COMMISSION ON RESEARCH
April 13, 2016
325 Burruss Conference Room
3:30pm – 5:00pm
Minutes

Attendee: Randy Wynne (Chair), Benjamin Corl (Vice Chair), Srinath Ekkad, Theresa Mayer, Jewell Trent, Tammy Trimble (for Myra Blanco), Chema de la Garza (for Jennifer Irish), Nathan Hall, Scott Klopfer, Stephen Hensell, Barbara Lockee, Jonah Fogel, Ben Knapp, Annie Pearce, Van Crowder, Robert Vogelaar, Sue Teel, Tom Bell, Kaveh Rahimi, and Monica Rich (recorder).

Absent: Kurt Zimmerman, Alan Grant, Paul Knox, Cheryl Carrico and France Belanger.

Guest: Sandra Muse, Martin Daniel, Ken Miller, Julie Speer, Scott Ransbottom and Peggy Layne.

I. Approval of the Agenda - A motion was made and the agenda was approved.

II. Announcements
   a. Approval of the Minutes of March 2, 2016* – The meeting minutes were approved electronically.

III. Unfinished Business
   a. Report of Ongoing Activities
      i. University Library Committee – R. Wynne reported that the Dean's advisory council for the Library has been tasked to help ensure data literacy under destination areas. N. Hall reported a new software engineer has been hired and interviews for two new data informatics positions are underway. There has been discussion about the community research challenges data. The faculty senate representative requested the survey data to address it. Addressing selections, they are not shrinking; we are simply moving them off site. Late summer or early fall we are launching digitization services and support.
      ii. Update from Faculty Senate – B. Corl reported on the instructional Collegiate Professor series.
      iii. Centers and Institutes Update – No Report
      iv. Research Administration – No Report
   b. Committee on Research Competitiveness – A. Trent reported the committee identified the eight highest ranked areas of concern. Members of the committee will be meeting with the Provost and VPRI on May 2 to discuss their work. The COR was asked to approve the letter and table as presented to be delivered in advance of the meeting. Commission on Faculty Affairs (which is co-signing) should be voting on the letter on Friday. Randy noted how impressive this committee's work has been. A suggestion was made to remove the italics from the first word in all eight suggestions. The letter and table was accepted with amendment.

IV. New Business

a. Open Access Discussion – Julie Speer gave a presentation on open access. The PowerPoint presented is attached.
b. Replacement of Scholar's Project Management Functionality – Scot Ransbottom reported on the progress of a working group to address the replacement of Scholar project sites. A core finding was that no one product met all of the diverse needs of the university community. Slides of his presentation are attached.
c. Destination Areas – Dr. Theresa Meyer reported steering committees for the five destination areas were formed. One of the main goals was to get external feedback. An event was held at the national capital region and the feedback is being integrated. A town hall meeting was held on Monday. An implementation strategy is being finalized. We will continue to open up town halls to reflect the destination areas. Faculty will work with colleges and institutes. Networking sites for faculty will be made available.
d. Nominations for Vice Chair for FY2016-17 – R. Wynne reported that Ben Corl will step up to become chair and the vice chair will be vacant. Jen Irish has volunteered to assume that role. Barbara Lockee volunteered to head the Committee on Research Competitiveness for next year.
e. Suggestions for Topics for COR FY2016-17 – R. Wynne asked that the committee members think about topics for next year.

V. Adjournment: 5:00PM

Executive Summary

Scholar Project Sites Working Group

The Scholar Projects Sites Working Group was formed as a collaboration between the IT Council and Technology-enhanced Learning and Online Strategies (TLOS) to examine the role of Scholar project sites at Virginia Tech and make recommendations for our future with project site data. Scholar project sites need to be replaced as Scholar will be retired as a service at Virginia Tech (retirement date currently planned for May 2017). We examined the current uses of Scholar project sites (via a university-wide survey) at VT and found, not surprisingly, that there are a wide variety of uses within the university. We examined a number of tools that are available to replace Scholar for this purpose, including Canvas, SharePoint Online, Google Apps, Box, Confluence, and others (see the **Project sites Product Comparison Matrix** for details). Finally, we recommended some courses of action.

Core Findings

We found that no one product meets all of the diverse needs of the university community. There are three products that provide many of the functions needed by project site users - Canvas, SharePoint Online, and Google Apps. Each of these products excel in some areas but do not provide what we consider adequate services in other areas.

We also found that there are some common challenges that need to be met in order to successfully migrate project sites from Scholar to other VT services.

- **Training and Documentation -** There is a lack of VT specific training including NLI courses for both users and administrators as well as step by step how-to articles and documentation available for two of the products that we examined - SharePoint Online and Google Apps (see Recommendations for details). Substantial time and effort needs to be directed towards the development of these resources.
- **Staffing -** There is an apparent lack of available staff to adequately support two of the main products - SharePoint Online and Google Apps. There are many services that could be valuable to the users of these products, but it will take time and resources to provide them (see Recommendations for details). It is apparent that the staff responsible for our recommended systems are not prepared to support the volume of new project sites that may be added to their systems prior to the scheduled end date of Scholar.
- **Future Product Availability -** Each of these products will be providing significant new and enhanced features in the not too distant future (6 months to a year) that we believe will address some of the current problems, but it is impossible to evaluate these features without having access to the enhanced features (see Future Considerations for details).
- **Increasing Complexity -** Departments are deploying decentralized systems when centrally provided services are not meeting their needs (local SharePoint servers, departmental scheduling software, etc.). This trend isolates groups of VT users and creates a more complex environment that will require additional labor to achieve redundant tasks.

Recommended Actions

The overall results of our work, specifically the recommendations by Use Case and the Project sites Product Comparison Matrix, should serve as a guide for scholar organizers to choose a replacement or new system for their project sites.

We also believe that the following actions should be taken in order to provide the university community with reasonable alternatives to Scholar project sites.

- **Commit resources to the development of training, documentation, and tools**. The university should make a commitment to provide funding and staff for the development of training materials and documentation specific to VT project sites. In addition, where identified, tools for specific project site needs should either be purchased or developed by the university. ***Until this is done, it would be less than prudent to turn off Scholar project sites.***

- **Develop and support a community based problem solving environment with forums, web sites, etc.** The university should establish neutral spaces for moderated discussions of ideas, suggestions, or problems by users of project sites. Users should be encouraged to try new and innovative approaches to create and use project sites that can be shared with others.

- **Find opportunities to do cooperative investigations of new tools and/or enhancements to existing tools as they are released.** Important new features will be available in the near future for most of the products that were investigated. As these features become available, it is critical that each is made available to the community as soon as possible. If necessary, multi-disciplinary teams should be established to identify and test necessary features while ensuring that relevant and up-to-date documentation is made available.

- **Implement existing Google, SharePoint, and Canvas features in industry-standard ways to better support the needs of project sites.** There are available features in each of these products that have yet to be implemented at VT or are implemented in ways that are not ideal. There are suggestions in our Recommendations on this subject. ***Initial setup of accounts and sites need to be automated or made much easier.***

- **Develop and deploy a communications strategy that provides a consistent message about project sites to the university community.** Campus IT should provide resources to develop a communications strategy that includes web sites, emails, social media, and other relevant forms of communication about project sites. The information should include references to the use cases/recommendations/product comparisons that will benefit new and existing project site users.

Collaboration: ITO (Information Technology Organization) and the IT Council (ITC)

One key result of this work is that the IT council wants to continue to assist in whatever solutions are proposed and implemented for project site replacement. These are the specific recommendations for an ongoing role for the council in this regard.

- Establish an interdisciplinary panel of experts that can provide How-To or KB Articles as requested; this group also can/will act as reviewers for any documentation drafted by ITO before such articles are released to the campus.
- Per the recommended action above (community based problem solving environment) the council will work to setup and support creation of a public forum for discussion of project sites. The forum ideally will have authenticated access, be moderated by SMEs (Subject Matter Experts), and provide a way to mark comments as the "best answer". The system's ability to deliver relevant articles is critical. Questions that remain unanswered for a certain amount of time should be referred to the panel of experts. {It is recommended that we strongly consider using Service Now for this purpose, as the system has the features requested and this will provide for an integrated solution here…tying directly to KB articles and our ticketing process.}
- The matrix (and other supporting documentation for use cases) created by the Scholar Project Site Working Group should be made available on the enterprise wiki or published somewhere else where it can be easily edited by the interdisciplinary panel of experts. The ITC is interested in helping continued refinement here.
- As new products are released to the market, the ITC suggests that BEFORE any are released to our campus that these are presented to the council and that volunteers are solicited to pilot such products.

Contents

Findings

Introduction

The Scholar Projects Sites Working Group was tasked in late spring 2015 with investigating the use of Scholar Project sites at Virginia Tech (VT) and helping figure out a path forward. Once goals were established, the work began in earnest. The group collected information from across the campus both formally (via survey) and informally (via discussions) on how these are being used. The group reviewed a variety of products with similar features to those found in use at VT. Results of the investigative process, along with specific recommendations (by use case) are below.

Scholar Project Sites

Scholar is based upon software sponsored by the Apereo Foundation, specifically the Sakai Project. VT began using Sakai in 2006 and the earliest use of Sakai was for collaborative document sharing, in a type of data collection called a "project site". As comfort grew with Sakai overall, VT began using the platform also for courses (as our main Course Management System) and for ePortfolios. We ultimately also built the VT Student Perceptions of Teaching (SPOT) system using Sakai code (using what the community terms the "course evaluation" product). The fact that Sakai is used in 4 distinct and substantial ways makes the move away from Sakai particularly challenging, but the focus here is project sites only.

Specifically, a project site is a shell in Scholar that allows the site "organizer" to use a number of tools to share and manage content with others (called "participants"). Commonly, Resources (file sharing), Messages (email), Calendar, Email archive (a misnomer, really it makes Scholar sites act like a distribution list), Announcements, Dropbox, Roster, and the Wiki are tools used in Scholar project sites. All Scholar tools that are available for course sites ***could*** be used in project sites, but these are the most common tools actually used for this site type.

Here are some of the factors that have made Scholar so popular for project site usage:

- Single-sign on enabled – uses CAS
- Perceived "unlimited" storage - VT is paying for storage here, but it's not billed out
- Ease of use - quite easy to add multiple documents (can upload via WebDAV) and share them
- Granular security controls - file by file controls on every artifact placed in Resources
- Familiarity - instructors and students learned Scholar for courses and now use same interface for project sites (or vice versa)
- Ability to easily add guests - any email address can be added and shared by the site organizer with zero oversight
- FERPA compliance – It is compliant with FERPA and has been used for our LMS.

One key question (beyond functionality) as this effort began was to ensure the scope of this problem was fully understood. The Scholar administration team in TLOS provided some data to help guide the work.

Total # of Scholar Project (SP) sites as of 10/12/2015: 13,447

Total # of SP sites created in 8 months (February – October 2015): 767

Total # of SP sites with one GB or more of storage in use: 665 (as of Feb 2015)

Total # of SP sites with more than 100 users: 396 (as of Feb 2015)

This is quite a large number of sites used to store a healthy amount of data. After reviewing this data in aggregate, the team brainstormed use cases. Discussion here led to a formal survey to get the campus community involved, validate this use case work, and understand functional gaps and unknown uses of Scholar.

