# CA2 Journal

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| Class | DCITP/FT/1A/04 |

## 1. Project Overview and Content

### My Target Audience:

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| Defined Audience: |
| The target audience for this website includes educators, students, volunteers, and individuals interested in educational equity, particularly in rural areas. |

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| Audience Considerations: |
| The website uses real stories, numbers, and interactive parts to keep people interested. The design has bright colors to show hope, easy-to-read text, and works well on phones and computers. First, it shows the problem (unequal education), then my experience (teaching in Yunnan), and finally ways to help. |

### My Chosen Theme and Purpose:

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| Theme/Cause/Concept: |
| Youth Empowerment or Education Access |

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| Overall Message/Objective: |
| The goal is to teach visitors about education problems in rural areas and encourage them to take action. The website gives facts, shares real stories, and lets people help in different ways (volunteer, donate, or spread the word). |

### My Pages:

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| List and briefly describe the content, objective of each of your three required pages and the steps you took to ensure your content is well-written, accurate, informative, and worth reading.: |
| **Home Page:**  **Content & Objective:**   * **Visual Hook:**Hero image of rural students with overlay text "Empowering Dreams Through Education" * **Key Message:** Clear statement about education inequality in rural China * **Interactive Elements:** * Typing animation for subtitle (using typing.js) * Three thematic cards with hover effects and Carousel style (Challenge/Journey/Hope) * Mobile-responsive navigation   **Steps for Quality Content:**   1. Researched accurate statistics about rural education gaps 2. Wrote concise, impactful copy with strong verbs ("witnessed", "empower") 3. Tested loading speed of hero image (compressed to 780KB) 4. Added ARIA labels for screen readers 5. Verified color contrast meets accessibility standards   **Informational Page:**  **Content & Objective:**   * **Data Presentation:** * Pie chart (urban vs rural funding) * Bar graph (student-teacher ratios) * Sourced from academic papers (cited in footer) * **Personal Journey:** * 4 interactive before/after sliders (using journey.js) * Impact metrics (e.g., "+92% Engagement") * **Success Stories:** * Jack Ma Rural Teachers Program case study * Room to Read initiative   **Steps for Quality Content:**   1. Structured content using Bootstrap's card layout 2. Implemented image comparison slider for visual storytelling 3. Added "Voices from Classroom" chat simulation (using chat.js) 4. Verified all external data sources are credible 5. Used <blockquote> tags for testimonials   **Interactive Form Page:**  **Content & Objective:**   * **Multi-step Process:** * Step 1: User details (name/email/password) * Step 2: Participation preferences (radio buttons/checkboxes) * **Interactive Features:** * Real-time password strength meter * Character counter for message field * Age range slider with dynamic display * Singpass integration button   **Steps for Quality Content:**   1. **Implemented 8 distinct form controls (exceeds requirement):**  * Text input * Email * Password * Select dropdown * Radio buttons * Checkboxes * Range slider * Textarea  1. **Added JavaScript validation for:**  * Capitalized names * Password matching * Required fields  1. **Designed progress tracker with Bootstrap's progress bar** 2. **Included success modal with confirmation message** |

## 2. Layout and Aesthetic Design

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| Describe and explain your layout and aesthetic design: |
| * **Space:** Enough empty space so it doesn’t feel crowded.   屏幕截图 2025-08-04 145341     * **Text:** Clear, simple fonts (Poppins) with good size.      * **Colors:** Blue (#0046A3) for trust, orange (#FFA336) for energy.   屏幕截图 2025-08-04 145805   * **Works on Phones**: Looks good on any device. (Breakpoint : md-768) |

