



# TeamBandit

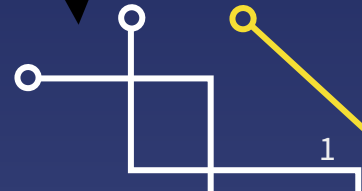
UGRADS

## Team Outlaws

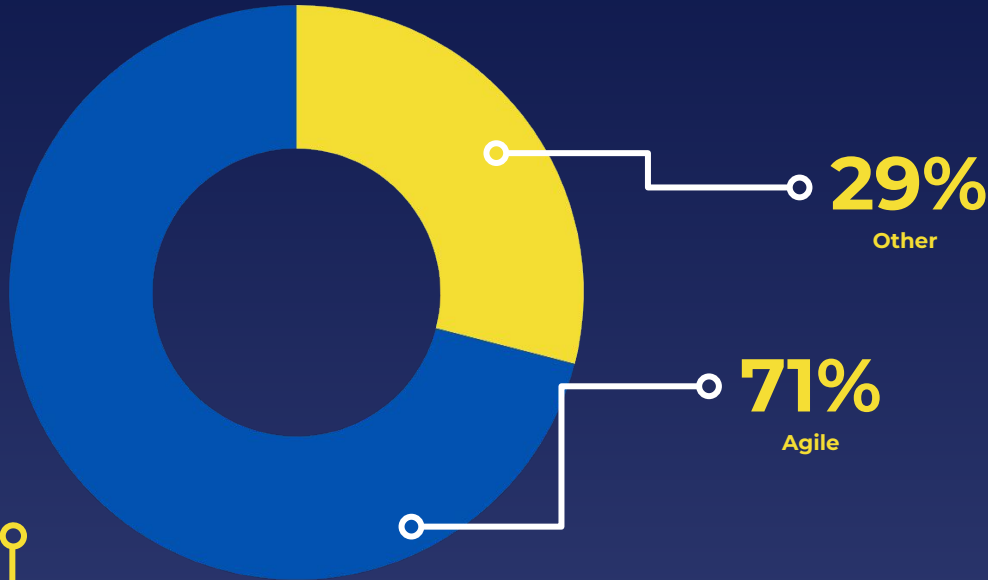
Quinn Melssen  
Max Mosier  
Liam Scholl  
Dakota Battle

## Our Client

Dr. Doerry



# Tech Companies Use of the Agile Methodology



- Agile software development is a programming practice centered around small teams.
- According to Goremotely, over 71% of tech companies either already use, or are adopting agile methods.
- This number is rapidly increasing as agile continues to dominate the waterfall method.

# The Difficulty in Managing and Maintaining Teams

- Team based classes are difficult to organize due to how many moving parts they entail
  - Interacting with different parties
  - Keeping up with submissions and grading from students and mentors
  - Setting up projects and teams
  - Executing the course
- Menial tasks take up a lot of time



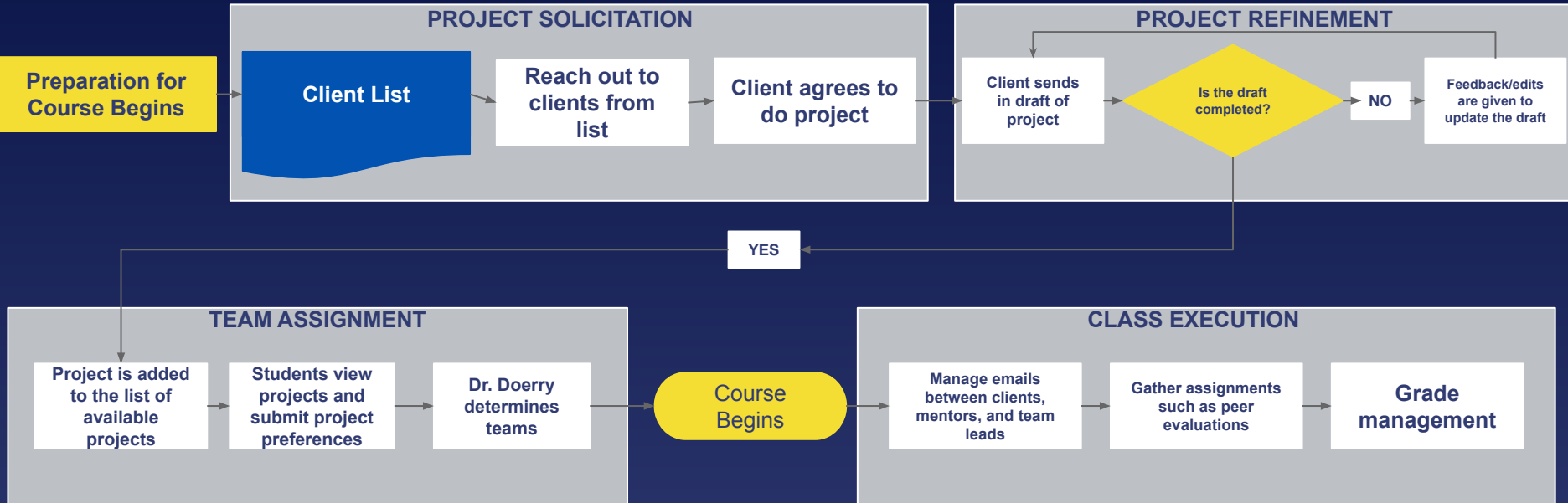
# Our Client

- Computer Science Professor at Northern Arizona University
- Has lead CS capstone project for 15+ years
- Has extensive experience with the problems involved in running a team based class



Dr. Eck Doerry

# Dr. Doerry's Current Workflow



# Problems with the Workflow

Manually creates email list

~1 Hour of Effort

## PROJECT SOLICITATION

Preparation for Course Begins

Client List

Reach out to clients from list

Client agrees to do project

~8 Hours of Effort Per Team

## PROJECT REFINEMENT

Client sends in draft of project

Is the draft completed?

