

# ICSI 518 – SE Fall25 – Final Project

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# **Topic 8: Digital Journal & Mood Tracker**

An app that tracks reflections and mood patterns over time.

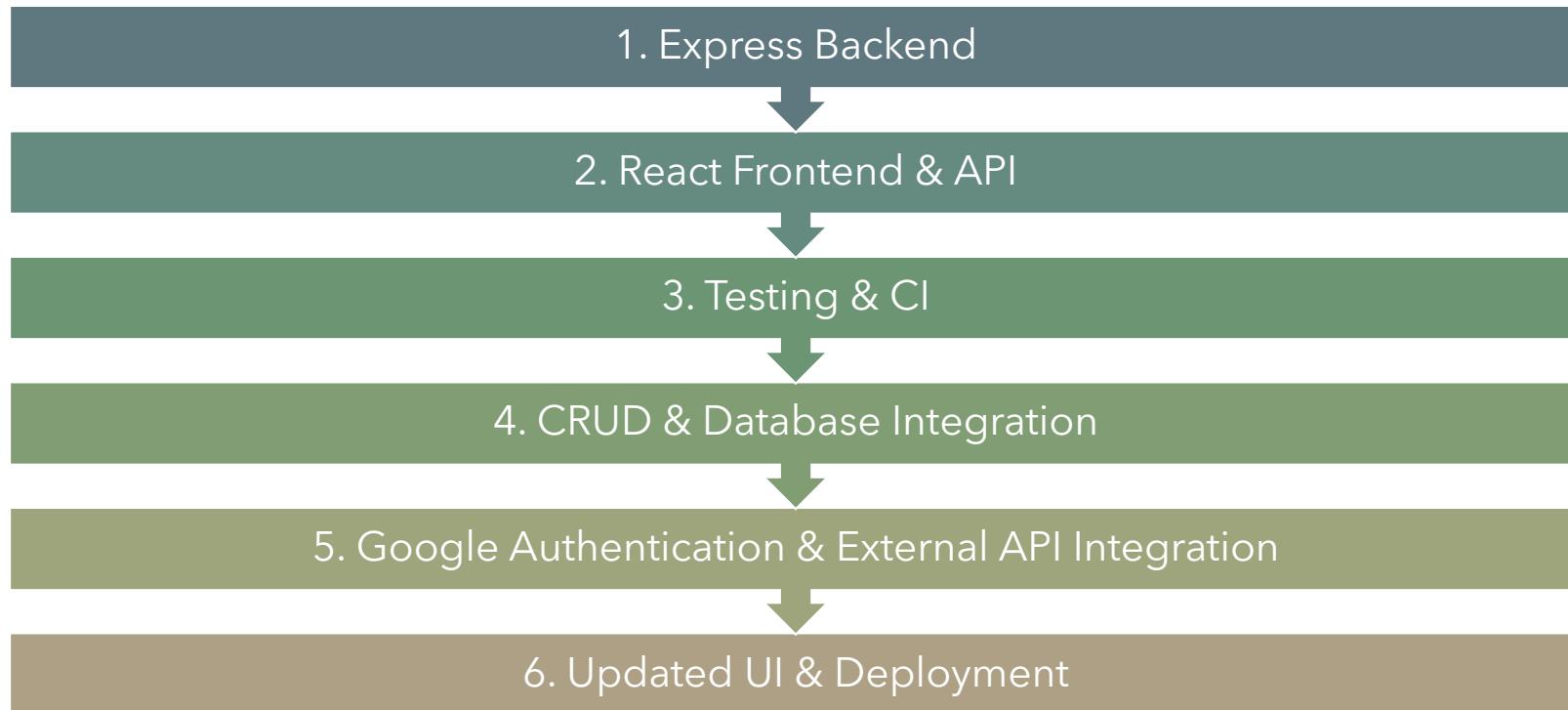
Features:

- Google Auth login
- Journal entries stored in database
- Mood or sentiment analysis via external API
- Calendar integrations for entries
- Animated transitions between entries or views
- Test verifying entry creation and display

# Process

*AI Disclosure: This project was created using ChatGPT*

# Checkpoint Outline



# Checkpoint 1: Express Backend

- Create GitHub Repo & clone it locally in VS Code
- Add Dev Container Configuration files
- Create project structure: client/, server/, docs/
- Initialize server with npm, & install core dependencies: express, cors, dotenv
- Add .gitignore to omit node modules from source control
- Create server/index.js basic express server with test API endpoints
- Update package.json to include express server modules & dev and start scripts
- Run backend (\$ npm run dev) and test endpoints

