



**office of information technology  
2020 accomplishments report**



2  
3  
4  
5  
6  
7  
8  
9  
10  
11

## 2 PANDEMIC RESPONSE

- ...daily health form
- ...buff pass
- ...covid-19 course
- ...video conferencing access
- ...consolidating information
- ...buff info
- ...reserving campus space
- ...buff portal



## 3 ENSURING FACULTY SUCCESS

- ...remote-capable classrooms
- ...personal capture: an at-home recording service
- ...video creation station: on-campus recording service
- ...technology copilots



## 4 ASSISTING HYBRID LEARNING

- ...technology training and support
- ...it peripherals
- ...laptops
- ...migrated computer sciences and law school to canvas



## 5 REMOTE SERVICES TRANSITION

- ...dedicated desktop support
- ...computer self service deployment
- ...buff techs
- ...computer labs
- ...data centers



## 6 RESEARCH SUPPORT

- ...enhanced depa form
- ...jupyterhub/rstudio classes
- ...classroom support web form





# pandemic response

## DAILY HEALTH FORM

In May, OIT was asked by campus leadership to create a daily health questionnaire for those returning to campus after Memorial Day. The online questionnaire, which included both a student and employee form, was built in less than three weeks and launched on time and within scope. The employee form was quickly expanded to include five additional languages besides English. A supervisor report was also developed so that supervisors would receive a weekly email letting them know when their employees were physically on-campus and checking in as expected.

## BUFF PASS

The initial daily health questionnaire was not mobile friendly and campus leadership wanted to include additional functionality and mobility. In late July, OIT worked with a consulting company to build an entirely new web application—the Buff Pass. The Buff Pass officially launched in October. One new benefit was the Herd tracker where CU faculty, staff and students could see if certain campus buildings were busy. Work began at the end of the calendar year to launch additional functionality for the spring semester including assigned testing days, restricted passes and monitoring test results.

## COVID-19 COURSE

Last summer, campus leadership identified the need for a COVID-19 course that provided students critical information about the pandemic. Since this information was vital for student health, all students were required to take the course and a registration hold was placed on their accounts until the course was completed. The Academic Technologies Applications (ATAP) team and Service Engineering development team came together to gather requirements, develop, test and deploy a process that would enroll students into the Canvas course on an ongoing basis and inform University Information Services (UIS) when a student completed the course requirements.



# 43,746

*Undergraduate & Graduate Students  
Enrolled in COVID-19 Course*

## VIDEO CONFERENCING ACCESS

With the shift from on-campus to remote, Zoom video conferencing became a critical component in the success of remote teaching, learning and working. OIT reacted quickly at the start of the pandemic, working with our vendor to acquire the necessary additional licenses to meet the needs of our campus. We more than tripled the total number of licenses available for campus use. This exponential growth resulted in astonishing usage data (shown in tables to the right).

## CONSOLIDATING INFORMATION

CU Boulder had a lot of data related to the pandemic for the fall semester which was managed in disparate systems and spreadsheets. In late 2020, OIT collaborated with University Information Services (UIS) to build a centralized data system in OnBase Workview to accommodate COVID-19 testing intake, test results, isolation usage, compliance with testing; a Salesforce Marketing Cloud integration for COVID communications; and an integration with the Buff Pass application. By automating many of these processes, the campus saved a tremendous amount of time and effort in responding to the COVID-19 pandemic.

### AVERAGE DAILY USAGE COMPARISON

	Feb. 2020	Mar. 2020	Increase
<b>New Users</b>	48	1,252	2,508%
<b>Meetings</b>	436	1,732	297%
<b>Meeting Participants</b>	1,835	12,987	608%
<b>Meeting Minutes</b>	84,200	503,710	498%

### YEARLY TOTALS USAGE COMPARISON

	2019	2020	Increase
<b>New Users</b>	7,944	646,529	8,039%
<b>Meetings</b>	104,581	1,301,238	1,144%
<b>Meeting Participants</b>	425,449	9,589,895	2,154%
<b>Meeting Minutes</b>	20,187,349	494,318,491	2,349%

pandemic  
response



# pandemic response

## BUFF INFO

At the beginning of the pandemic CU Boulder did not have a centralized point of contact for campus information. When a community member had a question, they would have to reach out to a specific department. This was a problem for those who didn't know who to reach out to. To improve the CU Boulder community's overall experience, OIT came together with Student Affairs and Strategic Relations and Communications to establish Buff Info, a centralized point of connection and information. This team of dedicated professionals is the initial point of intake, via chat, email and phone, to answer questions and provide connections with campus resources. They serve as an initial triage, and potentially resolution point, for many CU Boulder inquiries.

