

# Curriculum and Instruction Doctoral Tracker DR2

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Team What's Up Doc



# Introduction

## Meet the Team:

- Adam Larson
  - Team Lead, connections and back end developer
- Brandon Shaffer
  - Repo manager, chief editor, front end developer
- Eddie Lipan
  - Front end developer
- Special thanks to mentor Daniel and CS Faculty Member Dr. Michael Leverington



## Meet the Client:

- Dr. Gretchen McAllister, Ph.D., Coordinator of the NAU Curriculum and Instruction (C&I) doctoral program
  - Aided by Michele Benedict, Administrative Services Assistant

# Problem Statement

As of Fall 2020, **3.1 million graduate students** attended universities across the United States. [1]

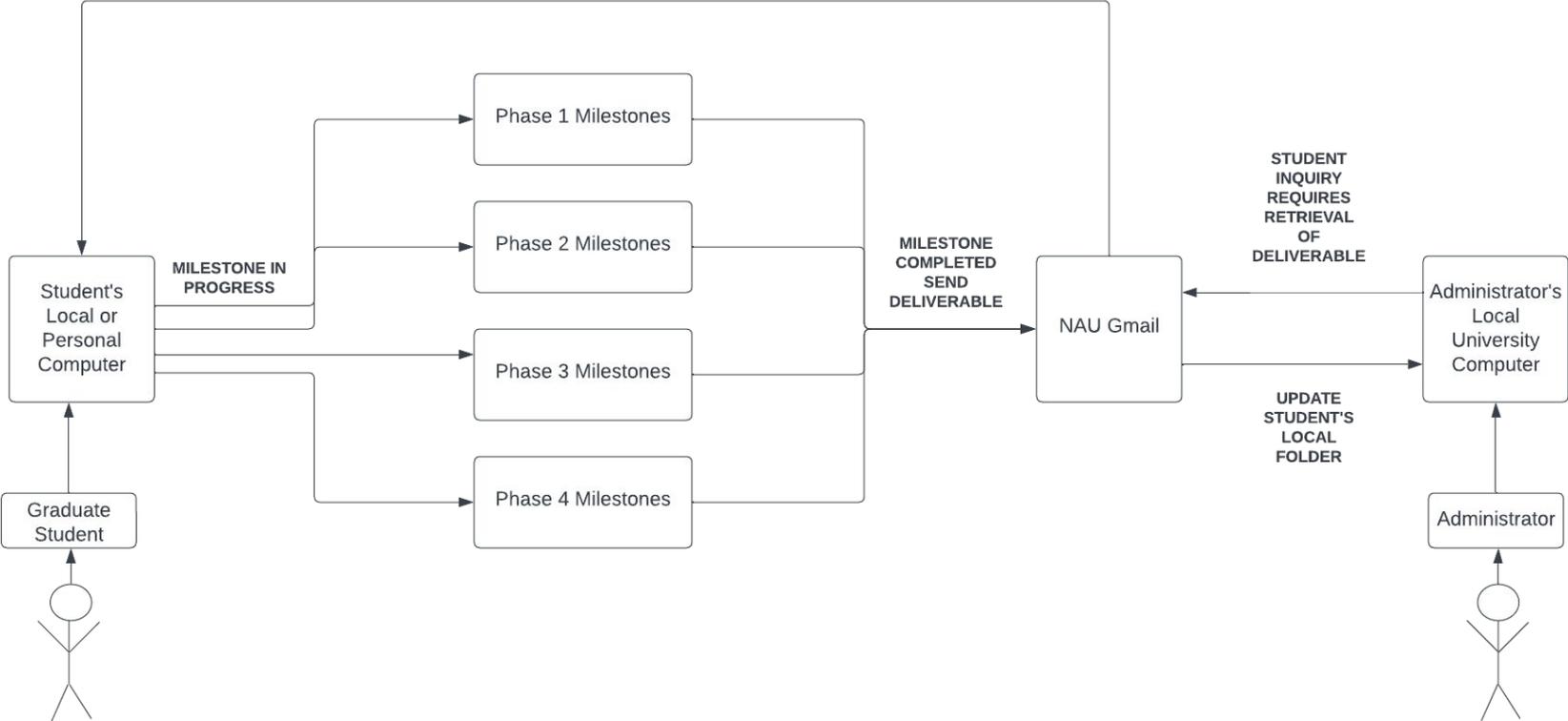
- **Learning Management Systems (LMS)** such as **Blackboard Learn** or **Canvas** are generally used to manage undergraduate classwork and grades.
- As graduate work becomes less quantifiable, managing and tracking the program through a standard LMS becomes less feasible.
- The NAU C&I doctoral program's current workflow is inefficient. Workflow outlined on next slide.