# Checkpoint 2: React Frontend & API

- Create the React app using Vite in the client directory
- Install npm in the client for the frontend dependencies & run npm dev
- Modify client/vite.config.js to expose the client-side dev server for Dev Containers. This will make the app visible from the browser
- Add proxy in client/vite.config.js to forward api requests to Express backend
- Integrate frontend with backend by having client/src/App.jsx fetch api message
- In two separate VS Code terminals, run the client and server

# Checkpoint 3: Testing and CI

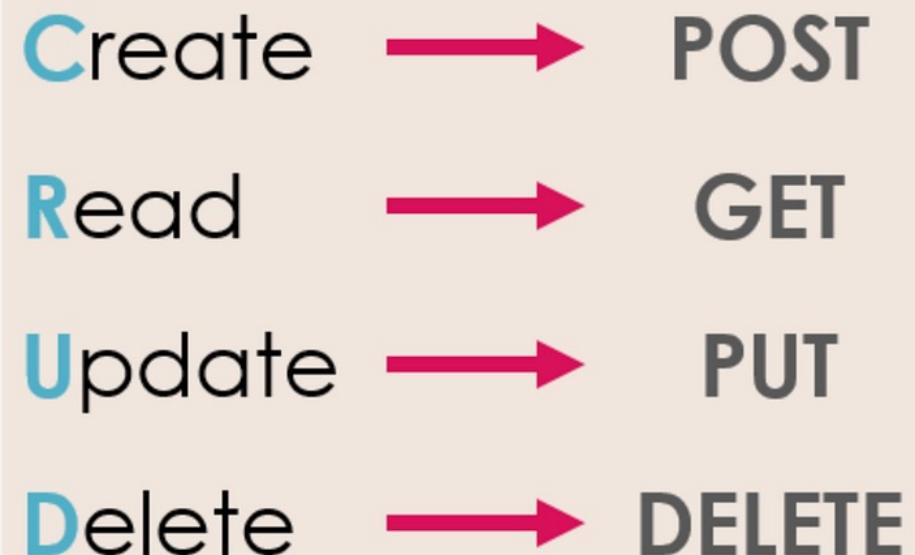
- Backend Testing
  - **Jest & Supertest**
- Frontend Testing
  - **Vitest + React Testing Library**
- GitHub Actions for Continuous Integration



A screenshot of a GitHub Actions workflow run. The interface shows a dark header with "1 workflow run". Below it, a card displays a green checkmark icon followed by the text "Add automated backend and frontend tests with CI". To the right of this text are buttons for "main", "Event", "Status", "Branch", and "Actor". Further to the right are timestamp buttons for "1 minute ago" and "19s", and a three-dot ellipsis button. At the bottom left of the card, there is a note: "CI #1: Commit 1539b20 pushed by Ariana-UAlbany".

# Checkpoint 4: CRUD & Database Integration

- Setup backend with Mongoose dependencies & database connection file configuration
- Configure environment variable with MongoDB Atlas connection string
- Create Journal Data Model for data entry
- Implement CRUD API Routes using Express & Mongoose
- Connect React frontend to Journal API
- Update CI for new frontend





# CRUD in Action

## Curl Commands

- node → /workspaces/icsi518seFinal/server (main) \$ curl -X POST http://localhost:8080/api/journals \  
-H "Content-Type: application/json" \  
-d '{"text":"My first journal entry","mood":"happy"}'  
{"text":"My first journal entry","mood":"happy","\_id":"693f34a68b81e71d53485a51","createdAt":"2025-12-14T22:05:26.570Z","updatedAt":"2025-12-14T22:05:26.570Z","curl -X PUT http://localhost:8080/api/journals/693f34a68b81e71d53485a51 \  
-H "Content-Type: application/json" \  
-d '{"text":"Updated journal entry","mood":"excited"}'  
{"\_id":"693f34a68b81e71d53485a51","text":"Updated journal entry","mood":"excited","createdAt":"2025-12-14T22:05:26.570Z","updatedAt":"2025-12-14T22:05:26.570Z",  
● node → /workspaces/icsi518seFinal/server (main) \$ curl -X DELETE http://localhost:8080/api/journals/693f34a68b81e71d53485a51  
○ {"message":"Journal entry deleted"}node → /workspaces/icsi518seFinal/server (main) \$

