Snapshot Objectives Document

Artificial Intelligence and Data
Science for Climate Change Management
with Focus on Drought and Wildfire in California

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Contents

1 Snapshot 1 – Project Start

- Define project objective and mission

- Select core technology stack (HTML/CSS, JavaScript, ArcGIS, NOAA/CAL FIRE APIs)

- Create initial GitHub repository and team workflow

- Set up base frontend and backend framework

- Assign team roles and task delegation

- Draft early versions of:

    - Software Requirements Specification (SRS)
    - Software Design Document (SDD)
    - User Manual outline

2 Snapshot 2 – Checkpoint 1

- Add Feature: **Wildfire ArcGIS Map Page**

- Create new tasks to develop wildfire mapping and filtering

- Integrate CAL FIRE data into interactive map

- Add external dependency: ArcGIS JavaScript API

- Update:

    - TestRail test plan and test cases
    - Design Spec with map layout and filters
    - SDD to reflect ArcGIS integration
    - SRS with new functional requirements
    - User Manual with map usage instructions
    - Team workflow and GitHub board

3 Snapshot 3 – Checkpoint 2

- Add Feature: **Drought Visualization Dashboard**

- Add NOAA drought API data source and integrate it

- Create graphs using Chart.js (new dependency)

- Create new tasks for API fetch, graphing, and UI

- Update:

  - TestRail for new feature testing
  - Design Spec with dashboard layout
  - SDD with data processing flow
  - SRS with additional visualization features
  - User Manual with chart explanations
  - Project workflow for development and review

4   Snapshot 4 – Final Delivery

- Add Finishing Touches: polish layout, fix bugs, finalize documents

- Add Feature: **About Page and Future Work Section**

- Include team bios and references to all APIs used

- Add Final Reflection in Snapshot Document

- Update:

  - TestRail – final coverage
  - Design Spec with final UI structure
  - SDD with architecture summary
  - SRS – add deferred and future requirements
  - User Manual – final walkthrough
  - Workflow – freeze and tag final version