## RESERVING CAMPUS SPACE

With the return to campus and COVID-19 safety measures top of mind, there was a strong need for students to reserve specific spaces for studying and eating meals on campus. A decision to use the existing Event Management System (EMS) was made, but significant enhancements were needed to improve tool access and the students' experience. OIT partnered with University Memorial Center (UMC) staff to ensure a better user experience for our students. Some of the enhancements included adding single sign-on (if logged into another CU Boulder application they did not need to re-enter their credentials for EMS), simplifying the tool URL, enhanced branding, and improved tool navigation. To make these changes happen, the team leveraged user experience testing and a robust communications plan to share the enhanced capabilities with students.

## BUFF PORTAL

After replacing MyCUInfo for students in December 2019, Buff Portal had a smooth first year as CU Boulder's official student portal, despite COVID-19. The team continues to design and build more functionality.

**“THE NEW BUFF PORTAL IS EXTREMELY EASY TO USE, AND IS STREAMLINED AND EFFICIENT. I LOVE IT!”**

*-Student user*

Major improvements to Buff Portal in 2020 include revamped class registration and grades experiences, customized views for online-only students, and significant behind-the-scenes technical enhancements. Buff Portal also supported campus COVID-19 communication efforts with messaging, improved class schedule displays, and easy access to Buff Pass.

# REMOTE-CAPABLE CLASSROOMS

With the importance of social distancing, OIT had to adjust physical learning spaces. Instructors needed technology that would allow them to simultaneously teach students that were both inside and outside the classroom. OIT worked quickly and was able to offer the Remote-Capable Classroom (RCC) Service before the fall 2020 semester. This hybrid teaching model allows for synchronous (real-time) and asynchronous (on-demand) lecture and presentation delivery. The RCC Service provides instructors with a simple technology solution, Crestron Mercury X system, which enables the simultaneous delivery of lectures to students that are physically in the classroom as well as students learning remotely.



406

*Classrooms upgraded to a Remote-Capable Classroom*

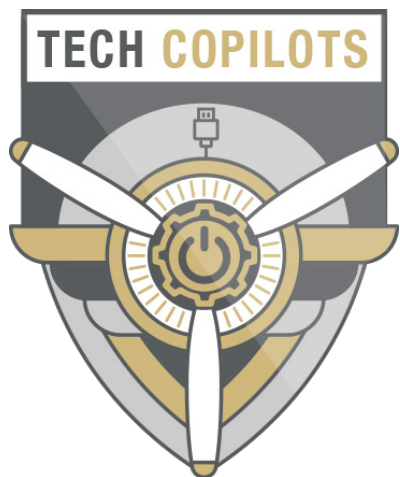
# PERSONAL CAPTURE: AN AT-HOME RECORDING SERVICE

With everyone working and learning from home, CU Boulder needed a service where users could create high-quality videos, screencasts and slideshows from their home or office. In early July, OIT launched My Mediasite Personal Capture. Personal Capture is an all-in-one video solution that allows users to record, edit and share content by pairing presentation content with webcam video or a voice-over. My Mediasite does the rest. It synchronizes everything users say and show without requiring video production skills. My Mediasite offers multiple formats to engage with a viewer and audience. This includes quizzes, polls, Q&A as well as comments and annotations.



## VIDEO CREATION STATION: ON-CAMPUS RECORDING SERVICE

For those that were able to come to campus, OIT collaborated with University Libraries to design and build an in-house “Video Creation Station.” This simple and easy-to-use recording studio in Norlin library is located inside a newly constructed sound-reduction booth that is large enough to fit up to three people. It is equipped with video and audio recording technologies for CU faculty and staff to create professional instructional content. Employees can record lectures for MOOCs or flipped classrooms, create podcasts and more.



## TECHNOLOGY COPILOTS

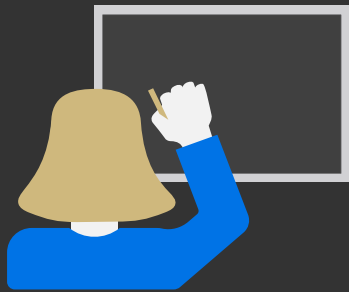
When technology and mixed learning modes distract instructors from teaching, students’ learning suffers. That’s why OIT offered Technology Copilots for all academic courses. Technology Copilots assist instructors in hybrid or synchronous remote courses to facilitate students’ engagement and participation. The Technology Copilot helps the instructor set up the audio-visual equipment in the classroom and connect it to Zoom before class begins and assists with technologies during class (camera management, chat monitoring, breakout rooms, etc). The service was so popular with the faculty that the campus decided to offer it again for the spring and summer of 2021.

ensuring  
faculty  
success



# TECHNOLOGY TRAINING AND SUPPORT

The fast transition to remote teaching was an uncertain time for instructors. Due to this, OIT needed to provide more care and IT knowledge to our instructional community. Our Academic Technology team stepped up to provide 100+ teaching workshops and drop-in sessions to help them prepare for the unexpected transition. Over the course of 2020, there were over 1,000 participants in these workshops.