Survey Results

In August 2015 the team launched a survey (distributed via VTNews, various other mailing lists, and posted on Scholar) to collect some information from the campus community on the subject of project sites. It focused on use cases and features. We found that (see Survey Results for details):

- The number one use for project sites is file sharing. Some of the other popular uses are collaboration, non-degree related (training) courses, academic advising, and email distribution.
- Some of the most requested features are also some of the most problematic features to implement - moving multiple files, file/folder/group permissions, using existing credentials, etc.
- People are **already** using a variety of non-Scholar tools for project site needs - 63% Google Apps, 44% Dropbox, 31% departmental servers, 23% SharePoint Online.
- Data security is an important consideration that isn't always implemented correctly with the tools being used. FERPA compliance, long-term data retention, and other security standards need to be addressed.

The full results are in **Appendix I** and are summarized below.

We received input from 249 respondents.

Top 5 Uses of Project Sites (not mutually exclusive, % is % of people surveyed using this function)

1. File Sharing - Internal - VT users only - 76%, File Sharing - External - non-VT users - 39%, File Sharing - Permalink - a permanent static link to a file – 23%
2. Collaboration (Promotion & Tenure, Admissions Data, Graduate Student Review, Awards, etc) - 59%
3. Training/Courses (non-degree) – 33%
4. Advising – 32%
5. Email distribution (mailing list) – 30%

50% of surveyed users are storing sensitive data (FERPA, PII)

Top Features Requested

1. File and Folder Permission
2. Ability to upload multiple files at once
3. Group Permissions
4. Using existing credentials (Hokies, CAS, PID, etc.)
5. Multiple Owners
6. Admin Access

In addition, 63% of respondents were already using Google for projects.

44% were using DropBox. It's important to make using Google and SharePoint easier and encourage their use to limit people from using tools which may not be adequately secure or compliant. The free version of DropBox is not FERPA compliant.

31% were using local departmental file servers

The data gathered from this survey, coupled with the in depth understanding of faculty and staff usage by this working group, led to the detailed recommendations below.

Summary of the Project Sites Product Comparison Matrix

A key part of the groups work was to evaluate the suitability of various products to meet the use cases previously described.

The full matrix can be found in Appendix III and it is summarized here.

The matrix is meant to be an exhaustive list of all features and functions used on campus in Scholar project sites and to show how various other products can meet our needs. There is some general information about products reviewed at the top, a section on use cases which provides a rating and some rationale, and then a significant list of features and other factors to consider for these systems.

In terms of the use cases, they are ordered based upon most popular usage that we found in our survey. There are some general tenets about each product that carryover into all cases and these are in the "general summary" row. Clearly, the ratings are subjective; however, they are grounded by the facts listed in each cell.

Note: Products that were chosen for each use case were selected because they meet most criteria of the use case.

Here are the recommendations by use case (most popular to least):

File Sharing: Google Apps or SharePoint Online

Collaboration: SharePoint Online or Google Apps

Training/Courses (non-degree): Canvas

Advising: Canvas, but more investigation is needed (see Potential Issues below)

Email Distribution: Google Groups

Scheduling: Google Calendars

Wiki: Confluence

Website: Ensemble (but there are several suitable choices)

Use Cases

Below is a summary for each significant use case that provides some verbiage in support of the data shown in the matrix. It's anticipated that many people on campus might only really need information for one or two specific uses and that they could refer to these sections as a guide in that regard. It's expected that these would be used in conjunction with the matrix when choosing a product.

File Sharing

File sharing is the top ranked use case of Project sites. Both Google and SharePoint can meet the needs of the majority of users, but have some limitations that should be addressed before Scholar is retired. File Sharing is about making content available to others for the short-term and in some cases forever (permalink).

Base **Requirements** for File Sharing solution

- Should be FERPA compliant

- Files should be shareable with both internal and external users
- Users need the ability to upload multiple files at once
- Users need to be able to use groups for permissions
- Users want to use existing credentials
- Users want content to be able to have multiple owners
- Users want administrators to have access to shared content

Recommendation: Google Apps or SharePoint Online

- Both solutions are already available to users
- Generally, use SharePoint if the department has local expertise in SharePoint and much (or all) of the content authored with Microsoft tools; choose Google otherwise.
- Clear documentation is needed that explains how to create, share and view folders, and files and permissions needs to be readily accessible
- Training for all faculty and staff should be provided
- A complete directory of affiliated individuals needs to be available (including students)
- VT Templates would be helpful

Google

- Bulk PID Import tool needs to be fully developed and released to allow better group management
- Users are already fairly familiar with Google
- Site setup is complex using a VT GAE account; GAE is our local attempt to setup departmental shares which are not under a single individual's control
- Files are linked to owner
- Users frequently have personal Google accounts which can be confusing

SharePoint

- Most on campus have great familiarity with Microsoft products (Word, Excel, PowerPoint)
- Sharepoint Online allows one to setup departmental/projects share which are not tied directly to individuals, as opposed to OneDrive which inherently ties to a person (more info: OneDrive vs. Sharepoint).
- We have Hokies AD security groups in use
- Site setup is complicated and we have some local limiting factors
  -Not everyone has created a Hokies account
  -Not everyone has access with their Hokies AD credentials
  -Students not visible in AD
  -Provisioning requires a Dean or department head signature for OU and Departmental collection sites
  -VT branded templates not available currently
  -Lack of central support
  -@w2k.vt.edu credential confusing to users

Other Alternatives

Many alternatives exist including local file servers, Box, and DropBox. However, when we considered that free (or already paid for by VT) alternatives are already available to users on campus, it doesn't seem productive to invest in yet another solution for this use case. VT also uses internally supported network file shares (like storage.vt.edu) and departmental file servers that may trump this recommendation according to the data that must be shared.

Collaboration

Collaboration is a committee or group of colleagues sharing resources, email, calendar, and/or announcements. These groups use this tool to edit documents and share pertinent information with one another. Some examples of this are Search Committees, P&T committees, Admissions Data, Graduate Student Reviews, Curriculum Committees, Honorifics Committees, Scholarships, etc.)

Collaborators have the following basic **REQUIREMENTS**:

- Calendaring
- Email and notifications
- Folder and file level security options
- Internal and External access
- Tasks and Incident Tracking
- Versioning and audit capabilities

Recommendation: SharePoint Online or **Google Apps**
Both services can meet the needs of users and should be evaluated based on individual requirements. Documentation should be created to help users secure files and assign permissions appropriately.

SharePoint

- Office 365 and SharePoint online is currently not available to all faculty and staff
- Hokies user accounts are not automatically provisioned for all faculty and staff
- Students are not visible in Office 365 directory
- Office 365 and SharePoint Online are currently more complex due to obstacles in the VT setup of SharePoint online
- Approval process for a department SharePoint site requires Dean's signature
- Login with @w2k.vt.edu is confusing, the longer we wait to correct, the harder it will be correct
- Exchange Online email is not integrated into SharePoint Online

Google

- Google files in a group site are linked to file in individual's Google drive, where as a shared project site can be created in SharePoint and files belong to the site
- GAE (VT GAE, see Glossary) Accounts and best practices need to better documented
- No global directory available and account/group visibility is not mandatory

Training/Non-Degree Courses

A common use case for Scholar Project sites is the ability to create, present, and track coursework for a variety of non-degree courses.

The main **REQUIREMENTS** for Non-Degree courses are:

- Ability to present and structure course content in an easy to follow manner
- Ability to communicate with students
- Ability to add/remove both internal/external students from course sites
- Course LMS features like grading, document sharing, quizzes, and discussion boards
- Build rubrics and track outcomes

For internal training and Virginia Cooperative Extension courses for public audiences, one would also like to see:

- Badging and/or completion certificates
- Ability to track a path of study
- Less formal grading; ability to assess but not in a quiz format with formal gradebooks

Recommendation: Canvas
Canvas is our current best choice in this regard. While something like Instructure Bridge might even be better for internal training, Canvas still provides a usable system for some needs here. And Canvas certainly has all of the features to work for more traditional courses that are simply not taught to degree seeking students (like extension offerings).

Potential Issues:

- Assigning different course/training paths for individuals within the same group of users is not available in Canvas.

Advising

Advisors at VT perform a variety of roles in a variety of ways. There is some common ground among advisers in different departments, but there is also a good bit of specialization in the way they choose to do their work. Many have traditionally used Scholar Project sites to work with their students.

Advisors have the following basic **REQUIREMENTS**:

- Calendaring and scheduling of appointments
- Confidential File Sharing between advisor and advisee
- Imported or auto-generated advisee groups/permissions

Recommendation: Canvas

The general recommendation is for advisors to move to Canvas and setup sites therein for advising. All Virginia Tech students and faculty have access to the Canvas LMS. In addition to supporting academic courses, Canvas can be utilized for academic advising giving students access to their course and advising materials in one location. Advisors can use a Canvas site to track communications, share resources, and schedule advising appointments.

Though Canvas is our official recommendation, we have found that it does not meet all of the requirements in all cases. Further investigation would be prudent to evaluate whether a new or customized central solution could address all advising needs.

Potential Issues

In discussion with several advisors over the past few months, a few possible issues have arisen that complicates the recommendation.

- The scheduling/calendaring tool built-in to Canvas is not as robust (fully featured) as that in Scholar and also cannot be easily synced with other calendaring solutions (Google and Exchange).
- Private file drop boxes aren't available in Canvas. This feature is needed for private communications between advisor and advisee.
- To facilitate the use of Canvas for advising, a process should be established to automatically enroll students in advising sites based upon how students are assigned at the college, department, or program level.

Other products discussed

In meeting with advisers, we found that many are using a variety of different products, specifically around scheduling meetings with advisees. These are included for completeness, but were not reviewed by the working group.

- Pamplin In-house tool for scheduling
- VeriBook (used by Cranwell International Center)
- ScheduleOnce
- AdvisorTrac, TutorTrac, Sage http://go-redrock.com
- CXM http://creedenz.com/service/

Email Distribution

This use case provides for a means in which to distribute information to a group of individuals or used to discuss topics with a whole group. The group membership is maintained within the program instead of individuals having to update their own individual distribution list in their email program.

Base requirements:

- A single (hopefully easy to remember) address to send mail to.

- A UI and/or processes for managing list membership.
- Options to control how the list works.

Recommendation: Google Groups

Formerly we used LISTSERV for this function. Scholar has the ability to send to the membership of the Scholar project site (with a single address). Canvas has the ability to send to the course, a subgroup, or individuals (but does not provide an email address for this purpose). Google groups is a full-featured solution meant for this purpose and was already chosen as THE LIST MANAGEMENT tool at VT.

Issues
- Mailing groups should be automatically generated for groups such as departments, students, etc
- Bulk upload tool needed to manage mailing lists

Others (Scheduling, Wiki, Websites)

There are some other use cases at VT for Scholar project sites, but the number of people using project sites for these purposes is small.

Someone doing lots of Scheduling should strongly consider our **recommendation** of Google Calendars.

Using Scholar as a Wiki was possible, but the feature set was very limited. We believe that the VT Enterprise Wiki (Confluence by Atlassian), is the best wiki solution. This system should be publicized to departments.

Lastly, Scholar is used by some people as a website builder (less than ideal, but it is done). There are quite a range of tools possible for this use case which are listed here. One should consider his/her skills and environment when choosing one of the below options.

