TeamBandit

User Manual

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1 Introduction

TeamBandit has been created to help reduce the demand of managing team based courses. This application offers the ability for organizers to easily manage information regarding their courses and for students to submit digitized information. In order to use the application, you will need to make sure you have the latest version of your browser installed and navigate to http://34.216.91.228/organizer-sign-in. This document is a guide for utilizing all of the features created in TeamBandit.

2 Installation

The entirety of this section is for users that are in a position to possibly manage the software. This section is not intended for end users. If you wish to understand how to use the application as a course organizer, please continue to section 3, the End User Guide.

As part of final delivery, the system should have been installed on a platform of your choice. Over time, however, you may want to move to a new platform or re-install the product. In this section of the document you will be walked through the necessary steps to install this product on a new server.

2.1 Initial Server Login

Secure a server via a hosting website (AWS, Digital Ocean, etc). Typically these servers will be classified as web servers and have their outbound facing ports (80 and 443) open and configured for traffic.

1. Open terminal and ssh into server using command provided by hosting service.
    a. For an Amazon AWS server this may look like this 'ssh username@xx.xxx.xx.xxx -i pemfilename.pem'
2. You are now logged onto a fresh server and must set it up to utilize the various technologies in TeamBandit's tech stack

2.2 Tech Setup

This portion of the document will be broken down into sections for each of the large technologies used. These will ready the server for the codebase to be downloaded and run out of the box.

2.2.1 NPM

Node Package Manager is an invaluable tool for ensuring that javascript libraries and packages can be easily installed as they are numerous in this project. Below is a step by step to installing Node on a fresh web server.

1. While already SSHed into web server, type the following command into the terminal ***sudo apt install nodejs***

2. This will initiate the installation, once it is complete you can check that node is on your server by issuing this command
   node -v** or **node –version

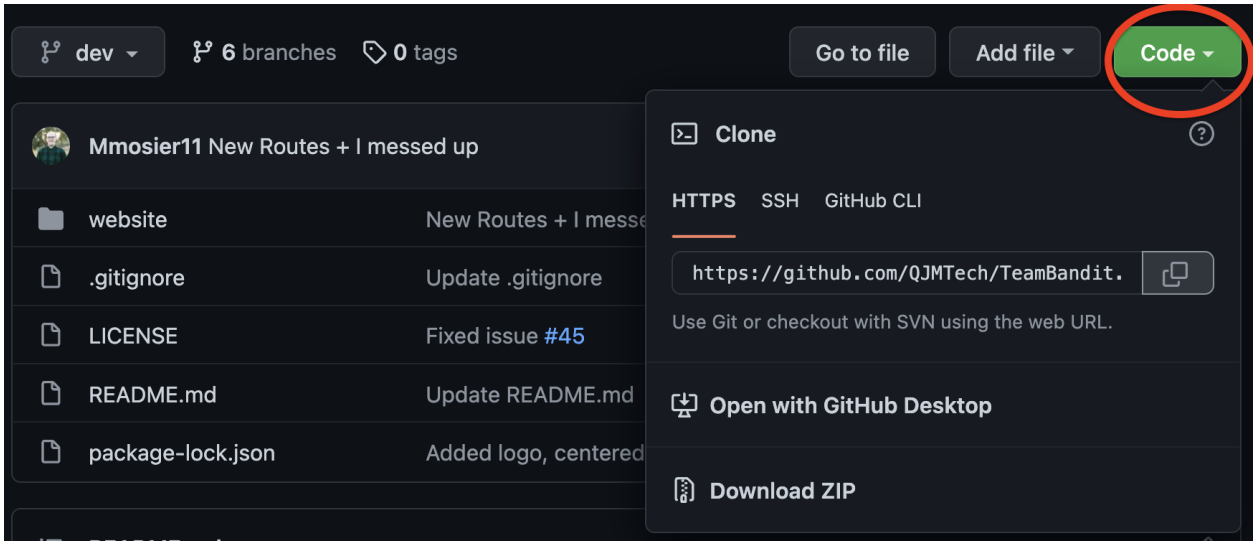
3. Now that you have node installed, you will want its accompanying package manager, NPM. Install this with the command below
   sudo apt install npm

2.2.2 Git/GitHub

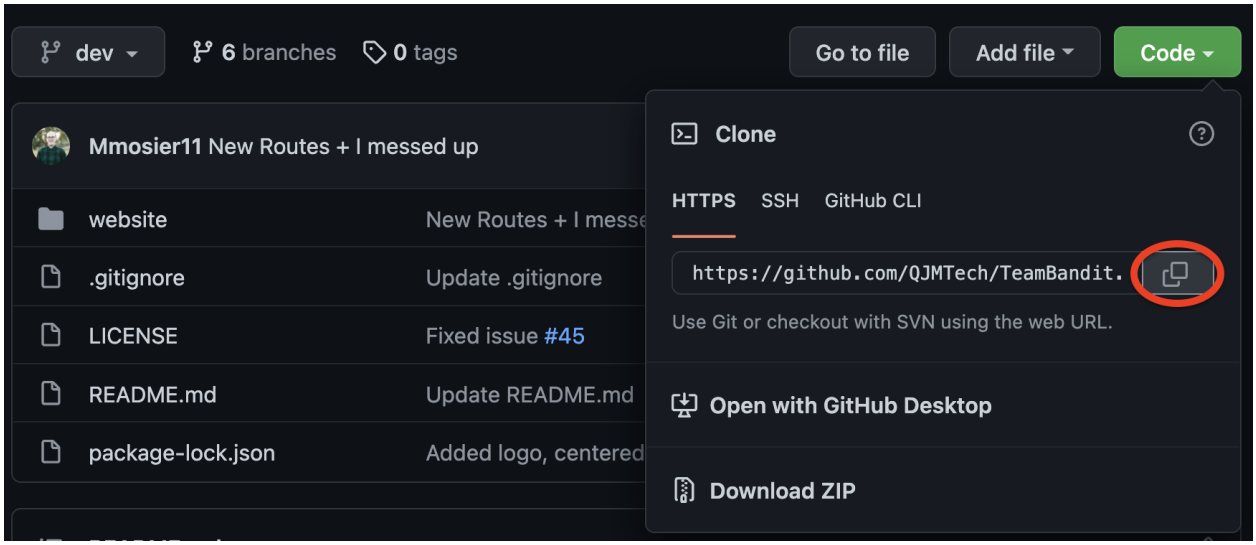
Git/GitHub will be used to get the codebase from the Git repository onto the web server to start serving our files. There are other ways to do this such as downloading the file zip from GitHub and using an FTP program to move it onto the server and unzip it, however installing the code via Git is a great way to get your development cycle started as well. The steps are as follows.

1. First, install Git if your server does not have it automatically using
   sudo apt install git

2. Now that you have Git installed you'll want to set up our repository on our server. This repository can be found at [QJMTech/TeamBandit: Team Management Portal designed to make managing team-based classes easy. (github.com)] (this may be moved in the future but will be provided to you)
3. Click the code dropdown circled in the below image



4. Copy HTTPS link using the button circled below



5. Reopen terminal and type the following (with whatever HTTPS.git line you copied from the repository)
   git clone https://github.com/QJMTech/TeamBandit.git

6. The github repository is now on your website! You can cd into it and begin working on the codebase or starting the application.

2.2.3 NPM Packages

1. One of the benefits of utilizing the create-react-app boilerplate is that there is an included method for installing all dependencies listed in the package.json file that comes with it. Type and run
   npm i

2. This will initiate a lengthy process as Node Package Manager reads the long list of dependencies and installs them onto the server. After it is finished one should be able to begin running the frontend of the application

2.2.4 Python Packages

The web scraping portion of the application requires Python to be installed on the server. Ubuntu distributions come with Python installed but not PIP, its package manager. Details on how to add this can be found below.

1. Run the command below
   sudo apt install python3-pip

2. With Pip installed, one can now begin installing the necessary packages to run the email script

3. Run the command below to install them all at once
   pip3 install requests imaplib email inspect operator uuid psycopg2 re time python3-dotenv datetime dateutil email_reply_parser
4. All python packages are now installed and the script can be run!

2.2 Running the Application

In order to run the application users must simply run the popular react command ‘npm run build’ in order to compile, build, and run the application using forever. To run the python parser (which always remains running and simply polls every minute), users must navigate to the server file and run ‘python3 email_scraper.py’. The application will now be up and running on the server’s IP, which users can navigate to on their web browser.

3 End User Guide

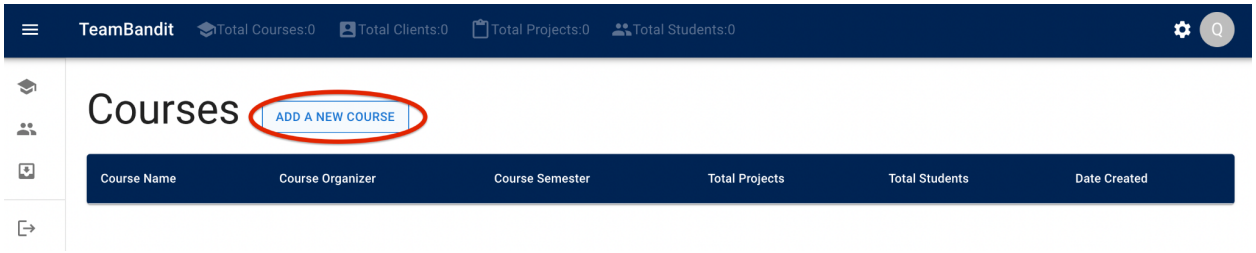
The bulk of this web application revolves around organizers and their ability to create, edit, and manage courses. Thus, this section will be the largest and contain the most information. It will be laid out chronologically in respects to how the organizer would typically operate, starting with creating a course.

3.1 Course Management

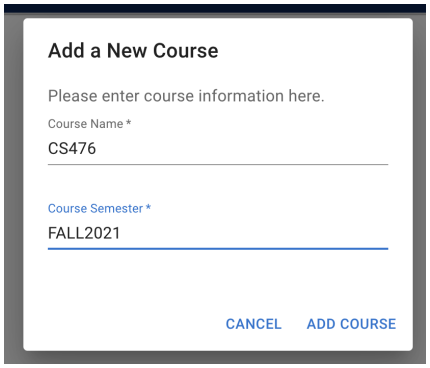
Course Management includes everything to do with a course, from its inception to populating it with information to running the course throughout the semester.

3.1.1 Adding a Course

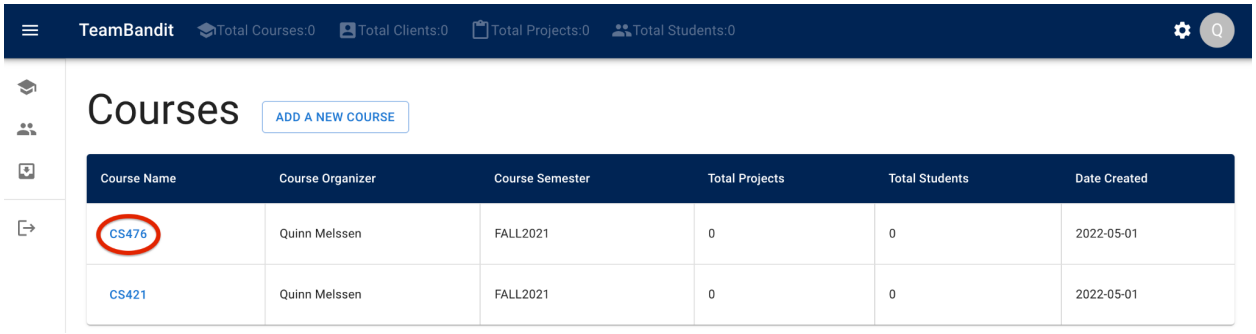
Adding your first course is simple, and begins on the homepage which is pictured below.



Clicking the ‘Add a New Course’ button circled above will open up a dialogue for you, as an organizer, to fill in the information necessary to create a course.



This course, along with any others you have created, will appear in your Courses page now as seen below.