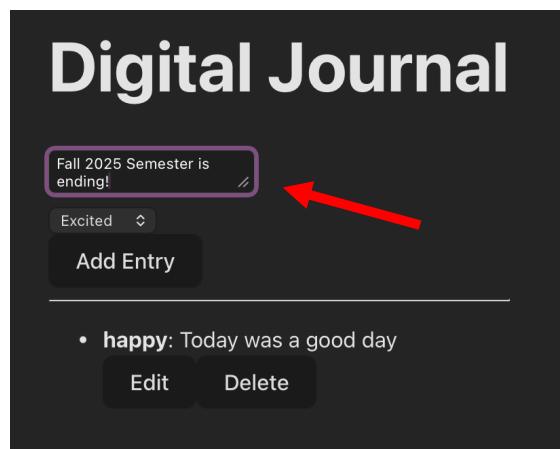
GET in Browser after POST

```
[{"_id": "693f34a68b81e71d53485a51", "text": "My first journal entry", "mood": "happy", "createdAt": "2025-12-14T22:05:26.570Z", "updatedAt": "2025-12-14T22:05:26.570Z", "__v": 0}]
```

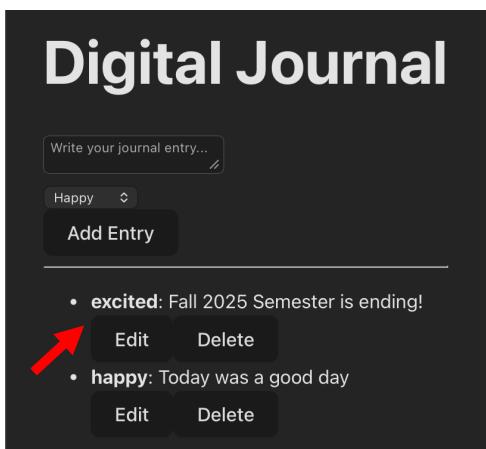
GET in Browser after DELETE [ ]

Backend

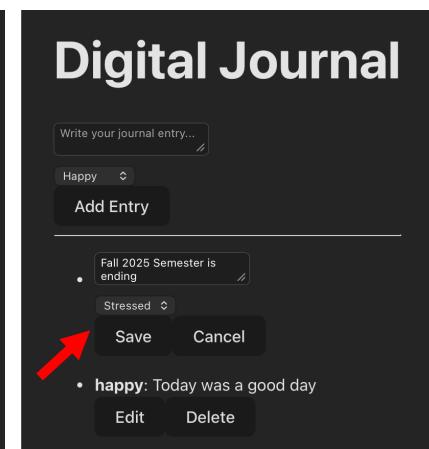
Create



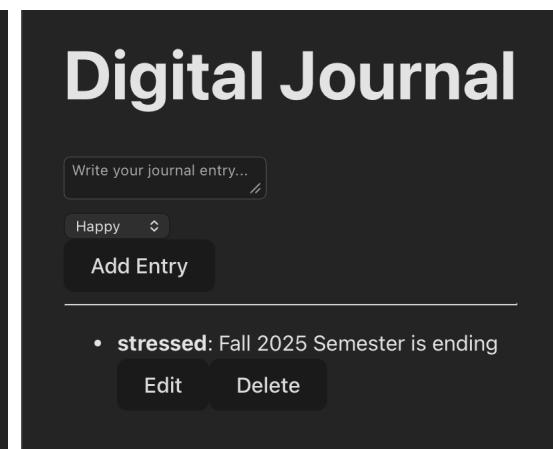
Read



Update



Delete



Frontend

# Checkpoint 5: Authentication

- Google OAuth implementation
- External API integration: *Hugging Face Inference API*
- Protected API routes to support personalized user entries by adding middleware to CRUD file



# Google OAuth

# Problem

After initial implementation, any user can see all entries

## MoodLog – Digital Journal & Mood Tracker



Sign in with Google

Happy ▾

Add Entry

- **stressed:** Fall 2025 Semester is ending

Edit      Delete

# Public Journaling

The journal is shared between both authenticated and non authenticated users

## MoodLog – Digital Journal & Mood Tracker

Welcome, Ariana UAlbany 🌻

Happy ▾

Add Entry

- **stressed:** Fall 2025 Semester is ending

Edit

Delete

X Entry is still visible!