## 3. Use of Bootstrap classes

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| Describe and explain how Bootstrap is used for layout implementation: |
| **Layout:**   * **Grid:**Used Bootstrap’s grid to organize content.        * **Responsiveness:** Ensured all layout components automatically adapt to different screen sizes while maintaining design integrity and usability.          * **Flexbox:** Helped align items like the menu and cards. |
| Describe and explain how Bootstrap is used for typography: |
| **Text:**   * **Font Size and Weights:** Used Bootstrap's typography classes (e.g., fs-3, fw-bold)        * **Challenges:**Overrode default Bootstrap styles in **custom-bootstrap.css** to match the design vision. |
| Describe and explain how Bootstrap is used for table implementation: |
| Not used, but Bootstrap's table classes were applied for any tabular data to ensure responsiveness. |
| Describe and explain how Bootstrap is used for form elements: |
| **Forms:**   * Used Bootstrap’s form styles (form-control, form-floating). |
| Describe and explain how Bootstrap is used for navigation: |
| **Navigation:**   * **Menu and Links:**Used Bootstrap's navbar component with responsive toggling for mobile devices.     屏幕截图 2025-08-05 154432 |
| Describe and explain how you use additional Bootstrap features: |
| Other Features:   * **Cards:** Used for content boxes with hover effects.      * **Compare Sliders:** For showing multiple pictures to compare before and after.      * **Pop-ups:** For success messages.   屏幕截图 2025-08-05 150508 |

## 4. Use of Javascript

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| Interactive Features & User Relevance : |
| * **Multi-Step Form:** Enhances user experience by breaking the form into manageable steps.      * **Image Comparison Slider:** Allows users to visually compare before-and-after scenarios.      * **Typing Animation:** Engages users with dynamic text that appears as if being typed.      * **Chatbox:** Simulates a conversation to share personal stories interactively. |
| JavaScript properties and methods |
| **DOM Manipulation**: Used querySelector, addEventListener, and classList to dynamically update the UI.  **Form Validation:** Custom validation logic for fields like password strength and name capitalization. |
| JavaScript functions |
| * **typeText:**Animates text typing for engaging storytelling.   **Purpose**  Creates a typewriter animation effect that progressively reveals text character-by-character (used for the homepage subtitle animation).  **How It Works**   1. **Initialization：**  * Waits for full page load (DOMContentLoaded) * Targets all HTML elements with data-typing attribute  1. **Configuration：**  * data-typing: Text content to animate * data-typing-speed: Delay between characters (ms, defaults to 40ms)  1. **Animation Process**  * Clears target element content * Uses recursive typeChar() function to: a) Append next character b) Increment counter c) Schedule next character via setTimeout * Loops until full text is displayed * **updateSlider:**Powers the image comparison slider.  1. **Initialization Phase**  * **Waits for page to fully load** * **Finds all containers with class .img-compare-container**  1. **Element Setup**  * **Gets reference to:** * After-image element (right side) * Slider handle element  1. **Position Calculation (When User Interacts)**  * **Gets container's size and position on screen** * **Calculates where user is clicking/touching:** * Converts to value between 0% (far left) and 100% (far right) * Ensures value stays within container bounds  1. **Visual Update**  * **Adjusts after-image display:** * Shows more/less of right image based on position * Uses CSS clip-path to hide/reveal portions * **Moves slider handle to match current position**  1. **Input Handling**  * **For Mouse:** * Only works when left button is held down * Tracks horizontal mouse position * **For Touch Screens:** * Prevents page from scrolling accidentally * Uses first finger touch position * Follows finger movement  1. **Continuous Update**  * Repeats steps 3-5 as user drags * Creates smooth sliding effect in real-time      * **sendMessage:**Handles user input in the chatbox.**sendMessage:**Handles user input in the chatbox.   **File:**chat.js **Purpose:** Manages user message submission  **Execution Flow:**   1. **Validation:**   const message = chatInput.value.trim();  if (!message) return;   1. **Message Construction**   addMessage(currentAvatar, name, message, "right", "bg-blue", false);   * **Packages:** Avatar, username, content * **Configures:** Alignment, styling  1. **DOM Update**  * **Generates message bubble** * **Auto-scrolls to latest message**  1. **Cleanup**   chatInput.value = ""; |
| Arrays |
| **Sample Messages:** Stored predefined chat messages in an array for the chatbox feature. |
| Control Structures |
| * **Loops:** Used forEach to iterate over elements like cards or form fields. * **Conditionals:** Applied in form validation to check input validity. |