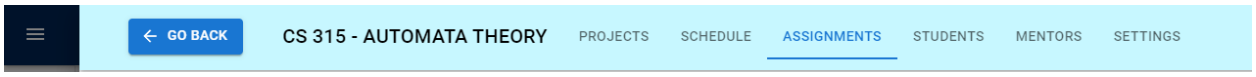
One can now open a course by clicking on the circled link

3.1.2 Assignment Management

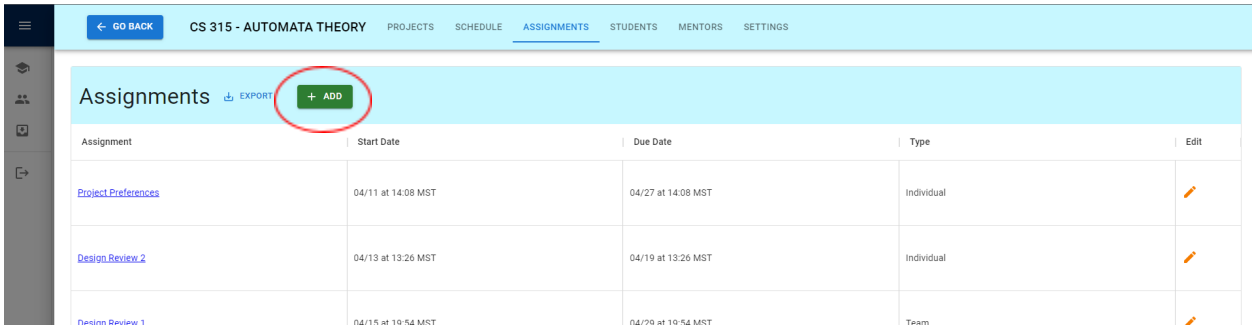
In order to properly get assignment submissions from students we added the ability to add assignments and for students to submit the corresponding files to them. This allows for the assignment submissions to easily be used in our application. They are primarily used in the Team Website (section 5.1).

3.1.2.1 Adding an Assignment

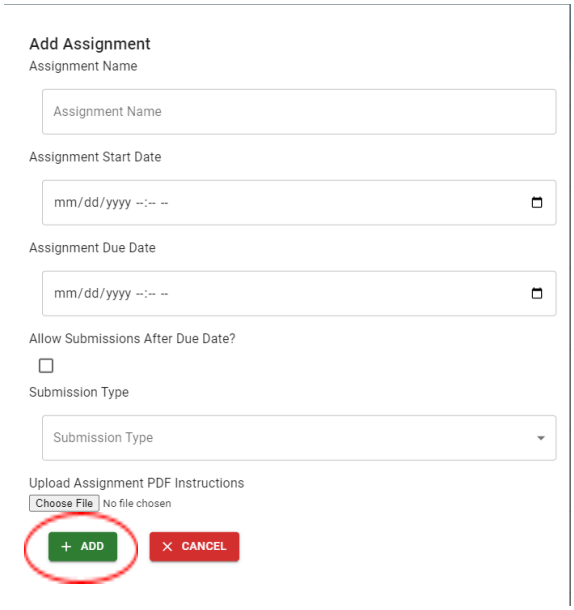
To start by adding an assignment you will want to navigate to the assignments tab.



Once there you will want to click on the Add button



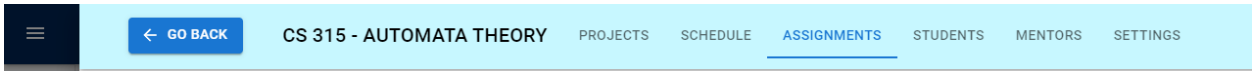
Next you will want to fill out the corresponding information.



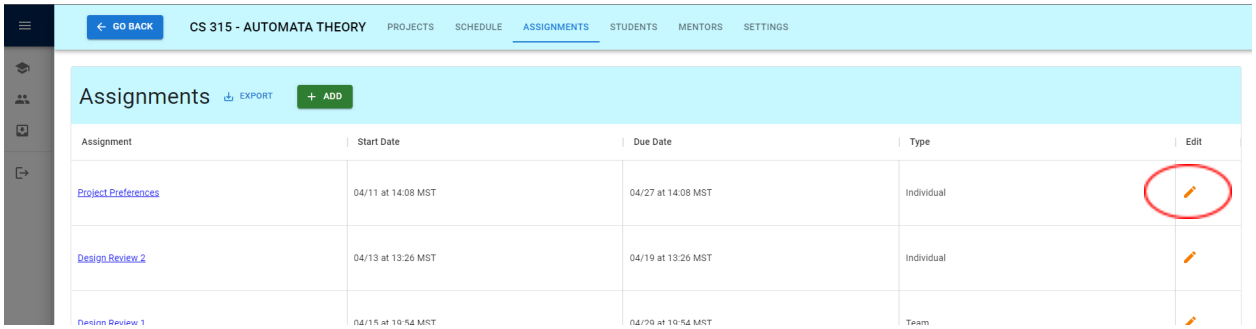
The assignment name is what the students will see. The assignment start date and the assignment due date need to correlate to dates in the schedule or else they will not populate the schedule. Other options include allowing for submissions after the due date, changing the submission type between individuals and teams, and uploading PDF instructions for the students to view.

3.1.2.2 Editing an Assignment

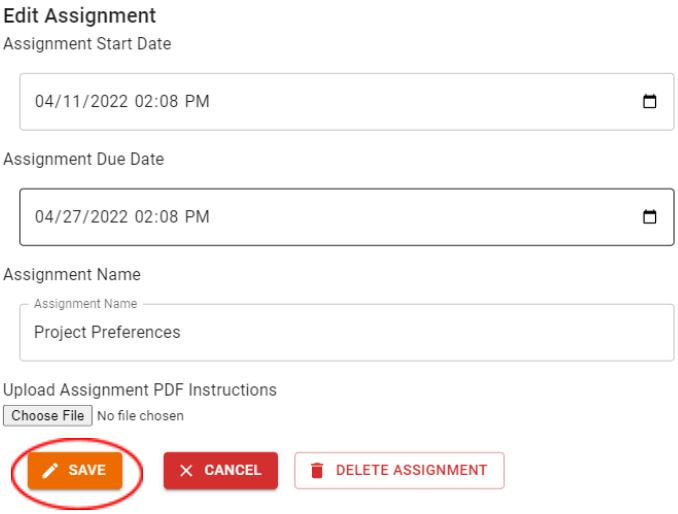
For editing an assignment you will want to be in the assignments tab



Once there you will want to click on the pencil edit icon:



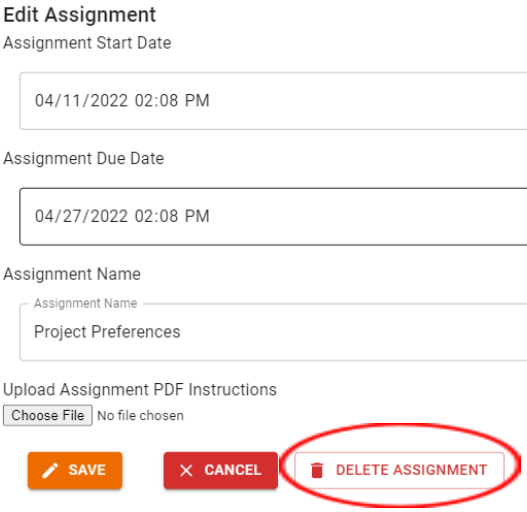
Next you will need to change the information that you would like to change.



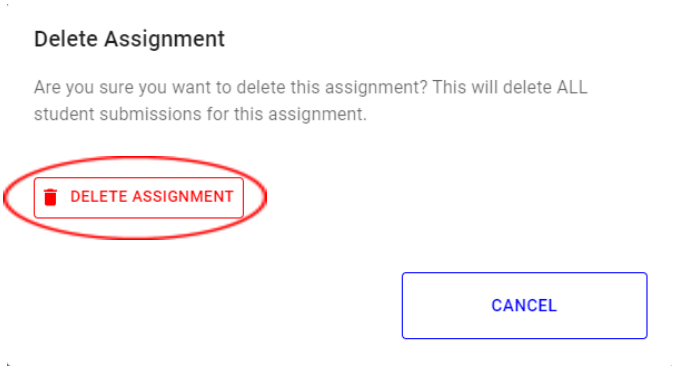
You can change the start date, due date, the assignment name, and upload a new assignment PDF instruction. Once you have the information changed that you want you can hit the save button to save the information.

3.1.2.3 Delete an Assignment

For the deleting of an assignment you will follow the same instructions of 3.1.2.2 Editing Assignment. Once you open the edit menu you will instead click on the delete assignment.



You will then be prompted to confirm you want to delete the assignment, either confirm this or cancel.



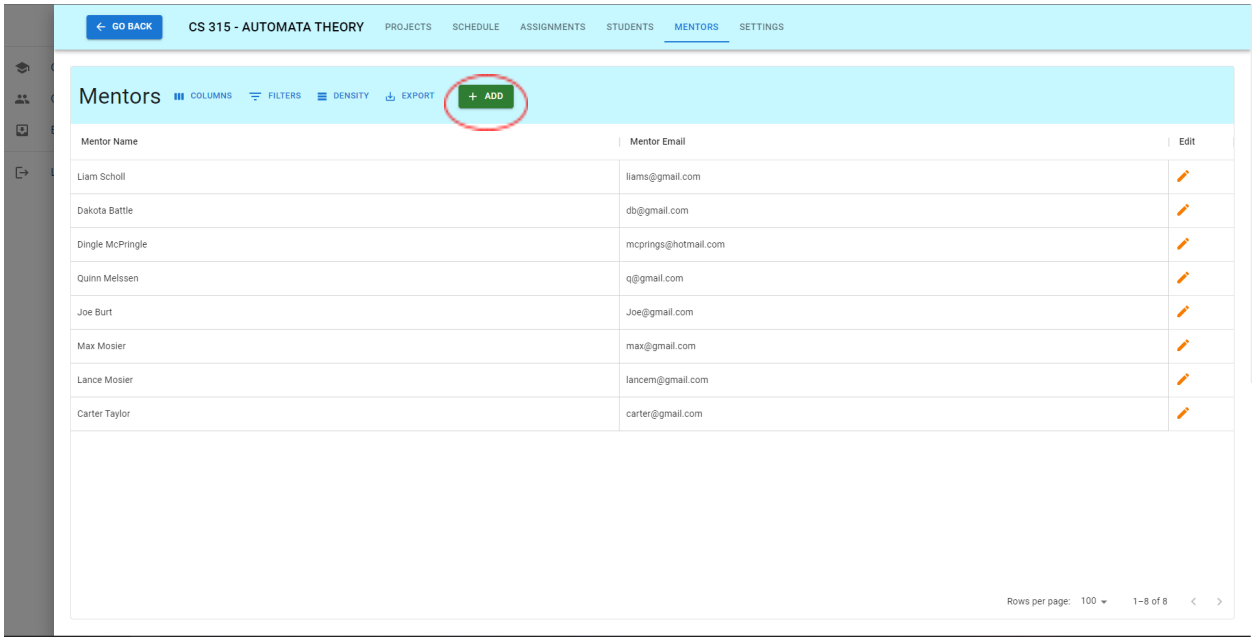
3.1.3 Mentor Management

Mentors help manage and keep track of teams and their progress throughout the course. This section will cover the various options for managing mentors.

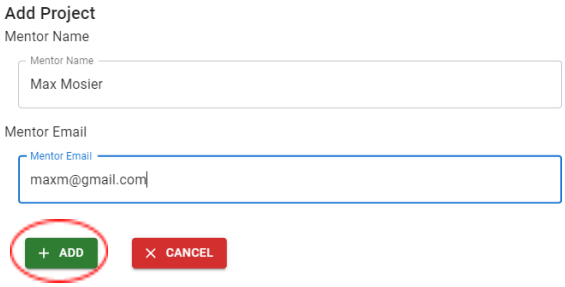
3.1.3.1 Adding a Mentor

To add a mentor you need to navigate to the mentors tab in the course.

Once there you will want to click on the add button.



The button will open up a new dialog where you will want to fill out the corresponding information.

