CoLab

Final Deliverable

Executive Summary

Product and Context

CoLab is a web application that aims to improve the group work experience by helping groups work and communicate more effectively. Aiming to facilitate effective group management, CoLab expands on the connectivity features of existing applications, such as chat and file management, to incorporate a more “feelings” focussed atmosphere. The application allows users to connect with each other and form groups to aide in the completion of group goals and tasks, and also actively promotes continued engagement and contribution from all members.

As far as technical details go, CoLab was intended by the client as a web application, and has been developed as such, as to optimise its functionality and universality. The front end of CoLab is programmed in HTML, CSS and JavaScript, whilst the back end utilises PHP and interacts with databases via mySQL. CoLab is also built using Bootstrap and Laravel, which were decisions made by the previous design group. Bootstrap aids in providing aesthetic templates for the application and ease of scalability across multiple devices (e.g. phones and tablets), and Laravel facilitates easy PHP coding, with various features and templating options to promote flexible and reliable development.

The context for the application comes from the client’s desire for an application that targets the “soft”, emotional issues of group work, as there is a perceived market hole for these types of products. The problem is identifying the discrepancy between the “soft” and “hard” elements of group work, whereby “hard” elements include work quality and meeting deadlines, whereas “soft” elements encompass personal aspects such as whether or not group members are getting along and whether or not individuals are highly stressed.

An outcomes-oriented development process has been implemented as per the expression of the client, whereby emphasis is entirely upon the success of users being able to feel a heightened sense of group cohesion.The client has stressed that the application should strive for real-world marketability, and the focus upon the “soft” issues of group work is the defining factor in this respect.

Expanding on the connectivity of traditional, existing applications such as chat, file management and group management, the distinguishing features of CoLab that ensure its “soft” focus are its stress management and achievements features. The addition of these features means that users are more motivated to be engaged and interactive within their team, and more emotional investment into group work is generated.

The implementation of a stress management feature aims to address the difficulty of letting other group members know when you are anxious about the current workload or deadlines. The ability to self document stress and unintrusively let other teammates know how you feel is a feature that the client agrees will help in fostering a more prosperous and harmonious team environment. CoLab offers stress advice to users that report feeling higher levels of stress, and coupled with the support of other teammates, this mechanic aims to increase the ability for groups to combat anxiety and stress.

The achievements feature is the other main feature that is tailored to directly improving group cohesion and motivation, seeking to provide group members with a heightened sense of active involvement and collaboration when they complete their assigned duties. The ability to recognise members individually or as a group for the completion of tasks and milestones helps create a sense of purpose and drives users to maximise their contribution and effort.

Client Profile

The initial proposal for this project was presented by Dr Ralf Muhlberger from The Latest Tricks. Dr Muhlberger was previously a member of faculty at the University of Queensland and has an academic background in technology and education. His company, The Latest Tricks, is a consultancy firm that seeks to help clients gain a business advantage by helping them to incorporate cutting edge technologies into their business practices.

Throughout the semester, our contact with Dr Muhlberger consisted of meetings and emails. Dr Muhlberger was of great assistance to our process by clearly outlining his outcomes-based development philosophies, and educating us with his industry experience. From his advice on how we should sit down within our groups and talk about exactly what we aim to take away from the course, to his demonstration of his strategic planning framework, his prior knowledge of the course and process meant that he was an invaluable asset to our group.

Documentation Overview

This document seeks to thoroughly detail the process and results of our development over the course of the semester, including our user testing, evaluations and our own assessment of the finished application. The structure, as outlined in the contents page, consists of an executive overview, a user startup guide, a frequently asked questions section, a deployment and installation manual for administrators, functional testing results, a user experience review, an essay that critically evaluates our group’s experience in the course, and a set of appendices that include our exhibition poster and link to our kickstarter video.

The document represents a culmination of the semester’s work, and each team member has contributed to the sections that are relevant to their role within the group.

Frequently Asked Questions

Q: How are stress levels recorded?

A: Stress levels are self-documented with CoLab, as part of a feature that aims to reduce the anxiety of telling other team members that you are under duress. Simply navigate to the "stress" page and click on a stress level to unobtrusively tell the rest of the group how you feel.

Q: How is project status calculated?

A: Project status measures the number of milestones that are fully complete, by measuring the number of tasks that are complete within each milestone. For example, a project will be 50% complete when all of the tasks from half of the milestones are the only tasks completed.

Q: Can I Use CoLab on my phone?

A: Yes! CoLab is built on Bootstrap, meaning that it can be used on phones and tablets, as well as computers. Scalability means that navigation remains easy and intuitive regardless of the hardware that CoLab is accessed on, however Group Love recommends using larger screens so that information access is maximised.

Q: What sets CoLab apart from existing applications?

A: CoLab's unique mixture of fundamental connectivity features and innovative motivational functionality makes it a truly unparalleled product. Taking and building upon common connectivity features such as chat and file sharing means that CoLab will feel familiar to users, yet also provide a new and engaging experience that can't be found elsewhere.

