

Leveraging Technological Automation to Boost Productivity Within a Rapidly Growing Online Program

Background

As the popularity of online degree programs continues to grow, many institutions aim to enhance student learning experiences through the use of emerging technologies. While many of these technologies solve incredibly important problems, they don't always communicate with each other in the ways that we would hope. Such lapses in communication between tools often create time consuming tasks for staff.

Our Instructional Technology team has been working hard to identify time consuming workflows that are ripe for automation. Over the past few semesters we have automated several workflows and believe that this presentation will spark important conversations about what other tedious tasks don't necessarily require a human touch. This poster outlines two of the biggest projects that were recently implemented in our program.

In addition to the two larger projects, we have started to develop smaller projects that can be triggered using a slackbot integration. These scripts are set up to run on a remote institutional server (ENIAC) and this integration allows our Instructional Technologists to trigger them using simple commands within our Slack workspace.

By automating these workflows, we were able to create more time for our technologists to think creatively about further innovation.

Github Repository



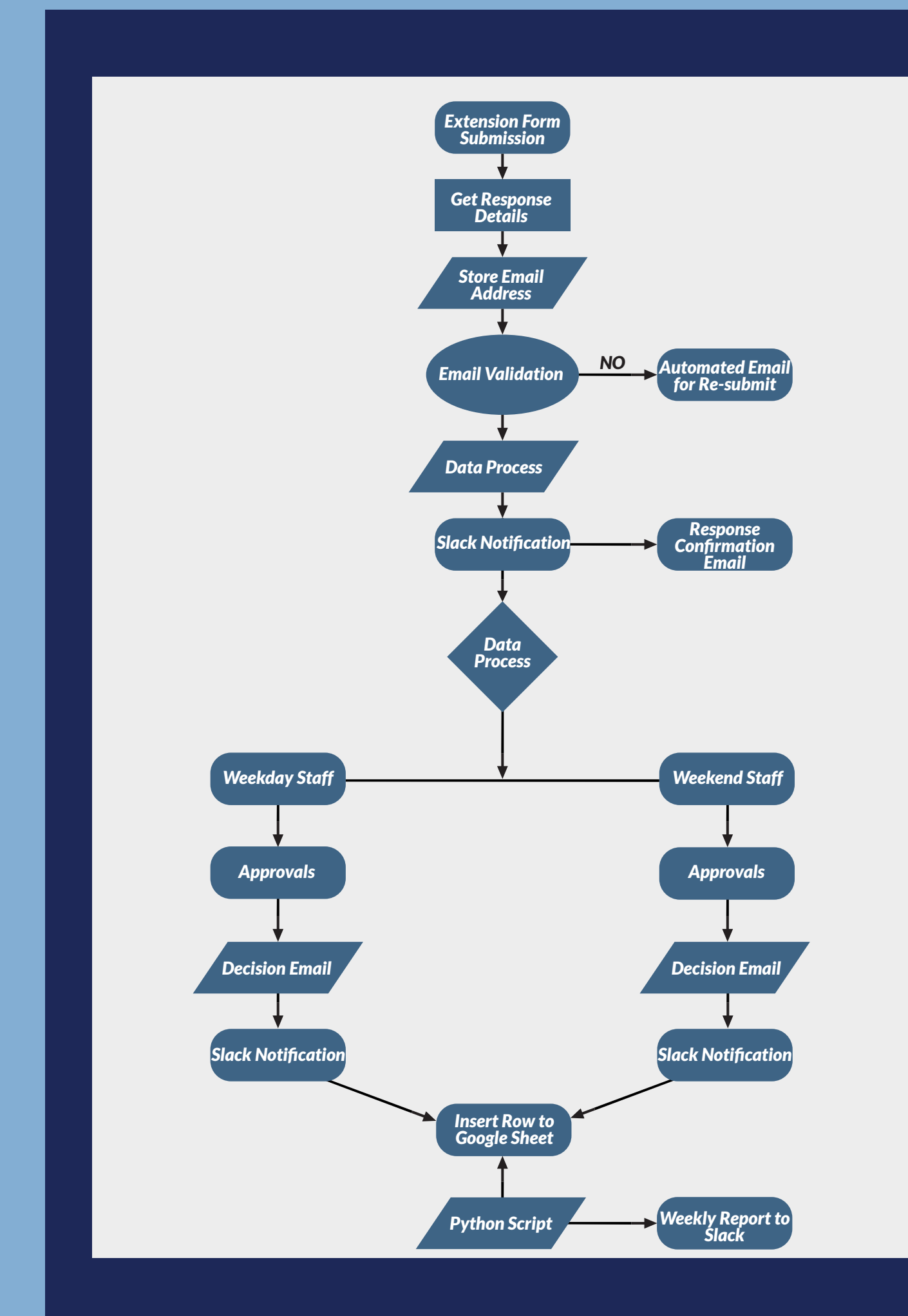
Extension Requests

Each semester, we process over one thousand assignment extension requests for our courses. Many students in our program continue working full time, often while balancing family life. We also have students from 46 different countries. Thus, the careful consideration that we give to assignment extensions is incredibly beneficial to our student body.

We found that responding to these requests was one of the most time-intensive tasks for our Course Managers. Utilizing workflows within Microsoft Power Automate, we are able to automate several of the emails involved in this process. These workflows now provide an extremely valuable and organized set of data for each course.

Workflow Specifics

- Automated email for students after submissions
- Automated Slack notification for Course Manager
- Automated email for students after decision
- Automated record in Google Sheet
- Automated weekly report