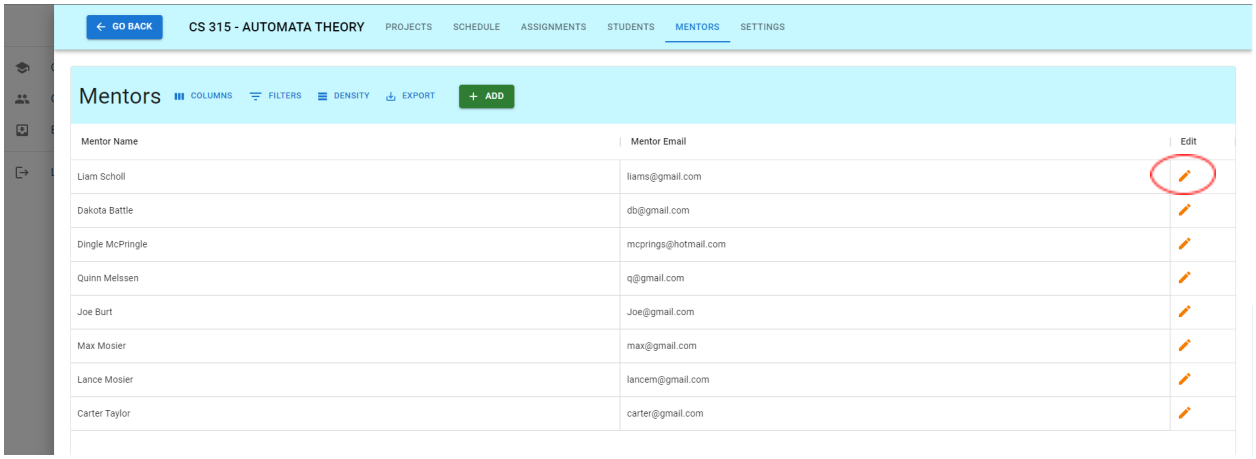


Once finished you will click the add button to add them to your list.

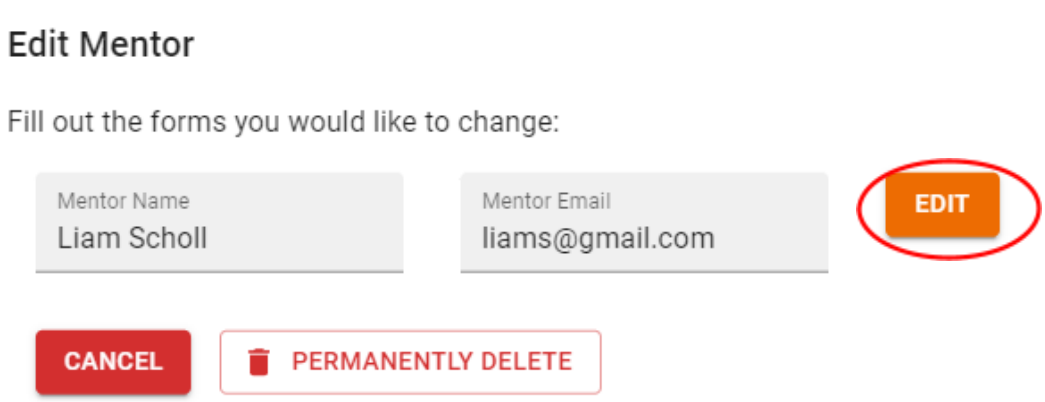
3.1.3.2 Editing a Mentor

For editing a mentor you will want to be in the mentors tab

Once there you will want to click on the pencil edit icon:



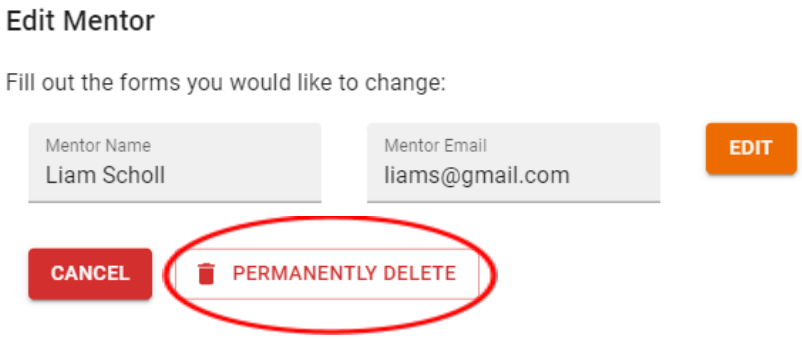
Next you will need to change the information that you would like to change.



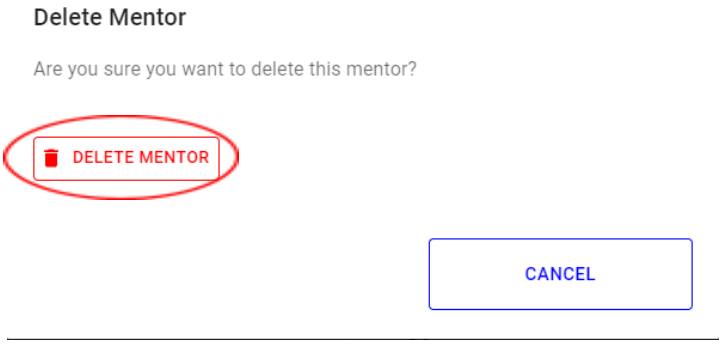
You can change the Mentor Name, and the Mentor email. Once you have the information changed that you want you can hit the edit button to save the information.

3.1.3.3 Delete a Mentor

For the deleting of a mentor you will follow the same instructions of 3.1.3.2 Editing a Mentor. Once you open the edit menu you will instead click on the permanently delete button.



You will then be prompted to confirm you want to delete the assignment, either confirm this or cancel.

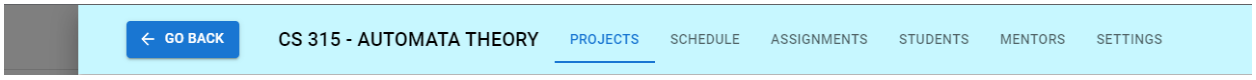


3.1.4 Project Management

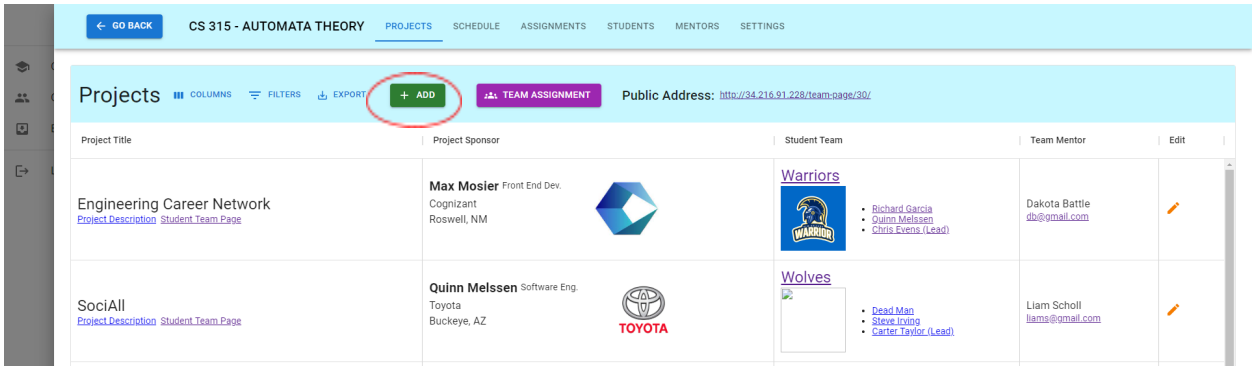
Projects are an integral part of TeamBandit. Projects act as the central location for what goes on throughout the application.

3.1.4.1 Adding a Project

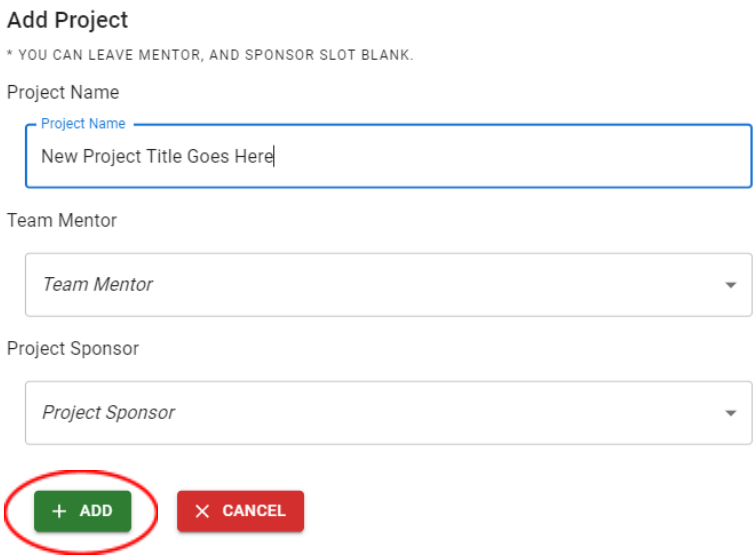
When adding a project you will first want to be in the Projects tab of a course.



Once there you will click on the add button.



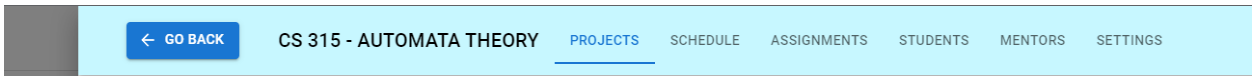
This will then open up a dialog menu where you will want to fill out the corresponding fields.



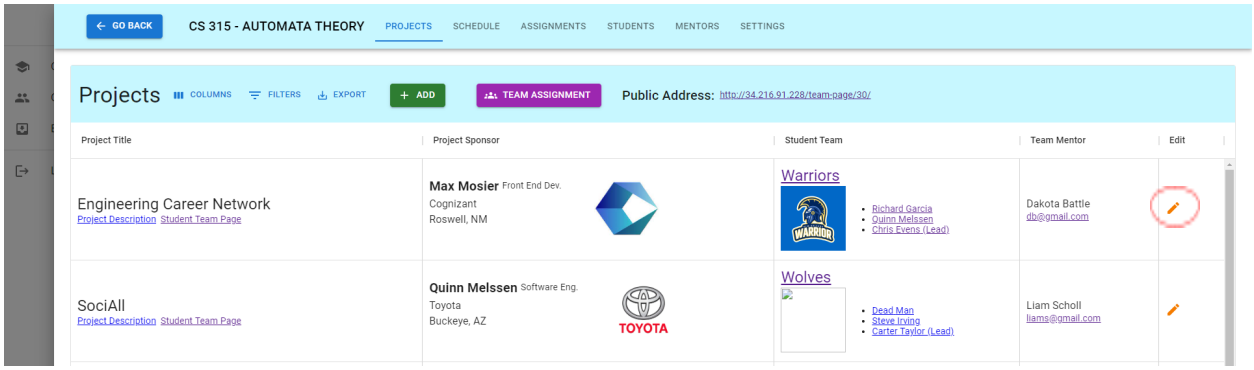
Once you have filled out the information you will be able to add it through the add button. It's important to note that you will only need to fill out a project name, you can leave the mentor and sponsor blank and add those through the edit option later.

3.1.4.2 Editing a Project

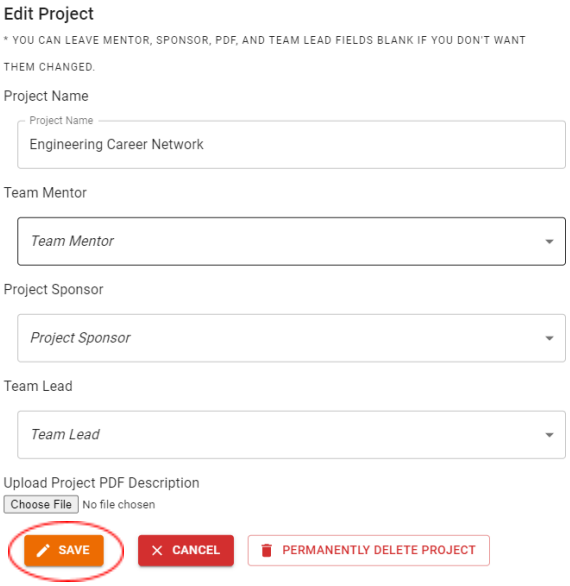
The edit feature for a project is really important as you may want to add to the project later after you have other information filled out. To start you will want to navigate to the projects tab in a course.