# Solution

Frontend now needs credentials to view entries

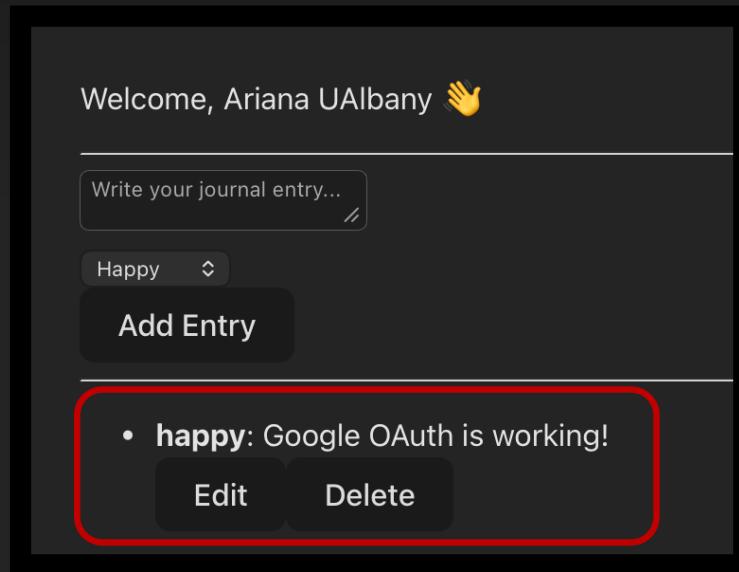
## MoodLog – Digital Journal & Mood Tracker



Sign in with Google

# Private Journaling

Each authenticated user has access to their own set of journal entries



Welcome, Ariana UAlbany 🙌

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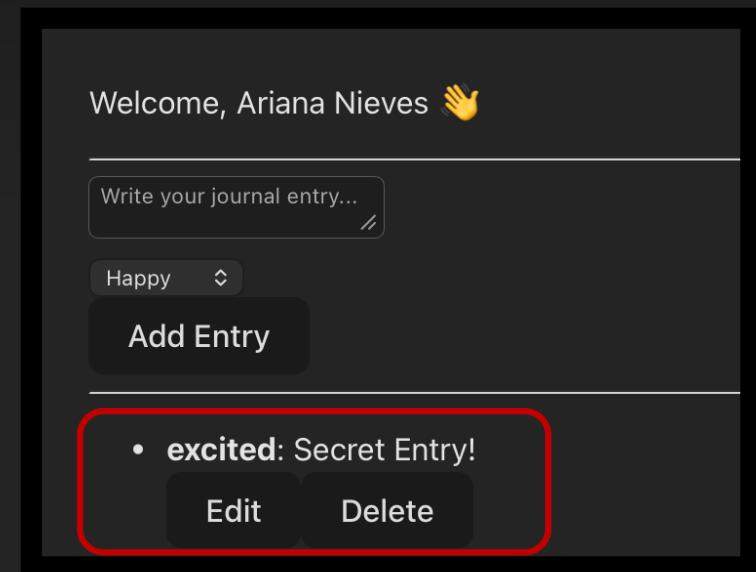
Write your journal entry... //

Happy ⚠

Add Entry

• **happy:** Google OAuth is working!

Edit Delete



Welcome, Ariana Nieves 🙌

---

Write your journal entry... //

Happy ⚠

Add Entry

• **excited:** Secret Entry!

