Project 2: Expanding your Web Application

Due: March 31, 2026 at 11:59 PM

1 Overview and Learning Goals

In this assignment, you will extend the website you created for Project 1. You will improve the visual presentation of the site, expand it into a multi-page website, and add a self-contained interactive feature on a new page.

Project 2 is about moving beyond a single basic page. You should think about consistency, navigation, and user experience as you build on the foundation from Project 1.

Learning goals

By completing this project, you will practice:

- Improving the visual design of a website with CSS. If you do not know what CSS is, ask the AI tool you are using to explain it and show you how it is used for website styling.
- Maintaining a consistent look and structure across multiple pages.
- Building and deploying a small self-contained interactive web feature.

2 What You Will Build

You will revise your Project 1 course website so that it now includes:

- Improved styling if your original website had little or no styling
- A second webpage that matches the visual style of the main page
- A self-contained interactive feature hosted on that second page

The second page should feel like part of the same website, not a disconnected add-on. Users should be able to navigate clearly between the main page and the new page.

3 Requirements

3.1 Website Revision Requirements

1. Use your Project 1 website as the starting point for this assignment, and continue using Git and GitHub Pages so that your website remains publicly accessible.
2. If your Project 1 website used little or no styling, you must add styling in Project 2.
3. Your styling should include intentional choices for items such as colors, spacing, typography, borders, layout, or navigation.
4. The site should remain readable and organized after the styling changes.

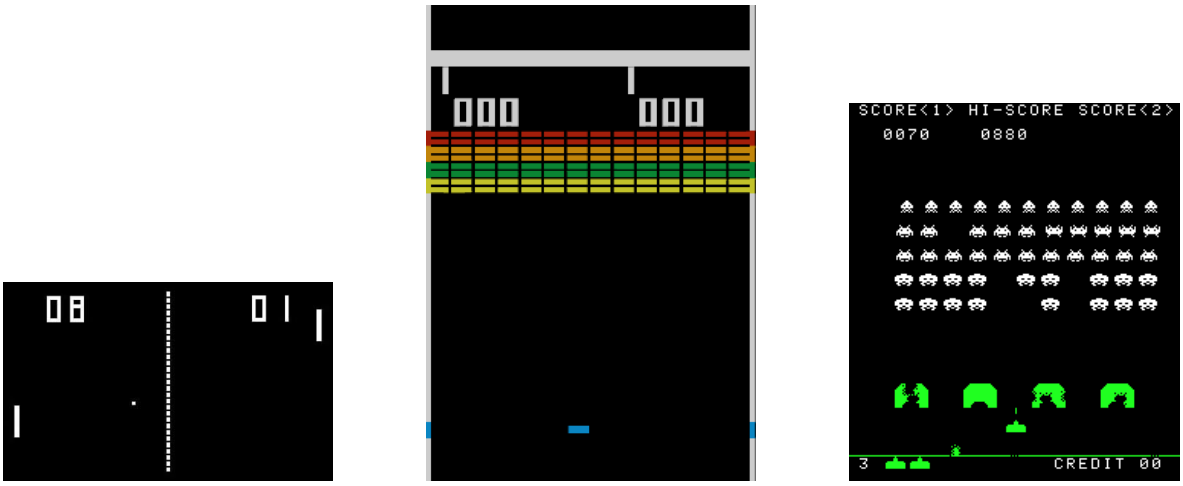
3.2 Second Page Requirements

1. Add a second webpage to your website.
2. The second webpage must maintain the same overall styling and visual identity as the main page.
3. There must be clear navigation between the main page and the second page.
4. The second page must host a self-contained interactive feature of some kind; see below for details.
5. A list of approved interactive feature options will be provided separately.

