SAINT LUCIA CONNECTED DIGITAL SKILLS YOUTH INTERNSHIP
Digital Skills Training
Generative AI and Web Design

Workshop Title: Building the Future with AI and Web Design

Pre-requisites:

1. A basic knowledge of web development - drag and drop CMS, basic html and CSS.
2. A love for design.
3. The willingness to take on a new challenge
4. The ability to work with a team.

Description:

This 12-hour workshop is aimed at empowering learners with basic web design knowledge to take this a step further. Participants will dive into artificial intelligence, interact with the advanced AI model ChatGPT, and learn to integrate it into the development process of their own websites, enhancing their workflow with AI-generated layouts, widgets and bots. They'll also gain practical web hosting skills and discover the vast potential of AI tools to create unique online experiences. Emphasizing group activities and collaborative problem-solving, this workshop provides a practical, engaging opportunity for learners to take their web development skills to new heights.

Learning Outcomes:

In this workshop participants will:

1. Explain how AI models like GPT-4 work and generate text. (1.1, 1.2)
2. Discuss the potential applications and limitations of AI like ChatGPT. (5.1)
3. Describe the purpose and process of web hosting.
4. Use Drive-to-Web to host a simple webpage. ((3.1)
5. Use prototyping tools to plan and draft a layout for an interactive website.(3.1)
6. Use AI to generate stylesheets and scripts for aesthetics and functionality.(3.1, 5.2,5.3)
7. Generate code for stylesheets, layouts and widgets for websites. (3.1, 3.2, 3.4)
8. Apply knowledge of AI, APIs, and web hosting to create an interactive website. (3.1, 3.2, 3.4, 5.1, 5.2, 5.3)
9. Integrate ChatGPT in a website using the OpenAI API (*optional - for more advanced users who have working knowledge of javascript*). (3.1, 3.2, 3.4, 5.1, 5.2, 5.3)
10. Improve on the website based on received feedback.

Workshop Details

Session	Learning Outcomes	Suggested Activities
Introducing AI	1. Explain how AI models like GPT-4 work and generate text. 2. Discuss the potential applications and limitations of AI like ChatGPT.	**Detective Challenge:** ● Challenge the students to find five examples of AI being used in real life, either in their day-to-day lives or in industries that interest them. This can be done as a group activity. Encourage them to discuss and share. **Fun with AI:** ● Get students to come up with absurd questions to pose to the AI model. ● Have students share the answers given by AI and the true answers to those questions. ● Have students share what they learnt about the power and limitations of AI. **Reflection Activity - Video Viewing:** What Is Artificial Intelligence? Crash Course AI Viewing Guide: 1. What are the good and bad sides of using AI to make decisions? 2. Could robots or AI take people's jobs? If so, what can we do about it? 3. How can AI help solve big problems in your community, schools or homes?
Web Hosting	1. Describe the purpose and process of web hosting. 2. Use Drive-to-Web to host a simple webpage.	**Create and share your fan page.** ● Using Microsoft Word or any other document authoring tool of their choice, such as Mobirise, have students create their fan page. ● Encourage them to use a variety of images, text styles etc. ● Have them save this as an html file. ● Have them upload all files to Google Drive in a new folder. Make sure all the images or any other additional files used are in the same folder.

		• In Google Drive, they should right-click the folder and click on "Share". They will need to change the settings so that anyone with the link can view the files. • Have them navigate to the DriveToWeb site (drv.tw). They need to choose Google Drive and log in with the same account. It will provide a URL that links directly to their index.html file. • They can share the URL with friends and family to show off their new skills. *Post Activity Discussion:* After the activity, hold a discussion to reflect on what they've learned and the process they've just gone through. This would help them consolidate their understanding and inspire them to learn more about web development and hosting. Discuss how this process can be used for larger sites and what the limitations of this method might be. Make sure to highlight that this process is suitable for simple, static websites and not for dynamic sites that require server-side processing or user input. Explain the difference between static and dynamic websites and how more complex websites require dedicated hosting services.
Creating the User Experience.	1. Use prototyping tools to plan and draft a layout for an interactive website. 2. Apply knowledge of the structure of a website to design layouts.	**Presentation and Discussion on the Principles of Design and the User Experience:** • This should focus on how they interact with websites and web-based apps. Allow students to share their experiences of the best websites they've used and the worse. Have them talk about the features of these and how these features encourage them to, or deter them from using those sights. Then present on the Principles of Design and the User Experience **Guided learning activity - Website Blueprint:** • Create a simple diagram featuring essential website components, including <!DOCTYPE html>, <html>, <head>, <title>, and <body>.