**100+**

Teaching Workshops and Drop-in Sessions



assisting hybrid learning

## LAPTOPS

As instructors had to quickly transition to online learning, some did not have the necessary tools to continue academic continuity. Teams from across the university promptly came together to provide 370 Dell laptops to CU Boulder instructors and lecturers who had unmet personal technology needs. This project was the catalyst to pilot two new OIT-supported technology services—Bookings and Autopilot—and a contactless pickup service.

## IT PERIPHERALS

In addition to computers, instructional personnel needed additional IT peripherals to be able to teach in remote or hybrid modalities, and many couldn't purchase them due to high demand and low inventory. In a collaborative effort across the unit, OIT procured low-stock items such as webcams and headsets and launched a request process and contactless pickup service in a matter of weeks.

**600+**

Requests Processed



**1300+**

Items Distributed





# MIGRATED COMPUTER SCIENCES AND LAW SCHOOL TO CANVAS

After the pandemic started, the Academic Technology (AT) team supported the Computer Science (CS) Department and the Law School in migrating to Canvas for fall 2020 to provide a better and more unified remote learning experience for students.

**“JUST AWESOME! THANK YOU SO MUCH FOR THESE PAST TWO DAYS. I WAS THRILLED AT FACULTY PARTICIPATION, BOTH IN TERMS OF SHOWING UP AND IN TERMS OF ENGAGING. REACHING OUT TO LAW STUDENTS WAS A WONDERFUL IDEA. I KNOW I HAVE LEFT OUT PARTICIPANTS, SO PLEASE PASS ON MY CONGRATULATIONS TO EVERYONE ELSE!”**

*-Susan Nevelow Mart  
Professor and Director  
of the Law Library*

Academic Technology (AT) worked with the technical support team from the CS Department to migrate their Moodle courses and enrollments into Canvas. The AT team also developed, and continues to support, an integration between the two systems that allows CS to keep using Moodle for quizzing from within Canvas.

Meanwhile, the Center for Teaching and Learning reached out to partner with the AT team after the Law School requested its help to improve students' experience and prepare instructors for the unknowns of fall 2020. Initial talks revealed that the Law School would need a more robust learning management system than they had been using to better support remote teaching and learning.

Upwards of 70 instructors and staff attended a seminar spanning two days in early June to learn about designing flexible, remote courses; get introduced to Canvas; and hear law students' perspectives about COVID's impact on their lives and their learning needs. Throughout the summer and fall, the AT team helped the Law School migrate courses from TWEN to Canvas and offered multiple Canvas training sessions for instructors and support staff.



**assisting  
hybrid  
learning**



# remote services transition

## DEDICATED DESKTOP SUPPORT

With the immediate need to leave campus due to COVID-19, Dedicated Desktop Support (DDS) had to quickly shift to a safety-first approach when working with customers. By expanding the use of existing tools, the DDS team was able to maintain the high level of service our customers had come to expect prior to the pandemic. The team expanded its self-service offering with tools like Software Center for Windows and Self Service for Mac, which provides DDS customers remote access to additional software. DDS ensured Zoom and Microsoft Teams were automatically available and installed on all computers. They also enabled customers to have more flexibility when accessing their data by continuing to migrate people to OneDrive, reducing the need to use the VPN.

For those who needed in-person support, the team set up a meeting space on campus. Using a combination of multiple keyboards, mice and a shared wall-mounted screen, the customer and DDS professional could safely operate the computer and complete work together while maintaining a healthy distance of six feet.