Once there you will want to click on the pencil edit icon located here.



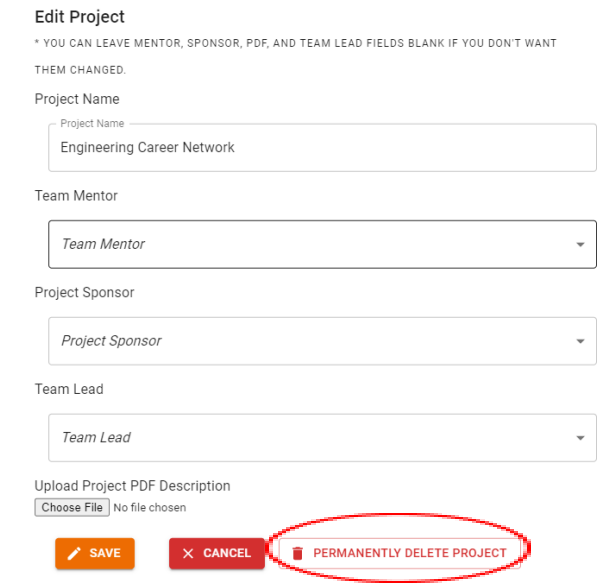
Once you click on the edit icon you will open up another dialogue revealing options for you to do.



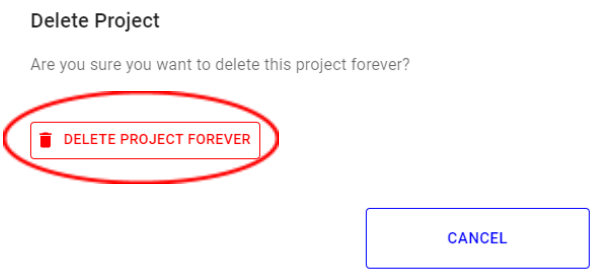
Editing the Team Mentor, Project Sponsor, and the Team Lead are all drop downs. This is so you can only select from Mentors, Sponsors, and Students who have already been added to the application. Once you have selected these or uploaded a project PDF description you will be able to click the save button to save the new information.

3.1.4.3 Deleting a Project

For deleting a project you will follow the similar steps of editing a project process located in 3.1.4.2 Editing a Project. Once you open the edit dialog you will instead click on the permanently delete project button to delete the project.



You will then be prompted to confirm you want to delete the project, either confirm this or cancel.



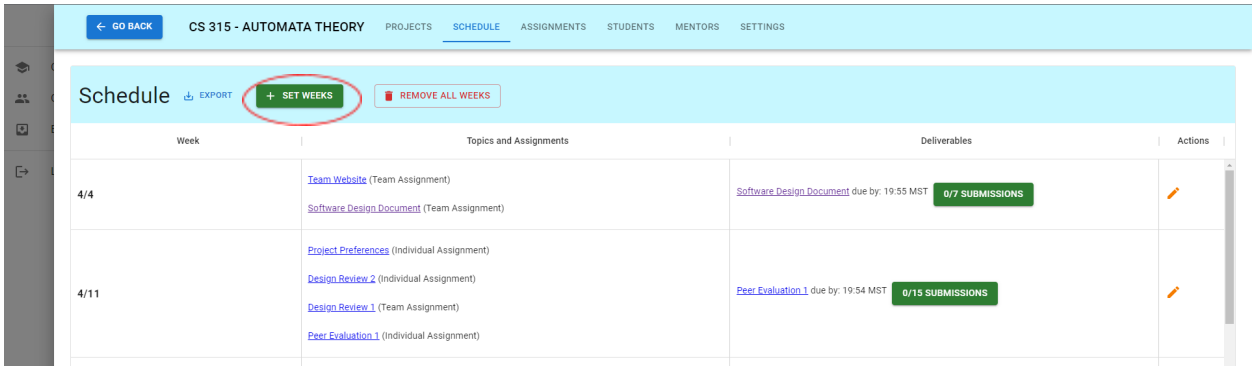
3.1.5 Schedule Management

The course schedule helps for students and organizers to keep track of when assignments will be due and who has submitted them.

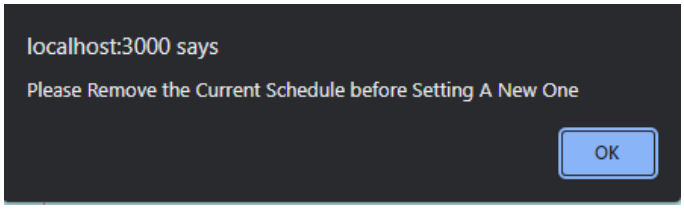
3.1.5.1 Adding a Schedule

When adding a schedule you will need to make sure that you are located in the schedule tab of a course.

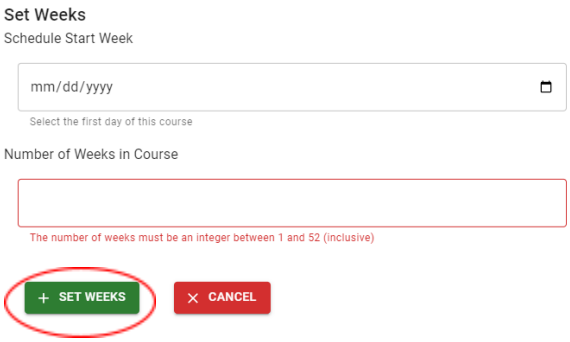
If you want to add a course you want to click on the set weeks button located here.



It's important to note that if you already have an existing schedule you will be met with this indicator:



This is because you already have an existing schedule so you need to delete it first. You can do this by clicking the remove all weeks button and confirming your decision. If you don't have a schedule you will be met with this dialog.

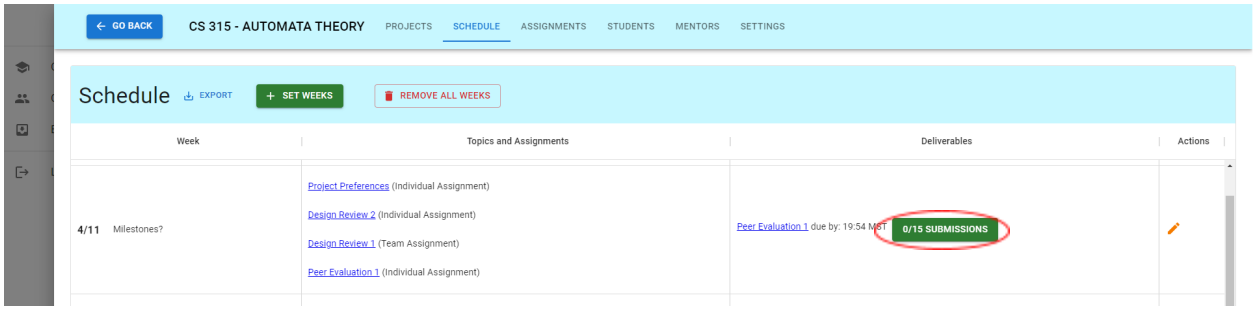


Select the starting date and the number of weeks and the schedule will automatically populate for you.

3.1.5.2 Viewing submitted assignments

Once a student team or individual student submits an assignment you will need to be able to view it. This is located in the schedule tab in a course.

Once located here, you will need to have assignments populating the current weekly schedule. If you need to add assignments do this first, and make sure they are in your schedule dates.

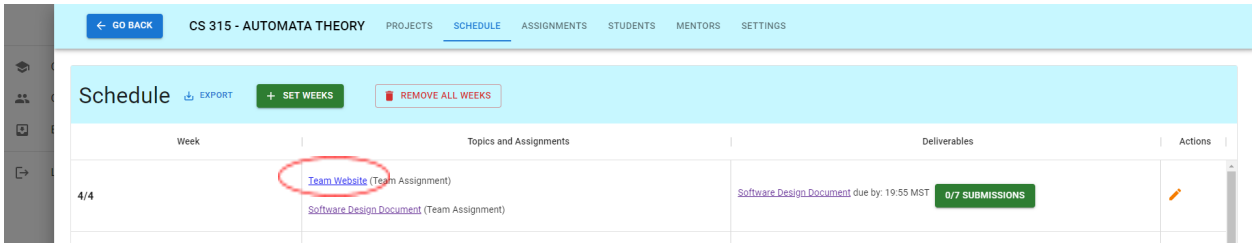


Once you have assignments in your schedule you will want to click on the submissions button to view the submissions. If students have not submitted anything, nothing will be populated in the dialog.

3.1.5.3 Viewing assignment details

Assignment details are essential in letting the students understand the assignment.To view the current assignment details you will want to be in the schedule tab located in a course.

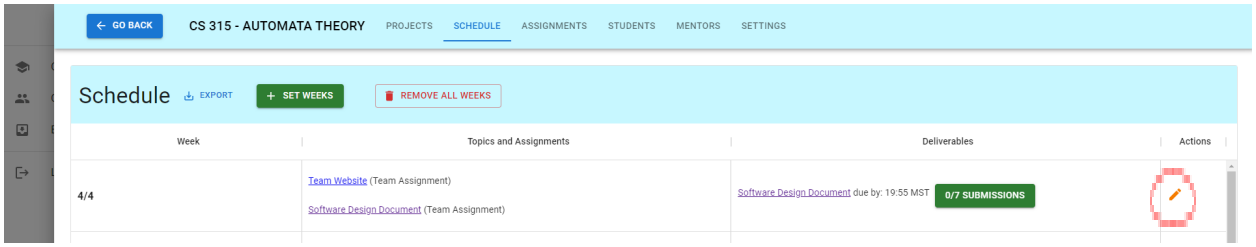
Once here you will want to click on the assignment name, this will open up the assignment details page in a new window.



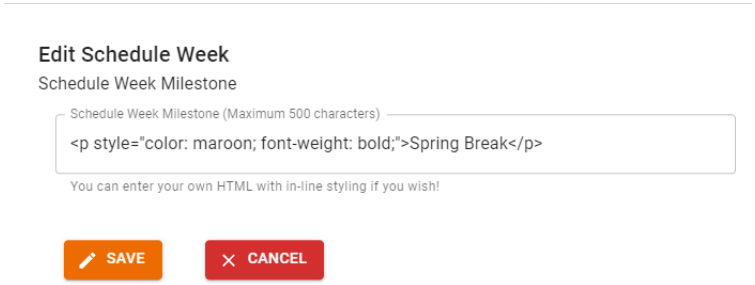
3.1.5.3 Editing Week Milestones

Milestones can be utilized to notify students of major events for that week. This can include things such as spring break or a major presentation.In order to do this you will want to be located in the schedule tab in a course.

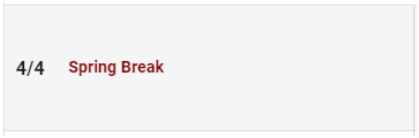
From here you will want to click on the pencil edit icon located here.



This will open up a dialog where you can set the milestone for that specific week. You can also utilize HTML with inline styling if you wish.

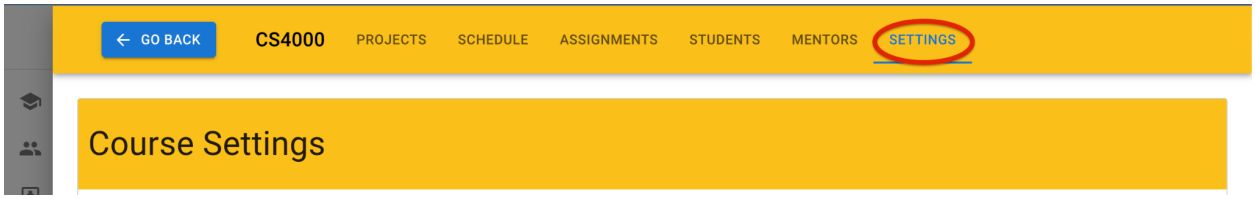


This is an example of the above message.