		Explain the role of each part illustrating how they come together to form a webpage's foundation. ● Have students identify a website, screenshot its landing page and use tools such as paint, google slides, or docs to add the appropriate labels. ● Teachers can use H5P to create a drag and drop activity for reinforcement. **Collaboratively Design and Prototype a Website:** ● In this collaborative activity, students form teams and brainstorm a website theme of their choice. They sketch and conceptualize their website's structure using MockingBot, then design consistent visual elements with Canva. Afterward, teams use Bubble.io to recreate their wireframes, incorporating the visual elements, setting up navigation, and building interactivity with workflows. Once prototypes are ready, teams present their work to the class, followed by a feedback session where both peers and teachers contribute. Feedback is then used to iteratively improve the prototypes in a continuous loop of learning and refining. This activity encourages creativity, collaboration, and reciprocal learning.
Future Design	1. Use AI to generate stylesheets and scripts for aesthetics and functionality. 2. Generate code for layouts and widgets for websites. 3. Apply knowledge of AI, and web hosting to create an interactive website.	**Guided Learning/Practice - Video Viewing** **How To Use ChatGPT For UI/UX Design Inspiration** ● Have students view the video based on the following essential questions: 1. In what ways can **AI** make my work easier as a web designer? 2. As a web designer, what else can I do with ChatGPT? **How to Write Code With ChatGPT** ● Teachers can use this video to have students brainstorm a simple web-based application that can be created via Open AI's code plugins (Code Pad, Webdev). ● Students can work in groups to come up with prompts to produce code that generates this application. ● Students will work collaboratively to modify the code in a code editor such as Visual Studio Code or Brackets. ● Have students demonstrate how their applications work. ● Students can also use Drive to Web to host and share their applications.

		Independent Practice - Creating an Interactive Website Using ChatGPT In this activity students will continue to work collaboratively. This time they will attempt to create websites based on their wireframes and prototypes. Ensure that groups assign different tasks to members - e.g graphic design, coder, tester etc … ● *Step 1: HTML Generation* ○ Start by creating the basic structure of a website using HTML. Encourage students to come up with create prompts to use with ChatGPT to generate HTML code. Let them create the basic structure of a webpage, such as header, main section, and footer. ● *Step 2: CSS Generation* ○ Move on to adding styles to the webpage. Demonstrate how ChatGPT can generate CSS code based on provided specifications. Let students style their webpage using the generated CSS code. ● *Step 3: JavaScript Generation* ○ Finally, add interactivity to the website using JavaScript. Show students how to use ChatGPT to generate JavaScript code for simple interactions (like click events, form submissions, etc.). Let them add some interactivity to their webpage using JavaScript. ● *Presentations and Reflections* ○ Conclude the activity by reviewing what they have learned and created. Allow students to ask questions and discuss potential issues and solutions. Also, remind them of the ethical implications of AI use and the importance of understanding the code they are working with.
APIs and OpenAI API (Optional)	1. Integrate ChatGPT in a website using the OpenAI API.	**Create a chatbot with AI** *This is an optional activity for more advanced students*. ● Have students review their existing websites. Discuss the importance of interactivity through chatbots for user retention. ● Explain what an API is and how the OpenAI API allows us to interact with the ChatGPT model. Show them a code snippet on how to call an API using JavaScript's fetch function. Show them a working example. Discuss how this can be integrated into their chat interface. ● Then have them use Open AI to generate a basic chat interface.

		• Guide the students as they integrate the JavaScript code to call the OpenAI API when the send button is clicked and display the API's response in the chat space. You can provide a simplified, frontend-only version of an API call to OpenAI. **Resources:** Automated Response Chatbot: A Step-by-Step Guide for HTML Websites Build AI chatbot with custom knowledge base using OpenAI API and GPT Index How to create a chatbot with OpenAI ChatGPT
Quicker Data with JSON (Optional)	1. Learn how to parse JSON data using JavaScript. 2. Understand how to dynamically generate HTML content using parsed data.	Creating a Product List from JSON Data

Assessments

Formative Assessments

Coding Drills (Practical coding skills)

Individual and Group-based

Provide students with a series of short, quick coding exercises. For example, ask them to use an AI tool to generate CSS for a specific design, or to generate a JavaScript function for given tasks.

Summative Assessment

Final Project - Interactive Website Project

Group-based

Creation of an interactive website using the AI tools taught in the lessons. The website should include a variety of elements such as different layouts, custom styles, and interactive components.