Tools to create, maintain, and host websites at VT:

- ^Ensemble - <subdomain>.vt.edu - this is the VT chosen enterprise content management system
- VT Web Hosting - abc.org.vt.edu (generally hand-code HTML and/or Dreamweaver to maintain)
- Wordpress (through TLOS) - blogs.lt.vt.edu – primarily meant as student blogging platform
- Google Sites - sites.google.com
- SharePoint Online - virginiatech.SharePoint.com or my-virginiatech.SharePoint.com
- Enterprise Wiki - webapps.es.vt.edu/confluence

^ = VT is in the process of switching our CMS to Adobe Experience Manager, which appears to be far superior to the previous Percussion (Rhythmyx)/Ensemble offering

Recommendations

Overall, there are several steps that should be considered to make the transition from Scholar to other products successful and these are detailed below, with audiences noted.

To Virginia Tech IT, specifically those supporting SharePoint Online, Google, and Canvas:

Develop and support a community based problem solving environment with forums, web sites, etc. The university should establish neutral spaces for moderated discussions of ideas, suggestions, or problems by users of project sites. Users should be encouraged to try new and innovative approaches and share their experiences with others.

While specific recommendations (by use case) are made above with the current state of each product reviewed, there are some specific ideas that would make some of our products work much better. Below is a list of such potential changes. Without some of these modifications, the current recommendations will work but be less than optimal.

Canvas

- The Canvas team should continue to work with Instructure on features that make our recommendation re: Advising work better (for example, pushing Instructure on better ways to share documents with individuals and making scheduling and calendar integrations more robust).
- Consider loading "rosters" for advisors from Banner into Canvas.
- Create an automated guest account provisioning process to handle file sharing with external parties.
- Allow all staff and teachers to create sites, not just teachers.
- Create a warning page in Scholar (enabled when someone creates a project site) to let people know that project site creation will be going away in the near future. Point people to other options from this dialog. Ultimately, then, turn off project site creation, at a TBD date in future.
- Consider creating an export tool to pull Resources from Scholar and allow for easy download by content owners. Site owners **could** just use WebDAV and do this themselves.
- Consider creating import tools for Google and SharePoint. It is not clear that the effort to build such tools would be justified. Time may be better spent providing the assistance and documentation on a case by case basis.

SharePoint Online

SharePoint Online (and the associated Microsoft application suite) is clearly powerful and the base Microsoft tools are well understood by our campus community. However, some of the local choices we've made in how we've implemented these tools create problems for the community. In general, one needs a local SharePoint expert in their department to have a good chance of success in using SharePoint online (which most certainly is a barrier for many groups). However, this option is perhaps the easiest to use once the project site is created and a connection is made by the user from a browser or a Microsoft Office app.

- All faculty and staff should have access to O365 and SharePoint online
- Hokies user accounts and O365 should be automatically provisioned for all faculty and staff
- Project site setup should be simplified including creation of VT branded templates
- Dean's signature should not be required for site setup
- Students need to be visible in active directory
- Better documentation of basic creation of SharePoint site
- Dedicated Sharepoint administrator in CCS to provide support (and answer help tickets)
- Login should be done using @vt.edu versus the current @w2k.vt.edu
- Exchange Online email is not integrated into SharePoint Online

Google Applications for Education

Overall, the project team finds Google tools easy to use, easy to setup, and easy to get started with. However, there are so many tools that do so many things that the ecosystem gets confusing. Additionally, sharing content and how one sets up shares can be confusing.

- We need to find a way to prevent loss of access to files when a person leaves VT. Because of the way files are owned in Google, even if shared with a project team, they are still owned by individuals and could be purged after 30 days.

    - This might be solved by using a Google Auxiliary Email (GAE) account, if the account uploads files or if a VT user transfers ownership to the GAE account. Ownership may not be transferred between Google Apps Orgs (or personal accounts), so some data should be copied/re-uploaded by the GAE account.
    - This might be solved with Google Team Drive (if released).
- Pointing people consistently ONLY to google authored documentation is not adequate. More effort should be placed on documenting the specific and unique usage for VT with local documentation, especially related to how project sites might be created and secured.
    - Examples: http://researchdata.wisc.edu/tools/tools-google-drive/, http://guides.library.vcu.edu/data/GoogleDrive
- Create VT branded project site templates to make adoption easier.

To everyone at Virginia Tech:

Since it is unclear if/when you might get involved with a person or project that is using Canvas, SharePoint Online, Google, or the Enterprise Wiki to share artifacts with you, we recommend that EVERYONE takes the time to enable their accounts, learn their passwords, and license products as appropriate. Far too many people across VT do not even know how to login to Google or SharePoint and it would be a good idea to blitz the campus with communications on the same. Set up and maintain accounts prior to when someone shares content with you. {on a related note, it would be nice to see VT recommend a password manager, as far too many people at VT cannot track their accounts and this recommendation only intensifies this need…LastPass is really, really good…}

To existing owners of Scholar Project Sites:

You should migrate your content from Scholar to another solution (of your choice) sooner rather than later. Do not wait until Spring of 2017 to migrate content. Review (per your use case) the recommendations in this report and go ahead with a new product.

To new project site creators:

Stop creating Scholar project sites now. While it's still possible to create sites in the near future (but no later than TBD date), Scholar will no longer allow new sites to be created. Think about your use case and choose another system for project site data.

While these final two recommendations are what our group wants to push here, many of the concerns and suggestions for SharePoint and Google really need to be addressed prior to doing this. Minimally, a quick start guide for each titled something similar to "How do I migrate from a Scholar Project site to {Google,Sharepoint}?" must be created before we can do this.

Future Considerations

One thing we can note with certainty is that all of the platforms considered in this study will continue to evolve. Further, it is possible (and maybe likely) they will evolve in a direction which helps VT find suitable replacements for project sites. Since Scholar is not being turned off until Spring of 2017, there is still some time to find products that better fit the needs of our community.

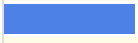
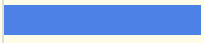
Here's a list of potentials uncovered by the working group:

- Google Team Drive may be able to replace VT GAE accounts, if it is released.

- Class Dashboard (https://cd.microsoft.com by Microsoft) will replace the OneNote Class and Staff Notebook apps. It may be acceptable to create a OneNote notebook for a project, rather than a more complex SharePoint Online site.
- An LTI too for OneNote is in the works: https://www.onenote.com/lti

These should be reviewed and considered as they become available for their fit within our ecosystem. Google Team Drive in particular seems to hold great promise for file sharing; however, Google has been reticent to announce a definitive product or release dates.

1. How do you use project sites (check all that apply)? Expanded Use Cases

#	Answer		Response	%
1	Advising		69	32%
2	Training/Courses (non-degree)		73	33%
3	Email Distribution (listservs, mailing lists)		66	30%
4	File Sharing - Permalink - a permanent static link to a file		50	23%
6	File Sharing - VT Only		165	76%
7	File Sharing - with external (non-VT) users		86	39%
8	Collaboration (Job Searches, Promotion and Tenure, Awards, etc)		129	59%
9	Other use case (Please list)		32	15%
10	Wiki (knowledge base)		38	17%
11	Websites		31	14%
13	Scheduling		54	25%

Other use case (Please list)
Scholar was essential before Google apps came to VT. All of my Scholar needs have been replaced with Google Groups, Sites, and Drive
As a departmental resource site for faculty and staff. Listings of contacts, forms, protocols, etc. in one "go to" site.
Each number represents a different site I manage/utilize: (1 & 2)Sharing of admissions data (on incoming freshmen, transfers, etc) between admissions and the college, and a 2nd site to share that data with engineering advisors. (3) To share scholarship update information with the office of Scholarships and Financial Aid. (4) To house course proposals for review by college curriculum committee (and serve as "collecting house" for all college proposals) (5) to collect sensitive information from students in academic jeopardy (which is FERPA compliant and secure) (6) To facilitate exchange of/review of documents for college-based committees. (7) to securely house scholarship applications to be reviewed by committee of college representatives (8) to securely house applications for student awards to be reviewed by committee members outside of the college (9) receive FERPA sensitive data from Summer Academy office regarding engineering students enrolled in academy (10) receive/review FERPA sensitive application data from students wishing to come to VT as an exchange student (w/ OIRED office) (11) submit updates for UG catalog
Only used when forced to by other people setting up things in it that are not courses. I don't like using a LMS for non-course material, but people do it.
General internal department info
One of our biggest and most important uses is as an inservice education and resource sharing site for Extension agents across the commonwealth. It allows us to share media, including PPTs that we wouldn't ordinarily share via an unsecured website.
In terms of collaboration: grant proposal management and development
departmental records management and student records management
a repository for research team materials, documents, and data.
We would use the wiki, but have been forced to google docs because the Scholar Wiki tool is so bad. Google docs is not great however and we frequently just go back to emailing word documents.
Project management (collaboration)
IRB approved information storage. Identifiable data of participants may be stored.
Announcements Data sharing Forums
archival of files -- NSF Data Management Plan
archiving (maybe that is same as file sharing permalink?)
I currently use Scholar to store and share human subject's research data (interview files and transcripts), survey results, etc. for internal and external collaborations.
Research - Sharing of information, files, etc.
managing/sharing department admissions process, applications
Document repository for a Working Group that meets monthly.
Departmental home and archive
Use it for resources management and sharing with internal and external partners
We are able to post confidential Honor System case files for review by panelists, chief justice, investigator, referred students and referring student or faculty. This saves time and tons of paper.
test
scholarship
Committee agenda distribution
My project sites include ones used mainly for distribution of large amounts of student data that cannot be sent via email. I also use it as a place to deposit files that I need to work on at home but do not want to put on a jump drive.

Statistic	Value
Min Value	1
Max Value	13
Total Responses	218

2. Sensitive data includes Personally Identifying Information (PII) data that may include social security numbers, driver's licenses, bank account numbers, etc. Other sensitive data includes FERPA and HIPAA data including first name, last name and birth date, grades, etc. Information regarding scholarships, promotion and tenure or awards would also be considered sensitive. Do you need to store any sensitive information on your project site?