Q: How do I Install CoLab?

A: No need! CoLab is a web application, so no installation is necessary. Simply go to the website to sign up and start enjoying a better group work environment.

Reflective Critical Evaluation Essay

DECO3801: Studio 3 (Build) has presented our group with an invaluable opportunity to work in a realistic, team software development scenario for the semester. Over this period we have learned many things, from the fundamentals of successful marketing to how to effectively delegate group tasks. Overall, we have benefitted greatly from the chance to work in a supportive group environment, and we feel that our application not only meets the intentions of our client, but is something that we would personally benefit from using.

Firstly, there have been a number of technical proficiencies that this course has enabled us to progress and develop. Predominantly, the use of Laravel and Bootstrap in our web application has allowed the development team to further their knowledge of the two frameworks. Our front end developer often commented throughout the semester on the advantages of Bootstrap, both in terms of consistency and ease of use. The HTML, CSS and JavaScript framework allows for an overall consistent style, with thorough documentation available on their website. The advantages of using Bootstrap as opposed to manually generating all styles and components made it an obvious choice for our group. Moving on from this course, it is definitely something that every member of the group would consider using in future development processes. Although we initially struggled to wade through the tedious and somewhat undecipherable documentation of Laravel, the value of using this underlying PHP framework became apparent to all of us as we progressed throughout the semester.

In addition to the technical skills that have been gained by the group, a large portion of the learning done throughout this course comes in the form of group managements skills. Overall, the scale of this course has been intentionally designed as to be obviously too large for any one group member to complete, and thus forces students to effectively delegate and manage the workload amongst all members. The group has undeniably executed effective strategies to delegate tasks, as demonstrated most prominently in the documentation tasks such as the return brief and the final deliverable, whereby small amounts of work from each team member have gone a long way into building a sizeable finished product. The return brief ended up being a twenty page document that needed no more than three or four pages from any one person, yet if you consider a twenty page document from the perspective of it being one person's task, it seems monumental. As a further example, the seemingly insignificant three hundred-or-so word weekly blogs have culminated into an extremely thorough three thousand word step by step record of our development process, which is an extremely valuable resource.

Individually, the group consists of six people that are all balancing this course with an innumerable amount of other facets of life such as work commitments, other study commitments, social lives and hobbies. It is obvious that any group of individuals that is able to achieve their desired group outcomes for the course has delegated extremely effectively along the way, and has developed a work environment that is efficient as well as effective.

The strong results in the assessment items that we have received back so far is truly a tangible testament to the success of our process. The necessity for segmentation into individual roles within the group has also been an opportunity for people to play to their strengths and take on roles that they feel comfortable with, whilst sometimes being able to avoid tasks that they lack the abilities to achieve at a professional level. Our team's separation into two three-person sub-teams has reaped handsome rewards, as the partitioning of documentation and programming work has been able to model a pseudo-realistic real-world scenario. Having three people complete the documentation and branding tasks and three people allocated to programming and development is a distinction that would certainly be made in the real world, as it is considered unlikely that a back-end programmer would also be in charge of the marketing for an application. Fortunately, we were able to easily separate into these two teams, as the preferences of group members was a fifty-fifty split between documentation and programming.

The fact that we were lucky enough to be able to allocate each individual into their role of choice meant that we gained the initial, added boost that each group member would be theoretically predominantly doing tasks that they would enjoy. Also the fact that each team member had a specific area of focus (e.g. back-end, user experience, design) meant that they received an opportunity to fully focus and develop their skills within that specific area. As mentioned above, the programmers got an opportunity to learn more about the technologies for the application in Laravel and Bootstrap, whereas those of us less comfortable with programming got to improve our group management and design abilities.

Learning to appreciate the effect of successful delegation into bite-sized pieces has extremely pertinent real-world parallels and comparisons, especially within the relevant field of information technology. As an apt metaphor, consider whether any one person is completely able to individually build a computer from scratch, including both software and hardware – the answer is probably no. Instead, the industry landscape comprises of many companies, each made up of thousands of people that individually are assigned to extremely specific tasks. For example, Intel is very good at making processors, and Seagate is very good at making hard drives. A culmination of the specific focuses of many parties with varying skills is what gives life to the overarching big-picture outcome, whether it is a computer or an application.

On the topic on real-world relevance for the course, there has been a lot to learn from the way that this course seeks to emulate real-world development such as the interaction with a client, and the exhibition presentation. Gaining the ability to effectively communicate with a client is an invaluable skill that converts to the real world, in that a large portion of tasks for university graduates in information technology will be inherited from a client or superior within a company that will have an outline of the intended outcomes of the task. It has been imperative from the outset that we have learnt to galvanise our understanding of exactly what the client intends, and have come to understand his design philosophies and target audience. Our client, Dr Muhlberger, has stressed his intent for an outcomes-oriented process that may need to be highly adaptable in response to things like competitive applications and user feedback.