3.1.6 Course Settings

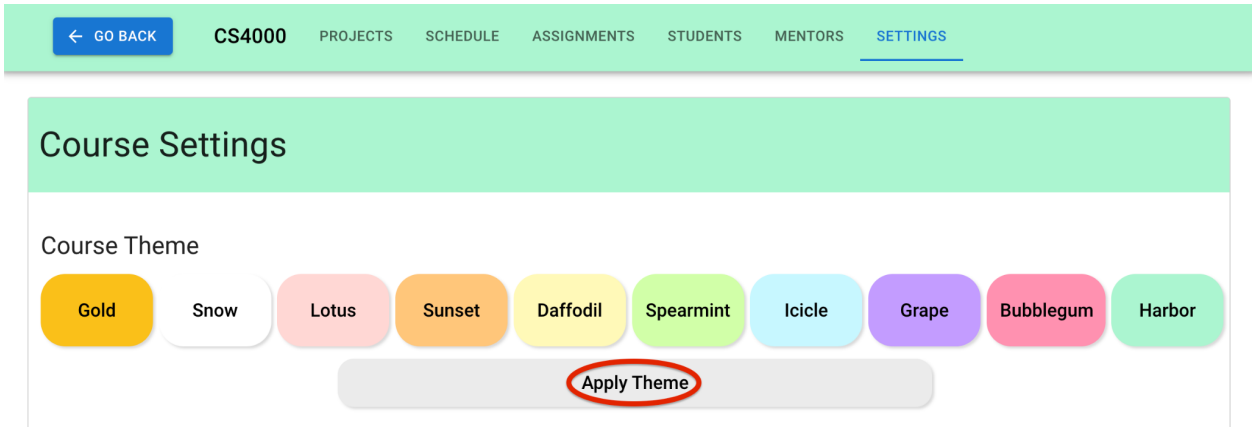
Course settings can be accessed by navigating to the course menu and hitting the settings tab as shown below.



In course settings an organizer can perform many functions, these will be shown in the following sections.

3.1.6.1 Changing Course Theme

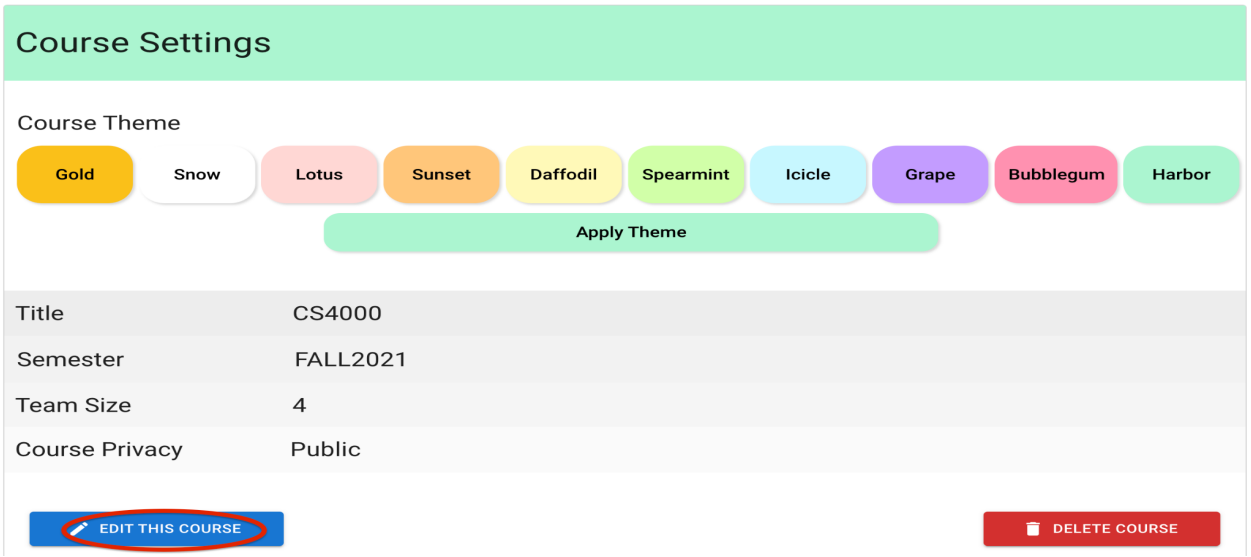
Gold too bold? Click one of the various pre-generated themes and then the ‘apply theme’ button to set a new color for the course. This is seen by both the organizer and any students looking at the course.



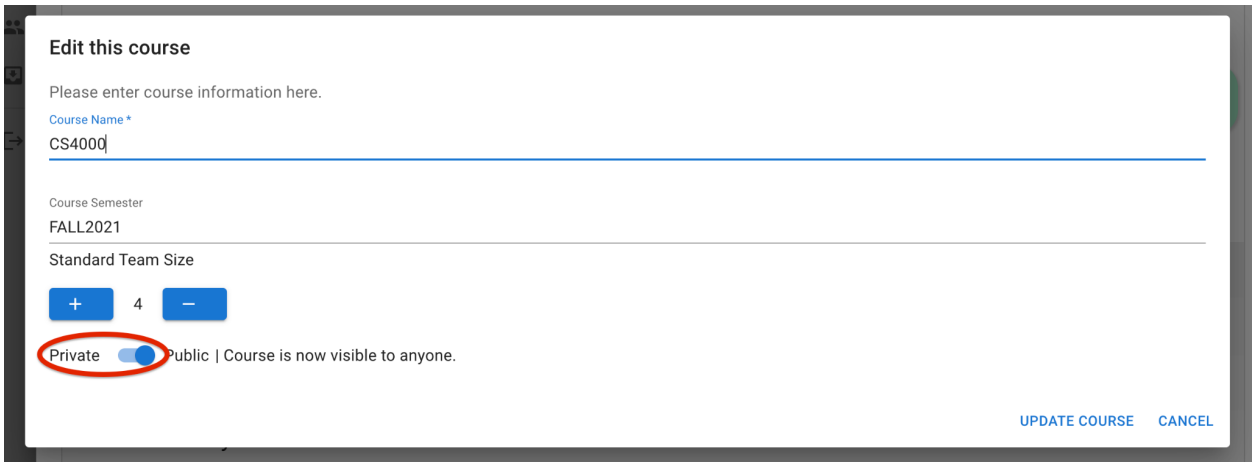
Here you can see our Harbor theme in action!

3.1.6.2 Changing Course to Public or Private

An organizer can change the course to public or private. This will change whether or not the team/project page can be seen by outside sources such as students, clients, or other interested parties. To reach the slider one must click the ‘edit this course’ button shown below.

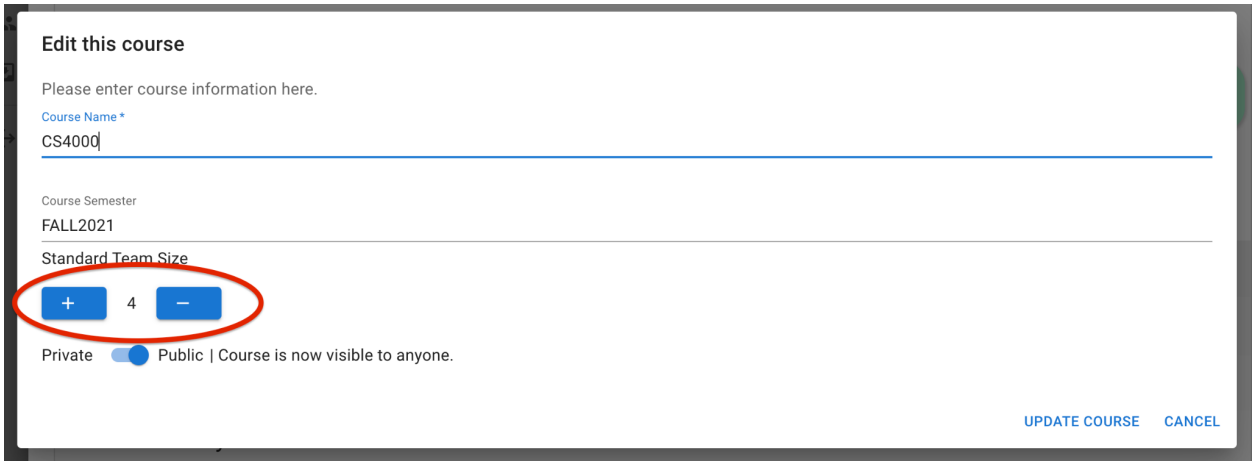


After clicking this button a menu will appear, on which you will find the slider to dictate whether or not the course is public.



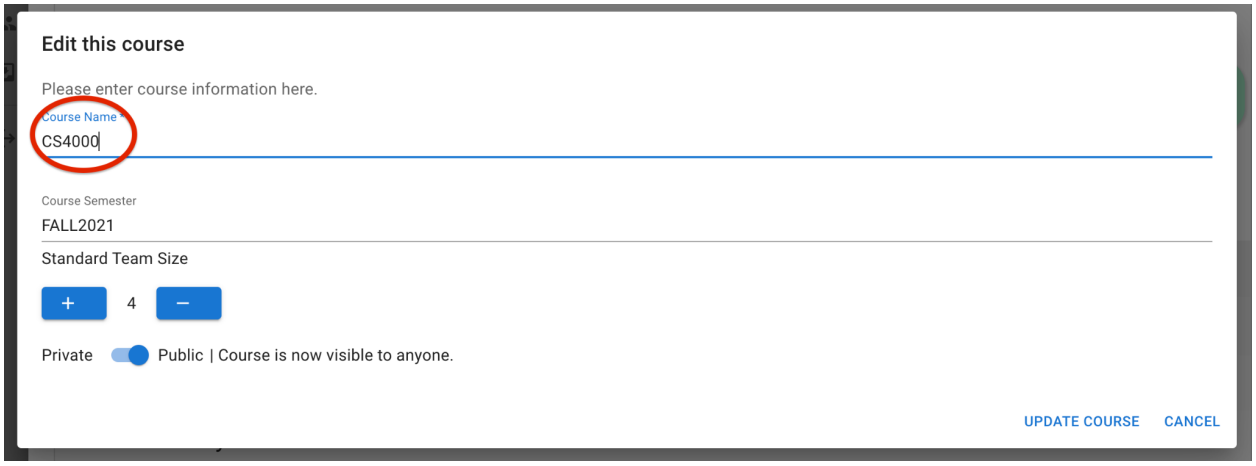
3.1.6.3 Change Course Teams Size

On the same page, one can find the option to change the team size by using the + and - buttons highlighted below



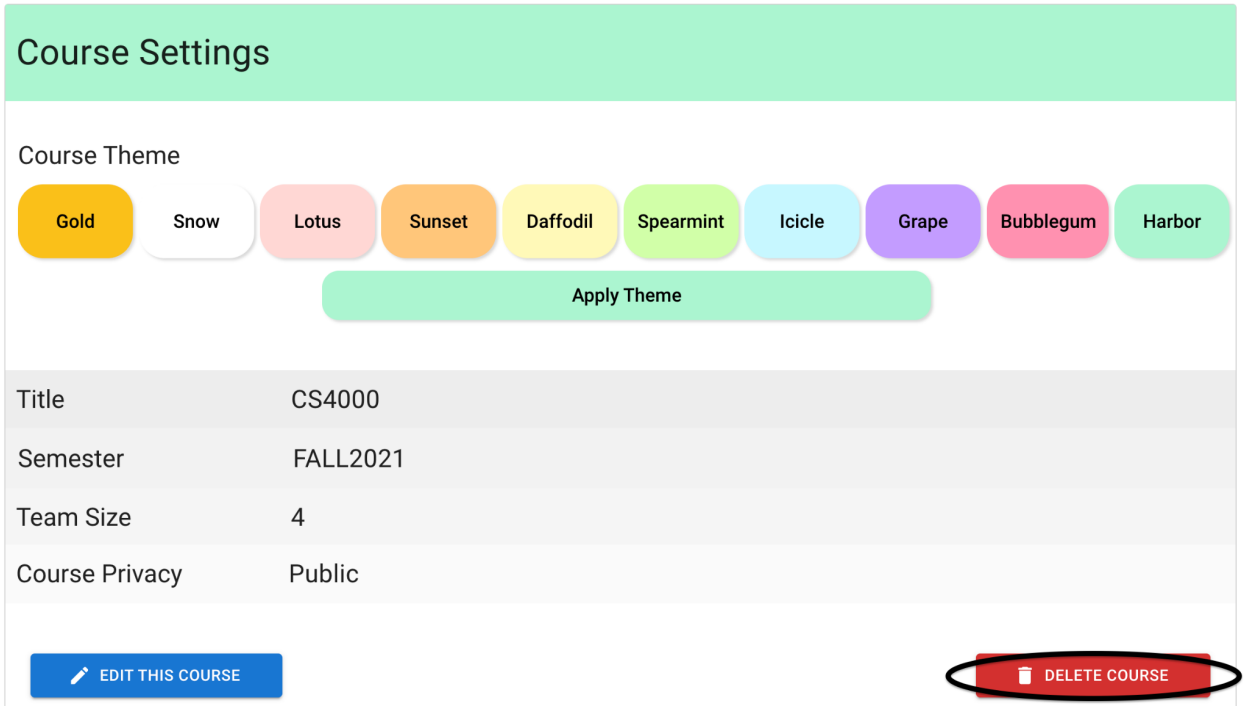
3.1.6.4 Change the Course Name

The course name can be changed on the popup via the text field.