Blackboard  
learn<sup>+</sup>

LAST ACTIVITY	GRADE
Jan 21, 2022 2:48 PM GRADED	765862
Feb 2, 2022 9:30 PM GRADED	13.00 /16
Feb 9, 2022 11:27 AM GRADED	12.00 /19
Feb 11, 2022 11:48 AM GRADED	20.00 /23
Jan 19, 2022 4:29 PM GRADED	20.00 /20
Feb 11, 2022 3:22 PM GRADED	117.00 /125

[1] [National Center for Education Statistics - Postbaccalaureate Enrollment](#)

ADMIN REPLIES TO STUDENT INQUIRY

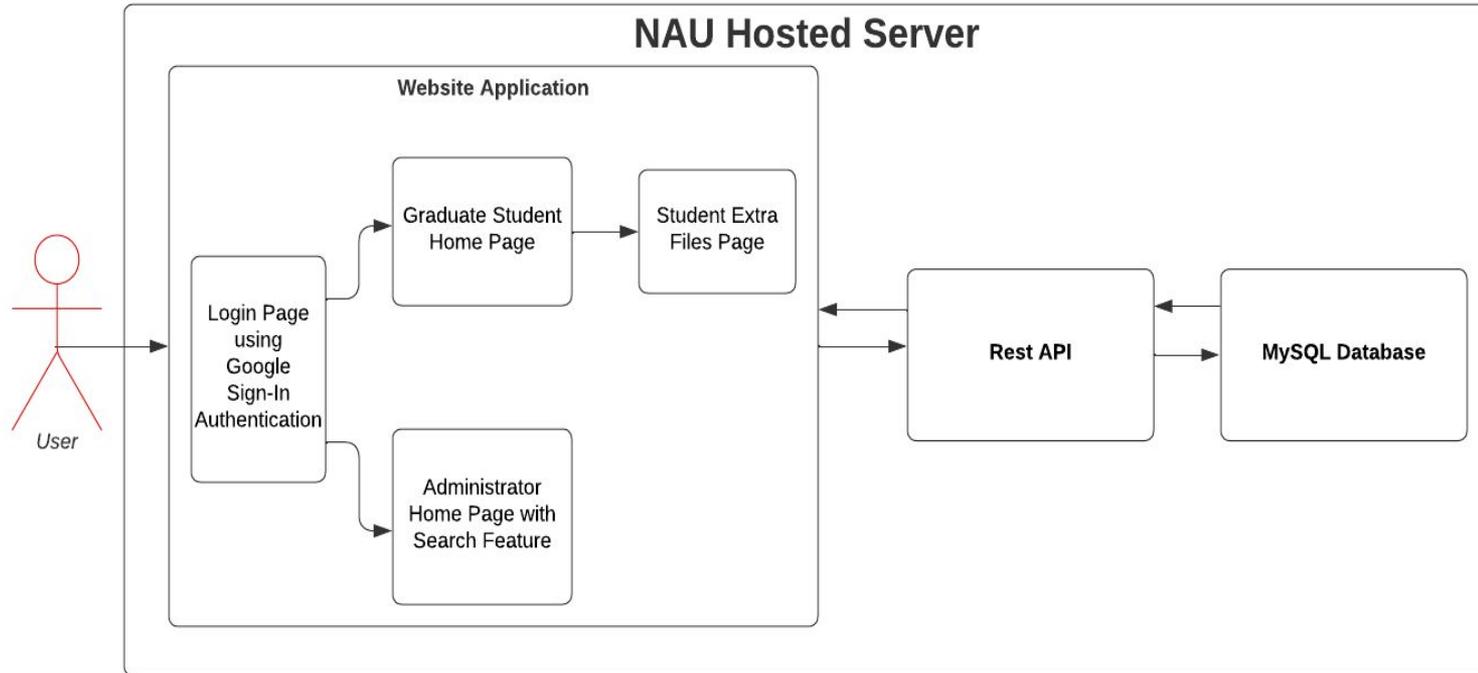


# Solution Overview

- Organization
  - Student
  - Categories
- Searchable
  - Administration tool
- Student Access
  - Progress Tracker
- Redundancy
  - Backups

