



FINALS ACTIVITY 1: Full-Stack Application

Course: FINALS ACTIVITY 1: Node, Express, Mongo, & Vue

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GitHub Repository URL: <https://github.com/Josh-Aguiluz/FINALS-ACTIVITY-1.git>

1. Project Overview

This project is a full-stack web application that serves as a "GPU Showcase." It features a dynamic frontend built with Vue.js and a robust backend API powered by Node.js and Express.js.

The application allows users to submit, view, edit, and delete data across three categories (Admin, Student, and General User). It supports full CRUD (Create, Read, Update, Delete) functionality and includes features like file uploads for the admin form.

Note on Database: While the activity specifies MongoDB, this implementation uses an in-memory array-based storage system on the Express server to simulate database interactions. The API structure is designed to be easily adaptable to a MongoDB connection in the future.

2. Technology Stack

- **Backend:** Node.js, Express.js
 - **Frontend:** Vue.js, Vue Router, Axios
 - **File Handling:** Multer.js for handling multipart/form-data
 - **Styling:** Custom CSS with a modern, dark-theme design
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3. How to Run the Application



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To run this project, please follow these steps precisely.

Step 1: Install Dependencies

You must install dependencies for both the backend and frontend.

Install Backend Dependencies: Open a terminal in the project's root directory (WCSEVER) and run:
`npm install`

Install Frontend Dependencies: Navigate into the client folder and run the same command:
`cd client`
`npm install`

Step 2: Build the Frontend

Compile the Vue.js application into static files for production.

While still in the client directory, run the build command:

`npm run build`

Step 3: Start the Server

Navigate back to the root directory and start the main Express server.

`cd ..`

`node express.js`

Step 4: View the Application

The application is now running. Open your web browser and navigate to:

<http://localhost:5000>

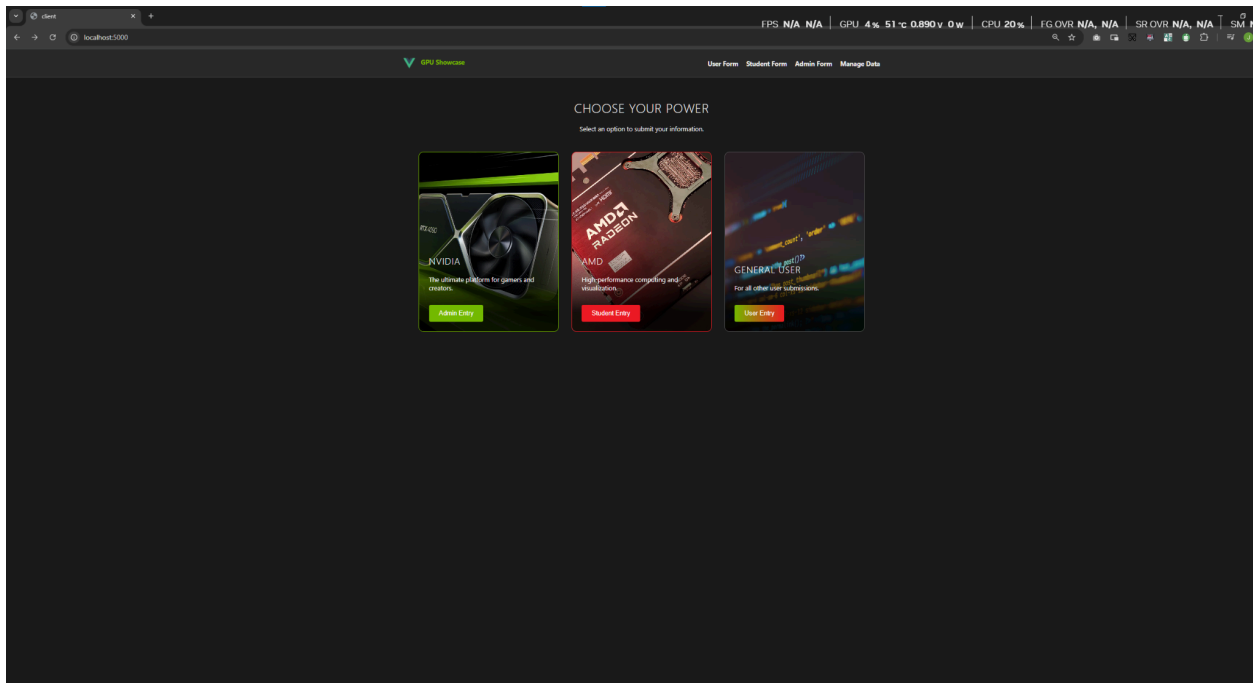
4. Application Screenshots

Homepage (GPU Showcase)