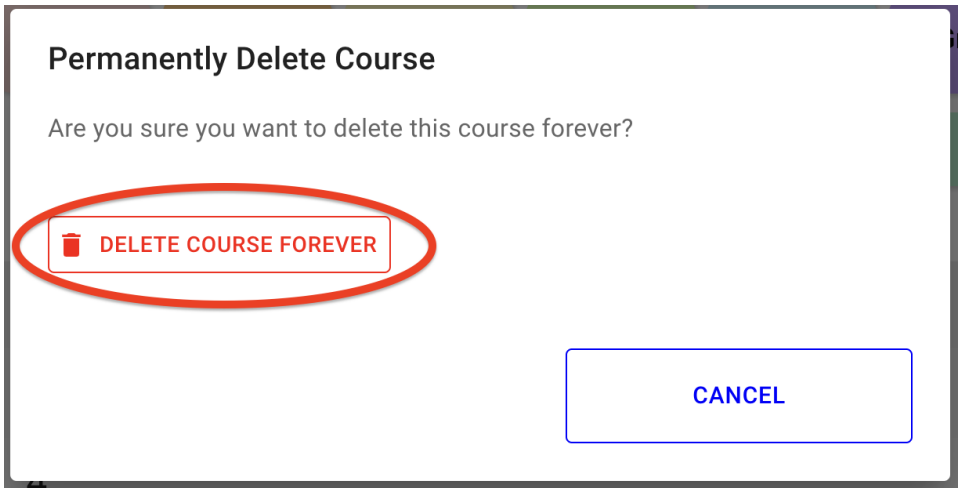


3.1.6.5 Delete Course

Deleting a course can be done by navigating to the course settings tab as shown above, and clicking the DELETE COURSE button.



Due to the permanent nature of this choice, a confirmation popup will appear and ask users to confirm this decision. They can permanently delete the course by clicking the button highlighted below.

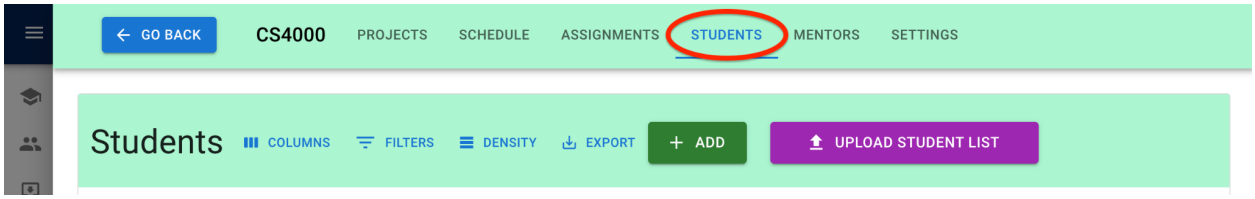


3.1.7 Student Management

In order to properly get assignment submissions from students we added the ability to add assignments and for students to submit the corresponding files to them. This allows for the assignment submissions to easily be used in our application. They are primarily used in the Team Website (section 4.1).

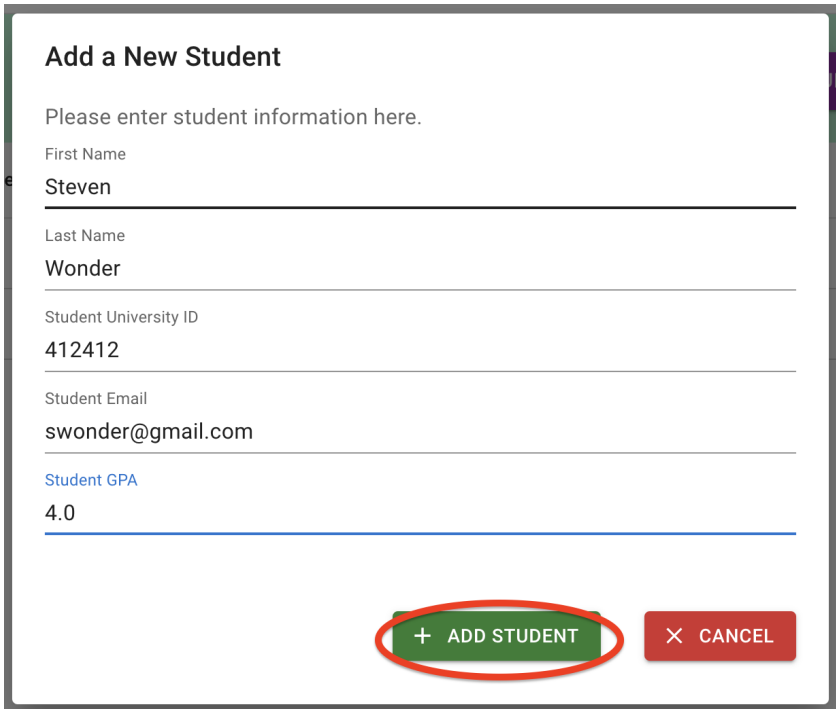
3.1.7.1 Adding a Student

Organizers must start by opening a created course and navigating to the student tab in the top navbar as shown below.



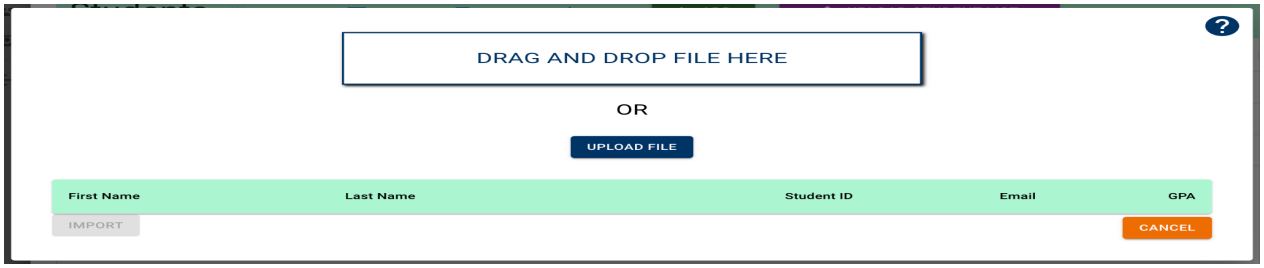
From here they can start editing, adding, and deleting students to this particular course. To add a student they can either click the add button or upload student list button featured in the image above.

For adding a single student by hand, the ‘add’ button must be used. This will open a popup asking for meta information pertaining to the student as shown below.



After inserting the appropriate information and pressing ‘add student’, the modal will close and the student will be seen in the table.

The ‘upload student list’ button will open our CSV uploader, where organizers can drag and drop or select a CSV with specific headers to populate the student list with multiple entries at once.



A snapshot of the expected headers can be viewed by clicking the question mark in the top right of the menu. This will open the upload instructions seen below.

Upload Instructions

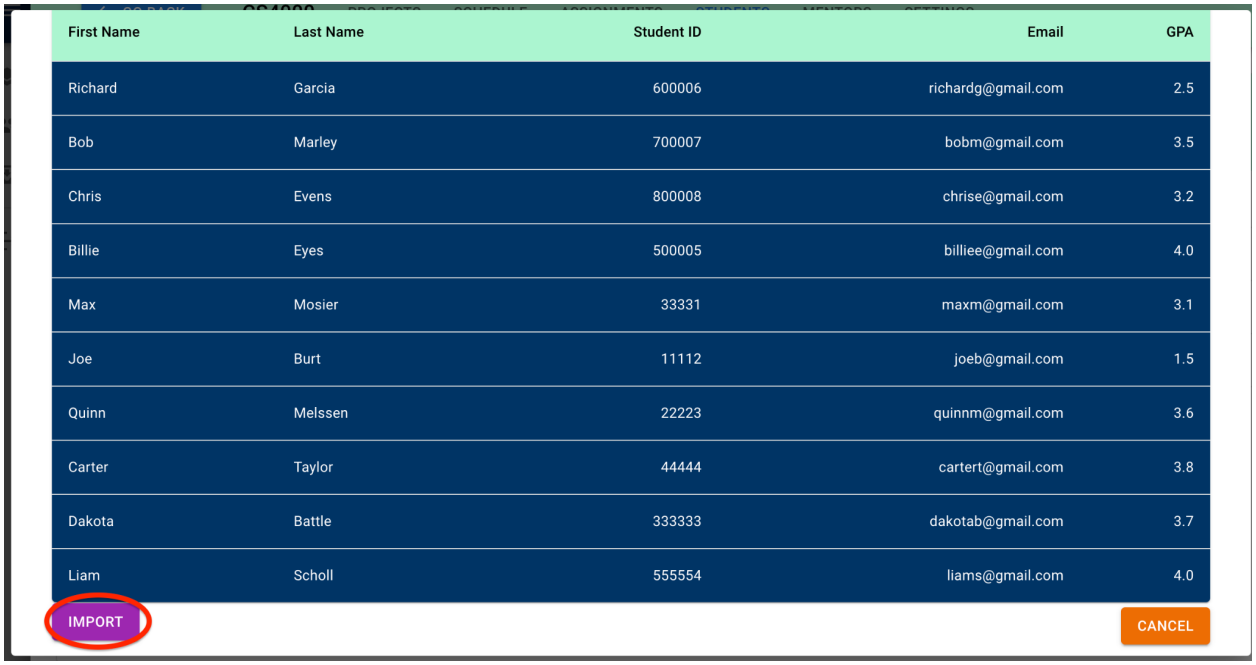
Currently only the file type of .csv is supported. You will also need to include header rows to properly identify the data. These headers include: firstName, lastName, studentID, email, and gpa. An example of what your file should look like is below.

If you want to include a 'comment line', you can add # or % at the start of your line. This will not include that line for upload. This would be in the 'firstName' column.

Example:

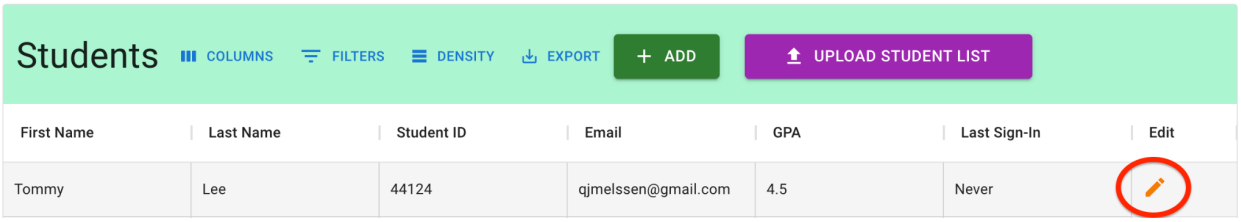
	A	B	C	D	E
1	firstName	lastName	studentID	email	gpa
2	Dakota	Battle	333333	dakotab@gmail.com	3.7
3	Liam	Scholl	555554	liams@gmail.com	4

Once a file is selected, users will be able to see a snapshot of the students in that file before they officially commit them to the database using the button circled below.



