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PUI - Final Project Writeup

- **Readme: This project is aimed to be a timer which refreshes trees in a long period such as 40 minutes, but for demo and test purposes, the refresh time for submitted version has been adjusted to 5 seconds and growth period is 10 seconds. Related comments in code are with instructions to set the time freely.**
- **The webpage is capable of being started on any screen sizes and resolutions. But changing the screen size during a happening session may let part of the planted trees disappear.**

(1) **Part 1: In 300 words (only!) describe your website (We will stop reading at 300 words, so please be concise). Include the following:**

- The purpose of this website is to create an interesting webpage that helps users to keep and track their time during their relaxation periods. Users get free trees and other plants with a specific frequency, dragging them around and then plant somewhere on the ground (screen), with the planted trees growing bigger in the following hours. This requires them to come back to the page and interact for a few seconds when they are doing something else in the browser, for example study every 40 minutes and plant a tree. Besides, looking at the plants + green ground setting is beneficial to the eyes; this kind of interaction can also be a great substitute for other time consuming relaxing activities. The target users could be people who are engaging in a heavy cognitive load, such as students in exam reviews, researchers doing heavy text readings or data analysis. The webpage could be beneficial for them since they are all doing periodical relaxes.

(2) **Part 2: Use a bulleted list to describe how a user would interact with your website.**

- Button click: click “Start” and “End” buttons on the page to start and end sessions. Click end button will provide an auto-download of the current website as an image.
- Drag elements: drag (click on mouse) the trees and move around the screen, then release the mouse to plant it onto the ground.

(3) **Part 3: Describe what external tool you used (JavaScript library, Web API, animations, or other). Following the bulleted list format below, reply to each of the prompts. (We will stop reading at the 4th sentence, so please be concise)**

a. *Anime.js:* *Purpose:* The purpose of using anime.js to my webpage is because I want to add some animated elements including small, object oriented interactions to make the page more attractive. *Method:* Anime.js allows simple and flexible framing animations which could be done easily. It could be implemented both in js and css. I implemented the looping animations for the trees to bounce with the transform method in anime.js. Also, I added the growing bigger function for those trees with an adjustable growth cycle. *Application:* Anime.js helped me to create the tree jumping on the ground animation when the users hover their mouses on the trees. It also lets the trees grow bigger as time passes.

b. Html2canvas.js (this is relatively easy): *Purpose:* This library creates a shortcut in code to capture a screenshot for the page. This is a better solution than exporting as website

nodes. *Method:* I included html2canvas.js to the screenshot function in the script. I set the entire canvas as the data to capture, then set the automatic download. *Application:* This library provides a really quick and stable method of capturing the screenshot.

(4) **Part 4: Describe how you iterated on your prototypes, if at all, including any changes you made to your original design while you were implementing your website. (4-8 sentences max)**

- From the prototype, I further enhanced the UI solutions and pictures that are important parts for this project as it is highly visual based. I reorganized the controlling panel which sets the starting and ending of the section, adjusted time displays, .etc. I also implemented the art style from an online contributor (https://assets.codepen.io/9632/RocherColorGX.woff2).
- Towards the behaviors, I changed the updating of the clocks so that the font lengths are unified; I changed the tree bouncing animation so that it looks more fluent; I also used a new js library (html2canvas) to capture the screenshot.

(5) **Part 5: What challenges did you experience in implementing your website? (2-4 sentences max)**

- I think learning the methods in anime.js and html2canvas are somehow difficult to me as I don't have a lot of experience with js libraries. I have to look up the methods and look for code explanations in other similar examples to clearly deploy functions in the project. Also, generating functions on the repeating creating trees and storing them are also a challenge as there are many variables to deal with.