#	Answer		Response	%
1	Yes		109	50%
2	No		109	50%
	Total		218	100%

Statistic	Value
Min Value	1
Max Value	2
Mean	1.50
Variance	0.25
Standard Deviation	0.50
Total Responses	218

3. Please rate the importance of each security component based on your project site needs.

#	Question	Not at all Important	Slightly Important	Moderately Important	Very Important	Extremely Important	Total Responses	Mean
1	Uses existing credentials (CAS, Hokies, AD, etc.)	11	7	30	50	88	186	4.06
2	Departmental admin access	26	10	29	48	59	172	3.60
3	Data encryption	29	17	47	31	50	174	3.32
4	File and folder permissions	7	7	20	64	94	192	4.20
5	FERPA compliant	37	11	22	25	84	179	3.60
6	Group permissions	7	6	29	62	80	184	4.10
7	Guest access (external)	31	17	34	38	59	179	3.43
8	HIPAA compliant	77	16	22	14	18	147	2.18
9	Multiple owners	11	9	48	45	75	188	3.87
10	Recovery of deleted files	18	28	38	41	55	180	3.48
11	File versioning	20	22	47	32	35	156	3.26

Statistic	Uses existing credentials (CAS, Hokies, AD, etc.)	Departmental admin access	Data encryption	File and folder permissions	FERPA compliant	Group permissions	Guest access (external)	HIPAA compliant	Multiple owners	Recovery of deleted files	File versioning
Min Value	1	1	1	1	1	1	1	1	1	1	1
Max Value	5	5	5	5	5	5	5	5	5	5	5
Mean	4.06	3.60	3.32	4.20	3.60	4.10	3.43	2.18	3.87	3.48	3.26
Variance	1.32	1.96	2.00	1.03	2.56	1.06	2.15	2.14	1.36	1.78	1.70
Standard Deviation	1.15	1.40	1.41	1.02	1.60	1.03	1.46	1.46	1.17	1.33	1.30
Total Responses	186	172	174	192	179	184	179	147	188	180	156

4. Please rate the importance of each feature based on your project site needs.

#	Question	Not at all Important	Slightly Important	Moderately Important	Very Important	Extremely Important	Total Responses	Mean
1	Ability to use aftermarket add-ons	45	35	37	10	8	135	2.27
2	Calendar for project	37	29	42	40	37	185	3.06
3	Calendar feed (iCal, RSS)	52	34	31	27	24	168	2.63
4	Mailbox/Messaging	28	24	46	47	44	189	3.29
5	Mobile device support	35	20	46	47	38	186	3.18
6	Online editing of documents	25	22	48	40	50	185	3.37
7	System integration capabilities (Banner)	56	22	32	30	28	168	2.71
8	Project tabs (Multiple projects visible)	21	15	42	55	53	186	3.56
9	Upload of multiple files and/or folders (WebDAV)	11	8	29	51	91	190	4.07
10	Wiki	59	31	37	22	17	166	2.44

Statistic	Ability to use aftermarket add-ons	Calendar for project	Calendar feed (iCal, RSS)	Mailbox/Messaging	Mobile device support	Online editing of documents	System integration capabilities (Banner)	Project tabs (Multiple projects visible)	Upload of multiple files and/or folders (WebDAV)	Wiki
Min Value	1	1	1	1	1	1	1	1	1	1
Max Value	5	5	5	5	5	5	5	5	5	5
Mean	2.27	3.06	2.63	3.29	3.18	3.37	2.71	3.56	4.07	2.44
Variance	1.38	1.98	2.04	1.82	1.91	1.83	2.24	1.66	1.32	1.85
Standard Deviation	1.17	1.41	1.43	1.35	1.38	1.35	1.50	1.29	1.15	1.36
Total Responses	135	185	168	189	186	185	168	186	190	166

5. Please list any other features that you will need that were not listed in the previous two questions.

Text Response
Sign-on feature for setting up appointments.
Private drop boxes and tests and quizzes tools - we use these to make the student acknowledge that they have read the personal information we provide for them.
export schedule to outlook
Stand-a-lone websites. projects site and blogs
Concrete mixing, pouring, and stamping.
Quizzes, automatic grading (internal to the site, not interfacing with Gradebook)
Visual resource and media cataloging and sharing. We use this for sharing educational media with Extension agents. Using the resource folder is crude compared to a media or resource database program. I would also love to see the ability to track courses and approve them for non-credit participants. We have a separate database system that we have struggled with for years. To give agents (instructors) the ability to submit a course, gain approval here, and share the approved course syllabus with the public seems to be an ideal extension of course management software. We need this desperately.
Quiz & completion/grade tracking
good search options for finding training, quizzes, joining groups by department
A feature like Google drive for secure storage of sensitive files that could be shared within the dept or lab would be wonderful.
Large storage capacity that is backed up frequently (if not daily)
would love some project management elements in there. Have really tried to tackle this issue in multiple ways with apps and with gannt charts and what not, but nothing has really been satisfactory because not all collaborators are engaged in it. Something central that everyone is "on" would be great if it could add external users. External users are critical.
?
Digital Dropbox
It's implied by the compliance questions above, but we use it regularly as a site to store IRB-protected Human Subject Data, and the site has to be secure and approved for data storage by IRB.
Announcements, forums
multi media file storage capability
Setting up appointment times for students to sign up
resources, dropbox
Multiple listserv replacement and archiving. Roadmapping/pathways combining text and links - we currently use the lessons feature in Scholar.
We had been exploring being able to schedule panel meetings instead of being physically present. Could we use Canvas for these groups rather than Scholar?

Statistic	Value
Total Responses	22

6. What alternative products are you using for project sites?

#	Answer		Response	%
1	Box		9	5%
2	Dropbox		84	44%
3	Google Apps (Drive, Groups, Sites, etc.)		121	63%
4	Local File Server (Departmental)		60	31%
5	SharePoint/Office 365/OneDrive		45	23%
6	University File Sharing (storage.vt.edu)		25	13%
7	Not sure		12	6%
8	No other products are being used for project sites		29	15%
9	Other (Please list)		24	12%

Other (Please list)
Scholar.vt.edu
Confluence
We use a PHP/MySQL site running through CAS for our field instructors (agents) to approve non-credit courses and track users and content. We also use a media (asset) management database to share media (Gallery). We crudely use Scholar for sharing PPTs and other presentation media. We had been using a now obsolete LMS (Logicreate) to manage our online instructor support system. Scholar replaced it, but it is very limited in its abilities. We need something more capable.
confluence
Confluence
scholar
Our program website, which is hosted externally. Asana
Have tried "Hi" and "Trello" but hard to get buy in without corporate support because of the learning curve.
Basecamp
Piazza
none the options listed do not work for my needs
We use Scholar extensively
SharePoint online is great
Subversion
Slack
Asana.
Asana, Githut, Trello
Teamcenter Community
Alfresco
Email, word press, sync
TeamLab/OnlyOffice GroupSpaces
External applications have limited storage and are costly
Documents (confidential case files) saved to our server cannot be accessed by other panelists, student, referrer, etc. Have to print & mail them.
Confluence Wiki

Statistic	Value
Min Value	1
Max Value	9
Total Responses	193

7. Please provide any additional comments you would like to share.

Text Response

My primary use has been for program evaluation projects involving several staff, information for adjunct professors, and information for degree program cohorts.
Please involve actual users in beta testing.
Google works awesome. It could probably use a best practices how too paper though.
None at this time
Whatever system is selected, it is most important that all information and data from the current Scholar project sites be transferable.
I use Scholar currently to store ALL my teaching files and organize my classes with it. I also use it for many research projects to share files (manuscripts, photos, data, etc.) for collaborators on and off campus.
We use Scholar to have transfer students fill out quizzes to request force-adds to classes, prove that they understand information they missed at orientation, and view personalized course plans. We use it for our returning students to acknowledge that they have been placed on academic probation and to share personal information about grades with them. These tools are essential to help us do our jobs, as we were told we can't e-mail personal grade information and it's hard to use e-mails instead of tests and quizzes to handle our large number of advisees. The tests and quizzes feature allows multiple advisors to view all student requests and share the work without duplicating effort. Thanks!
Thanks
Security for file storage, scheduling, and collaboration are essential functions for my daily operations.
CAS login would be nice.
The project use of the content management for the university should have been considered before now, as many university processes and systems have been created to utilize the project components of Scholar.
Note we have tested usability of SharePoint and consistently found it lacking. Any SharePoint based solution would be considered a non-solution.
Use Scholar sites to transmit grades and other data that cannot be emailed.
I never particularly liked the Scholar interface, so hopefully Canvas can be made a little more intuitive. Why "resources" as a selection for folders and documents, for example.
We have several projects with state stakeholders that we need to keep active. Thanks for your efforts to keep our project sites!
Google Drive/Apps seems to fill our departmental needs primarily. Several faculty members have expressed a desire for separate project sites as opposed to separate folders with different permissions. We primarily used project sites for hiring processes, but there has been some interest recently in a wiki type functionality for sharing of information.
It is extremely important that CANVAS or some other collaborative arrangement is made. Scholar has been very valuable as a tool to perform collaborative research.
When I was a graduate student in ISE the dept used Scholar as a project site to house dept forms. I found it very confusing and I think the limitations of Scholar contributed to that. I recommend not only soliciting advice from those who run project sites, but also from users who must use those project sites to complete their work (e.g., students who have to use project sites to download dept forms - like force add slips)
See my comments earlier. Scholar was the only too we had for project sites. It wasn't perfect. For Extension courses it worked well with external users. For our Extension agent instructors it worked adequately for sharing training media. This is a perfect opportunity to replace it with a more flexible and usable system. So thank you so much for considering these uses. Scholar filled a great deal of needs. Hopefully you can come up with an even more usable solution.
Thanks for recognizing this as a priority; I have used Scholar at least as often for projects as for teaching. My main complaint about Scholar is the number of "clicks per action" that are required when trying to make any sort of change or addition...
External collaboration and password protection critical.

I am uncomfortable handing over the keys of everything I do to third party completely off campus entities like dropbox etc. We are now tied to google, so that will likely be my alternative, though I dislike how the system operates (meddles in everything, not as compartmentalized as Scholar has been). I primarily use Scholar to manage my research group so that we have a common file exchange, so what I am most concerned about is how I will get all of my stuff and my student's stuff from the last 6 or so years (including students who have now graduated and who's stuff is archived there) from my group scholar page to whatever new format we are going with.
Scholar is no longer good enough because?
Google apps seem like a viable alternative to Scholar for some of my functions. Google groups, tied to a Drive folder for sharing (to replace the "Resources" function of Scholar) would seem to work, but it's really two separate apps rather than a bundle like Scholar was - messaging and file sharing are separated. Additionally, a number of faculty in my department are using Outlook for email and rarely log into their VT Google account, and are often not able to remember their passwords. The fact that their PID and password got them onto Scholar seems to be a plus. Routine use that came with using it for source administration also gave them instant familiarity with it.
I don't know a lot about all the possible requirements, but I do feel that any project software needs to be both robust and flexible.
Thanks for working to make sure we have an easy and flexible alternative to use.
This is a big need at VT, especially with the massive collaborative grants we are all working on. So glad you are tackling this.One thing that might be handy is something that could be used for ephemeral or short term collaborations. Typically these aren't worth setting up a "site" and so occur via massive amounts of confusing emails. This is another need. For big project sites we are relying mainly on Scholar for permanence and the listserv aspect and archiving and google docs for more temporary things. One thing that scholar doesn't allow is managing who gets listserv. So for example we have a large project with three tiers of collaborators. We only added the top tier to the Scholar site, otherwise everyone gets all the listserv emails which is not appropriate. This is cumbersome.
My use cases fall into two different categories. The first are student-related where I depend on the system being compliant with applicable regulations to protect sensitive data. This is mostly for sharing information and requires some sensible file structure. The second is projects where I want to have wide collaborative possibilities and be able to quickly scan over a project site and see the status, what needs to be done, and timelines. I've used Scholar in the past because it is available, but it lacks the structure that I'd prefer for true project management. Whatever you choose, I hope that it is user-friendly and simple to understand. Thank you for the survey.
Need guest/collaborator access and the ability to specify user privileges.
A Google Site shared to a google group, with a google drive seams to do everything I need.
SharePoint online is great
Sad to see scholar go. It was great for project purposes and to overcome FERPA concerns.
Thanks for asking.
A system compliant with ITAR would be excellent.
Scholar site provided a very flexible way to create/manage project sites and share them securely with multiple collaborators inside and outside VT and also allowed tracking of file usage by the participants.
DropBox is useful for sharing working documents (articles) because files are easily updated, but it cannot be used for sharing data because it lacks the security needed to protect human subject data.
I will not use Google products.
The new system should directly support the NSF's requirement for a Data Management Plan.
As long as students can sign up for appointments and I can load resources for them to use onto the site, I am happy!
This is important to have available.

