

Assignment 6 – Front End Project

1. Image processing on Photo Album

You have already developed a Photo Album using Bootstrap and incorporating Responsive Web Design principles. You need to now support different image processing operations which can be triggered by button-clicks, drop-downs, toggle buttons, etc. Don't be restricted to only these operations. You can do more. TEST IT.

- a. Check if a given image is reddish, blueish or greenish? (if $> 50\%$ of pixels have $R > G+B$, then the image is reddish).
- b. Make the image reddish, blueish or greenish. (To make an image reddish, for each pixel, check if $R > G+B$. If not, increase R to $G+B$. Alternately you can make R value to be 255.)
- c. Duplicate an image.
- d. Increase the brightness of an image.
- e. Reduce the resolution of an image.
- f. Create an avatar from an image.
- g. Make a RGB image to Gray scale image.
- h. Generate QR code from an image.
- i. Filter images based on some criteria and show only those images when that filter is selected.
- j. Create thumb nails of the images.
- k. Add more operations as the library supports and try to make yours unique in certain ways.

2. Building AI enabled Tic-tac-toe game

Develop a web application for playing Tic-tac-toe which supports single and two player modes. You should declare which player won or it ended in a draw at the end. TEST IT.

- a. In a two player mode, the button clicks should alternately result in O and X. You should support exactly one undo. i.e. only the latest change can be undone.
- b. In a single player mode, for every move by the player, the application should make the next move based on some calculations. Use AI and ML here to intelligently play the next move.

3. Building Wordle game

- a. Develop the Wordle game. First play it to understand what all are involved and then implement.
- b. Make key pad movements smooth, use of dictionary to validate, etc. TEST IT.
- c. Include support for another language. Do to the extent possible.

4. Deployment in GitHub Pages

- a. Create a repository in GitHub with the name `<userid>.github.io`
- b. Put your profile as index.html
- c. Also copy the above 3 projects organized in separate folder.
- d. In your index.html create hyperlinks to the above 3 projects.
- e. Check if everyone can access your page by visiting <https://<userid>.github.io>

DEVELOP ALL THESE AS THOUGHTFULLY AND PROFESSIONALLY AS POSSIBLE