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# Implementation Overview



# Implementation Details

## Web App

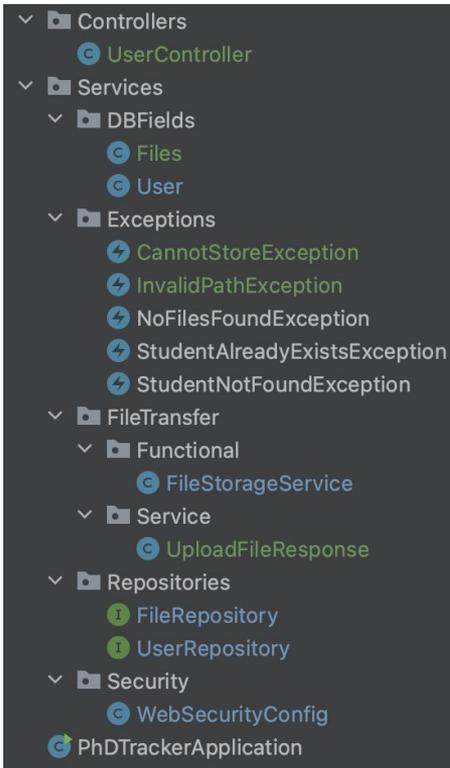
- HTML/CSS/JS
- Updates Dynamically
- Menu on left changes as files are uploaded
- Doctoral phases on top change as menu completes
- Large area is a preview placeholder

Phase 1: Coursework	Phase 2: Qualitative Research Project/ Comprehensive Exams	Phase 3: Proposal and Prospectus	Phase 4: Research and Dissertation
Qualifying Research Completion form: Completed 2/6/2020!	Qualifying Research Completion Form		
Comprehensive Exam Scheduling Form:			
Comprehensive Exam Results Form:			
Recommendation of Dissertation Committee Form (completed with chair):			
Graduate college letter confirming dissertation committee:			
Student Self-Evaluation 2 :			

# Implementation Details

## Rest API

- Spring Boot Java Framework
- Creates endpoints for web requests to send and receive data
- Data connectivity
  - Spring JPA (Java Persistence API) module
  - Automated SQL requests through a CRUD (create, read, update, delete) or JPA repository interface
- Security
  - Spring Security Module
  - Industry standard OAuth2 connections
  - Easily configured policy for endpoint data retrieval



# Implementation Details

## Database

- MySQL
- Two tables
  - User table holds general student/admin information and status
  - File table stores file data and user connections

```
mysql> describe capstone.user;
+-----+-----+-----+-----+-----+-----+
| Field      | Type          | Null | Key | Default | Extra      |
+-----+-----+-----+-----+-----+-----+
| userNo     | int           | NO   | PRI | NULL    | auto_increment |
| userID     | varchar(255)  | NO   |     | NULL    |              |
| first_name | varchar(255)  | NO   |     | NULL    |              |
| last_name  | varchar(255)  | NO   |     | NULL    |              |
| admin      | tinyint(1)    | YES  |     | 0       |              |
+-----+-----+-----+-----+-----+-----+
5 rows in set (0.00 sec)

mysql> describe capstone.files;
+-----+-----+-----+-----+-----+-----+
| Field      | Type          | Null | Key | Default | Extra      |
+-----+-----+-----+-----+-----+-----+
| uploadID   | varchar(36)   | NO   | PRI | NULL    |              |
| filename   | varchar(256)  | YES  |     | NULL    |              |
| filetype   | varchar(256)  | YES  |     | NULL    |              |
| data       | longblob      | YES  |     | NULL    |              |
| upload_time | varchar(100)  | YES  |     | NULL    |              |
| userID     | varchar(50)   | YES  | MUL | NULL    |              |
| uploaded_as | varchar(100)  | YES  |     | NULL    |              |
+-----+-----+-----+-----+-----+-----+
7 rows in set (0.00 sec)
```