3.3 Interactive Feature

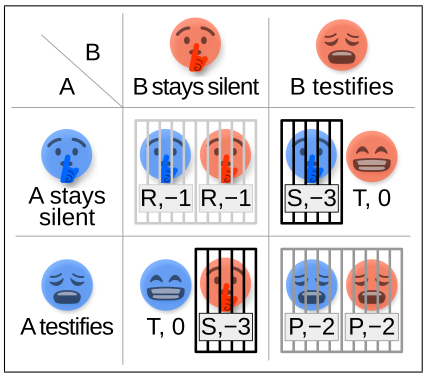
Choose one approved interactive feature option from the list provided in class. Placeholder options are listed below for now:

- An **Atari game**: recreate a simple arcade-style game inspired by classic Atari gameplay, such as Pong, Breakout, or Space Invaders, with visible user input and game state changes. For extra credit, add reinforcement learning so that an AI can learn to play the game over time.



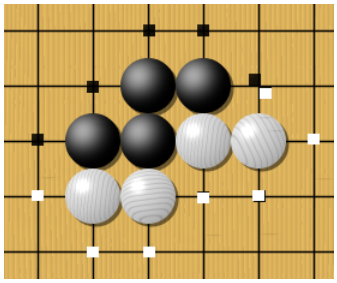
Left to right: Pong, Breakout, and Space Invaders screenshots.

- An **iterated prisoner's dilemma**: build an interactive version of the repeated prisoner's dilemma in which a user can play over multiple rounds by choosing among several strategies or by writing their own. See also The Evolution of Trust. For extra credit, add reinforcement learning so that an AI can improve its play over time.



Source: Wikipedia: Prisoner's dilemma

- An **Eliza-style chatbot**: create a simple rule-based chatbot that responds to user text by matching patterns and producing scripted conversational replies; it can imitate the original Rogerian psychotherapist style, but it does not have to. See also Wikipedia: ELIZA.
- A **small version of Go**: build a playable version of Go on a small board, such as a 5x5 board, so that users can place stones, see captures, interact with the basic rules of the game, and play against a simple AI.



Example Go screenshot. Source: Wikipedia: Go

- An **interactive visualization of some concept from your major**: design a webpage element that lets a user explore, manipulate, or better understand an idea from your field of study. You must clear this idea with Dr. Kelley by Friday, March 20, by the end of class.

3.4 Technical Constraints

1. Your site must still be deployed as a working website.
2. The interactive feature must run in the browser as part of your website.
3. The interactive feature should be self-contained on its page and should not depend on a server you control.
4. The styling of the interactive feature should match the styling of the broader website.
5. The website should remain usable on desktop screens.

4 Submission Instructions

Submit the same website repository you used for Project 1, updated to include your Project 2 changes.

Submit **two links** via email to Dr. Kelley:

1. Your GitHub repository link
2. Your deployed website link

Your submission should make it easy to find both the main page and the second interactive page.

5 Grading Rubric (100 points)

1. **Styling and visual improvement (30 pts)**
   - Website shows meaningful visual styling or a clear improvement over an unstyled Project 1 submission (15)
   - Styling choices are readable, organized, and reasonably consistent (15)
2. **Second page and consistency (10 pts)**
   - Second webpage is present, clearly linked, and maintains the styling and overall identity of the main page (10)
3. **Interactive feature (50 pts)**
   - Interactive feature is present, self-contained, functional, and appropriately scoped for the chosen option (25)
   - Feature is integrated into the site in a clear and usable way (15)
   - The implementation shows thoughtful design or technical effort, such as meaningful interaction logic, game behavior, or interface design (10)
4. **Professionalism and completeness (10 pts)**
   - Navigation, deployment, and overall presentation are complete and polished (10)

Extra Credit (up to 20 pts): For the Atari game or iterated prisoner's dilemma options, you may add reinforcement learning so that an AI learns or improves over time. This extra credit is graded separately from the main 100-point assignment.

6 Academic Integrity and Collaboration

You may discuss general troubleshooting with classmates, but your website and interactive feature must be your own work. You should use AI tools to help generate ideas, draft code, and revise content, but you are responsible for ensuring that your work conforms to the requirements above.