NO

Feedback/edits are given to update the draft

Chance to forget to reply

Information must be digitized for algorithm

Complex algorithm to determine

YES

Digs through inbox to find emails

Manually check/update versions in spreadsheet

## TEAM ASSIGNMENT

Project is added to the list of available projects

Students view projects and submit project preferences

Dr. Doerry determines teams

Course Begins

## CLASS EXECUTION

Manage emails between clients, mentors, and team leads

Gather assignments such as peer evaluations

Grade management

~16 Hours of Effort

~8 Hours of Effort Per Team

Based on 2021-2022 Capstone, Total Hours of Effort: 401 Hours of Effort Per Course

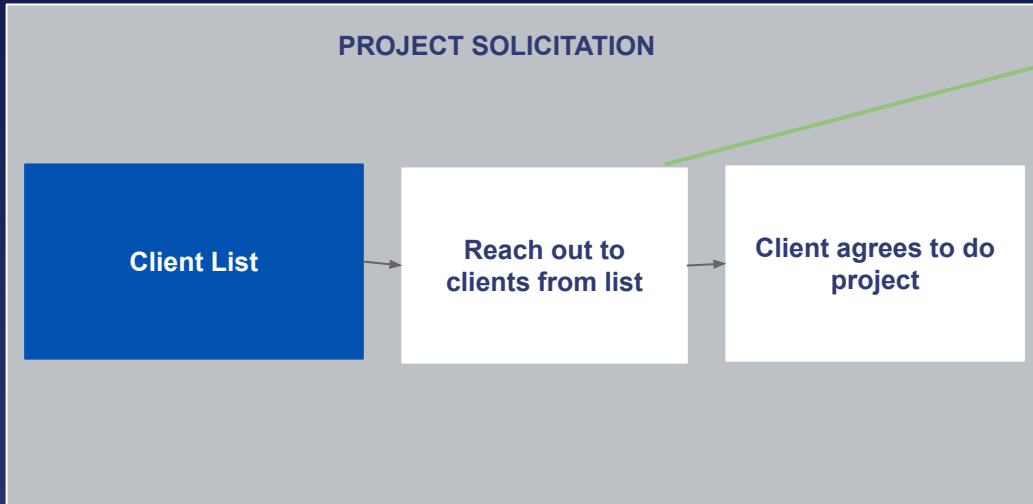
# Solution Overview

Solution - Develop a web application that allows a user to:

- Digitize information related to courses for easier use
- Have a digital list of clients to view emails in one place
- Students can submit deliverables to store information automatically
- Tool for manually/algorithmically sorting students into teams



# Improved Workflow - Project Solicitation



- Have a digital list of clients that the user can mass email
- User can add or remove clients to the client list easily
- User can share client list with other users

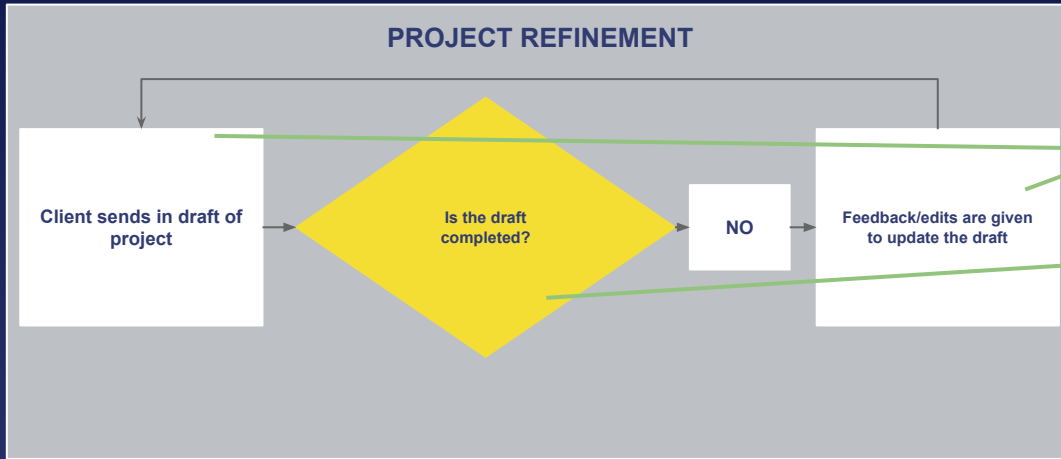
**BEFORE: ~ 1 Hour of Effort**  
**AFTER: ~ 30 Minutes of Effort**

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**SAVED: ~ 30 Minutes of Effort**



# Improved Workflow - Project Refinement



- Store emails regarding TeamBandit in the application
- Have a status tracker on TeamBandit

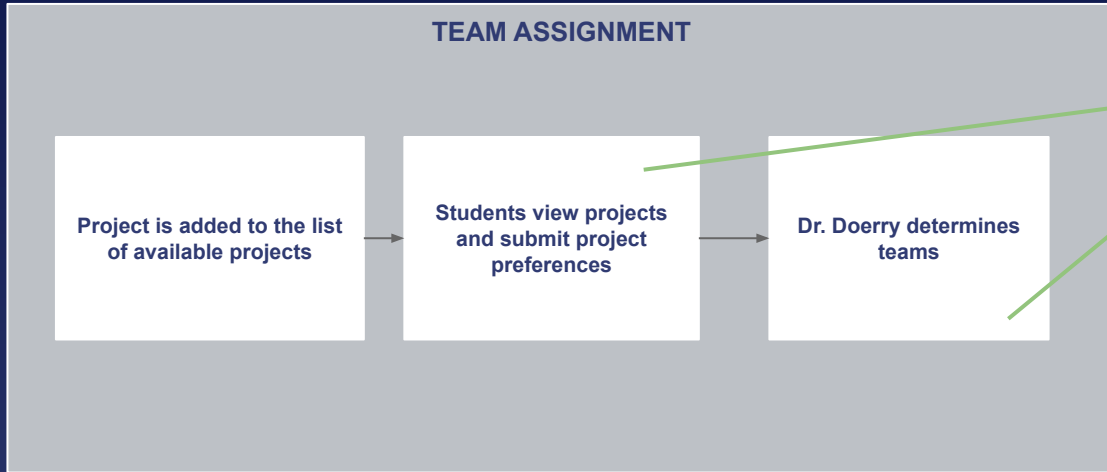
**BEFORE: ~ 8 Hours of Effort**

**AFTER: ~ 5 Hours of Effort**

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**SAVED: ~ 3 Hours of Effort**