# Challenges and Resolutions

## Primary

- ITS Assistance
  - Resolution: None yet
  - Waiting for direction and sourcing options outside of school
- Technology
  - Resolution: Lots of research
  - Numerous tutorials, videos, and trial and error
  - Some commercial assistance

## Secondary Challenges

- Maintaining requirements
  - Resolution: Limits on what we can do in remaining time
  - Many changing requests and additional desired functions or student feedback
- Client scheduling
  - Resolution: Accommodate as much as possible
  - Two effective clients working together makes scheduling more challenging
  - Meet when possible, even if one person isn't available

# Schedule

## C&I Doctoral Tracker

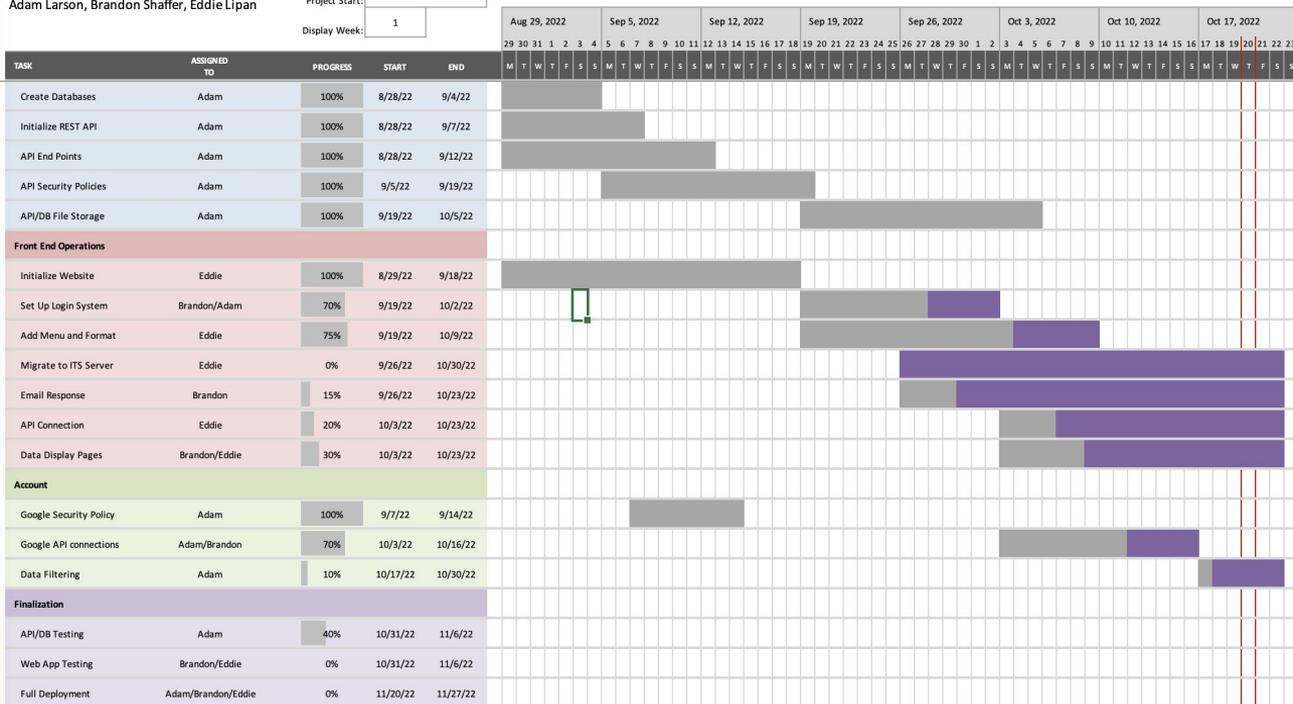
What's Up Doc

Team Members:

Adam Larson, Brandon Shaffer, Eddie Lipan

Project Start: Sun, 8/28/2022

Display Week: 1



# Conclusion

Team What's Up Doc is delivering an intuitive tracker, as a website application, to the NAU C&I doctoral program that will:

- Adhere to proper COE authentication and authorization
- Relieve administrators from data entry and acquisition duties
- Allow graduate students to track their progress through the graduate program



**Welcome to the Curriculum & Instruction Doctoral Tracker!**

Sign In with your NAU gmail account:



# Thanks for watching!