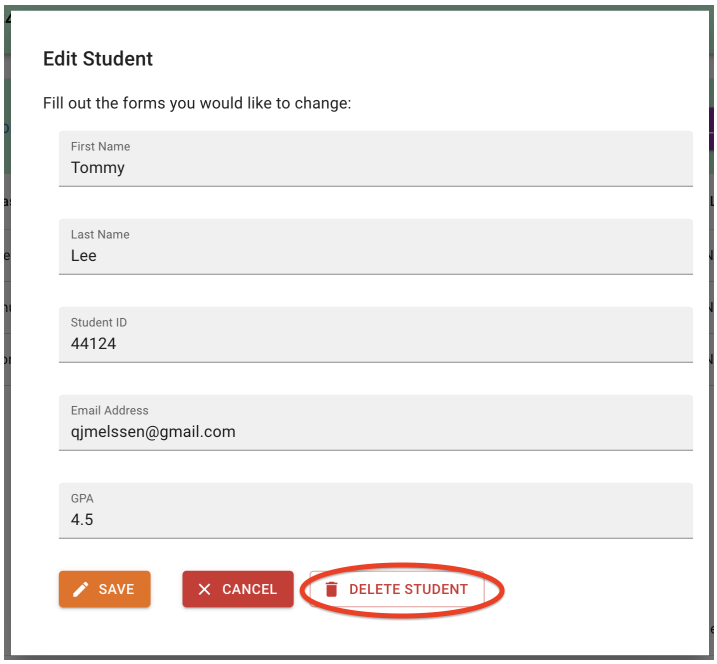
3.1.7.2 Editing a Student

Editing a student is simple and can be done from the student tab. Clicking the edit icon circled below will open a popup where student metadata can be changed and recommitted.



3.1.7.3 Deleting a Student

Deleting a student can be done from the edit menu as well, where one will find the 'delete student' button highlighted below.



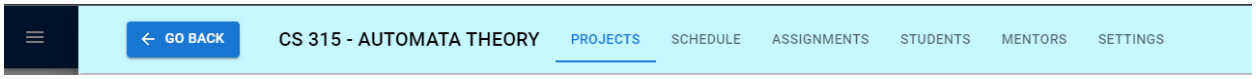
An additional popup will appear asking if the professor means to do this. This acts as a safety precaution as student deletion is permanent.

3.1.8 Team Assignment

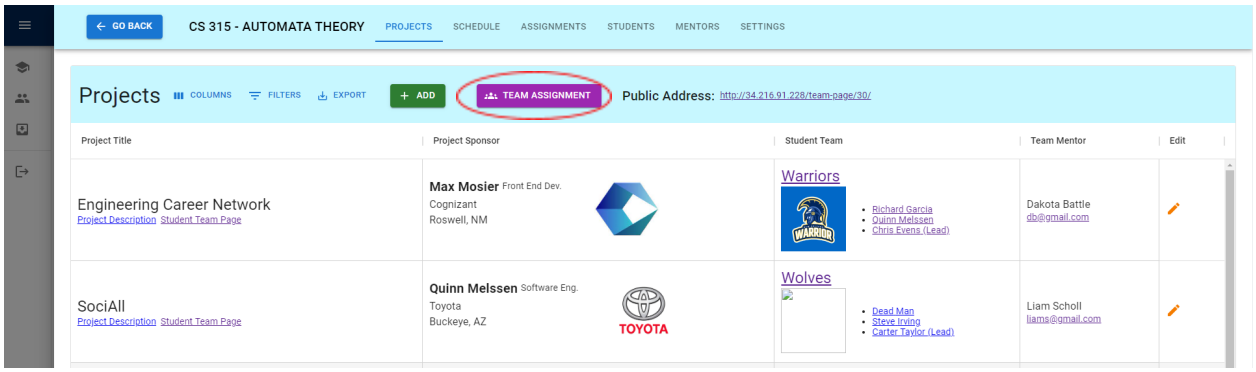
For every project added to the course there will be a team that gets generated for it. In this section we will cover how to add students to a team and assign the team lead. **It's important to note that the organizer can only assign students to teams, not change any information about the team such as the team name. This is for the team lead to do.**

3.1.8.1 Assign Students to Team

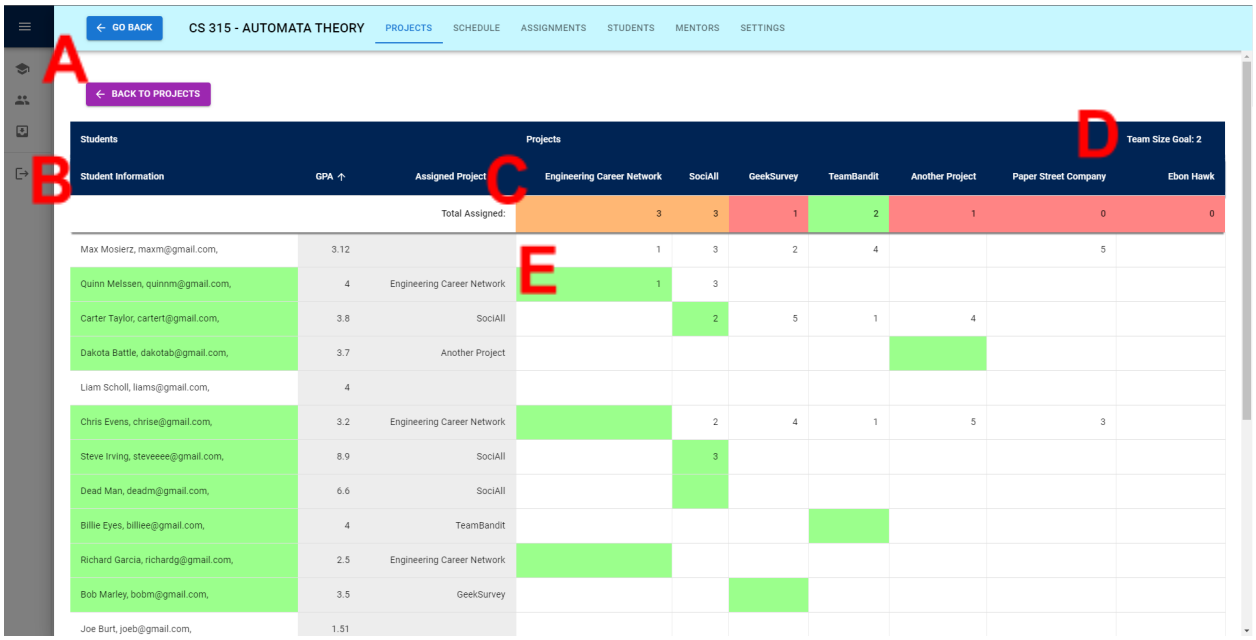
The first step of adding students to a team requires you to navigate to the teams assignment portal. First you want to make sure that you are in the projects tab.



From here you will then want to click on the Team Assignment button.

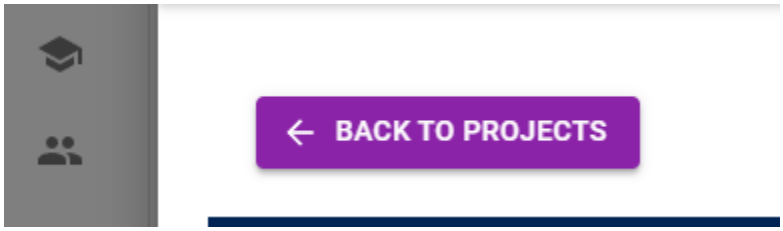


This will open up the team's assignment page. Note that you will need projects, students, and for students to fill out project preferences to get the full effect. This is the window that you will be met with.



This example has a lot going on but this is an example of what your team's page will look like. I put letters on each notable section and will cover what each section does further below.

A) This is the button you will click if you want to go back to the projects section.



B) This section houses all of the students and relevant student information. If the student is green it means they have been assigned to a team. This section also keeps track of what projects each student is assigned to.

Student Information	GPA ↑	Assigned Project
		Total Assigned:
Max Mosierz, maxm@gmail.com,	3.12	
Quinn Melssen, quinnm@gmail.com,	4	Engineering Career Network
Carter Taylor, cartert@gmail.com,	3.8	SociAll

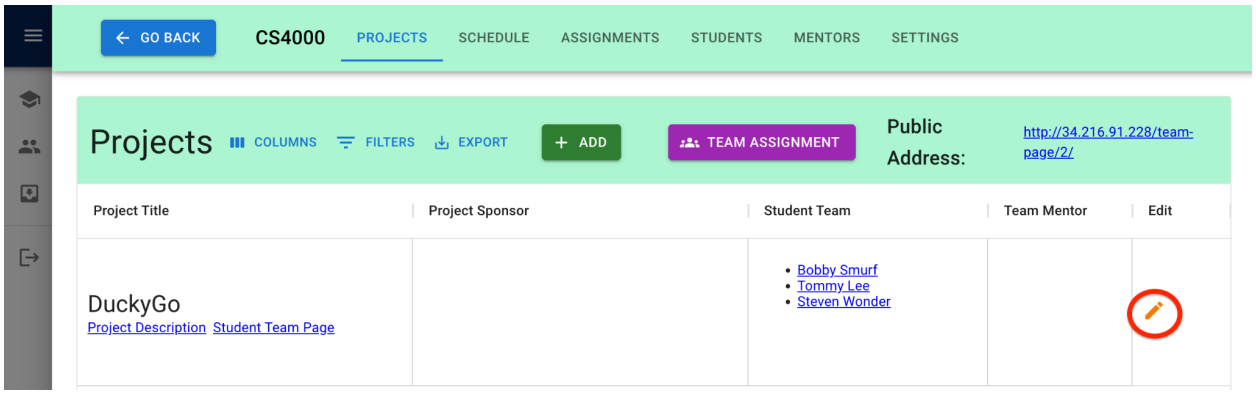
C) This section notifies the organizer of the current size for each project. Orange means that there are too many students assigned to the current project, green means there is the desired amount, and red means that you still need to add more.