# Improved Workflow - Team Assignment



Students fill out project preferences through TeamBandit

Ability to manually sort, and preferably have algorithm to sort students

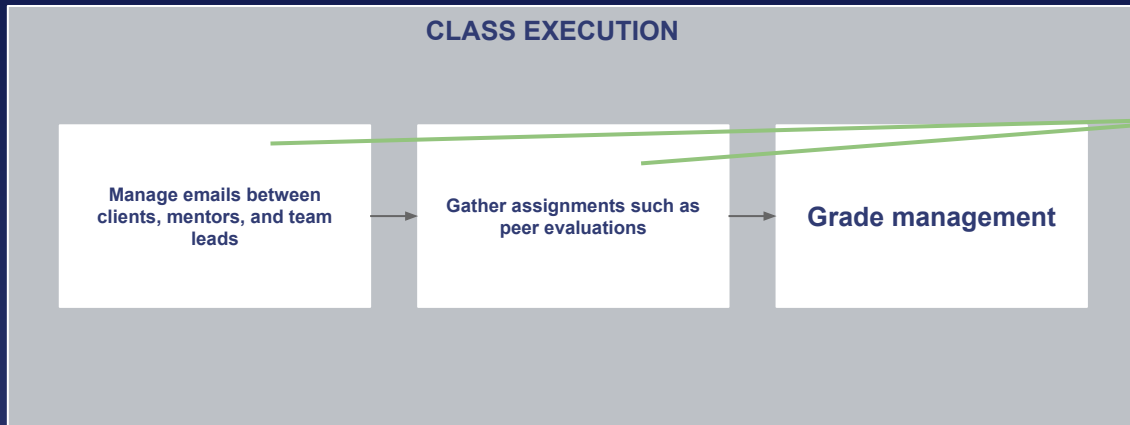
**BEFORE: ~ 16 Hours of Effort**

**AFTER: ~ 4 Hours of Effort**

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**SAVED: ~ 12 Hours of Effort**

# Improved Workflow - Class Execution



Add emails to TeamBandit associated with the course

**BEFORE: ~ 8 Hours of Effort**

**AFTER: ~ 6 Hours of Effort**

---

**SAVED: ~ 3 Hours of Effort**

# Improved Workflow

~30 Minutes of Effort

## PROJECT SOLICITATION

Preparation for Course Begins

Client List

Reach out to clients from list

Client agrees to do project

~ 5 Hours of Effort Per Team

## PROJECT REFINEMENT

Client sends in draft of project

Is the draft completed?

NO

Feedback/edits are given to update the draft

YES

## TEAM ASSIGNMENT

Project is added to the list of available projects

Students view projects and submit project preferences

Dr. Doerry determines teams

Course Begins

## CLASS EXECUTION

Manage emails between clients, mentors, and team leads

Gather assignments such as peer evaluations

Grade management

~ 4 Hours of Effort

~ 6 Hours of Effort Per Team

Based on 2021-2022 Capstone. Total Hours of Effort: 269 Hours of Effort Per Course. ~132 Hours of Effort Saved

# Requirements Acquisition

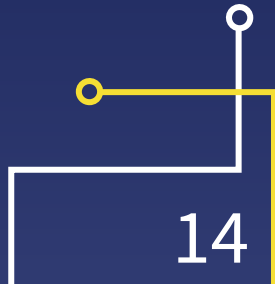
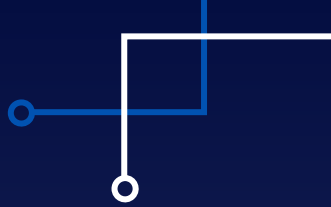


- The team and the client have met weekly
    - Some form of requirements have been mentioned in every meeting
  - Throughout the week, the team would consult together on which requirements were made by the client
    - New requirements were making themselves apparent every week
  - After completing our tech feasibility document, we have worked with our chosen technologies
    - New requirements and solutions were identified as we worked with our technologies
  - As we have continuously worked on the application, more requirements have been identified and refined
- 
- 

# Domain Requirements

The key requirements that this web application should fulfill:

- Allow course organizer to create an account to save their information
- Assist our client's task of keeping track of a mass amount of emails from many clients
- Provide tools for a course organizer to add a course and manage inner course modules as well as manage students and mentors from within a course
- Enable organizers to assign students to projects through a built-in Team Assignments
- Automatically generate team websites, containing details about a pre-existing project





# Requirements Overview



## Functional Requirements

- Faculty can edit project objects to contain the correct information when team assignments are made.

## Performance Requirements

- 85% of faculty can begin editing a project's details in 2 minutes after two attempts.

