The MAD team has worked exceptionally hard this year, during Covid-19, to ensure that our students, staff, and faculty receive the best user experience. Here is an overview of our “mostly remote” activities:

**Personnel changes:**
There have been lots of exciting changes in MAD over the past year. The most visible, has been that the staff of the Ecology Lab (Anne Grant and Bev Raimbault) have joined the MAD team! There has also been related big changes behind the scenes. This year we started a structural reorg that reflects the twinned roles of curriculum and computing support in MAD. Now all the curriculum support staff report to Don who (especially these days) is taking a more proactive role in this regard. Mary is in the process of taking an even increasing role in managing the core IT services. MAD is working through the last components of formalizing this reorg, and this process should complete during the spring term. We will further report on this reorg when the changes are complete. Additionally, Don was also hired on as permanent Director of the unit.

Jennifer Keir, our IST Account Rep, will be retiring from the University at the end of June. We are working with IST Client Services to appoint a new Account Rep. Thanks Jenn for all your amazing work and it has been great working with you!

**COVID-19 Support:**

- Since the start of the pandemic, MAD has supported more than 75 remote thesis defences and comprehensive exams. This support has involved training users on WebEx, providing thorough documentation, running tests before each defense, and being on hand during defences for technical support. Initially two MAD staff members sat in on every defense in case problems arose. Over time we have scaled that back to only having a single staff member on call during the defense, and a second staff member available in case of emergency.

- MAD has ordered and configured more than 80 laptops and desktops for Env users – all deployed safely.

- MAD continues to use the LabStats system to manage remote access to physical lab computers.
  - Remote lab computer usage over the last year (all labs):
    - Spring 2020 – 3,056 hours
    - Fall 2020 – 7,977 hours
    - Winter 2021 – 11,678 hours
• Remote usage has nearly quadrupled to almost 12,000 hours per term in the three terms since we implemented LabStats. We are looking into using LabStat’s built in mapping utilities when classes return to campus. LabStats will continue to provide valuable usage data as teaching changes to hybrid or in-person methods.

• MAD is also doing a trial with IST using Microsoft’s cloud-based Windows Virtual Desktop (WVD) service as a virtual alternative or overflow option to providing remote access to physical computers on campus.

**Infrastructure Upgrades, Lab and Workshop changes:**

• There were no lab upgrades during the 2020/21 fiscal year. Normally, the procurement of rollover machines happens in mid-March but due to the second spring of COVID-19 this did not happen.

**Course Support:**

• The Geospatial team provided course support for Geog 181, 187, 310, 271, 371, 471, Plan 105, Geog/Plan 281, 381, 387, 481, 487 and Avia 474.

• The Ecology Lab provided course support for ENVS 200, ENVS 469, ERS 100, ERS 315, ERS 335, ERS 340, Geog 205, Geog 209, Geog 294, Geog 305, Geog 391, Geog 407, ERS 403 & GEOG 490.

**Projects:**

**Esri Licence Agreement**

• MAD has worked tirelessly with IST to implement the updated and much more permissive Esri Education Institution License agreement that was signed last summer. Students, staff, and faculty can now access the software from anywhere using named user licensing. Details: Accessing Esri ArcGIS software - IST Knowledge Base - Confluence (atlassian.net)

**VR/AR**

• MAD staff continue to be active in the XR (Extended Reality – a blanket term to cover VR/AR/MR) community on campus. We have seen XR activity coalesce around two key themes: Social XR and Virtual Tours using 360-degree photography.

• MAD is supporting the Ecology Lab’s transition of the Spongy Bog virtual tour to use Esri Story Maps that incorporate 360-degree photos. We are also working with CEL and the XR Community of Practice to investigate options for using Social XR platforms such as AltSpace to support teaching in virtual spaces.

• Finally, we have purchased an Oculus Quest headset that will be made available for loan when return to campus procedures allow us to do so safely. Faculty interested in any of these technologies can reach out to MAD to discuss available options.

**Linux Server Migration**

• We are migrating our Linux servers to Windows servers. This is a significant undertaking which includes the migration of web applications, databases, web sites, and various automated processes. Currently
we are supporting two server environments (Linux and Windows) which is not an efficient use of staff resources since the loss of a full staff head count. When this project is complete, we will have multiple staff members able to assist with Windows Server support, as well as the maintenance of web applications and processes on those servers.