SociAll	GeekSurvey	TeamBandit
3	1	2

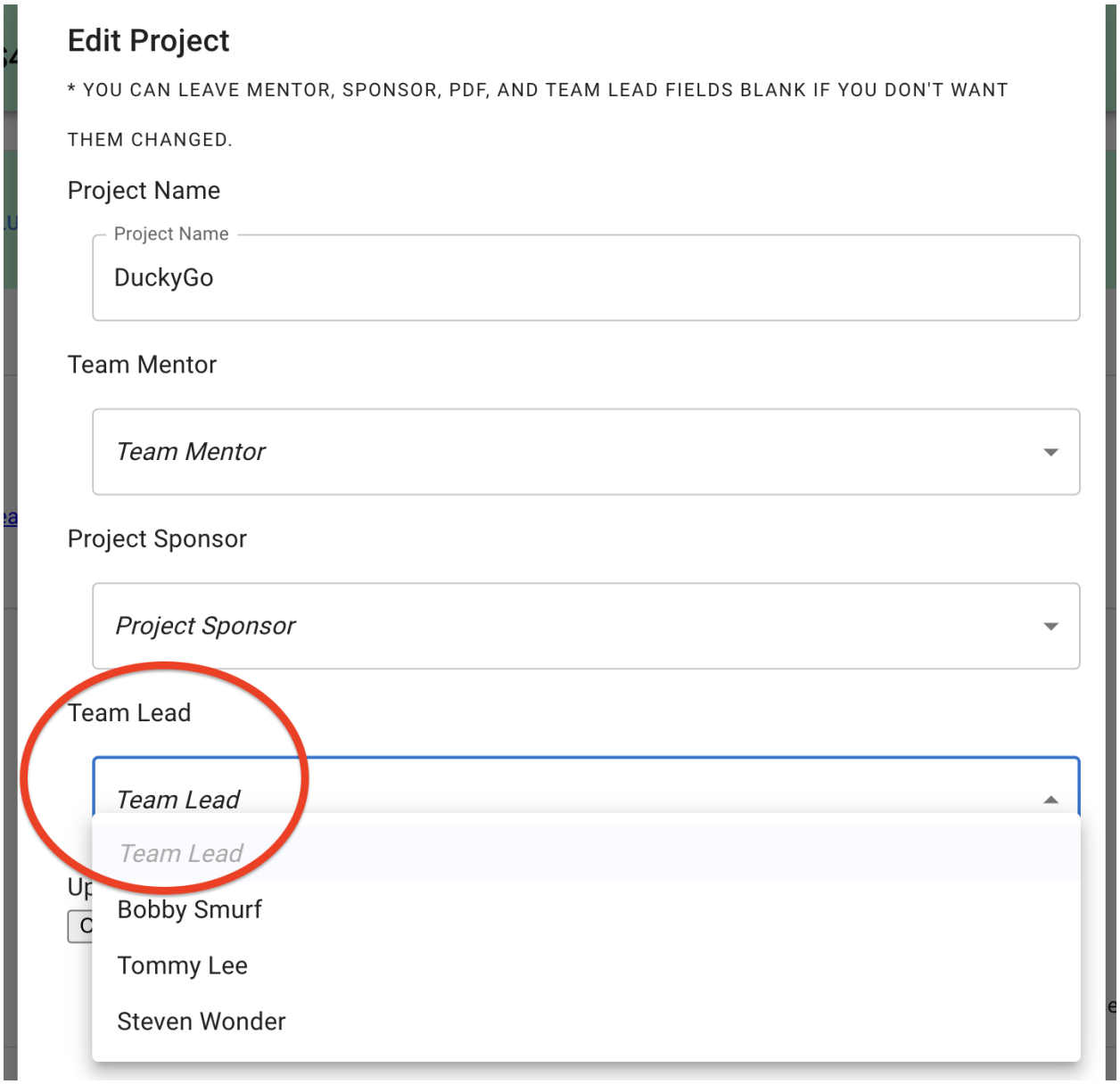
D) This indicates the team size goal, while not mandatory to keep this, its helpful

3.1.8.2 Assign a Team Lead for a Team

Assigning a team leader allows that particular student access to a broad range of capabilities such as modifying the team website, changing team roles, etc. To assign a student team lead, organizers must navigate to the project page and hit the edit icon circled below.

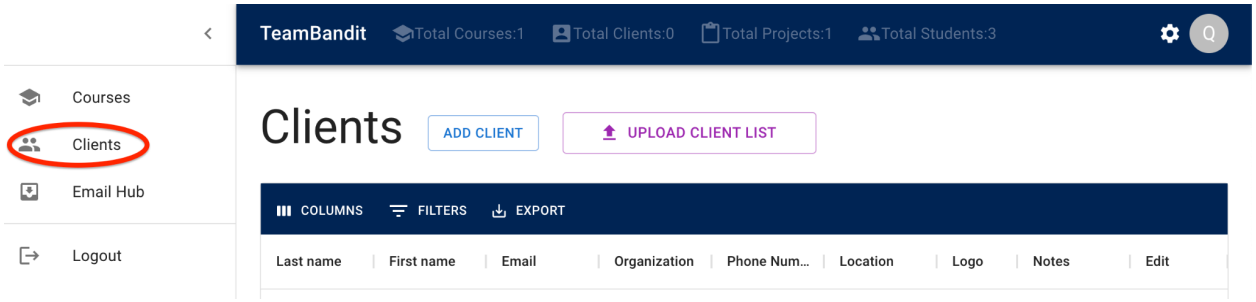


This will open up a popup where the team lead can be assigned.



3.2 Client Management

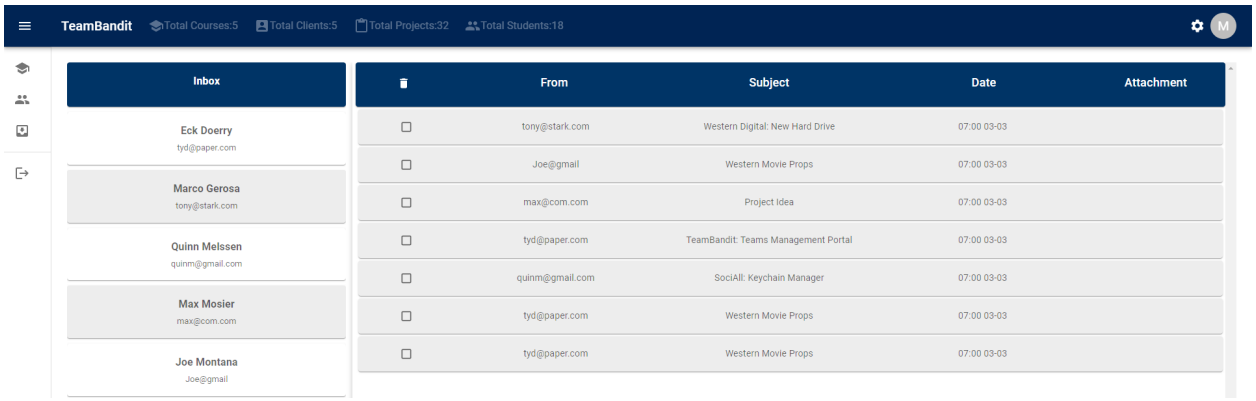
Clients are crucial as they are the ones who usually propose a project and interact with the teams in order to bring the final product to life. Their vision guides the process throughout the semester. Clients are found outside of the course menu and can be navigated to via the sidebar.



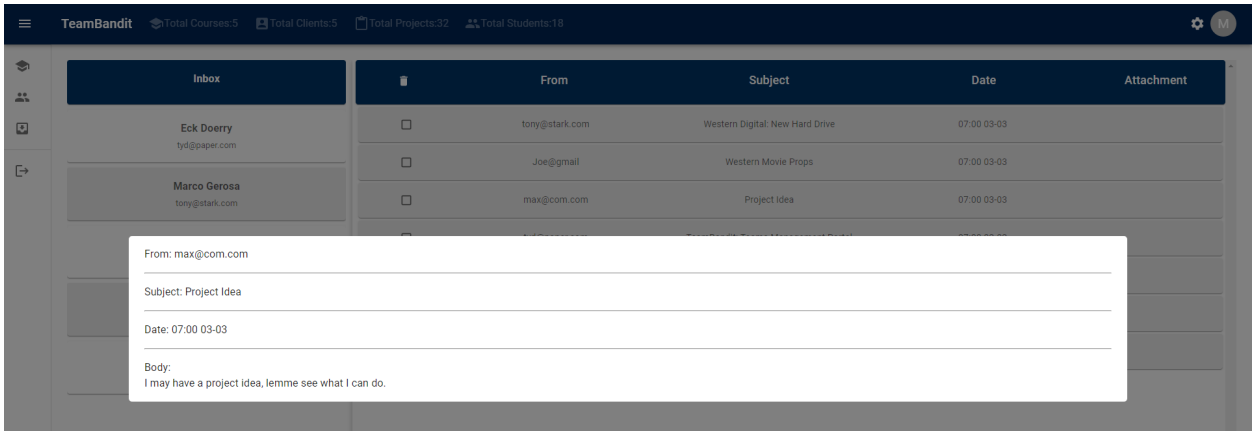
Once in the clients page they can be added, uploaded, edited, and deleted in much the same way as students. To read more about these controls read 3.1.7.1 - 3.1.7.3.

3.3 Email Hub

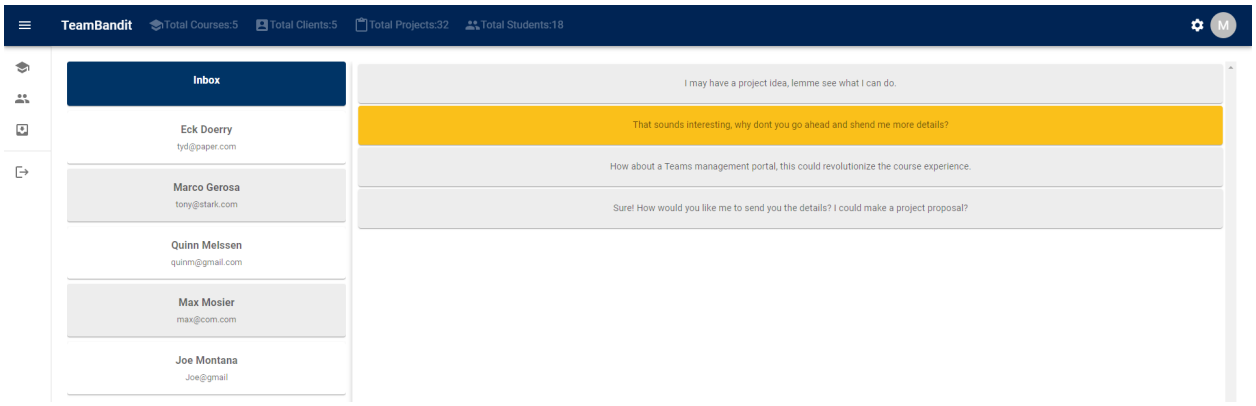
Once clients are added to the client table, they will appear in TeamBandit's email hub. Here, all emails from the clients will be displayed if the client sent an email to your organizer email and CC'd TeamBanditManager@gmail.com.



If an email is selected, a popup will appear with the contents of that email.



Along with this, the organizer can click on a client's name on the left side of the email hub and see only the emails sent between the organizer and the selected client.



4 Maintenance

Fortunately, little maintenance is needed for our product. One of the few places where a breakdown could eventually occur is in the messages table of the database, as email spammers are so prevalent in the modern day technical landscape. These spammers may gain the information of the TeamBanditManager@gmail.com email account and begin to fill the inbox with emails, which will be pulled into the database by the email scraper despite the fact that they will not be displayed to any organizers or users.

In order to alleviate this problem one may wish to occasionally

1. Delete the rows in the messages table. These emails usually exist in some other capacity (in the organizers regular email inbox) and as such it is not incredibly detrimental for them to be deleted from the application.
2. Log into the email account to block any potential spammers. This will reduce the amount of emails flooding the inbox on a daily basis to minimize the amount of times one must do step 1.

Updating all Node Packages/Libraries and Python Packages occasionally will also help to keep the server up to date, but may cause conflicts.

5 Troubleshooting

The portion of the document will focus on potential problems that may arise in the future, based primarily off of those experienced during this phase of development. The problems will be bulleted in non-sequential order with their solutions laid out beneath them.

- Server becoming unresponsive on 'npm run start'
    - This is most likely due to not having enough memory on the server. The application will lock in a permanent build screen, eventually even being unable to be SSHed into.

    - The fix for this problem is to restart the server and increase its memory overhead. This will cost money but is the only way to allow the application to be built as we have already disabled certain settings that increase the memory usage in attempts to avoid this.
- Unable to log in to web application
    - This could be indicative of an issue occurring when the user account was stored.
    - To fix this problem, one could try clearing their browser cache and cookies, restarting the web server, or creating a new account.
- Unable to add a client or student through a CSV upload
    - This usually means the CSV file that was uploaded was incorrectly formatted, and the examples provided in the uploader should be followed.
    - If the instructions were correctly followed, a server restart may be required.
- A file's name is not what the organizer set it as
    - From the end user guide, it is apparent that user input is common when initially setting up a course. When creating the name for let's say, an assignment, the organizer may choose to use unidentified, or unknown text characters. This is not recommended and plain, alphanumeric text should be used to ensure no issues.
    - If however, any issues were to arise, the organizer can simple delete the document, and create a new one.

6 Conclusion

Now that the team has finished the development of TeamBandit, we are hopeful that our client, Dr. Doerry, is able to have many years of productive use of the product, streamlining the course management process that he has been perfecting over the years. Even though the team is moving forward with professional careers, we would certainly be willing to answer any questions that Dr. Doerry may have in the future at any time. We can individually be reached at:

- mlm886@nau.edu Max Mosier
- las589@nau.edu Liam Scholl
- qjm7@nau.edu Quinn Melssen
- db2354@nau.edu Dakota Battle

Again, we hope you take advantage of this application and continuously update it to make course management simpler.

Team Outlaws