on holiday, amusingly.

After Grand Council I continued working on features and issues in Lightspeed, specifically regarding the side navigation. I spent a lot of time discussing issues with testers on my team, as well as how to resolve them with other teamworkers. This furthered my understanding of navigating through large codebases and problem solving.

The Grand Council is a unique tradition in Teamwork. Each year a week is taken out and employees travel from across the planet (if they can) to meet up for a week in Cork.

On Monday, I met up with fellow interns and my team. Afterwards, we were put into random teams, and a competition between the teams ensued. Points were acquired through different minigames featuring different countries around the world. Overall, the day was about making connections outside your bubble, and I got to learn about different people working in other teams and departments within the company.

On Tuesday, everyone sat down for a series of meetings discussing the strategies of the various departments of the company, such as Customer Success, which detailed the retention rate of customers, what they liked about Teamwork and Teamwork Software, and what they wanted to see going forward. The financial plans of the whole business were discussed, including future growth of the company. This was followed by a speech by an investor in the company, who detailed his career and the way he worked up through HubSpot from a startup to a company worth billions, and his vision in Teamwork.

Wednesday was a day for each department to focus on themselves. Being part of Product Development, I attended various talks given by different teams, such as one by my own team discussing Project Lightspeed. Another interesting talk was by the SysOps team, discussing the structure of how requests were made and handled by the servers.

Thursday involved taking a break from the office and going outside for a sports day. Drinks and food were supplied for free throughout

the week also. I played an assortment of minigames such as minigolf and bean bags. A company night out was organised for later on in the evening, where I got to talk casually to a variety of people, including managers and the founders.

Friday was organised as a day of rest, and was when the majority of people from outside Cork flew back home. “Coffee with the Founders” was organised at the Teamwork Campus One office in Blackpool, where employees could have a chat and play games.

4. Appraisal of the Placement

The Work Placement Module has been instrumental in furthering my experience and knowledge in the Field of Computer Science, as many things which are theoretical in the classroom, such as meeting layouts, the development of features, etc. are actually realised in industry and are used to make tangible products beyond just work for education. This allows us to see how our work and skills that we have learned have a real impact on the world.

From preparing CVs through classes and meetings, to organising internships, the module has been helpful in preparing students for real world experience and as a transition from pure college work.

While there were gaps between the education received in university and knowledge used and applied in industry, the main concepts and ideas in the area of Computer Science were adequately covered in such a way that any further knowledge was easy enough to understand and learn, which I have heard before as being called “Learning how to learn”.

The placement was relevant to the degree as it was simply the main concepts of the field being applied to real-world applications. The internship allowed me to expand my knowledge in Computer Science by giving me a platform to practice and use more of the same skills learned in the classroom.

5. Administration of the Programme

I felt that the work placement programme has been well prepared and organised. Between various co-ordinators and academic mentors, as well as co-workers, many opinions and voices were available to students to consult and query.

As for comparisons to other colleges, I feel that UCC's placement scheduling, while taking time from the summer break, allowed a small Second Semester to take place from January until March, whereas other colleges such as MTU had their internships lasting from January until June.

Workplace Mentor Signature: 