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Data Submission Forms

Admin

Form

(NVIDIA):



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Student

Form

(AMD):

GPU Showcase

User Form **Student Form** Admin Form Manage Data

Student Form

Student ID:

First Name:

Last Name:

Section:

Submit Student Data

User

Form

(General):

GPU Showcase

User Form **Student Form** Admin Form Manage Data

User Form

First Name:

Last Name:

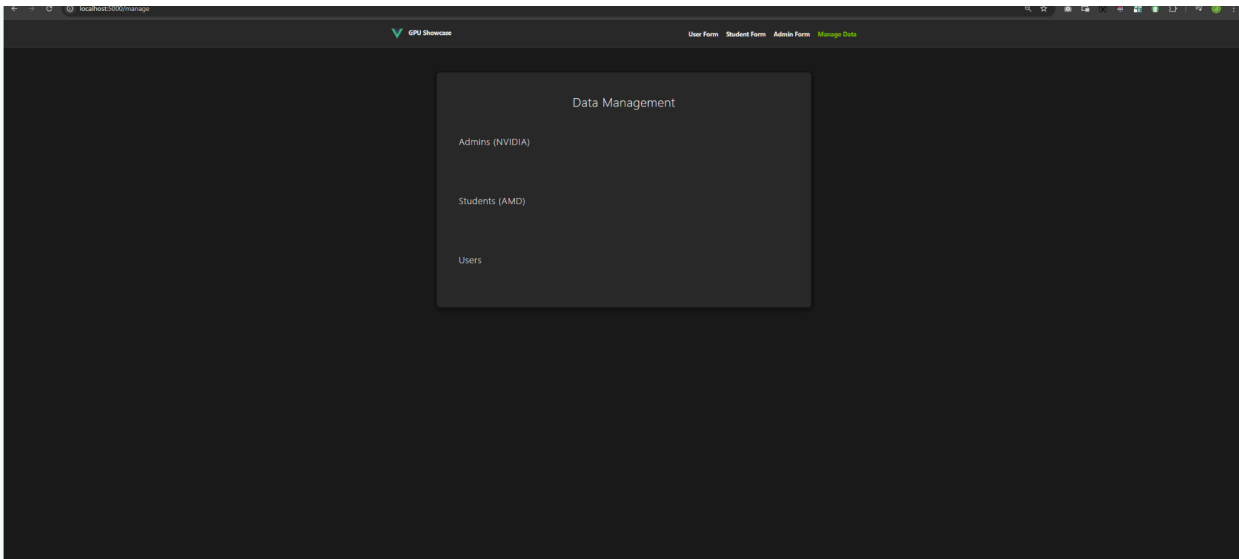
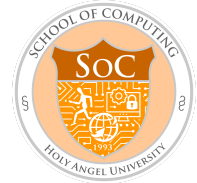
Submit