Publishing a blog that serves to emulate the way in which a development team would interact with its real clients throughout development has been a fascinating experience, and the ability to take on constructive criticism is a huge facet of designing anything. A concrete learning outcome of this process has been developing an appreciation for the importance of being adaptable, as at any given point in the development process there might be the need to dramatically change direction for whatever reason.

A further section of this course that was a very close replica of an industry practice was the final exhibition, whereby we presented our application to the tutors as well as other guests and other students from the course. This scenario is a completely comparable task to the real-world, as there are many prominent conventions that exist to act as stepping stones for development teams to gain funding and support for their applications. The ability to compare with and observe the processes and applications of the other groups from the course educated us on the potential for adopting differing design and presentation tactics, as we observed the varying levels of success that other groups had achieved with their respective processes. This assessment item was a valuable lesson in marketing and sales, as the success of a well-stocked stall, an effective poster and catchy pitch evidently distinguished some groups from others, regardless of the quality or relevance of their application. As per some of the lectures that we received, predominantly the one from Roop Bhadury, it became abundantly clear that a great product would fail without the assistance from a strong marketing team, and a strong presentation.

Reflection upon the success of our own presentation, compared to those that won the people's choice awards, I would say that we were relatively competitive considering that our application is based on group management, a far more mundane concept to exhibit guests than, say, a 3D design environment. Our pitch aimed to be a bit interactive, posing question for the listener to demonstrate the context for our application, such as "when was the last time you enjoyed group work?" This backfired on a few occasions, and translated into a bit of awkwardness if someone attempted to answer a question that was intended to be rhetorical, effectively derailing us from the defined structure of out pitch. Furthermore, our table setup of three Macbooks was visually appealing in its minimalism, but somewhat failed to utilise all of our allocated space compared to the spatial dominance of some other groups that employed multiple large screens and projectors to capture the attention of the patrons.

In regards to marketing and branding, our group followed the recommended tasks in the exhibition specification document. Our poster was designed to be minimalistic, similar to our overall website design and style. We realised during the exhibition however, that the recommended quantity of one poster was not taken on board by other groups, who printed multiple. This could have benefited our group by drawing more attention to our stall and giving the guests something else to look at other than our three Macbooks. We were also unable to print the business cards we had designed, due to constraints with cost. Our user guide was printed and bound professionally, and followed a similarly simplistic design that had been

used throughout the entire project. Our exhibition stall included all components necessary for assessment, however in hindsight we would have organised more decorative features and printed more posters. Our “kickstarter” video was also on show at the exhibition, displayed on the middle laptop at our stall. Unfortunately it was too loud to hear everyones videos while people were presenting and walking around, but we feel that our video was clear enough without audio. The video process was at times frustrating, due to the small percentage of our grade that was allocated to them and the far larger amount of time required to make them. Despite this, our team ensured that enough time and effort was spent on all videos to get our points across effectively and in a visually appealing way. With regards to the design of the website itself, we were extremely happy with the prototype given to us by the previous group. We continued to use the Bootstrap theme they had implemented, as it looked professional and simple while remaining aesthetically pleasing and modern.

User testing for the application was an important aspect when it came to achieving our UX goals that were outlined earlier in the semester. Before extensive amounts of development began on the application, an overview of our main goals, and target audience was reviewed. These main goals would steer the overall design of the application. Early stages of the prototype saw different types of user testing. Heuristic evaluations and cognitive walkthroughs were performed to evaluate the prototype at different stages. Towards the end of the application, in group testing was done, this was conducted by the design team, which the development team fixed any bugs or issues that were found.

Design and UX goals are vital to a system such as CoLab. By effectively using a variety of different user evaluation methods we were able to identify and fix certain aspects of the application. All user testing was focused around achieving and conforming to our main UX goals. Outcomes of user testing both provided positive and negative feedback. Negative feedback was taken into consideration and changes made appropriately. Group user testing was another one of the methods that we used. However, by using this method, we are only analysing the application through a set of eyes that has worked on it. As a result of this, one of the best user testing methods that was conducted was showcase testing. Observations across the showcase allowed us to see where users, without direction or help, would become lost on our application and what features that were to be focused on before the final deliverable. User testing and UX was an important aspect of the design and development stages of the application.

All things considered, a final look at our finished product has given the group a feeling of immense satisfaction, as we feel that we have definitely realised the client’s idea and have also developed something that we would want to use. The application, in our eyes, is essentially an improvement of existing applications like Facebook Groups with “soft” features that make the CoLab experience a much more well-rounded and practical application for any group work environment. The tools that we have implemented to increase personal interconnectivity, such as achievements and stress monitoring, are performing the precise humanisation purposes that the client intended. Although the core functionality of the base

features like chat and acknowledgements may not be to the standard of Facebook, it is the unique combination of these traditional features with our innovative features that makes CoLab a better overall experience. This goes back to the analogy of building a computer, whereby we perceive Facebook to be really good at the specific elements that we have borrowed from them, yet the addition of our own specialty elements makes for a product that transcends the proficiency of any one part.