**Question 1: AI-Driven Webpage Launch in 30 Minutes (60 points)**

First, I chose one of my previous course projects, "**Formula 1 Ticket Marketing Campaign**" (see the attached PPT file) as the creative web page. The following is a basic description of the course project:

Project name: **Formula 1 Ticket Marketing Campaign**

Purpose of the Event:

* Attract more personal interest to Formula 1
* Give fans a chance to interact w/ their favorite teams & drivers
* Goal is to complete tickets sale to at least 90% by the end of the event

Targeted Audience:

* Formula 1 fans
* General racing fans
* People who like competition
* Sports Enthusiasts
* Gamers
* Thrill Seekers

Event Activities:

Phase One: Ways to Win A Ticket

* VR racing competition
* Knowledge Competition
* F1 22 Cross-Play Competition

Phase 2: Attending Live Event

* Ticket Option 1: Live Drive in a Real F1 Car
* Ticket Option 2: Winner Gets to Meet w/ Drivers

Event management:

* Professional Coaches/Retired F1 Drivers
* Technical IT team
* event promoters - marketing team
* Event operations team

Event goals:

* Complete at least 90% of ticket sales by event end

Estimated costs and Potential Venues

**Questions: 1. (5 points)** Create an AI-generated picture to illustrate your project using an image generator of your choice: e.g., OpenAI DALL-E embedded in the ChatGPT Plus version, **Midjourney** (https://www.midjourney.com/home) (10$/month), Recraft.ai (https://www.recraft.ai/) (free trial), Gemini (https://gemini.google.com/) (free for Pro, free trial for Advanced), Copilot Image generator (https://designer.microsoft.com/image-creator) , Leonardo AI (https://app.leonardo.ai/) , Ideogram.AI (http://ideogram.ai) .

Comment on the process you used to get an image that is satisfying to you. If the first attempt gives you something you like, that’s also fine, but keep exploring the generative tool(s) a bit to see how your prompt or feedback to the model modifies the output. Include the picture you generated in your .pdf handout.

**Process:**

1. Using **ChatGPT,** enter text prompts: (Basic description of the course project)
2. Ask ChatGPT to generate a brief marketing plan
3. Continue to ask ChatGPT to create a marketing plan PPT
4. From the PPT, find key visual image descriptions that suit the needs of the website
5. With **Midjourney,** input key prompts to generate related visual images

See attached image files

**2. (10 points)** You will now generate a video to illustrate the project as well. You can use whatever video generator you like: e.g., Runway.ML (https://runwayml.com/) (free trial) or Pika (https://pika.art/home) (free trial). Feel free to use the picture you generated previously to kickstart the generation or start with a new prompt. This video will appear on the website you create; there is no need to upload it on Canvas.

**Process:**

1. Use Pika: Upload image files and enter relevant text to prompt voice description requirements
2. Generate each video file

See attached video files

**3. (20 points)** Please create a webpage to display this content. You will create two .html files: one for the landing page named index.html and one for the additional content called content.html. The good news is that ChatGPT or Claude can do all of that for you directly with a high success rate! You won’t probably need to code a single line yourself. ChatGPT/Claude can implement most of your simple wishes (e.g., adding a button, embedding a video, an image, or music). With the right prompt, ChatGPT can code the two pages at once directly and accurately! Content Requirement and mark breakdown: Ensure the landing page has an automatically playing AI-generated video **(10 points)** and a button leading to a second page with more AIgenerated content that is different than text (e.g., an image) **(10 points).** Tip to include the video: rename your video video.mp4 and upload it on Replit. Then, ask the LLM to update the code of index.html such that the video.mp4 automatically plays in loop when we land on the webpage. You can use Replit (https://replit.com/) to visualize immediately what your webpage looks like (as covered in class).