## 5. General Website Management

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| File Organization & Naming Conventions: |
| File Structure: ├── /bootstrap │ ├── bootstrap.min.css │ └── bootstrap.bundle.min.js │ ├── /css │ ├── style.css (Main custom styles) │ └── custom-bootstrap.css (Bootstrap overrides) │ ├── /js │ ├── navbar.js (Mobile menu logic) │ ├── hero.js (IntersectionObserver animations) │ ├── typing.js (Typewriter effect) │ ├── journey.js (Image comparison slider) │ ├── chat.js (Conversation simulation) │ └── form.js (Form validation & submission) │ ├── /img │ ├── All images (<=800KB) │ └── /html ├── index.html (Homepage) ├── info.html (Informational page) └── form.html (Interactive form) |
| Image Optimization & Attribution |
| **Optimization:**Compressed images to lower than 800 KB for faster loading without sacrificing quality.    First, right-click the image in the img folder. Click Properties, then click Modify Properties, and compress volume. Select the output size to be less than 800KB, and the image quality is optimal. Click Export.  **Attribution:**Credited sources for all images and data in the footer. Since all images except 4 images are the photos I took during my volunteer journey, so I write all the img soureces in the integrity document. |
| Code Quality & Validation |
| **Browser Compatibility:**Tested on Chrome, and Firefox.  **Firefox：**    **Chrome：**    **Code Organization:** Modularized JavaScript into separate files for maintainability.  **Code Optimise:** Use Coverage inside the Chrome, to find out the useless CSS Code and JS Code. CSS Navigation Extension in the VS Code, help me observe the useless class.  **Comments:**Added detailed comments to explain complex logic and improve readability. |
| Other Frameworks used (if any) |
| **Bootstrap:** Primary framework for responsive design and pre-built components.  **Google Apps Script:** Used for form submission handling.(Teacher provide) |

## 6. Interactive Form

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| Form Validation: |
| **HTML5 Validation:** Used required, type="email", and pattern attributes for basic validation.  **Visual Feedback:**Applied Bootstrap's validation classes to highlight errors/success.  Testing: Manually tested all fields to ensure required inputs are captured. (Use id, name and value in html) refer to **pop-up** |
| JavaScript for Validation |
| **Password Strength:**Dynamically updated a progress bar based on password complexity.    **Custom Logic:**Added checks for password matching and capitalized names. |

## 7. Personal Reflection

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| Key Takeways: |
| * Learned how to make websites easy to use. * Got better at coding and design. |
| Future plans: |
| **Improvements:** Add more interactive data visualizations and a donation portal.  **Application:** Apply these skills to future projects, focusing on accessibility and performance. |

## Instructions for Students:

* Be Specific and Reflective: Avoid generic statements. For example, instead of "I used Bootstrap," explain how and why you used specific Bootstrap features.
* Show Your Thought Process: This journal is not just about what you did, but why you did it and how you approached problems. If you used external resources, including generative AI, explain how you evaluated, adapted, modified, or integrated the information into your unique solution, demonstrating your critical thinking and understanding. If you faced any challenges, describe it and how you overcome it. The goal is to show your learning journey, not just the end product.
* Cite Sources: Refer to concepts and guidelines from "the sources" (e.g., "As noted in Chapter 1, content strategy..." or "Following the principle of semantic markup discussed in Chapter 5...") to demonstrate your understanding and application of the material. Share the URL(s) of the Gen AI conversations containing the prompt and responses used. You can reuse the sources stated in the Academic Integrity Declaration document.
* Honesty is Key: Acknowledge challenges and areas for improvement. This demonstrates a mature understanding of the design and development process.