Data Management Page

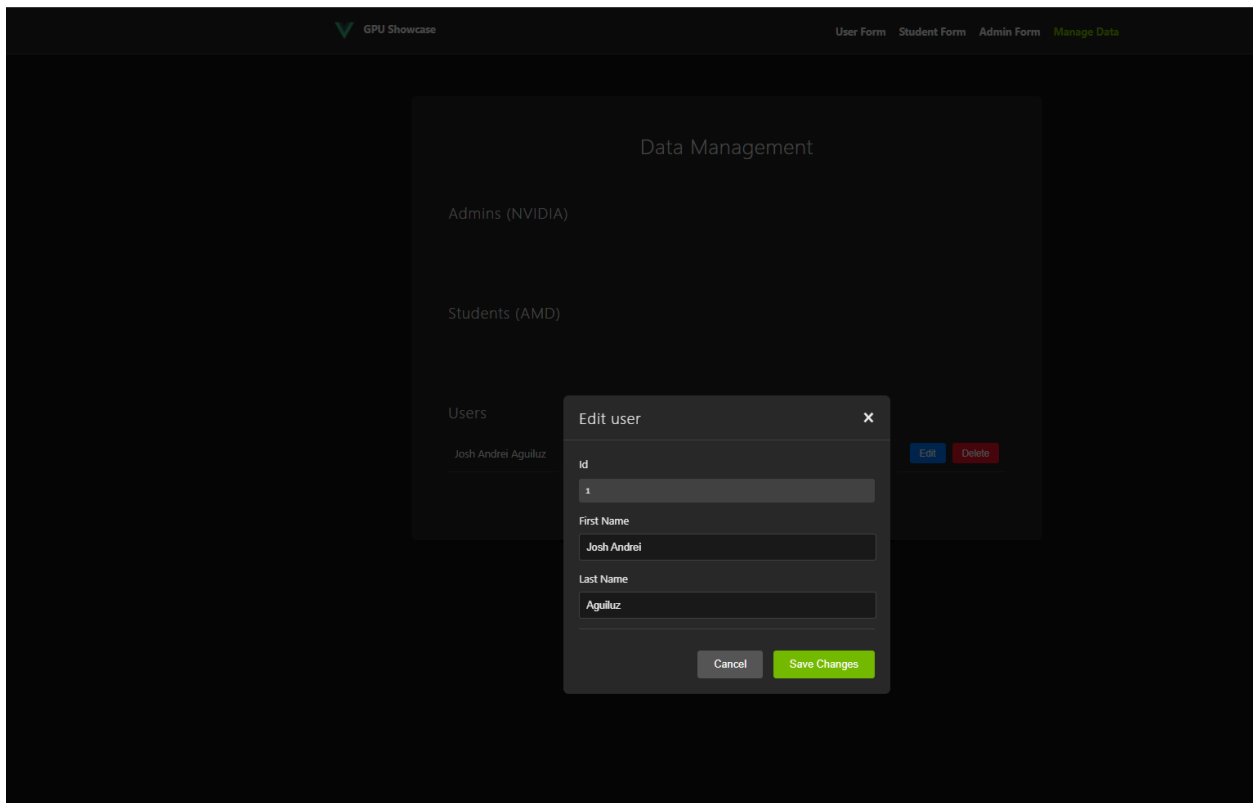


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Edit Functionality





5. Backend API & Terminal Response

Server Startup

```
branch main set up to track origin/main :  
PS C:\Users\Josh\Downloads\WCSEVER> node express.js  
Server running at http://localhost:5000
```

POST Request (Form Submission)

```
Server running at http://localhost:5000  
New User Added: { id: 1, firstName: 'Josh Andrei', lastName: 'Aguiluz' }  
New Student Added: {  
  id: 2,  
  studentID: '2121',  
  firstName: 'Josh Andrei',  
  lastName: 'Aguiluz',  
  section: 'wd-302'  
}  
New Admin Added: {  
  id: 3,  
  adminID: '2121',  
  firstName: 'Josh Andrei',  
  lastName: 'Aguiluz',  
  department: 'SOC',  
  filePath: '/uploads/1757951572124-sadasdadadadasd.png'  
}  
}
```

PUT Request (Updating Data)



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```
}  
Admin Updated: {  
  id: 3,  
  adminID: '2121',  
  firstName: 'Josh Dizon',  
  lastName: 'Aguiluz',  
  department: 'SOC',  
  filePath: '/uploads/1757951572124-sadasdadadasd.png'  
}  
Student Updated: {  
  id: 2,  
  studentID: '2121',  
  firstName: 'Josh Jirah',  
  lastName: 'Aguiluz',  
  section: 'wd-302'  
}  
}
```

DELETE Request

```
  section: 'wd-302'  
}  
Deleted Student with ID: 2  
}
```