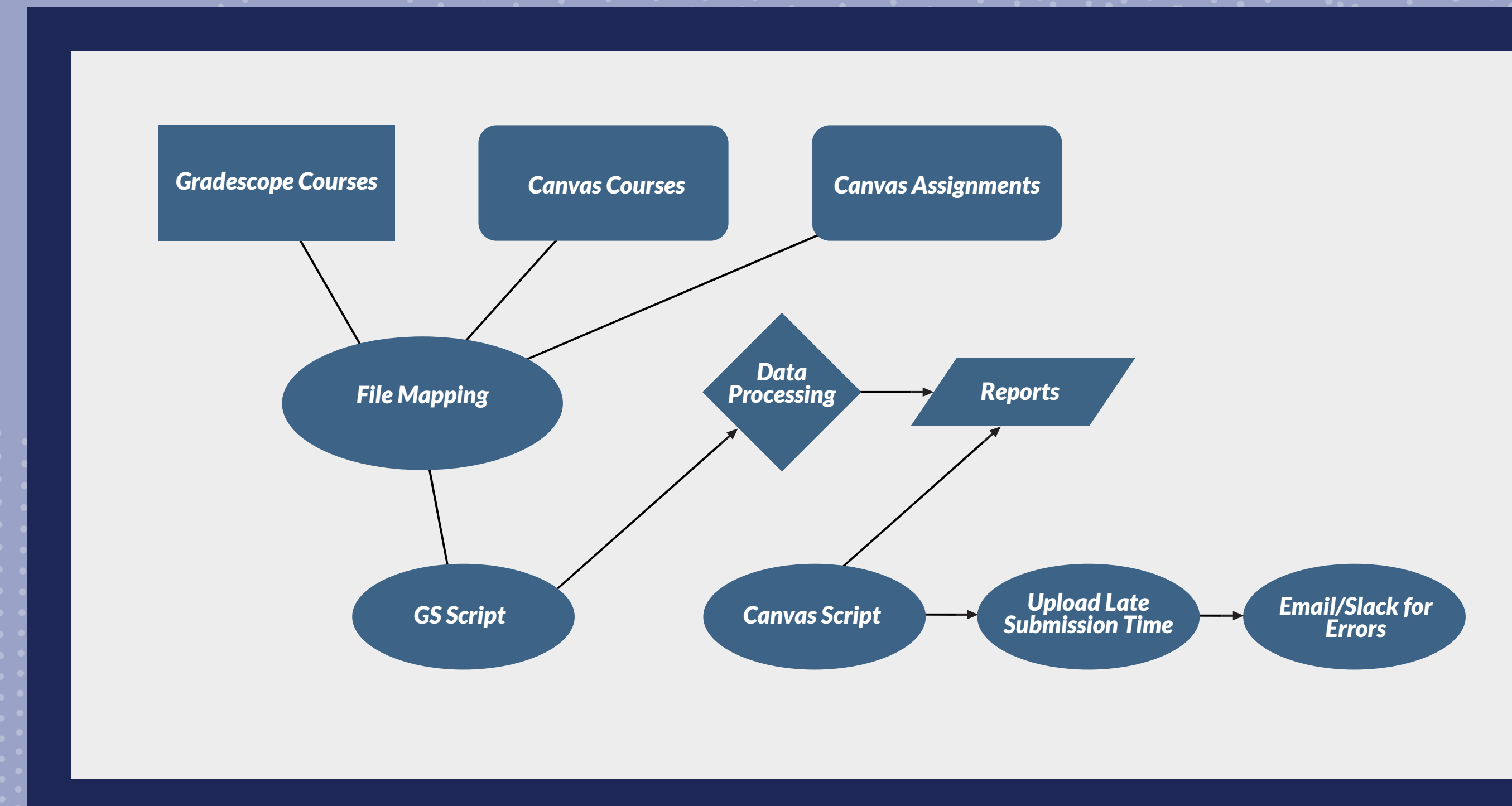


Gradescope Late Submissions

Each semester, we have hundreds of late penalties that need to be manually transferred from one of our LTI platforms (Gradescope) into the Canvas Gradebook. Fortunately, we were able to develop a script that automates this process with the help of the Canvas API. As a result, these late penalties are now automatically applied, and detailed reports on each penalty are shared with the Course Manager.

In essence, we extract the late submission time from Gradescope and upload it to Canvas on behalf of the student. Subsequently, we harness the late policy feature in Canvas to automatically deduct points from students based on their late submission time.

This script was piloted in three courses during the spring 2023 semester and then added to all of our courses that use Gradescope in summer 2023. The script runs twice a week in order to account for due date adjustments, multiple submissions and has a built-in grace period for technical issues.



