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Using Google apps to manage embargo records

Automating institutional repository reminders

Using multiple Google apps, the Lucy Scribner Library at Skidmore College creates an automated reminder to manage embargo records of the scholarly works deposited in the college's institutional repository (IR), Creative Matter. This cloud-based embargo reminder can be applicable to other academic libraries that employ Digital Commons or similar IR platforms without built-in embargo reminder functions.

The Lucy Scribner Library employs Digital Commons, a product of Bepress, as the IR platform to manage and publish the creative scholarship from faculty, staff, students, and community members.[1] Managing deposited articles with embargo restrictions or other similar delay-access requirements becomes a challenge in the repository administrator's daily work.
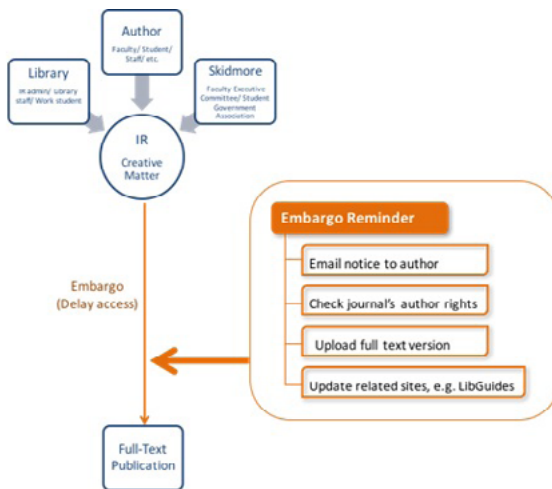
Our needs

Digital Commons provides an embargo field at the submission page as an optional field for items with embargo control need.[2] During the submission process, the site administrator selects the length of the embargo period and uploads the full-text file that can be accessible after the embargo period expires. In other words, when the embargo restriction is lifted, the full text will be automatically released to the public.

However, the Digital Commons automated embargo functionality does not fully meet our specific needs for managing embargo records. Rather than automatically releasing the full-text content without any controls from the library, we prefer an automatic running reminder to keep track of all embargoed articles with various date restrictions and notify the relevant parties when the embargo period of the item is about to expire. Upon receiving the notification, the library can then choose to

Figure 1: Desired workflow before the embargo period expires. View this article online for detail images.

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send an email with the article page link to notify the author that the full text will be accessible in our repository or double check journal-specific author rights regarding the version of the manuscript allowed to be publically accessible. This desired workflow is illustrated in Figure 1.

In addition, given the complications involved in publishing embargoed articles, e.g., articles come from different academic disciplines with varying publication dates and versions allowed for IR deposit, we need a centralized storage site that records the embargo information and other specific requirements of all embargo restricted items. Finally, we would prefer an embargo reminder tool that is easy to use and free of extra subscription charge, which can help the library save not only additional spending, but also training time for staff and work students.

Figure 2: Embargo record fields in Google Forms.

Upon researching various open source tools, we find that Google apps have the potential to meet our requirements for the embargo reminder. By leveraging and connecting multiple Google apps, we create an automatic and cloud-based workflow, consisting of Google Forms (information entry), Google Sheets (data storage and calendar trigger), Google Calendar (containing calendar event and sending notification), and Google Drive (cloud storage).

Installation and implementation
Step 1: Preparing and setting up Google Forms
Upon creating a Google account, we set up a Google Form for recording the necessary information of the items with embargo restrictions. The fields in our Google Form include author name, email address, publication title, journal name, publication date, and embargo period. The fields for publication date and embargo period are used to calculate the embargo expiration date, and we need to make sure that these two fields are calculable and consistent in terms of their time units. For the Publication Date field, we use the dropdown calendar to enter the publication date. For the Embargo Period field, we set month as the time unit for the ease of calculation and provide the embargo period options in a dropdown list, e.g., 6 (6 months); 12 (1 year); 24 (2 years), etc. Lastly, under the Google Forms Responses tab, we connect the form with the Google Sheet that stores embargo information.

Step 2: Setting up Google Sheets
We use the Google Sheets built-in formula, ArrayFormula, to calculate the embargo expiration date. We then invoke formMule, an open source Google Sheets add-on script written by New Visions Cloud Lab,[3] to trigger a Google Calendar event, which serves as the embargo reminder in our application.

Figure 3 provides an example. The article information entered through the Google Form spans from Column A to Column J. When a new record is inserted, the ArrayFormula inserted in K1 automatically calculates the embargo expiration date by adding the

publication date (Column I, timestamp information) to the Embargo Period (Column J, number of months) for the entire Column K. Once the formMule add-on is installed, we take advantage of its calendar merge function to trigger a Google Calendar event.

As shown in Figure 4, we set up the calendar merge under "Step 2b: Set up calendar merge." Next, we check "Turn on calendar-event merge feature" and "Trigger event creation on form submit" to allow the Google sheet to trigger a Google Calendar

the reminder via email is the preferred and more reliable choice in our workflow.