## COMPUTER SELF SERVICE DEPLOYMENT

Part of the project to provide laptops to instructional staff included getting the computer set up with all the necessary software. Using a Microsoft cloud technology called AutoPilot, the team built a solution that enables employees to unbox and set up their Dell laptops on their own. The result was a completely managed Dedicated Desktop Support (DDS) system installed with all the necessary software for the start of the semester, delivered in a zero-contact, safety-first manner. Building on the success of that project, the Endpoint Integration (EI) team worked with the Endpoint Management Services (EMS) team to build a similar solution for Macs. DDS can now deploy any Dell or Mac directly to a customer without physically touching the computer. Combining this process with cloud storage solutions like OneDrive allows the customer to be up and running on their new computer with the necessary data and applications installed and ready to go in just a few hours. DDS is now shifting to a self-service computer deployment model, where appropriate. Several times, this touchless solution was used to reinstall the operating systems on computers requiring hardware repair for customers out-of-state. Historically, the computer would have needed to be shipped back to Boulder, taking extra time and resources to be repaired.

## BUFF TECHS

With the immediate need to leave campus due to COVID-19, Buff Techs had to adjust how to provide support to students, faculty and staff devices that are not managed by Dedicated Desktop Support (DDS). The team started by offering remote support using tools like Zoom, Microsoft Teams, and Beyond Trust remote support. Soon after, the team launched a Microsoft Bookings website for the campus community to make appointments for remote support. Now that it has been deemed safe to offer in-person service along with remote support, Buff Techs continue to utilize the appointment model to ensure physical capacity requirements are met in our support center and prevent waiting times.

## COMPUTER LABS

Computer labs are a necessity for faculty and instructors to teach specialized software to students. Computers in these labs are built to handle these particular software applications and licensing is limited to just these lab computers. With the move to remote learning during the pandemic came the challenge of offering OIT labs remotely in a scalable fashion. Using existing technologies by VMWare we were able to quickly convert our Windows/PC labs to a remote solution. Our solution was to leverage a remote desktop technology created by Splashtop. This was also the first time that OIT was able to provide Mac labs remotely to customers in a scalable environment. Both options were a great success and met the needs of our customers and allowed instructors to continue to teach computer software-oriented courses.

## DATA CENTER

To minimize people coming to campus, OIT launched the remote hands service for our data centers. This service allowed data center customers to further leverage the expertise & skill-set of our data center staff by requesting remote assistance. Requests range from performing power cycles to assisting with basic system configurations. OIT further expanded the service by creating the ability to perform remote-KVM (keyboard, video, and mouse) sessions to give our customers the ability to access their systems as if they were on-site and connected with a crash-cart. Overall, this has enhanced our relationships with data center customers who are consistently utilizing the new service.



remote  
services  
transition

Gain Relevant Experience

## JUPYTERHUB/ RSTUDIO CLASSES

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During the Spring and Fall 2020 semesters OIT's Research Computing group (CURC) supported 18 courses for 480 students by providing access to computing resources. The computing platforms included a JupyterHub instance on the RMACC Summit supercomputer for 309 students, RMACC Summit high-performance computing nodes for 35 students, the CURC EnginFrame visualization cluster for 10 students, and a cloud-based collaborative data science learning environment, <https://cocalc.com> for 49 students. The most widely used resource, JupyterHub, enables users to easily access user-friendly coding environments for two of the most-used high-level programming languages, Python and R. Resources were accessed by courses spanning a broad range of disciplines, including English, geology, geography, evolutionary biology, atmospheric sciences, applied mathematics, aerospace engineering, chemistry, physics and business.

## ENHANCED DEPA FORM

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Every year researchers are required to complete a Disclosure of External Professional Activities (DEPA) form to meet university and federal requirements around conflicts of interest and commitment reporting. The existing form CU Boulder used was a home-grown system that was difficult to manage and provided limited access to those that needed the data. This year, OIT teamed up with the Office of Conflicts of Interest & Commitment (COIC) to provide a solution built on the same system where proposals and contracts are tracked (InfoEd). Building on this familiar system enabled users in the Office of Contracts and Grants and department administrators access to information they needed on a platform they are accustomed to, increasing satisfaction and efficiency.

## CLASSROOM SUPPORT WEB FORM

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The Learning Spaces Technology (LST) team developed a web form for improved intake and response to classroom support issues. This form, which is accessible via QR code in all OIT supported classrooms, helped reduce call volume to the IT Service Center, and ensured more direct response to instructors. In some instances, this allowed for real-time support due to the change in communication routing.



research  
support



thank  
you!

In a year like no other and faced with uncertainties as the days unfolded into weeks and months, OIT was able to accomplish more than we could have ever foreseen to support the academic and research mission and ensure the continuity of business operations. These successes could not have been realized without the strong collaboration and support from both our academic and administrative partners across campus. We are beyond grateful for our CU Boulder colleagues and OIT staff for their insight, dedication, and tenacity in year that none of us will soon forget.

Here's to the resiliency and creativity of the entire CU community during this past year!

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