We have become reliant on Scholar (project feature) for a variety of needs; research, advising, and administration. An alternative is needed, and it does not need to be Canvas. The combination of "project sites" in Scholar with "course sites" resulted in a very cluttered hosting environment over time for all users.
Our use case is pretty lightweight (CAS Authn/Z + roster + e-mail/announcement capability + calendar + document repo) so I'd imagine that any solution for project sites being contemplated as a Scholar replacement will work for us.
It is vital to have fine-tuned access and administration options assignable to different users, with secure, guaranteed privacy, and CAS verification.
This is a critical communication feature that needs to be available on Canvas. We need to be where our students are, so they get timely access to announcements, forms, etc.
Need something less complicated than Scholar. Need to be able to find project sites more easily.
We sponsor about 18 different awards that require nomination packets and access by committee members scattered throughout the university. Scholar was indispensable for us getting rid of incredible amounts of paper file copies and not having to send by regular or campus mail, and to be able to access anytime of the day or night..
Sorry, needed to see what the survey questions were, so that I could make sure the appropriate people completed the survey. Thanks.
A common login interface for multiple related project sites would also be helpful. Thank you for taking this on.
Project sites need to be more functional in being able to upload word documents without losing the formatting or not uploading at all. I have used one of my Scholar sites to distribute a newsletter weekly to students and could not copy and paste my Word documents into it without losing all of the formatting.

Statistic	Value
Total Responses	49

Appendix II – Glossary

Encryption - is the process of encoding messages or information in such a way that only authorized parties can read it. Encryption does not of itself prevent interception, but denies the message content to the interceptor. In an encryption scheme, the intended communication information or message, referred to as plaintext, is encrypted using an encryption algorithm, generating cipher text that can only be read if decrypted.

IMS - Identity Management Services

FERPA - Family Educational Rights and Privacy Act
FERPA is a Federal law that protects the privacy of student education records. The law applies to all schools that receive funds under an applicable program of the U.S. Department of Education. FERPA gives parents certain rights with respect to their children's education records. These rights transfer to the student when he or she reaches the age of 18 or attends a school beyond the high school level. Students to whom the rights have transferred are "eligible students."

HIPPA - Health Insurance Portability and Accountability Act
HIPAA is the acronym for the Health Insurance Portability and Accountability Act that was passed by Congress in 1996. HIPAA does the following:

- Provides the ability to transfer and continue health insurance coverage for millions of American workers and their families when they change or lose their jobs;
- Reduces health care fraud and abuse;
- Mandates industry-wide standards for health care information on electronic billing and other processes; and
- Requires the protection and confidential handling of protected health information

PII - Personally identifiable information

SBI - Sensitive Personal Information

VT GAE Account - Virginia Tech Google Auxiliary E-mail, a construct setup a VT to allow for an account to be owned by a department for sharing files in a share space. Not to be confused with **G**oogle **A**pps for **E**ducation.

AD - Active Directory

LMS - Learning Management System

LTI - Learning Tools and Interoperability that work with the Learning Management System

WIKI - is a website which allows collaborative modification of its content and structure directly from the web browser. In a typical wiki, text is written using a simplified markup language (known as "wiki markup"), and often edited with the help of a rich-text editor.

Appendix III - Project Sites Product Comparison Matrix

Key (for "Use Case" ratings)

0: does not meet any requirements
1: meets minimal requirements, but is deemed inadequate
2: meets some requirements, but is deemed inadequate
3: meets basic requirements
4: meets most requirements
5: meets all requirements

Bright GREEN is the recommendation.

	Canvas	Enterprise Wiki	Google Apps	SharePoint Online	Box	DropBox	Scholar
System Location	https://canvas.vt.edu	https://webapps.es.vt.edu/confluence/	https://start.google.vt.edu	https://virginiatech-my.sharepoint.com	https://www.box.com	https://www.dropbox.com	https://scholar.vt.edu
Storage	Site Limit is 5 GB. "My Files" Limit is currently 50 MB. (initial settings that can be altered as needed)	Ask how big before they create. VT currently has 30 GB of space on the NAS for this.	Unlimited.	Personal OneDrive is unlimited. The VT policy for site collection allocation is currently that Departmental Sites receive 1 TB to start with an option to expand to 2 TB.	Based on license. Other universities have unlimited storage and 15GB file size limit.	Based on license.	Restricted only by existing hardware. 28TB total on VT NAS (as of 10/1/2015)
Familiarity	Current chosen LMS, eventually nearly	Survey results indicate a small percentage use it for new project sites.	Survey results indicate 63% use for new project sites.	Survey results indicate 23% use for new project sites.	Survey results indicate 5% use	Survey results indicate 44% use	Everyone impacted, nearly everyone at VT

	Canvas	Enterprise Wiki	Google Apps	SharePoint Online	Box	DropBox	Scholar
	everyone will have knowledge.				for new project sites.	for new project sites.	has some Scholar skills.
Use Cases							
General Summary	**Pros** -Bulk PID Import -CAS Integration -Easy Site Setup -Google Doc Sharing -IMS Integration **Cons** -Available Free Storage (unknown) -Manual setup of external accounts -No WebDav or Local Sync Option. -Limited File (granular) controls -Language all "course centric"	**Pros** -CAS Integration **Cons** -Available Free Storage -Manual setup of external accounts -Manual setup required for any accounts or sites -No WebDav or Local Sync Option. -Permissions set on pages, not files	**Pros** -Available Free Storage -Bulk PID Import -Flexible Calendar System -File/Folder Permission Granularity -All students have accounts **Cons** -Complex Site Setup -Files linked to owner, not folders -VT Limitations -GAE Concept -Confusion between personal and work Gmail -Lack of knowledge/training -Lack of central support -VT Directory (workaround by adding users to	**Pros** -Available Free Storage -Everyone has a license -Familiarity with Microsoft products -File/Folder Permission Granularity -Hokies AD Security Groups **Cons** -Complex site setup -VT Limitations -Not everyone has created a Hokies account -Not everyone has access with their Hokies AD credentials -Students not visible in AD -Provisioning requires Dean signature for OU and Departmental collection sites -VT branded templates not available currently -Lack of central support -@w2k.vt.edu credential confusing to users -Exchange Online is not integrated	**Pros** -Available Free Storage (assuming license purchase) -CAS Integration Probable -File/Folder Permission Granularity **Cons** -Price -Setup Process Unknown at Enterprise Level	**Pros** -Available Free Storage (assuming license purchase) -CAS Integration Probable -File/Folder Permission Granularity **Cons** -Price -Setup Process Unknown at Enterprise Level	**Pros** -CAS Integration -Bulk PID Import -Easy Setup -File/Folder Permission Granularity -Easy to add guests **Cons** -Available Free Storage -Maintenance and Labor Costs

	Canvas	Enterprise Wiki	Google Apps	SharePoint Online	Box	DropBox	Scholar
			Contacts or knowing PIDs)				
File Sharing - Internal	**Rating** **3/5** ■■■□□ **Pros** -See above **Cons** -See above	**Rating** **3/5** ■■■□□ **Pros** -See above **Cons** -See above	**Rating** **5/5** ■■■■■ **Pros** -See above **Cons** -See above	**Rating** **4/5** ■■■■□ **Pros** -See above **Cons** -See above	**Rating** **5/5** ■■■■■ **Pros** -Main purpose of product -see above **Cons** -see above	**Rating** **5/5** ■■■■■ **Pros** -Main purpose of product -see above **Cons** -see above	**Rating** **5/5** ■■■■■ **Pros** -see above **Cons** -see above
File Sharing - External	**Rating** **1/5** ■□□□□ **Pros** -See above **Cons** -See above	**Rating** **1/5** ■□□□□ **Pros** -See above **Cons** -See above	**Rating** **5/5** ■■■■■ **Pros** -See above **Cons** -See above	**Rating** **4/5**■■■■□ **Pros** -See above **Cons** -See above	**Rating** **5/5** ■■■■■ **Pros** -Main purpose of product -see above **Cons** -see above	**Rating** **5/5** ■■■■■ **Pros** -Main purpose of product -see above **Cons** -see above	**Rating** **5/5** ■■■■■ **Pros** -see above **Cons** -see above
File Sharing - Permalink**	**Rating** **0/5** □□□□□ **Pros** -See above **Cons**	**Rating** **0/5** □□□□□ **Pros** -none **Cons**	**Rating** **4/5** ■■■■□ **Pros**	**Rating** **4/5** ■■■■□ **Pros** -URL defined by site **Cons**	**Rating** **3/5** ■■■□□ **Pros**	**Rating** **2/5** ■■□□□ **Pros** -Time Controls **Cons**	**Rating** **4/5** ■■■■□ **Pros** -URL Shortening -Time Controls

	Canvas	Enterprise Wiki	Google Apps	SharePoint Online	Box	DropBox	Scholar
	-should not assume permanency in Canvas	-sharing exists by page only	-URL defined by site, if using a site instead of Drive. -URL Shortening (goo.gl). **Cons** -File Ownership Problem (file disappears with deleted owner accounts)	-No cons beyond initial setup. -No Time Controls	-URL can be customized, if unique. -Time Controls **Cons** -Renewal would depend on funding.	-No URL customization (unless available in DropBox Pro). -Renewal would depend on funding.	**Cons** -Decommission Eminent
Collaboration (Job Searches, Promotion and Tenure, Awards, etc)	**Rating** **1/5** ■□□□□ **Pros** -See Above **Cons** -File/Folder Permission Granularity	**Rating** **2/5** ■■□□□ **Pros** -Page Permission Granularity **Cons** -See above	**Rating** **4/5** ■■■■□ * Would be perfect, if VT limitations were resolved.	**Rating** **4/5** ■■■■□ * Would be perfect, if VT limitations were resolved.	**Rating** **4/5** ■■■■□ * Would be perfect, if adequate licenses and setup were in place.	**Rating** **4/5** ■■■■□ * Would be perfect, if adequate licenses and setup were in place.	**Rating** **4/5** ■■■■□ * Would be perfect, if service was continued.
Training/Course (non-Degree)	**Rating** **4/5** ■■■■□ **Pros** -Migration from Scholar Available **Cons** -Manual setup for guest accounts	**Rating** **2/5** ■■□□□ **Pros** -Easy to publish content **Cons** -Can't track progress -No assessment options	**Rating** **2/5** ■■□□□ **Pros** -See above **Cons** -no particular course site features built-in	**Rating** **2/5** ■■□□□ **Pros** -See above **Cons** -no particular course site features built-in	**Rating** **0/5** □□□□□ Not included in core product.	**Rating** **0/5** □□□□□ Not included in core product.	**Rating** **5/5** ■■■■■ **Pros** -Easy to add guests **Cons** -See above