Benefits and applications
The primary benefit of using Google apps to manage embargo records is the automation of the entire process. After the necessary information is submitted through the Google Form, the rest of the steps are automatically completed through Google Sheets, Google Sheets add-on formMule, and Google Calendar. When managing an IR, processing
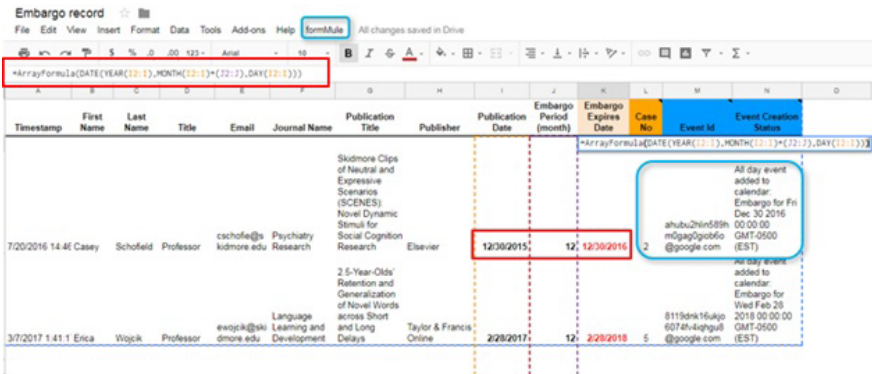

Figure 3: ArrayFormula calculates the embargo expiration date and Google Sheets add-on formMule then simultaneously triggers a Google Calendar event.

event when a new embargo record is simultaneously inserted through the Google Form. Also at the setup stage, we need to enter the designated Google Calendar information and the desired event type. Lastly, we specify the column that will trigger the Google Calendar event, which is Column K (Embargo Expires Date) in our case. Once the initial setups are completed, every time a new embargo record is inserted through the Google Form, a new Google Calendar event will be automatically triggered through this workflow.

Step 3: Setting up Google Calendar
In the final step, we set up the reminder type in Google Calendar, including notification channels and recipients when the embargo period expires. Given that Skidmore College uses Microsoft Outlook and event notifications from Google Calendar cannot be synced with Outlook Calendar, sending

the requests for delay access requires additional attention and proper handling.

Different publication dates, along with different embargo periods and versions of manuscript requirements further complicate the work involved. Moreover, potential changes in library personnel, including the site administrator, library staff, and work students, make it almost impossible to keep track of all embargo records over time. This automated embargo reminder alleviates these complications by creating a calendar event with all the necessary information upon entering a new item.

The process of collecting and publishing scholarly work involves participation of multiple parties (as illustrated in Figure 1). The cloud-based nature of this embargo reminder allows information to be entered from multiple locations (e.g., sharing the Google Form via the link or embedding the

form in a web page). When the embargo is about to expire, the Google Calendar will send the notifications to all parties involved in the final publication stage.

Meanwhile, we are able to maintain the accuracy and consistency of the embargo records once we limit the access to the cords, the workflow can be conveniently adapted and employed to other library projects that involve joint effort and record management over time.
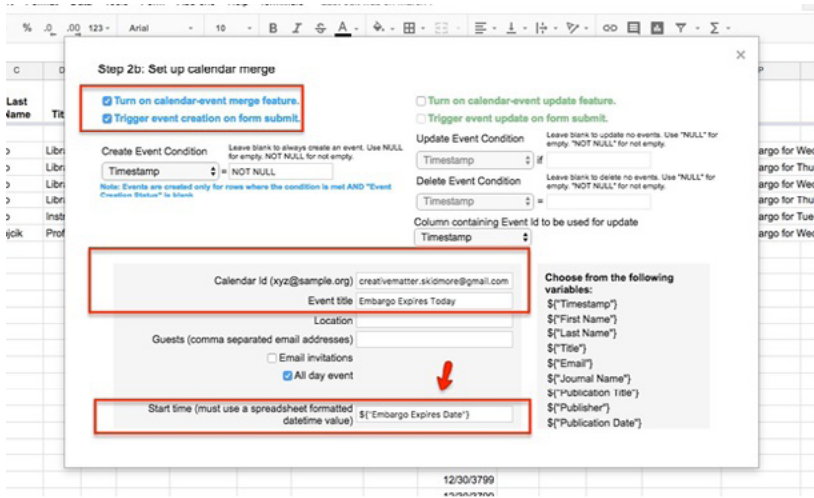
Figure 4: Google Calendar merge settings in Google Sheets add-on formMule.

Google Sheet to specific personnel, e.g., IR administrator.

Conclusion

With the working environment migrating from desktop to cloud, library academics and practitioners become more used to the concept of sharing and the benefit of timely updates brought by cloud-based tools.[4] Through integrating multiple Google apps with their distinct functionalities, we create an embargo reminder workflow that is automatic, easy for library personnel to implement, and free of extra cost. Although this cloud-based embargo reminder is designed to compensate for the lack of notification functions in Digital Commons, it is also applicable to other proprietary IR platforms without built-in embargo reminder functions. Moreover, besides managing embargo re-

Notes

1. Bepress: https://www.bepress.com/.
2. Access Control and Embargoes, "Options for Restricting Content": https://www.bepress.com/reference _guide_dc/access-control/, accessed on August 20, 2017.
3. The formMule Google Sheets add-on script: https://sites.google.com/a /newvisions.org/scripts_resources/scripts /formmule, accessed on August 20, 2017.
4. T. Ivins, "Data-driven decisions: Creating automated reports with data from multiple Google Forms," *College & Research Libraries News,* 77(2), 86–89, doi:https://doi.org/10.5860 /crln.77.2.9447. 🎵