

CMU Professional Development Services

Executive Summary

Community Partner

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Student Project Team

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Background

Carnegie Mellon University Professional Development Services is a team within the Human Resources department dedicated to providing learning opportunities to CMU faculty and staff. Their goal is to offer innovative programs and services to staff members that will enhance their professional career and help empower them to maximize their performance and achieve their full potential.

Project Description

Project Opportunity

Our client, Professional Development Services, is working to consolidate all their learning modules and resources into a comprehensive learning plan for the CMU staff and faculty. To this end, a web application called CompetentU was conceptualized by our client along with former IS teams. CompetentU allows users to take surveys on various professional skills, and then generates a learning plan to help them improve their skills. Our client's idea was showcased through a prototype of CompetentU. While the application was well-structured, it lacked the sustainability, scalability and security needed for a long-term solution.

Project Vision

The primary goal of our project was to provide CMU faculty and staff with a secure and large-scale CompetentU application. A secondary goal was to enhance the user experience of the admin by eliminating the bugs from the previous iteration. Our overarching aim was to provide the CompetentU stakeholders and users with a fully functioning interface that requires CMU affiliation to use and that supports heavy usage on a long-term basis.

Project Outcomes

We tackled the following three aspects of the application: bugs, hosting service, and single sign-on. We resolved the main bugs with the admin interface and now the CompetentU application does not have bugs that affect the usability of the application. It is deployed on the Campus Cloud Plus hosting service, which improves maintainability and sustainability of the application. Lastly, it now

supports single sign-on which adds security to CompetentU since it requires users to login with their CMU credentials. These improvements help allow future developers to add multiple functionalities in the future that will further maximize the potential of the application.

Project Deliverables

We have delivered an active CompetentU web application hosted on the Campus Cloud Plus server which requires users to login with their CMU credentials. Additionally, we fixed the bugs on the CompetentU application and have deployed the fixed code on the prototype website as well. We have provided extensive documentation of the functionalities of the CompetentU application, its configuration, and key design decisions made. As a part of this, we drafted the Technical System Description (TSD) and the Service Level Agreement (SLA) required to purchase the Campus Cloud Plus service, with the help of Computing Services and our client.

Recommendations

We recommend that the client test the CompetentU application every month to ensure that it remains compatible with the monthly updates made by the Campus Cloud Plus team in Computing Services. Since we have put in place a solid foundation for future expansion of CompetentU, we recommend that future development teams utilize our technical documentation. Moreover, all development work done should be carried out within the development server, to maintain the availability of the production server to the users.

Student Project Team

Shubhangi Bhotika served as the client advocate and full-stack engineer. She is a third-year student with a major in Information Systems, and minors in Computer Science and Machine Learning. She will be interning as a software engineer in Sunnyvale, CA this summer.

Andy Lee served as the lead full stack engineer. He is a third-year student majoring in Information Systems with a minor in Computer Science. He is looking towards a career in Web Development working with professionals in other fields.

Julien Naegeli served as a project manager and back-end engineer. He is a fourth-year student majoring in Information Systems with an additional major in Statistics and Machine Learning. He will be working as a full-time software engineer at a startup in Seattle, WA starting this summer.