## Environmental Constraints

- There were no environmental constraints imposed on this project



## Total Number of Requirements

- Number of Functional Requirements: 82
- Number of Performance Requirements: 25

# Architectural Overview

## WEB HOSTING

Chosen Solution:  aws

- Cheap
- Reliable
- Popular
- Easy to Use

## FRONT END

Chosen Solution:  React

- JavaScript Library
- Modern/Maintained

## BACK END

Chosen Solution:  node  express


- Runtime Environment for JS
- Web Framework for Node

## DATABASE MANAGEMENT SYSTEM

Chosen Solution:  PostgreSQL

- Store large and sophisticated data
- Most powerful open source RDBMS

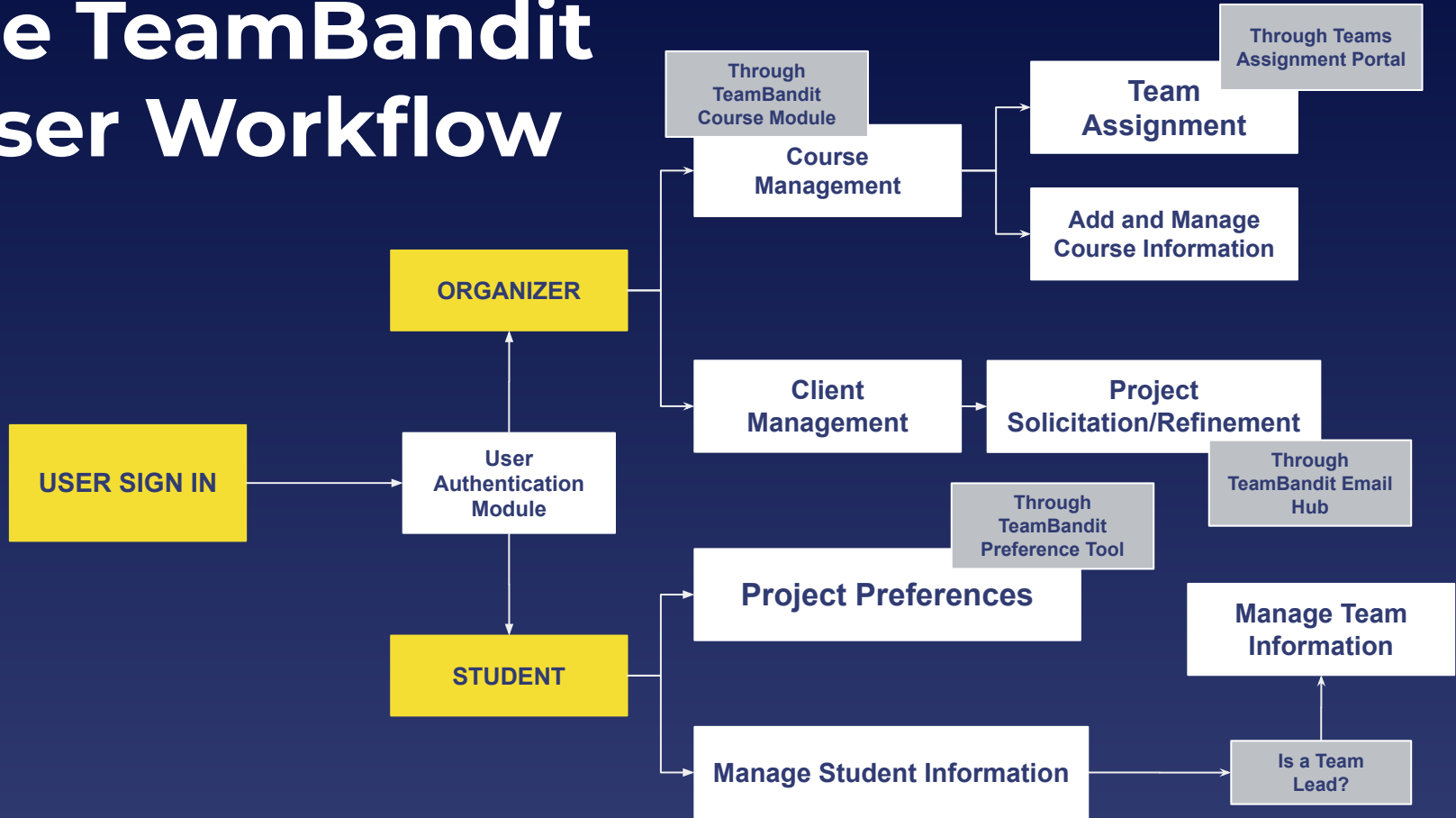
## SUPPORTING FRAMEWORKS

Chosen Solutions:    

- Authentication
- Security
- Routing
- Styling



# The TeamBandit User Workflow



# User Sign-In / Creation



[Sign In](#) [Sign Up](#)

[Sign In](#) or [Sign Up](#)

E-MAIL ADDRESS

Enter your email

PASSWORD

Enter your password

[Sign In](#)

[Create an account](#)

# Organizer First Sign In

TeamBandit Total Courses:0 Total Clients:0 Total Projects:0 Total Students:0 Settings Robert Paulsen - Organizer

## Courses

[ADD A NEW COURSE](#)

Course Name	Course Organizer	Course Semester	Total Projects	Total Students	Date Created
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# Client List

TeamBandit Total Courses:5 Total Clients:3 Total Projects:32 Total Students:18 Settings M

## Clients

[ADD CLIENT](#) [UPLOAD CLIENT LIST](#)

**COLUMNS** **FILTERS** **EXPORT**

Last name	First name	Email	Organization	Phone Number	Location	Logo	Notes	Edit
Mosier	Max	max@com.com	Maxwell Studios	928-928-9289	Flagstaff, AZ		This is a note	<a href="#">EDIT</a>
Durden	Tyler	tyd@paper.com	Paper Street Company	111-111-111	Roswell, NM		Fight Club	<a href="#">EDIT</a>
Tony	Stark	tony@stark.com	The Avengers	222-222-2222	Avengers Tower, NY		Iron Man	<a href="#">EDIT</a>

1-3 of 3 < >

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# CSV Uploader

TeamBandit Total Courses:0 Total Clients:0 Total Projects:0 Total Students:0

## Clients

ADD CLIENT

COLUMNS FILTERS EXPORT

Last name First name

DRAG AND DROP FILE HERE

OR

UPLOAD .CSV FILE

First Name	Last Name	Email	Organization	Phone Number	Location	Notes
Tony	Stark	tonys@avengers.com	The Avengers	111-111-1111	He is Iron Man	
Tyler	Durdan	tylerd@paperstreetco.com	Paper Street Company	222-222-222	Fight Club	

CANCEL COMMIT CHANGES

0-0 of 0

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# Organizer / Client Inbox

TeamBandit Total Courses:1 Total Clients:1 Total Projects:1 Total Students:2 Settings Search