**Process:**

1. Ask ChatGPT, according to the PPT marketing plan, create a landing page named index.html for user login, and a content page named content.html for content display.
2. Copy/paste the generated code into R-studio and save to my local folder
3. Test the page and redo it if necessary
4. Require ChatGPT to add logo.image to the index.html and add fans.image to index.html under the login button (same as video file)
5. Copy/paste the updated code into R-studio and then save the changes
6. Ask GPT: change content.html to make sure that the "racing\_car\_AI.mp4" video and sound automatically play!
7. Sign in Replit.com, upload files to the site and edit/test it

Show all web page via <https://replit.com/> to visualize what webpage looks like

4. (10 points) Download your content developed on Replit as a zip file. Then unzip it on your local computer. Then host your landing page on a platform like GitHub. I highly suggest to use GitHub pages (precise instructions here (

<https://docs.github.com/en/pages/getting-started-with-githubpages/creating-a-github-pages-site>

) but also covered in class on Monday 5/13).

First create your GitHub account. Then create a new repository, then choose to upload all the unzipped content that you downloaded from Replit. Then go to the settings of your repository > Pages (on the left) > Deploy from a branch: select main > Deploy and you will get a link after you refresh. Provide the public link to your repository so the teaching team can visit it, and provide two screenshots of your two web pages in the pdf handout. There is no need to share the code

* Download files as HTML-CSS-JS.zip to local folder
* Unzip HTML-CSS-JS.zip and run the web pages on your local
* host your landing page on a platform like GitHub
  + create GitHub account
    - [skaddx@gmail.com/chenchen3136](mailto:skaddx@gmail.com/chenchen3136)
    - skaddx
  + create a new repository:
    - login GitHub (dashboard) -> Top Repository -> click “new”:
    - enter repository name as “UW\_daisy\_i145\_hw2” and choose “public”
    - Quick setup -> click “uploading an existing file”
  + upload all the unzipped HTML-CSS-JS -> commit changes
  + go to the “settings” of repository: UW\_daisy\_i451\_hw2
    - -> Pages (on the left)
    - Deploy from a “branch”: select **main**
    - Deploy and you will get a link after you refresh.
    - Get https://skaddx.github.io/UW\_daisy\_i451\_hw2/
  + Provide the public link to your repository so the teaching team can visit it,
  + and provide two screenshots of your two web pages in the pdf handout.
  + There is no need to share the code.

**5. (5 points)** Enhance your webpage by making it more aesthetic and entertaining by asking ChatGPT to add elements or transformations of your choice. There is no need for anything fancy; just two minor improvements are enough for the full score. Describe the two improvements.

two minor improvements:

(1) add a logo image to each page

G> Add the event\_logo\_AI.jpeg logo image to each page

(2) adjust image display size on login page

G> Change the index.html page to resize the image "Formula\_1\_tickets\_on\_sale\_crowds\_AI" display size to half

6. (10 points) Reflect on your learning experience throughout this exercise. In your response, include the following:

1. List the AI tools you used and briefly describe how you employed them in creating your webpage.

* ChatGPT: Can generate or rewrite business plan, PPT and HTTP website code. Input prompt context can be saved and recognized and provide more details for your next request
* MidJourney: Related image files can be generated by entering text prompts
* Pika: Can generate relevant video files by inputting text/image prompts
* Replit: Can be used to develop websites by interacting with prompts
* Github\*: Is a developer platform that allows developers to create, store, manage and share their code. (That Copilot programming helper is now AI-generated)

1. Discuss what worked well for you during the process. What aspects of the AI tools or your approach contributed to the successful completion of the exercise?

ChatGPT is my best helper to complete the exercises. It understands what I have and what I need! Since I only have v3.5, I need to use other AI tools to generate images and videos. Pika is another great image-generating AI tool (easy to use and free)

1. Identify any challenges or obstacles you faced while working on this exercise. How did you overcome them, or what strategies would you consider using in the future to address similar issues?

* Sometimes it is difficult to understand the usage of different tools in a short period of time. solution: Find quick tutorial from google search
* Some free AI tools always require you to upgrade your subscription to get the normal process. solution: Find and compare another free one

1. Your response should provide a thoughtful and detailed account of your experience, highlighting the key insights you gained and the lessons learned while leveraging AI tools to create your webpage.

After completing this exercise, I believe that providing AI tips is the key to becoming good at using AI tools.