Edit Delete

# Checkpoint 6: Updated UI & Deployment

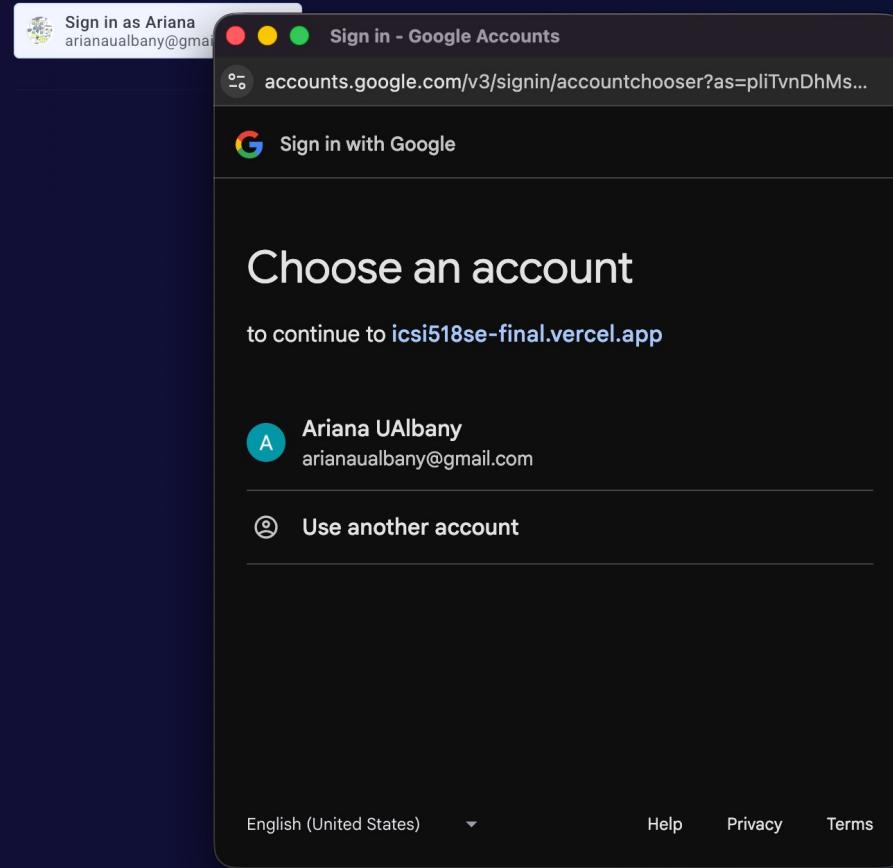
- Used Animista and Bootstrap
- Meaningful Animation: Mood ring color changing background
- Transitions: Facilitates CRUD smoothness
- Use environment-based API URL instead of localhost
- Add logout button to invalidate JWT
- Backend deployed on Google Cloud
- Frontend deployed on Vercel

Demo

# MoodLog – Digital Journal & Mood Tracker

 Sign in as Ariana  
arianaualbany@gmail.com 

# MoodLog – Digital Journal & Mood Tracker



# MoodLog – Digital Journal & Mood Tracker

Hello, Ariana UAlbany 🙋

Take a moment to reflect and log how you're feeling today.

Logout

Write your journal entry...

Happy

Add Entry

## Journal Calendar

December 2025

< >

Su	Mo	Tu	We	Th	Fr	Sa
			1	2	3	4
			5	6		
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

# MoodLog – Digital Journal & Mood Tracker

Hello, Ariana UAlbany 🙋

Take a moment to reflect and log how you're feeling today.

[Logout](#)

I feel ok

Neutral

[Add Entry](#)

Journal Calendar

December 2025



Su	Mo	Tu	We	Th	Fr	Sa
			1	2	3	4
			5	6		
		7	8	9	10	11
		12	13	14	15	16
		17	18	19	20	21
		22	23	24	25	26
		27	28	29	30	31

## External API used for Mood Sentiment Analysis

The screenshot displays a mobile application interface for managing mood sentiments. It features a dark background with three distinct entries, each represented by a rounded rectangular card.

- Neutral:** The first entry shows the text "I feel ok". Above the text is a small orange oval containing the word "Neutral". Below the text is a subtitle "😐 Neutral / Unclear". Underneath that is the creation timestamp "Created Dec 15, 2025, 4:20 AM". At the bottom of the card are two buttons: "Edit" (light blue) and "Delete" (dark red).
- Stressed:** The second entry shows the text "Very restless for finals". Above the text is a small orange oval containing the word "Stressed". Below the text is the creation timestamp "Created Dec 15, 2025, 12:39 AM". At the bottom of the card are two buttons: "Edit" (light blue) and "Delete" (dark red).
- Excited:** The third entry shows the text "Ready to celebrate the holidays!". Above the text is a small pink oval containing the word "Excited". Below the text is the creation timestamp "Created Dec 15, 2025, 12:18 AM". At the bottom of the card are two buttons: "Edit" (light blue) and "Delete" (dark red).