	Canvas	Enterprise Wiki	Google Apps	SharePoint Online	Box	DropBox	Scholar
							
Advising	**Rating** **4/5** ■■■■□ **Pros** -See Above **Cons** -Manual Advisee Entry -No Outlook Integration -No 2-way Sync w/ Google -No forced notifications.	**Rating** **1/5** ■□□□□ **Pros** -File Sharing -Page Permission Granularity -KnowledgeBase **Cons** -Requires App for anything else	**Rating** **3/5** ■■■□□ **Pros** -Auto-generated groups pre-populated with advisees (warning: don't use last year's groups). -Advanced appointment tool	**Rating** **3/5** ■■■□□ **Pros** -Possible -Exchange/Outlook Integration **Cons** -Would require extensive customization	**Rating** **1/5** ■□□□□ **Pros** -File Sharing **Cons** -Requires App for anything else **Rating** **1/5**	**Rating** **1/5** ■□□□□ **Pros** -File Sharing **Cons** -Requires App for anything else	**Rating** **4/5** ■■■■□ **Pros** -Advanced Sign-up Tool **Cons** -Requires workarounds -No Outlook Integration **Rating** **4/5**
Email Distribution (aka. Listserv)	**Rating** **1/5** ■□□□□ **Pros** -Student chooses how to receive communication **Cons** -Conversations (Personal Mailboxes) -No address for sites/groups	**Rating** **0/5** □□□□□ Note: A user may "Watch" a page. Otherwise, email distribution is not possible.	**Rating** **4/5** ■■■■□ **Pros** -Google Groups **Cons** -Difficult to add users not in Contacts (or without knowing their PID)	**Rating** **2/5** ■■□□□ **Pros** -Exchange/Hokies AD Groups **Cons** -Exchange Online not Implemented (w/ Office 365 Groups)	**Rating** **0/5** □□□□□ Not included in core product.	**Rating** **0/5** □□□□□ Not included in core product.	**Rating** **4/5** ■■■■□ **Pros** -User groups already populated. **Cons** -Difficult to add users not in Contacts (or without knowing their PID) -Groups not listed in any directory.
Scheduling	**Rating** **3/5** ■■■□□	**Rating** **0/5** □□□□□	**Rating** **5/5** ■■■■■	**Rating** **3/5** ■■■□□	**Rating** **0/5** □□□□□	**Rating** **0/5** □□□□□	**Rating** **4/5** ■■■■□

	Canvas	Enterprise Wiki	Google Apps	SharePoint Online	Box	DropBox	Scholar
	Pros -Sites already loaded with student accounts **Cons** -Less functionality than Scholar for time blocks	Not included in core product.	**Pros** -See above **Cons** -See above	**Pros** -See above **Cons** -See above	Not included in core product.	Not included in core product.	**Pros** -Comprehensive sign-up tool **Cons** -Can be very slow
Web Site	**Rating** **2/5** ■■□□□ **Pros** -Public setting available -WYSIWYG Editor **Cons** -Minimal site building capabilities	**Rating** **2/5** ■■□□□ **Pros** -Public setting available -WYSIWYG Editor **Cons** -Minimal site building capabilities	**Rating** **4/5** ■■■■□ **Pros** -Google sites pretty easy to use and setup. **Cons** -See above	**Rating** **3/5** ■■■□□ **Pros** -See above **Cons** -See above	**Rating** **0/5** □□□□□ Not included in core product.	**Rating** **0/5** □□□□□ Not included in core product.	**Rating** **3/5** ■■■□□ **Pros** -HTML possible **Cons** -Minimal site building capabilities -Portfolio tools are close
Wiki (Knowledgebase)	**Rating** **0/5** □□□□□ **Pros** -none **Cons** -no Wiki features	**Rating** **5/5** ■■■■■ **Pros** -Wiki -Wiki Markup **Cons** -see above	**Rating** **1/5** ■□□□□ **Pros** -See above **Cons** -See above	**Rating** **1/5** ■□□□□ **Pros** -See above **Cons** -See above	**Rating** **0/5** □□□□□ Not included in core product.	**Rating** **0/5** □□□□□ Not included in core product.	**Rating** **2/5** ■■□□□ **Pros** -Simple Wiki tool available **Cons** -limited functionality

	Canvas	Enterprise Wiki	Google Apps	SharePoint Online	Box	DropBox	Scholar
Ease of Use							
Account/Site Creation	Very easy. Setup initially from combination of IMS/Banner data, end user process easy. Accounts only automated for internal people today.	Requires a TeamDynamix Issue and manual setup.	Requires a ServiceNow incident and manual setup for a GAE account that can be administratively transferred between PIDs.	May require departmental SharePoint support and/or Lynda training.	Easy. Setup can be done through IMS/Banner data. Group accounts can be set up via requests to Box administrator.		Easy and understood at VT.
Contribution	Very easy. Upload into Files. No WebDAV.	Moderately easy.	Easy to drag and drop into a Drive folder linked to any Google Drive (including a GAE). Drive is now a location in Microsoft Office products.	Links to MS Office best. Easy to drag and drop into a document library of the SharePoint site. An Office 365 user's OneDrive (which resides in SharePoint Online) is similar to Google Drive and can be synchronized to a local folder.	Very easy. Depending on role, members can upload, add, modify, edit, and delete. Most file types accepted including videos.		Easy and understood at VT.
Printing	Canvas allows for a variety of formats	Printing is via native OS. Files can be	Printing is via native OS. Files	Printing is via native OS. Files can be opened in editors, readers,	Printing is via native OS.		Printing is via native OS.

	Canvas	Enterprise Wiki	Google Apps	SharePoint Online	Box	DropBox	Scholar
	and can open files and allows printing.	opened in editors, readers, etc.	can be opened in editors, readers, etc. When using Microsoft Office to print to a local printer, files can be printed without first printing to a PDF.	etc. When using Microsoft Office to print to a local printer, files can be printed without first printing to a PDF.	Files can be opened in editors, readers, etc.		Files can be opened in editors, readers, etc.
Sharing	Easy to share within VT; harder for external people (planning ultimately to have CAS guest process used which requires CAS account to be procured). Major issue in using Canvas for this beyond VT.	Can make pages public to share externally, but hard to control by person.	When sharing from Drive, a file can be shared to users of the folder/site, any Google account, Everyone or anyone with a link/URL.	When sharing from OneDrive or a Document Library of a site, a file can be shared to users of the folder/site, any Microsoft account, Everyone or anyone with a link/URL.	Yes. Easy to share. All that is required is the email address (internal or external). Includes granular access controls, expiration of links, password protected, etc. (link).		Easy and understood at VT.
Security							

	Canvas	Enterprise Wiki	Google Apps	SharePoint Online	Box	DropBox	Scholar
Address Book	PID	PID	Google Apps	Hokies	Likely PID		PID
Credentials (including 2-factor)	CAS (with data from IMS).	CAS	Google Apps	Hokies	Active Directory sign-on possible. Can incorporate multi-factor authentication .		CAS (with data from Banner, not IMS)
Dept. Admin Access?	Because sites can be put into a hierarchy (VT-college-department-level-course number), we could put project sites into a similar, parallel hierarchy and give dept admins access to this. Will take some work and planning.	Possible. Usually there is a department admin for wiki sites.	Not easy, unless using GAE.	Requires SharePoint admin and training for this person.	Dept. Admins can be made owners of the site. Unlimited owners of the sites. Requires box.com unique password to manage.		None, unless added manually by site organizer.

	Canvas	Enterprise Wiki	Google Apps	SharePoint Online	Box	DropBox	Scholar
Data Encryption	None	None	Using 3rd-party apps. More Information.	Yes. More Information.	Numerous Box integrated apps that provide encryption, access tracking, and many other secure functions (link). Plus the data at rest in the Cloud is encrypted.		None
File Granularity	Limited control for people who can access, basic time based controls	Page level only.	Very granular control.	Very granular control.	Very granular permissions (link).		Good. Can be confusing but does the job.
FERPA	Fully cleared for FERPA	Not cleared.	Fully cleared for FERPA	Fully cleared for FERPA	Selected by Internet 2 as a secure storage solution (link).		Fully cleared for FERPA

	Canvas	Enterprise Wiki	Google Apps	SharePoint Online	Box	DropBox	Scholar
					fully cleared for FERPA		
Group Permissions	There are groups in Canvas, but they cannot be used to control access to stored files.	Not available yet (but coming…)	Google Groups	Should be able to use Hokies Domain Security Groups. Otherwise, SharePoint Online groups are available.	Yes. Shared accounts stay with the group, not individuals. Sites can be moved to other members if people leave.Groups can be set-up for folder management.		Groups in scholar work pretty well.
Guests (External)	Manual today; need to register using GAMS in future, more complex than others	Read only	Easy to add via email adress	O365 or Live account required, unless accessible to everyone by a link.	Yes. Easy to share links to files with granular permission levels.		yes, only pre-req is email address of guest

	Canvas	Enterprise Wiki	Google Apps	SharePoint Online	Box	DropBox	Scholar
HIPAA	No	No	Paperwork to be processed this year (right after SharePoint).	Paperwork pending.	Yes, for a fee.		No
Multiple Owners	Yes. You can have multiple teachers in a site and they control the content, generally.	Yes	Yes; but requires manual intervention since the GAE is tied to one user at a time.	Yes; Also able to use Hokies Domain Security Groups.	Yes. Shared accounts stay with the group, not individuals. Co-owners can manage folders with their own login/password.		You can have multiple organizers in a site and they control the content, generally.
Recovery - Delete	Can delete sites. Recoverable by Canvas admin only.	Yes	Some ability to go back, but need help from google admin.	Yes, but it is unclear how long it will reside in the Recycle Bin.	Files/folders moved to a Trash folder that can be recovered. Recovery period is set by Admin.		Cannot delete sites without admin access.

	Canvas	Enterprise Wiki	Google Apps	SharePoint Online	Box	DropBox	Scholar
Recovery - Modify	Can delete sites. Recoverable by Canvas admin only.	Old page versions are available	Yes	Yes	Versioning with unlimited versions.		None, other than getting copy from our preprod server which is refreshed weekly.
Features							
Add-ons	Rich set of LTI add-ons possible here.	Yes, but we don't do these often.	Many	Many	A variety of apps at box.com.		Rich set of LTI add-ons possible here, but require software dev to install.
Calendar	Canvas has a built in calendar for all course related items, it is not tied to external calendars, though, like google apps.	Yes, with plugins	Yes (w/ Google Users); can be linked to VT Google accounts	Yes (w/Hokies Users); can be linked to Exchange	No native calendar component, but files can be linked from Google, Sharepoint, Office, etc. calendars.		Built-in calendar in Scholar, but it's not very good and not even integrated into all scholar tools, let alone external tools.

	Canvas	Enterprise Wiki	Google Apps	SharePoint Online	Box	DropBox	Scholar
Calendar Access	RSS Feed - one way only.	Only via wiki	Google Calendar (Web), Android	Same as for Exchange	N/A		Scholar only.
Mailbox	There is a mailbox within each Canvas site and users can share messages with each other using this; doesn't, however, email them out normally.	none	Yes; username@vt.edu (if available)	Possible, but currently broken*; i.e. SMO-ProjectSiteWorkingGroup@exchange.vt.edu	No native mailbox component, but files can be linked from Gmail, Office365, Exchange, etc. Folders can have specified email addresses that automatically store files when received through email.		Yes. Built-in messages tool works for this purpose.

	Canvas	Enterprise Wiki	Google Apps	SharePoint Online	Box	DropBox	Scholar
Mobile Support	Very good mobile application built for Canvas.	Yes, but not great UI.	Excellent, after adding the GAE account and switching to it (assuming ownership matters).	Excellent.	Yes, native apps for iOS, Android, and Windows OS		There is a portal, but it's not very good.
Online Editing	Not really. Files cannot be edited inline in Canvas. One must download/edit/upload files to use it. But has integrated Google Docs.	Yes	Yes	Yes	Yes, online editing or from native app (MS Office, etc.) Example at UMich (link).		Not really. Files cannot edited inline in Scholar. One must download/edit/upload to use it.
System Integration	A variety of LTI tools can be integrated. Plus, Google docs/drive and box.com are easy.	Works with other Atlassian products only.	Lots of options but custom dev work needed.	Lots of options but custom dev work needed.	Banner (Names), LTI integration into Canvas, Office 365, Google Apps.		Some integrations in Scholar, but developer work to turn on more. No google docs/drive or box.com integration, no facebook, no linkedin, etc.