**Inbox**

**Quinnifred Melonsan**  
qjmelssen@gmail.com

<input type="checkbox"/>	From	Subject	Date	Attachment
<input type="checkbox"/>	qjmelssen@gmail.com	Project Idea	01:40 04-07	
<input type="checkbox"/>	<b>qjmelssen@gmail.com</b>	<b>Project Idea</b>	<b>01:35 04-07</b>	

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# Email Popup

The screenshot displays a web application interface for 'TeamBandit'. At the top, there are navigation icons and statistics: 'Total Courses:1', 'Total Clients:1', 'Total Projects:1', and 'Total Students:2'. The main content area shows an email inbox with a table structure. A white popup window is overlaid on the inbox, displaying the details of an email from 'qjmelssen@gmail.com' with the subject 'Project Idea' and date '01:40 04-07'. The body text reads 'Ok, here is my proposition! Tell me what you think!' and includes an attachment link: [qjmelssen-90a813bc-7e5e-43e4-862e-1a6a4442cae7.pdf](#). The background inbox table has columns for 'From', 'Subject', 'Date', and 'Attachment'. The sender's name 'Quinnifred Melonsan' is visible in the left sidebar.

	From	Subject	Date	Attachment
Quinnifred Melonsan	qjmelssen@gmail.com	Project Idea	01:40 04-07	

From: qjmelssen@gmail.com

Subject: Project Idea

Date: 01:40 04-07

Body:  
Ok, here is my proposition! Tell me what you think!

Attachment: [qjmelssen-90a813bc-7e5e-43e4-862e-1a6a4442cae7.pdf](#)

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# Conversation View

TeamBandit Total Courses:1 Total Clients:1 Total Projects:1 Total Students:2 Settings Profile

**Inbox**

**Quinnifred Melonsan**  
qjmelssen@gmail.com

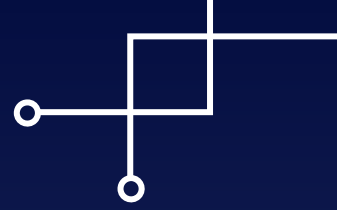
Hello Mr. Quinn, I am mulling over an idea for a capstone project, but was unsure if it works in the context of your Capstone Program. Please let me know if you'd like to see it! Regards, -Quinn Melssen

Hello, I am sure it will be great, our capstone program can be very flexible with the software we design! Shoot over a PDF of what you have now and we can work on it from there! Regards, Mr. Quinn

Ok, here is my proposition! Tell me what you think!

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# Organizer Creates their Course(s)



# Course Overview

TeamBandit Total Courses:5 Total Clients:5 Total Projects:32 Total Students:18 Settings M

## Courses

[ADD A NEW COURSE](#)

Course Name	Course Organizer	Course Semester	Total Projects	Total Students	Date Created
<a href="#">CS 315 - AUTOMATA THEORY</a>	Max Mosier	Fall 2022	13	7	2022-02-23
<a href="#">CS 480 - OPERATING SYSTEMS</a>	Max Mosier	Spring 2022	5	24	2022-02-23
<a href="#">CS 465 - DISTRIBUTED SYSTEMS</a>	Max Mosier	Fall 2021	0	1	2022-02-23
<a href="#">CS 470 - ARTIFICIAL INTELLIGENCE</a>	Max Mosier	Spring 2021	0	0	2022-02-23
<a href="#">MAT 316 - LINEAR ALGEBRA</a>	Max Mosier	Spring 2021	0	0	2022-02-27

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# Landing Page

The screenshot shows a web application interface. At the top, a yellow navigation bar contains a 'GO BACK' button, the course title 'CS 470 - Artificial Intelligence', and several menu items: 'PROJECTS' (which is underlined), 'SCHEDULE', 'STUDENTS', 'ASSIGNMENTS', 'MENTORS', and 'SETTINGS'. Below this is a sub-header for 'Projects' with options for 'COLUMNS', 'FILTERS', 'EXPORT', 'ADD', and 'TEAM ASSIGNMENT'. A 'Public Address' is displayed as <http://34.216.91.228/team-page/40/>. The main content area is a table with columns for 'Project Title', 'Project Sponsor', 'Student Team', 'Team Mentor', and 'Edit'. The table is currently empty, showing 'No rows'. At the bottom right of the table area, it says 'Rows per page: 100' and '0-0 of 0'.

# Adding a New Project

The screenshot shows a web application interface for managing projects. At the top, there is a navigation bar with a 'GO BACK' button and several menu items: 'CS 470 - Artificial Intelligence', 'PROJECTS', 'SCHEDULE', 'STUDENTS', 'ASSIGNMENTS', 'MENTORS', and 'SETTINGS'. Below this is a header for the 'Projects' section, which includes options for 'COLUMNS', 'FILTERS', 'EXPORT', and an '+ ADD' button. A 'TEAM ASSIGNMENT' button and a 'Public Address' link are also visible. The main content area displays a table with columns for 'Project Title', 'Project Sponsor', 'Student Team', 'Team Mentor', and 'Edit'. A modal window titled 'Add Project' is open in the center, containing the following elements:

- A note: '\* YOU CAN LEAVE MENTOR, AND SPONSOR SLOT BLANK.'
- A 'Project Name' text input field.
- A 'Team Mentor' dropdown menu with 'Team Mentor' selected.
- A 'Project Sponsor' dropdown menu with 'Project Sponsor' selected.
- Two buttons at the bottom: a green '+ ADD' button and a red 'X CLOSE' button.

At the bottom right of the table area, there is a pagination control showing 'Rows per page: 100' and '0-0 of 0'.