Slackbot Integrations

Registering courses for missing submissions

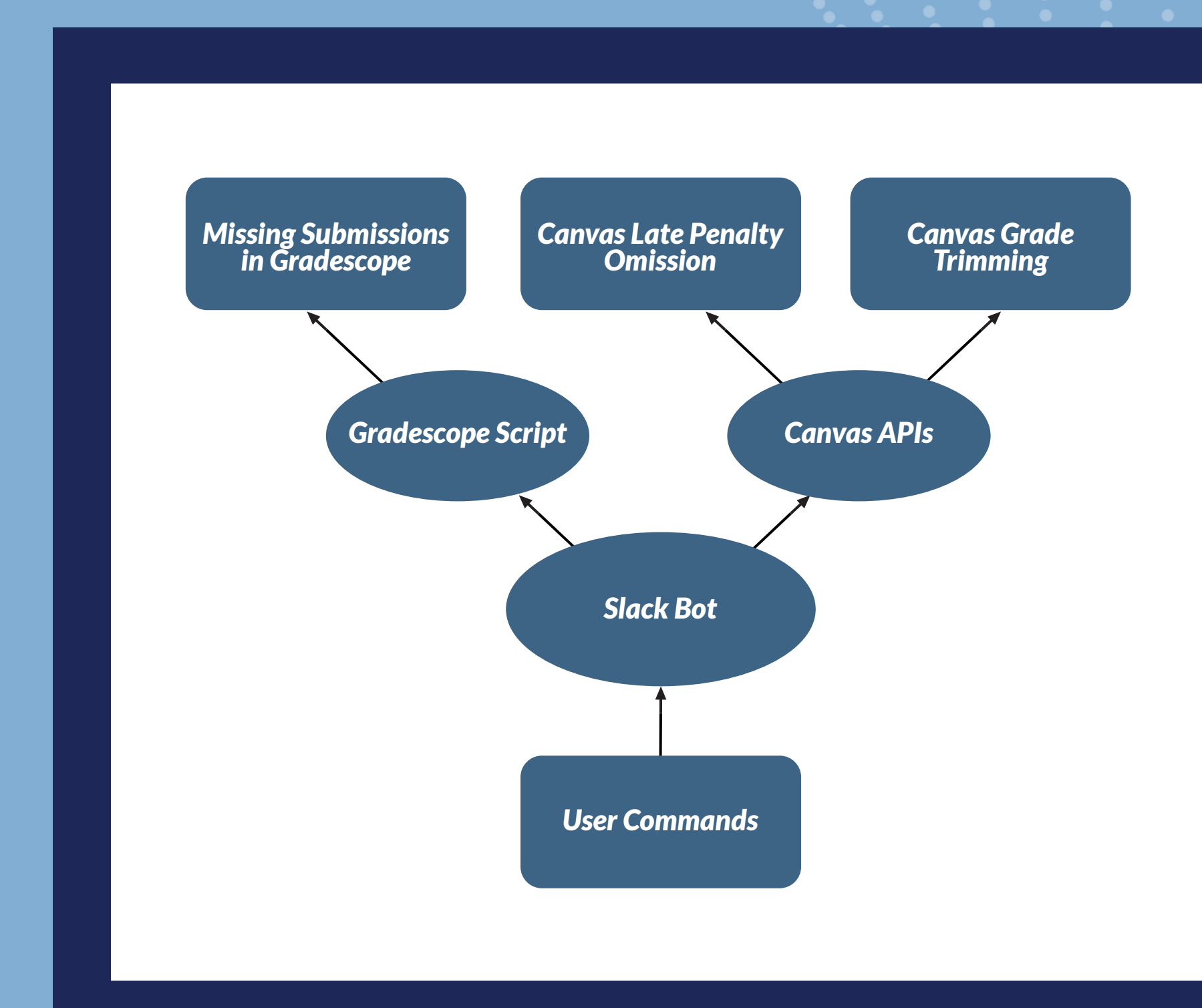
Course managers can request information from the Slackbot about Gradescope assignments. The Slackbot will return a list of students who have failed to submit to an assignment and are now considered to be missing the submission. This enables quick and easy outreach to at-risk students.

Registering Canvas assignments and assignment groups for late penalty omission

When enabling the late policy setting in Canvas there is no option to omit assignments from the late policy. This prevents instructors from creating assignments that should be completed by a specified date, but do not have a late penalty. Examples of this often included unlimited attempt quizzes, projects, and exams where a due date may be desired, but a late penalty is unnecessary. Course Managers can use the Slackbot to indicate assignments that should have the late tag and penalty in Canvas removed from any submission.