	Canvas	Enterprise Wiki	Google Apps	SharePoint Online	Box	DropBox	Scholar
Tabs per Project	No. Folders only for organizing files.	No	No	Yes - Create links where needed (left navigation bar, top, etc).	Primarily folders.		Yes.
WebDAV	No. Web upload only.	No	No	Windows Explorer	Yes. More information here.		Yes, but quirky and requires support regularly.
Wiki	You can use Canvas pages as a Wiki, but it's not nearly as feature rich as Confluence.	Yes	Sites	Yes, using the built in "Bookmarks" tool or anchor code using the script editor web part.	No native wiki component, but files can be accessed from other wikis.		There is a tool, but it isn't very full featured.
Other	All of the language in Canvas is for courses. Sites are course sites, data owners are teachers. In order to effectively use Canvas for "project sites" people would need to adapt		The type of mailbox can be changed from "Email List" to "Collaborative Inbox", "Web Forum", or "Q&A Forum"	A SharePoint Online site using the Project template may also be used as a Project Management tool, which includes tasks with a GANTT chart, a calendar, a OneNote notebook, a document library, etc.	Some of this information is from the U. Mich. implementation. More info here. Also includes Workflow		Scholar will be going away in May of 2017. It's in the Matrix just as a comparison point.

	Canvas	Enterprise Wiki	Google Apps	SharePoint Online	Box	DropBox	Scholar
	to this terminology barrier.				Automation, document tracking, Admin. view of document activities, etc.		
Costs							
VT owns/uses	Yes	Yes	Yes	Yes	No, but some departments have accounts.	No, but some departments have accounts.	Yes, through Spring 2017
Hardware	Already part of Canvas agreement, nothing additional needed here.	Internal, DBAA	Part of google agreement	Part of MSFT agreement	Cloud based storage solution. No anticipated on-site hardware.		Yes. Would need to keep several application servers + database online to run this.
Migration Path/Tools	Migration tools are purchased.	none	None	None	None	None	N/A
Software/Support	Already part of Canvas agreement, nothing additional needed here, unless storage becomes a	Already purchased but only 2000 licenses for campus.	Support is available to Google Apps administrators.	Support is available at the tenant level to Office 365 administrators.	Available as an Internet 2 service for the entire campus only. $125,00		Would need to maintain Scholar software and keep

	Canvas	Enterprise Wiki	Google Apps	SharePoint Online	Box	DropBox	Scholar
	problem and we have to procure more from Instructure.				0 first year, $112,000 subsequent years for 50,000 licenses.		developers working on this.
Training Options	VT (NLI), Lynda.com	Online documentation by Atlassian, Lynda.com,, and online searches	Online documentation by Google, Lynda.com, and online searches	Online documentation by Microsoft, Microsoft Virtual Academy, Lynda.com, and online searches	Box.com, Lynda.com		
VT Labor	Definitely will be labor to support this; but Instructure likely to provide Tier1 for Canvas, so might be minimal impact on our staff other than FAQs.	Definitely, but nothing additional expected as part of this effort.	Required for setup, changes, and some customizations.	Required for setup, changes, and some customizations.			Significant. A $100-$200k per year in staffing to keep this running.

* The official 4Help response is that SharePoint Online does not support email. This can be fixed in one of two ways: Mail can be forwarded by the Exchange servers to O365 when the email address does not exist at @exchange.vt.edu or sites could use an email address similar to @virginiatech.onmicrosoft.com.

** Permalink = a permanent static hyperlink to a particular file

Open Access
Digital Research and Scholarship
University Libraries

Julie Speer, Associate Dean

Commission on Research

April 13, 2016

Open Access Defined

"Open-access (OA) literature is digital, online, free of charge, and free of most copyright and licensing restrictions" (Suber, 2004)

Value of Open Access

- Visibility of scholarship
- Broader impact
- Dissemination of new knowledge

Open Access Pathways

1. Publication in Open Access Journals
   - Publishers
     - BioMed Central
     - PLOS
   - Journals
     - The BMJ
     - Elementa
     - PeerJ
     - DOAJ

Open Access Pathways

2. Self-archiving in Open Repositories
   - Institutional: Preprints, postprints, working papers, technical reports, datasets, theses and dissertations
     - VTechWorks, VTechData
   - Disciplinary: PMC, arXiv, SSRN

State of Scholarly Communication *(Open Research Pathways)*

- Other forms of digital scholarship
- Datasets as legitimate form of scholarly record
- Open access policies and funder sharing/ management requirements
- Researcher networking and profile systems

Digital Scholarship

Journals/Papers

Open Books/Open Educational Resources

- HathiTrust
- OER Commons
- 4500 OA books

Directory of Open Access Books

Digital Research Projects

- Digital Libraries
- Digital Humanities Projects

Rights/Licenses

- Author Rights
- Creative Commons Licenses

Scholarly Record

Journals/Papers

Research Data

"[a]cceptable products must be citable and accessible including but not limited to publications, data sets, software, patents, and copyrights."
(NSF Grant Proposal Guide, 2014)

"Data should be considered legitimate, citable products of research. Data citations should be accorded the same importance in the scholarly record as citations of other research objects, such as publications."
(Martone, M., (ed.) 2014)

Data Journals
- Nature's *Scientific Data*
- *Biodiversity Data Journal*

Data repositories
- 773 US data repositories
  Registry of data repositories
- Figshare
- Dryad

Discovery & Credit/Attribution
- Global Open Data Index
- Subscription-based
  Data Citation Index
- DataCite

Policies

[Publisher Policy]

Funder Policy

79 funder policies
[Registry of OA Policies]

Funder DMP grant application requirements
- DOE, NSF, NEH, NIH

Data Management Plan:
- Data types
- Data standards
- Sharing
- Use and Reuse
- Storage and preservation

FASTR (S.779/H.R.1477)
- DOA, DOC, DOD, DOE (Educ), DOE, DHHS, DHS, DOT, EPA, NASA, NSF

Institutional Policy

540 institutional policies
[Registry of OA Policies]

- 130 US institutional policies
- Cornell (SCHEV)
- UC Boulder (SCHEV)
- Rutgers (SCHEV)
- University of Maryland College Park (SCHEV) **ETDs**
- Texas A&M (SCHEV) **ETDs**
- Virginia Tech **ETDs**
- MIT
- Caltech
- Georgia Tech
- Harvard (10 schools, centers)
- University of California
- NCAR

Discovery and Impact

Journals/Papers
- Citations
- JIF

Indicators

Altmetrics
- Github forks
- Repository usage stats
- Tweets
- Facebook likes
- Slideshare/ Vimeo views

Profiles
- Google Scholar Profiles
- Academia
- ResearchGate
- Personal websites
- VIVO

Identifiers

Content
- DOIs
- URIs

Researcher
- ResearcherID
- ORCID

Funding Source
- CrossRef Open Funder Registry

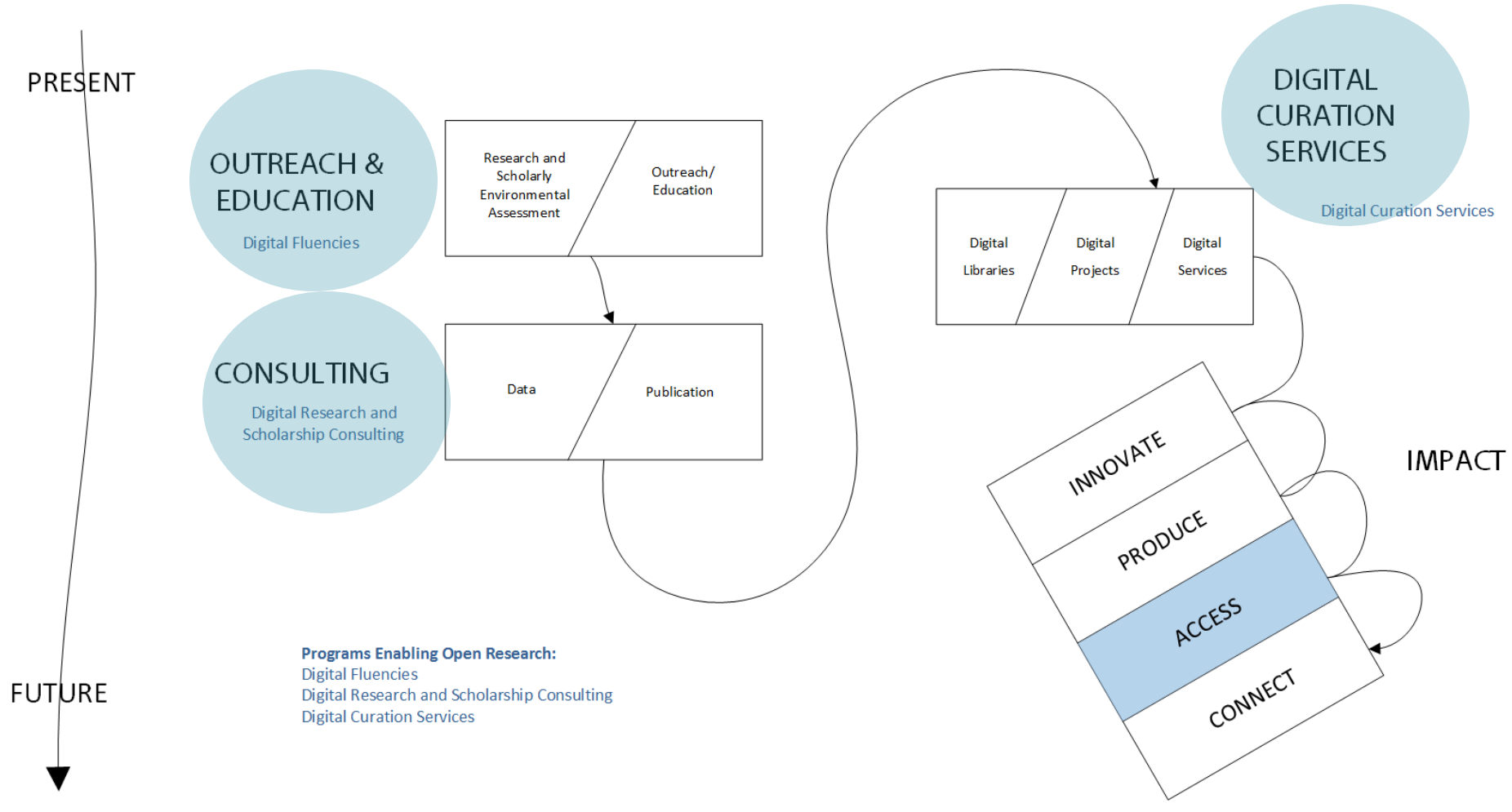
Standards

DataCite

CASRAI (research admin)