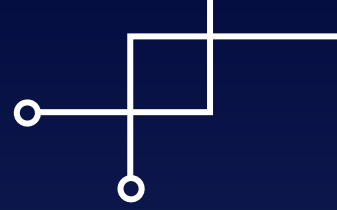
# Students Page

← GO BACK CS 315 - Automata Theory PROJECTS SCHEDULE STUDENTS ASSIGNMENTS MENTORS SETTINGS

Students COLUMNS FILTERS DENSITY EXPORT + ADD UPLOAD STUDENT LIST

First Name	Last Name	Student ID	Email	GPA	Edit
Max	Mosierz	33331	maxm@gmail.com	3.12	EDIT
Quinn	Melssen	22223	quinnm@gmail.com	4	EDIT
Carter	Taylor	44444	cartert@gmail.com	3.8	EDIT
Dakota	Battle	333333	dakotab@gmail.com	3.7	EDIT
Liam	Scholl	555554	liams@gmail.com	4	EDIT
Chris	Evens	800008	chrise@gmail.com	3.2	EDIT
Steve	Irving	87474	steveeee@gmail.com	8.9	EDIT
Dead	Man	66666	deadm@gmail.com	6.6	EDIT
Billie	Eyes	500005	billiee@gmail.com	4	EDIT
Richard	Garcia	600006	richardg@gmail.com	2.5	EDIT
Bob	Marley	700007	bobm@gmail.com	3.5	EDIT
Joe	Burt	11112	joeb@gmail.com	1.51	EDIT
...	...	...	...	...	EDIT

Rows per page: 100 1-13 of 13 < >



# The Student Actions



# Student Sign-In

The screenshot displays the TeamBandit application interface. At the top, the header includes a hamburger menu icon, the text "TeamBandit", and a user profile icon with a settings gear. The user profile dropdown menu is open, showing "Chris Evens - Student", "Profile", and "Logout". The main content area is titled "Courses" and features a table with two columns: "Course Name" and "Course Semester". The table contains one entry: "CS 315 - AUTOMATA THEORY" under "Course Name" and "Fall 2022" under "Course Semester". A sidebar on the left contains a graduation cap icon and a right-pointing arrow icon.

Course Name	Course Semester
CS 315 - AUTOMATA THEORY	Fall 2022

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Organizer Sign In

Course Creation

Student Actions

Team Assignments

Team Website

# Project Preferences

The screenshot shows a web application interface for 'CS 315 - Automata Theory'. The main content is a table of projects with columns for Project Title, Project Sponsor, and Team Mentor. A modal dialog titled 'Project Preferences' is open, allowing a user to select a preference for a project. The dialog has five dropdown menus labeled 'First Choice' through 'Fifth Choice', and 'SAVE' and 'CANCEL' buttons at the bottom.

Project Title	Project Sponsor	Team Mentor
<b>The Avengers Initiative</b> <a href="#">Project Description</a> <a href="#">Student Team Page</a>	<b>Max Mos</b> Maxwell St Flagstaff, A	Ronald Weasley <a href="mailto:rw@gmail.com">rw@gmail.com</a>
<b>SociAll</b> <a href="#">Project Description</a> <a href="#">Student Team Page</a>	<b>Stark To</b> The Aveng Avengers T	Dingle McPringle <a href="mailto:mcprings@hotmail.com">mcprings@hotmail.com</a>
<b>300 Spartans</b> <a href="#">Project Description</a> <a href="#">Student Team Page</a>	<b>Tyler Du</b> Paper Stre Roswell, N	Quinn <a href="mailto:g@gmail.com">g@gmail.com</a>
<b>Wows Moving Castle</b> <a href="#">Project Description</a> <a href="#">Student Team Page</a>	<b>Tyler Du</b> Paper Stre Roswell, N	Picasos <a href="mailto:p@gmail.com">p@gmail.com</a>

### Project Preferences

Select Project Preference:

First Choice  
Wows Moving Castle

Second Choice  
SociAll

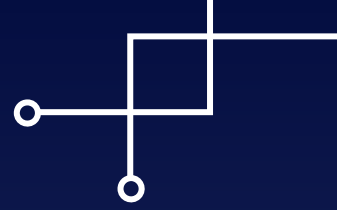
Third Choice  
Paper Street Company

Fourth Choice  
300 Spartans

Fifth Choice  
Another Project

**SAVE** **CANCEL**





# Organizer Assigns Teams



# Team Assignment

← GO BACK CS 315 - Automata Theory PROJECTS SCHEDULE STUDENTS ASSIGNMENTS MENTORS SETTINGS

← BACK TO PROJECTS

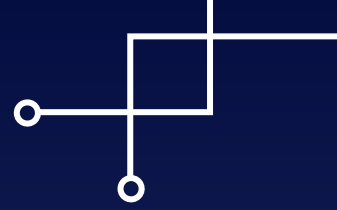
Students		Projects							Team Size Goal: 2
Student Information	GPA ↑	Assigned Project	The Avengers Initiative	SociAll	300 Spartans	Wows Moving Castle	Another Project	Paper Street Company	Ebon Hawk
		Total Assigned:	3	2	2	2	1	0	0
Max Moslerz, maxm@gmail.com,	3.12		1	3	2	4		5	
Quinn Melssen, quinnm@gmail.com,	4	The Avengers Initiative	1	3					
Carter Taylor, cartert@gmail.com,	3.8	SociAll		2	5	1	4		
Dakota Battle, dakotab@gmail.com,	3.7	Another Project							
Liam Scholl, liams@gmail.com,	4								
Chris Evens, chrise@gmail.com,	3.2	The Avengers Initiative		2	4	1	5	3	
Steve Irving, steveeee@gmail.com,	8.9	The Avengers Initiative		3					
Dead Man, deadm@gmail.com,	6.6	SociAll							
Billie Eyes, billiee@gmail.com,	4	Wows Moving Castle							
Richard Garcia, richardg@gmail.com,	2.5	300 Spartans							
Bob Marley, bobm@gmail.com,	3.5	300 Spartans							
Joe Burt, joeb@gmail.com,	1.51								

# Team Lead Assignment

The screenshot shows a web application interface for managing projects. The main header is "CS 315 - Automata Theory" with navigation tabs for PROJECTS, SCHEDULE, STUDENTS, ASSIGNMENTS, MENTORS, and SETTINGS. The "PROJECTS" tab is active, displaying a table of projects. An "Edit Project" modal is open, showing the details for "The Avengers Initiative". The modal includes a note: "\* YOU CAN LEAVE MENTOR, SPONSOR, PDF, AND TEAM LEAD FIELDS BLANK IF YOU DON'T WANT THEM CHANGED." The fields are: Project Name (The Avengers Initiative), Team Mentor (Team Mentor), Project Sponsor (Project Sponsor), and Team Lead (Team Lead). The Team Lead dropdown is open, showing options: Team Lead, Steve Irving, Quinn Melssen, and Chris Evens. The background table shows the following projects:

Project Title	Project Sponsor	Team Mentor	Edit
The Avengers Initiative	Max Mosier Maxwell Studio Flagstaff, AZ	Ronald Weasley rw@gmail.com	EDIT
SociAll	Stark Tony The Avengers Avengers Tower	Dingle McPringle mcprings@hotmail.com	EDIT
300 Spartans	Tyler Durden Paper Street Co Roswell, NM	Quinn q@gmail.com	EDIT
Wows Moving Castle	Tyler Durden Paper Street Co Roswell, NM	Picasos p@gmail.com	EDIT
Tyler Durden Fight Club			

Rows per page: 100 1-7 of 7



# Team Website



# Pre-Generated Team Website


The screenshot shows a web page for 'The Avengers' team. On the left is a blue sidebar with a navigation menu: 'OVERVIEW', 'SOLUTION', 'DELIVERABLES', and 'SCHEDULE'. The main content area has a dark blue background with a lightning effect. At the top left of the main area is the 'NEW ORLEANS WARRIOR' logo. To its right is a text box titled 'The Avengers' containing placeholder text. Below the text box are two buttons: 'SOLUTION' and 'WATCH VIDEO'. At the bottom of the page is a 'Meet the Team' section with three team member cards: Quinn Melssen (Programmer), Chris Evens (Team Lead), and Steve Irving (Architect).

# Team Lead Actions

TeamBandit

TEAM LEAD ACTIONS:

Team Page Color



Team Website Font Color


Team Name

The Avengers


Project Abstract

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Nam eleifend id elit vel consectetur. Vestibulum dictum lobortis arcu eu bibendum. Aenean interdum sem felis, id tincidunt quam dictum et. Vestibulum fringilla orci non lectus laoreet porttitor. Nunc convallis velit in nisi tristique fringilla. Etiam auctor sit amet magna ut laoreet. In ipsum lacus, pulvinar et interdum at, ultricies sed sem. Aliquam nec velit consectetur, hendrerit lectus et, gravida est. Phasellus rhoncus quam et malesuada ultricies. Curabitur ut tempor purus. Vivamus sit amet maximus nibh. Pellentesque gravida lacinia luctus. Phasellus condimentum nibh nulla, at elementum nisi molestie quis. Sed hendrerit dolor nec ultricies tincidunt.

Team Logo



Team Page Backdrop













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# The End Result

← GO BACK CS 315 - AUTOMATA THEORY PROJECTS SCHEDULE STUDENTS ASSIGNMENTS MENTORS SETTINGS


Projects COLUMNS FILTERS EXPORT + ADD TEAM ASSIGNMENT Public Address: <http://34.216.91.228/team-page/30/>

Project Title	Project Sponsor		Student Team	Team Mentor	Edit
<b>Engineering Career Network</b> <a href="#">Project Description</a> <a href="#">Student Team Page</a>	<b>Max Mosier</b> Front End Dev. Cognizant Roswell, NM		<b>Warriors</b>  <ul style="list-style-type: none"><li>• Steve Irving</li><li>• Quinn Melssen</li><li>• <a href="#">Chris Evens (Lead)</a></li></ul>	Dakota Battle <a href="mailto:rw@gmail.com">rw@gmail.com</a>	<a href="#">EDIT</a>
<b>SociAll</b> <a href="#">Project Description</a> <a href="#">Student Team Page</a>	<b>Quinn Melssen</b> Software Eng. Toyota Buckeye, AZ		<b>Wolves</b>  <ul style="list-style-type: none"><li>• <a href="#">Carter Taylor (Lead)</a></li><li>• Dead Man</li></ul>	Liam Scholl <a href="mailto:p@gmail.com">p@gmail.com</a>	<a href="#">EDIT</a>
<b>GeekSurvey</b> <a href="#">Project Description</a> <a href="#">Student Team Page</a>	<b>Marco Gerosa</b> Professor Northern Arizona University Flagstaff, AZ		<b>Team Ares</b>  <ul style="list-style-type: none"><li>• <a href="#">Bob Marley (Lead)</a></li><li>• Richard Garcia</li></ul>	Dakota Battle <a href="mailto:rw@gmail.com">rw@gmail.com</a>	<a href="#">EDIT</a>
<b>TeamBandit</b> <a href="#">Project Description</a> <a href="#">Student Team Page</a>	<b>Eck Doerry</b> Professor Northern Arizona University Flagstaff, AZ		<b>Golden Eagles</b>  <ul style="list-style-type: none"><li>• <a href="#">Billie Eyes (Lead)</a></li><li>• Albert Einstein</li></ul>	Liam Scholl <a href="mailto:p@gmail.com">p@gmail.com</a>	<a href="#">EDIT</a>
	<b>Eck Doerry</b> Professor		<b>The Pumas</b> 		

