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CU I&E Submission: Engineering Cloud Computing [1]

Team Information

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The team would also like to acknowledge the support and encouragement received from Nick Stites, PhD, Director, ITL Program and Rhonda Hoenigman, PhD, Assoc. Dean of Undergraduate Education.

What

As a rapid response to COVID-19, the three of us built an otherwise unplanned cloud computing environment for the College of Engineering and Applied Science (CEAS). Beginning in late March 2020, anticipating the impact COVID-19 would have on our academic community, we began brainstorming and planning a full-scale college-wide cloud computing environment accessible to all CEAS-affiliated students and faculty from anywhere in the world from any device. Our goal was to deliver the solution by the start of the fall semester, which would include access to over 40 critical applications used throughout the CEAS curriculum.

As of April 2021, we've supported 1,374 unique users across nearly 13,000 work sessions; nearly 30% of all CEAS undergraduates have used this system. The average session length is two hours (119 minutes). The system has been up and running 24/7 since the start of Fall 2020 and has seen daily usage with the exception of December 25th, 2020.

Why

Engineering curriculum is heavily reliant upon computing and the software tied to a given course or project. In many case the computing requirements can exceed the capabilities of a student's personal computing device. In even more cases, the applications have complex licensing and configuration requirements, if they're even available for personal use, which many are not. The cloud computing environment allows any CEAS affiliated student or faculty to access those computing resources, or software, from any device, regardless of computing power (your phone would even work), from anywhere in the world.

When

This system was planned for and built over spring and summer 2020 and made available for CEAS student and faculty use beginning in Fall 2020. The system has been used daily since

then and has become a critical tool for several classes throughout CEAS.

Additional Information

A website was made to coordinate its availability and other details: https://www.colorado.edu/engineering/cloudcomputing [5]

In addition, a dynamic dashboard was created to monitor usage and trends: https://ceas.link/cloudcomputingdashboard [6]

Links
[1] https://www.cu.edu/controller/i-e-awards/past-submissions/cu-ie-submission-engineering-cloud-computing [2] mailto:john.franklin@colorado.edu [3] mailto:david.long-1@colorado.edu
[4] mailto:brandon.scovronski@colorado.edu [5] https://www.colorado.edu/engineering/cloudcomputing
[6] https://ceas.link/cloudcomputingdashboard