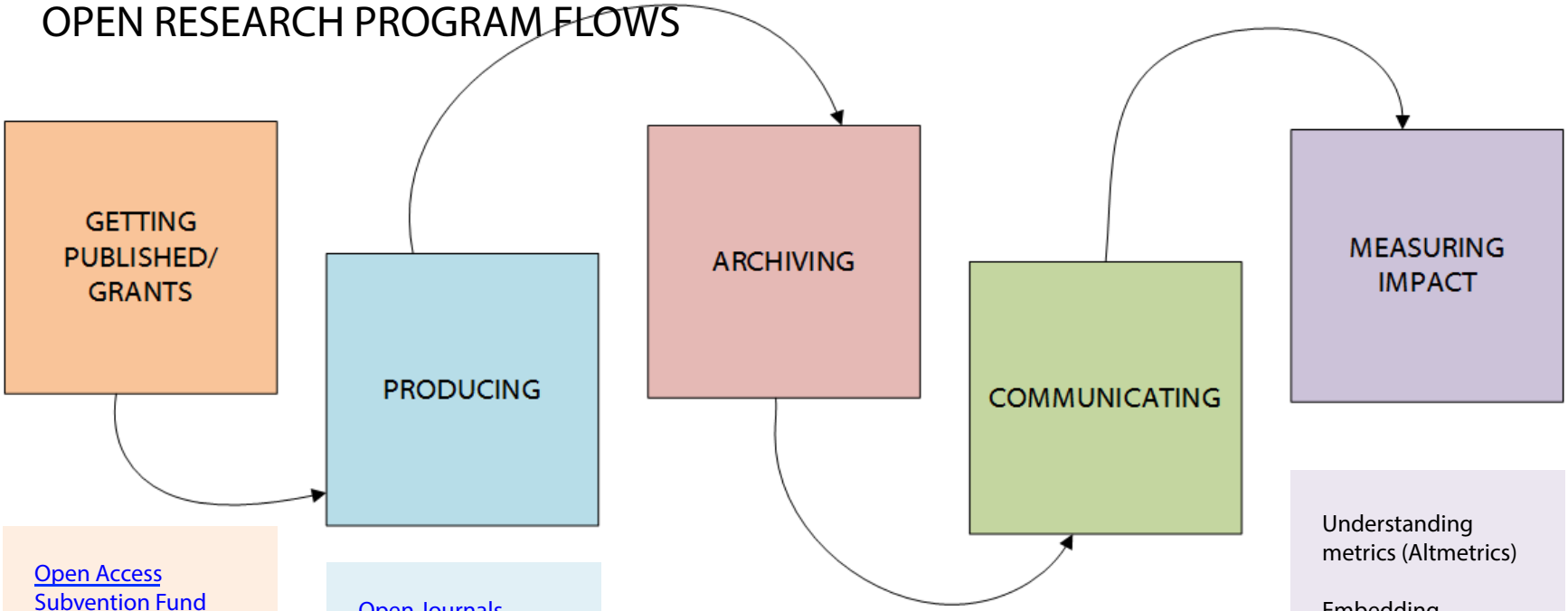
CERIF (research information)

OPEN RESEARCH SUPPORT FLOWS



Programs Enabling Open Research:
Digital Fluencies
Digital Research and Scholarship Consulting
Digital Curation Services

OPEN RESEARCH PROGRAM FLOWS



Open Access Subvention Fund

Open Educational Resources Fund

Membership Discounts

Data Management Plans

OA Journal Quality Assessment

Open Journals

Open Conference Proceedings

Digital Project Support (OER)

Digital Library Development

Digitization Services

VTechWorks

VTechData

EFARS integration

Distributed Preservation

Researcher Identifiers (ORCID)

VIVO

Creative Commons/ Author Rights

Understanding metrics (Altmetrics)

Embedding altmetrics in library digital services

Open Access at Virginia Tech

- Open Access Guide / OA Week
- Data Management Guide / Open Data Day
- Open Educational Resources Guide / OE Week
- NLI Workshops/Sessions
- VTechWorks
- VTechData
- Publishing Services
- Virginia Tech VIVO

University Libraries

Programs Enabling Open Research:

Digital Research and Scholarship Consulting
Digital Fluencies
Digital Curation Services
Digital Library Development

SCHOLARLY COMMUNICATION TEAM

Gail McMillan, Director, Scholarly Communication
Peter Potter, Director, Publishing Strategy
Philip Young, Scholarly Communication Librarian
Anita Walz, Open Education, Copyright and Scholarly Communication Librarian
Virginia (Ginny) Pannabecker, Health, Life Science, and Scholarly Communication Librarian
Inga Haugen, Agriculture, Life Science, and Scholarly Communication Librarian
Keith Gilbertson, Technology Development Librarian
Chase Dooley, Digital Publishing Specialist

OUTREACH:

- Open Access Week
- Open Education Week
- Open Data Day
- Fair Use Week

CONSULTING/EDUCATION:

- Publishing strategies
- Impact metrics
- Copyright and Fair Use
- Creative Commons licenses

SERVICES:

- Open Access Subvention Fund
- Open Educational Resource Development Fund
- Journal and Conference Proceedings Publication

University Libraries

Programs Enabling Open Research:
Digital Research and Scholarship Consulting
Digital Fluencies
Digital Curation Services
Digital Library Development

DIGITAL RESEARCH SERVICES TEAM

Amanda French, Director, Digital Research Services
Nathan Hall, Assistant Director, Digital Imaging and Preservation Services
Anne Lawrence, Repository Collections Specialist
Melissa Lohrey, Repository Collections Specialist
Digital Projects Coordinator (vacant)

OUTREACH:

Digital Humanities/Digital Scholarship Projects

CONSULTING/EDUCATION:

Digital Humanities
Digital Archiving
Digital Imaging
Digital Preservation

SERVICES:

VTechWorks
Campus and Regional Digitization Services
Digital Preservation Services

University Libraries

Programs Enabling Open Research:
Digital Research and Scholarship Consulting
Digital Fluencies
Digital Curation Services
Digital Library Development

DATA SERVICES TEAM

Andi Ogier, Associate Director, Data Services
Natsuko Nicholls, Research Data Consultant
Shane Coleman, Data Curator
Chreston Miller, Data and Informatics Consultant Engineering
Ed Brooks, Geospatial Data Consultant
Data and Informatics Consultant Sciences (vacant)
Data and Informatics Consultant Art and Design (vacant)
Informatics Project Coordinator (vacant)

OUTREACH:

Data Management Workshops

CONSULTING/EDUCATION:

Data Management
Data Curation
Data Publishing

SERVICES:

VTechData
Data Management
VIVO

University Libraries

Programs Enabling Open Research:
Digital Research and Scholarship Consulting
Digital Fluencies
Digital Curation Services
Digital Library Development

DIGITAL LIBRARY DEVELOPMENT TEAM

Zhiwu Xie, Technology Development Librarian and Team Lead
Yinlin Chen, Software Engineer
Collin Brittle, Software Engineer
Tingting Jiang, Software Engineer
Paul Mather, Systems Engineer
Kimberli Weeks, Technical Director
Software Engineer (vacant)

CONSULTING/EDUCATION:

Repository-enabled Ideation
Big Data Infrastructure
Cloud Computing

SERVICES:

Digital Curation Infrastructure Development

Julie Speer
jspeer@vt.edu

VirginiaTech
Invent the Future

Commission on Research

April 13, 2016

Scot Ransbottom
ransbottom@vt.edu

VirginiaTech
Invent the Future

Next Generation LMS Program

- Four projects that result in the replacement and decommissioning of Sakai/Scholar

Scholar Course Sites	Scholar Project and Administrative Sites	Next Generation ePortfolios	SPOT Online
• Official course sites for faculty teaching undergraduate and graduate courses	• Used by groups from search committees to research projects to manage documents and communication	• A specialized use case that allows students to demonstrate their learning by curating a collection of evidence	• Sakai provides the infrastructure for SPOT online

- Timeline

Fall 2015

Migrations begin to Canvas for courses

Early planning for **Project Sites**, ePortfolios, and SPOT

Spring 2016

2/3 of course sites migrated to Canvas

Projects fully underway for Project Sites, ePortfolios, and SPOT

Summer 2016

Migrations for all projects underway

Fall 2016

Migrations continue

Spring 2017

Migrations complete

Sakai fully decommissioned

VirginiaTech
Invent the Future

Project Sites

- Community feedback during the Spring 2015 proof-of-concept indicated the importance and impact of project sites
  - Engagement during the proof-of-concept included six town halls, 12 meetings with college and academic leadership groups, student association input, meetings with Commissions and administrative leaders, and a variety of NLI sessions

- As a result of this input, we partnered with the IT Council to robustly document requirements and evaluate prospective alternatives
  - Including a university-wide survey with 249 responses (survey Aug '15 – Sept 15, 2015)

- Final ITC report expected soon. Known outcomes include: (Final December 17, 2015)
  - Identification of five primary use cases: file sharing, collaboration, training/courses, advising, and email distribution
  - Intention to offer multiple, supported options for project sites
    - Including at least one option that will have hands-on migration assistance akin to current Canvas migration offerings

VirginiaTech
Invent the Future

Scholar at Virginia Tech

1. Project sites

Project sites facilitate collaboration. Users can discuss ideas, share files, and create and share web pages. Site owners can invite non-VT users to participate in Project sites.

Example project sites would be:

- a website where a group can collaboratively work on digital documents,
- a website where a project director can make announcements and share resources, such as electronic documents and web links, with colleagues, or
- an online discussion board.

Sourced from Scholar Basics I: Introduction and Site Creation, updated 12/21/2012

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The IT Council's Working Group's specific goals are to:

- Develop a comprehensive list of how current Scholar project sites are being used by faculty and staff. **Identify** as many **use cases** as possible. Include both internal and external users where possible.
- Develop a list of **products and services that may meet the needs** of the university community. Determine **key components of project and group sites** based on current uses, research into best practices, and other available information.
- Attempt to **test** the identified products and services **in a project team environment**, where feasible. Product managers will be assigned to help coordinate and facilitate use of each of the products.
- Develop a **matrix of characteristics** for each of the products and services. Include information about **issues**, **concerns**, and **strengths** or **weaknesses**.
- Identify tools, products, and services that may not qualify as 'primary' products and services, but that provide **supplemental services needed** by the university community (for example, Doodle for scheduling meetings).
- Work with Central IT to develop a marketing **strategy for the deployment** of the chosen products and services.

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IT Council's Scholar Project Sites Working Group

- David Sampson, College of Veterinary Medicine (Chair)
- Dale Pokorski, College of Engineering
- Chad Graham, VTTI
- Carolyn Furrow, College of Science
- Nate Smith, Office of the University Provost
- Mark Sumner, College of Agriculture and Life Sciences
- Brian Broniak, TLOS

- https://tlos.vt.edu/NextGenerationLMS/scholar-project-sites/

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Identified Use Cases for Scholar Project Sites

- **Academic Advising** – many advisers on campus use Scholar to schedule meetings with and otherwise communicate with their students.
- **Collaboration** – Sharing of documents, emailing between site members, posting announcements, scheduling events, etc. for various groups of people.
- **Email Distribution** (*aka*. ***Listserv functionality***) – Sending out (one way) mass communications to a group of people.
- **File Sharing** – ***Permalink*** – Posting files to a site and then having the documents be available indefinitely for publications and links from other websites.
- **File Sharing** – *Internal* – Sharing files with other VT affiliates.
- **File Sharing** – *External* – Sharing files with people outside of the university (people that don't have a VT PID).
- **Scheduling** – Using calendaring features to plan events and share with others.
- **Training/Courses** (***non-degree***) – Courses that are not part of official VT degree programs.
- **Websites** – General purpose web site building/content sharing.
- **Wikis** (*Knowledge bases*) – Shared, editable documentation for groups.

*there is some overlap in the list above, but in general, these are the main functional areas that will need to be covered as we move away from Scholar for project sites to other products

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Project Sites
Project Updates

https://tlos.vt.edu/NextGenerationLMS/scholar-project-sites/