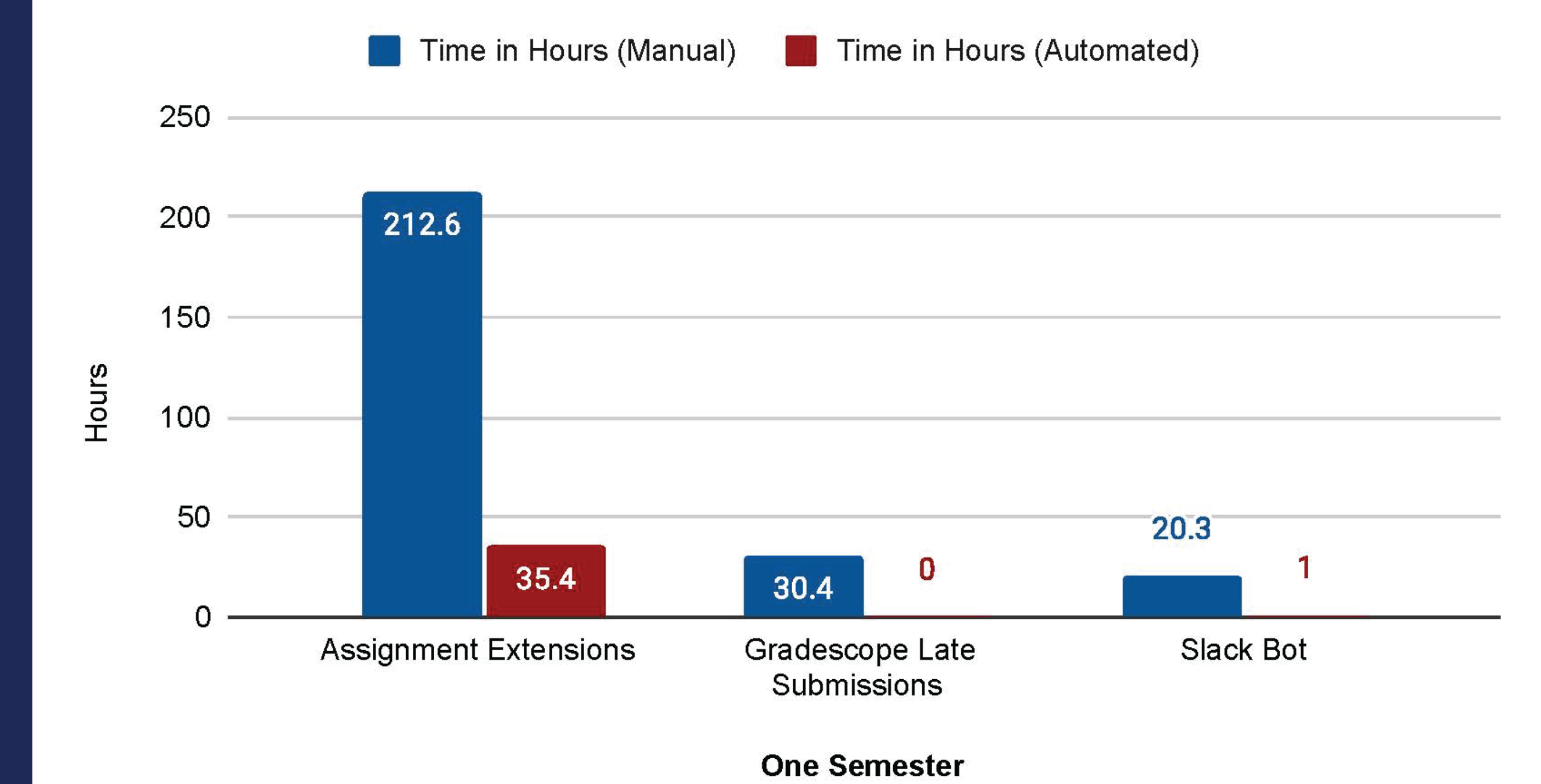
Grade trimming trigger

Select courses in our program have assignments in Gradescope that don't require the students to receive 100% percent in order to receive full credit. These assignments have multiple components and it is made clear to the students that they only need to reach a certain point threshold in order to receive full credit. Since Gradescope pushes full-point values back to Canvas, we developed a script that will trim those values to 100 to avoid unwanted extra credit. This script is triggered by a command via Slackbot.



Time Saved

Manual Time Vs Automated Time



The graphic above shows an estimated amount of time that we are able to save per semester using the automated workflows outlined on this poster. The times spent on each task were estimates and averaged between the last three semesters in our program.

This time that would otherwise be devoted to these tedious tasks is then used by our Instructional Technologists to develop further projects and concentrate on edge cases within our courses.

As our program continues to grow, the time saved by these workflows is also going to grow.

Future Plans

We are always in search of new automation projects to benefit new courses and platforms within our program. Our team of Instructional Technologists is extremely hands-on with all of our courses, as they each serve as Course Manager for 4-5 courses each semester. Course Managers are vital to the success of our courses, as they set up and maintain all of the educational technology for that course. It should be noted that they receive an immense amount of support from the TA teams within each course.

Slack has become central to all of the work in our program and thus we are very excited about the possibilities that the Slackbot offers our team. We will be identifying more scripts and commands to incorporate into the Slackbot over the next few semesters. Having a centralized platform for communication that also allows us to control a variety of workflows helps us to remain efficient and productive.

Project Team

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