Rows per page: 100 1-7 of 7 < >



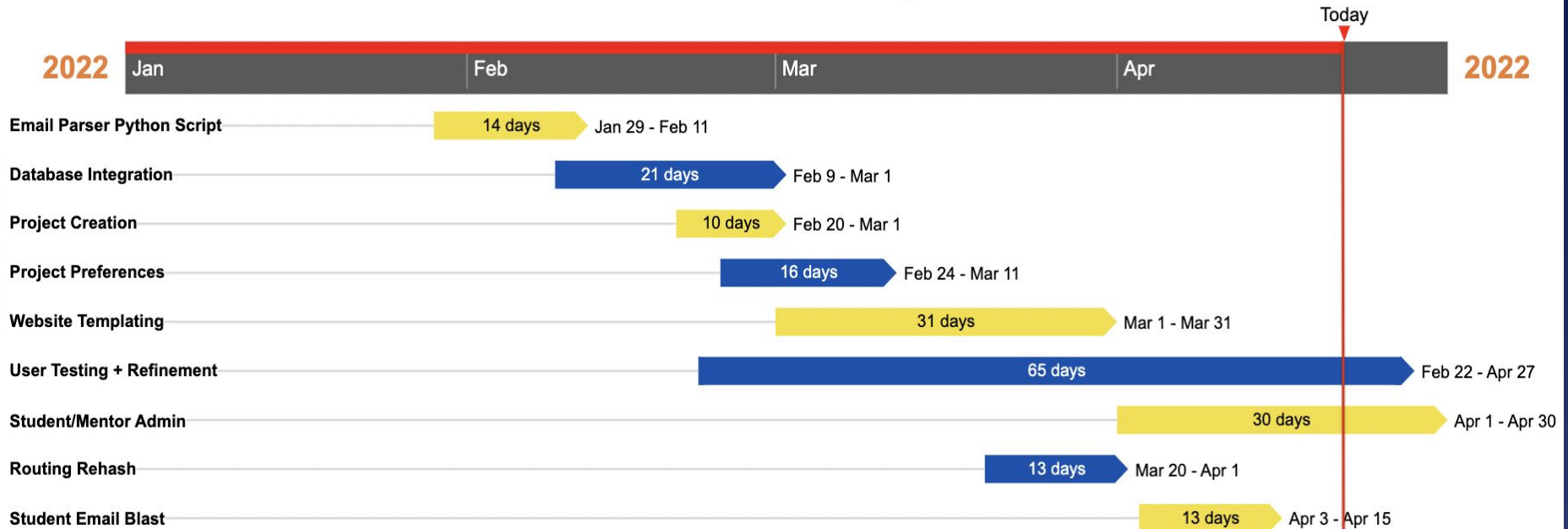
# Challenges and Resolutions

- Ensuring only real students can create an account
    - Automatically generate accounts
  - Inefficient separation of Student and Organizer interfaces
    - Revise architecture to combine into one dynamic user interface
  - Email Format Inconsistency
    - Emails from different email providers are formatted differently.  
Manually account for major email providers
- 



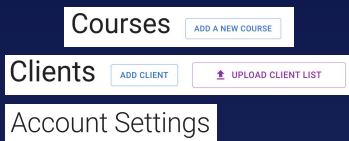
# Schedule

## Team Bandit Development Plan



# Testing and Refinement

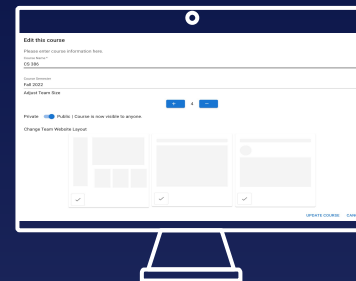
## Unit Testing



Testing individual components of application

## Usability Testing

Evaluated application's design as it pertains to the end user



## Results

- Architecture broken into individual units
  - Each unit measured against realistic test cases

- Each unit functioned with minimal or no adjustments

**Test Users:** (2) Students (4) Instructors

- Each test user attempts to carry out tasks
- Test user “thinks out loud”

- Refinement focused on recurring areas of concern
- Focused on improving user experience

# In Conclusion..

Team-based courses are a *lot* to handle.

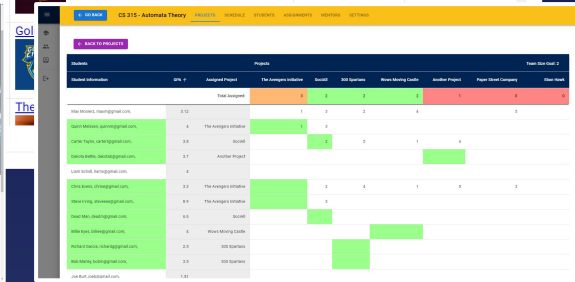
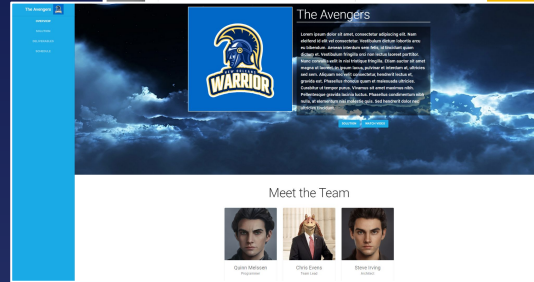
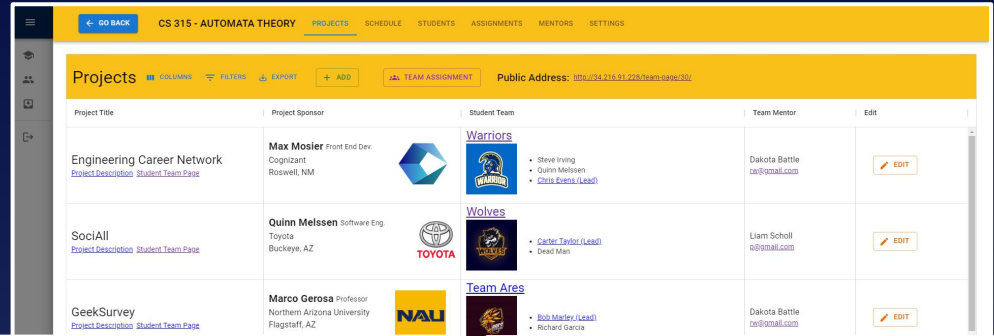
- > We built an app to make it **quick** and **easy**.

Development phases were kept on schedule

- > Client's requirements met

Using TeamBandit, it is now easy for any educator to teach students in the way which reflects every industry:

*In Teams.*



# Questions?



**Quinn Melssen**

Team Leader



**Max Mosier**

Developer



**Dakota Battle**

Developer



**Liam Scholl**

Developer



<https://ceias.nau.edu/capstone/projects/CS/2022/Outlaws/>