**WCMS Status and Faculty Migration Status**

- WCMS 2.0 will reach end-of-life next year. WCMS 3.0 development and alpha/beta testing is underway and Michael Tjendra has played a key role in this testing.

- IST’s focus is on replicating WCMS 2.0 to make migration possible, so there will be no new additional features/functionality when launched. The two biggest changes are (1) the content authoring process and (2) the left vertical menu will be a top horizontal menu.

- Currently, IST estimates that we can begin migrating sites in late spring 2021. All WCMS 2.0 sites should be migrated over by the end of spring 2022. Smaller sites (e.g., research groups) will be migrated over first, and larger sites (e.g., dept/school/faculty) will be migrated last. Michael will oversee the migration and will be in touch with the site owners when the time comes. Learn more at [https://uwaterloo.ca/building-the-next-wcms/](https://uwaterloo.ca/building-the-next-wcms/).

**Jira Service Desk and Confluence**

- UW is moving to a new cloud-based service management tool called Jira Service Management which has links to a Knowledge Base application called Confluence. MAD has been trying out these new tools with amazing help from our Winter coop and will probably move to the new system by the Fall. Email to env-help will create tickets directly in the new system or people can create tickets via a webform/customer portal. We’ll be moving our webpages of information into the Confluence Knowledge Base, so they can be easily linked to tickets. Eventually, Jira will be used in place of the currently used Request Tracker (RT) system. Another huge undertaking for MAD!

**IT Changes**

2020/2021 has seen many substantial IT changes relating to employee email, productivity tools, security, and telecommunications, to name a few. What a year to make all these changes and doing it remotely as well!

Some of the projects we have worked on are:

- Assisted IST in moving all employee email off the on-premises Exchange email servers to the Office 365 cloud-based email. This move included reduced cost to the University and an enhanced user experience that includes improved service, larger email quotas, and a new opportunity for employees to collaborate with students.

- MAD installed the Office 365 suite of cloud-based software onto all new and some existing university owned computers.

- Championed Two-factor authentication (2FA) which was a mandatory enrolment for all employees as of November 2020. The 2FA adds an extra layer of security to your University accounts.
• IST transitioned to a new email security vendor, Cisco, replacing the Proofpoint, with Cisco’s Email Security (CES) solution to create consistent SPAM actions for all mailboxes.

• Staff and Faculty were moved from a traditional desk set to a S4B softphone.

• MAD will be assisting in the Staff and Faculty move from using the “N:” drive to Microsoft’s OneDrive which provides anytime, anywhere access to files. OneDrive runs on Windows and MacOS (in browser or by desktop application), and on Android and iOS mobile devices. It provides collaborative Office document editing in real-time through the co-authoring and save to cloud. You will also have several ways to share files within our organization and with external users.

**Resume Research and Safety Inspections**

• Throughout the past year Dan, along with Mary has been working with the Office of Research to review and approve research restart requests within the faculty including on-campus lab research, field research and research with human participants (on-campus/off-campus). During the past year, 63 requests to restart field research, 15 requests to restart lab research activities, and countless updates/amendments to previously approved requests have been realized.

• Dan, along with Don has also been instrumental in implementing COVID-19 safety measures and protocols in ENV buildings, along with thorough COVID-19 safety compliance and inspections in Environment research labs.

**Committees:**

MAD staff continues their efforts to collaborate with IT and non-IT groups campus wide. To that end, MAD has maintained its participation/involvement in campus committees and projects that include among others: FACCUS (Faculty Computing User Support Group); WNAG (Windows Network Advisory Group); CTSC (Computing Technology & Services Committee); Macintosh Users Group; Google Analytics Working Group; IA Working Group; Campus Map and Open Data Working Group; WAC (Web Advisory Committee), Faculty Health & Safety, Resume Research Team, Faculty Council, FAST (Faculty Academic Software Team ), PDAG (Professional Development Advisory Group), IT Sustainability Group, Env & Energy Climate Project.

MAD
May 10, 2021