Background Animation simulates a mood ring. Transitions between button presses

The image shows a dark-themed mobile application interface with three mood entries listed vertically. Each entry is contained within a rounded rectangular card.

- Neutral:** Mood label "Neutral" in a small white circle. Description "I feel ok". Mood icon: neutral face. Created at "Created Dec 15, 2025, 4:20 AM". Buttons: "Edit" (blue) and "Delete" (red, with a cursor icon).
- Stressed:** Mood label "Stressed" in an orange circle. Description "Very restless for finals". Mood icon: stressed face. Created at "Created Dec 15, 2025, 12:39 AM". Buttons: "Edit" (blue) and "Delete" (red).
- Excited:** Mood label "Excited" in a pink circle. Description "Ready to celebrate the holidays!". Mood icon: excited face. Created at "Created Dec 15, 2025, 12:18 AM". Buttons: "Edit" (blue) and "Delete" (red).

**Interactive Calendar:**  
select a day to view the  
Journaled logs for the  
chosen date

### Journal Calendar

December 2025

< >

Su	Mo	Tu	We	Th	Fr	Sa
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

Stressed

Very restless for finals

Created Dec 15, 2025, 12:39 AM

Edit Delete

Excited

Ready to celebrate the holidays!



Live Demo!

# Summary

**Topic: a mindfulness app that tracks reflections and mood patterns over time.**

- Google Auth login for personalization because each user has their own private journal.  
Whenever you log in there is a custom greeting addressed to the user's name
- CRUD functionality because you can create read update and delete entries, and there are transitions between entries or views. The CSS body is a color changing animation which is meaningful because it is like a virtual mood ring, which is on par with the theme
- Mood or sentiment analysis uses an external API. Based on how you log your responses, it will give an assessment on how you feel
- There is also calendar integration where users can navigate their journals by clicking on a date
- Journal entries stored in database so it preserves old entries between sessions (I used MongoDB like in the lab)
- I have CI tests in GitHub Actions to verify both frontend and backend functionality with endpoints
- For libraries I used bootstrap and Animista

# Rubric



# React JS

Performance Indicator	Exemplary (4)	Satisfactory (3)	Developing (2)	Poor (1)
Deployment & Accessibility	Fully deployed, accessible, documented	Deployed with minor issues	Partially deployed or unstable	Not deployed
Login / Authentication	Fully functioning OAuth login Correct use of useState	Login works with minor issues Uses at least one advanced feature	Partially implemented login Minimal or misapplied usage	No authentication implemented No advanced features used
Advanced React Features	Fully integrated external API with error handling	API works with basic handling	Unstable or incomplete API usage	No API used
External API Usage	Interactive, personalized UI	Some interactivity & personalization	Limited interactivity	No interactivity
Interactivity & Personalization	Library integrated deeply & meaningfully	Library used minimally	Library added but not used	No additional library
Additional Library Usage	Smooth, meaningful animation	Basic animation	Attempted but buggy animation	No animation
Animation - Atleast one				

# Express

Express	Backend Deployment	Fully deployed, stable, documented	Deployed with minor downtime	Deployment incomplete or unstable	Not deployed
	CRUD Functionality	Full CRUD, integrated with frontend	CRUD with minor issues	Partial CRUD	CRUD missing or non-functional
	Database Integration	DB fully integrated with models & validation	DB connected with basic operations	Unstable or misconfigured DB	No DB integration

# Other

Other	Dev Container & Documentation	Dev container + README, diagrams	Dev container works, README adequate	Incomplete container or unclear README	No dev container or documentation
	Testing (Playwright)	Meaningful automated test included	One working test	Test exists but unreliable	No test
	Video Recording - show me how your work aligns to the rubric!	Clear full-feature demo	Video covers most features	Incomplete or low quality video	No video
	Attribution	All sources documented	Most sources attributed	Some unclear attribution	No attribution
	Design Pattern / Sequence Diagram	Diagram + architecture + pattern named	One diagram or partial explanation	Diagram unclear	No diagram

# Overall

Overall	Working Solution & Artifacts	100% of artifacts delivered Code is well written, with meaningful use of classes and components	75% delivered	50% delivered	< 25% delivered
	Code Quality		Project suffers from more than 2 code smells	Project code has more than 3 code smells	Project does not demonstrate mastery.