* First, you'd better provide a simple background to let the AI focus on your questions
* Each prompt is simple and clear. Try to use the context of the prompts to move towards your goals.
* If possible, try to narrow down the question using AI-suggested options

**Question 2: Investigating search engines and RAG models (40 points)**

**1. (10 points)** Explore the answer of Perplexity.ai (https://www.perplexity.ai/) , Claude (https://claude.ai/) , Gemini (https://gemini.google.com/) , ChatGPT (3.5 or 4, depending on which one you have) + Google search engine (or your favorite traditional search engine)

When you ask the question:

* What is retrieval augmented generation?

Then answer the following questions:

* How do the answers differ?
* Which one did you prefer?
* Which one was the most informative?
* How did you behave with the different answers? Did you explore something more?
* Describe your natural interactions.

**2. (20 points)** Imagine you're an intern at a company that develops educational software. Your team is working on a chatbot that helps students learn about historical events. You recently learned about RAG (Retrieval-Augmented Generation) systems and thought they could improve the chatbot's performance. Write a memo to your team lead explaining the following:

a. (10 points) How RAG technology works:

* Explain that RAG combines a pre-trained language model (like GPT) with an information retrieval system.
* Describe how the RAG system searches a large database of historical information to find relevant facts and then uses those facts to generate more accurate and informative responses to students' questions.
* Include a simple diagram showing how the chatbot receives a question, retrieves relevant information, and generates a response.

b. (10 points) How your team can use RAG to improve the educational chatbot:

* Discuss how RAG can help the chatbot provide more accurate and detailed answers to students' questions about historical events, figures, and contexts.
* Recommend using some possible software and Python packages to implement RAG (you’ll have to make a search to find out about this, or interact with the appropriate LLM to figure this out).
* Suggest using a reliable and comprehensive database of historical information, such as Wikipedia or a custom-built knowledge base, to ensure the chatbot has access to a wide range of accurate facts.
* Offer a couple of tips for implementing RAG effectively, like making sure the retrieved information is relevant to the question and testing the chatbot's responses for accuracy and clarity.

Note: A clear and persuasive memo could convince your team lead to explore using RAG technology, potentially improving the educational value of the chatbot.

Optional: If you used any language models (like ChatGPT) to help write the memo, mention which one(s) you used, and explain precisely how you used them and made sure the information in the memo was accurate and easy to understand.

3. (10 marks) First, interpret the meme in the image below. Then feed this image into two or more LLM models of your choice that can process images: Claude (https://claude.ai/) (free version can handle images), Copilot (https://copilot.microsoft.com/) (you don’t need to subscribe to run an image), Gemini Pro (https://gemini.google.com/) (available for free), GPT4 (you would need to pay) and ask them: “explain this meme.” Notice that you don’t need to subscribe to GPT4; using two free models is enough.

a. (5 points) Comment on their answers, the chatbot user interface, and ease of use of each platform. Did you interpret the meme similarly? Fun fact: the picture behind the meme has been sold for $500,000 (source (https://www.nytimes.com/2021/04/29/arts/disaster-girl-meme-nft.html) ).

b. (5 points) Explain how state-of-the-art LLMs can understand pictures when you upload them and give you answers about them. Feel free to do a Google search, ask LLMs directly, or propose hypotheses.

G> **Write a brief marketing plan aimed at the company's general management. The following is the general content of the project:**

Project Title: Formula 1 Ticket Marketing Campaign.

Purpose of the Event:

* Attract more personal interest to Formula 1 (get more people interested)
* Give fans a chance to interact w/ their favorite teams & drivers
* Goal is to complete tickets sale to at least 90% by the end of the event

Targeted Audience:

* Formula 1 fans
* General racing fans
* People who like competition
* Sports Enthusiasts
* Gamers
* Thrill Seekers

Event Activities:

Phase One: Ways to Win A Ticket

* VR racing competition
* Knowledge Competition
* F1 22 Cross-Play Competition

Phase 2: Attending Live Event

* Ticket Option 1: Live Drive in a Real F1 Car
* Ticket Option 2: Winner Gets to Meet w/ Drivers

Event organization and management:

* Professional Coaches/Retired F1 Drivers
* Technical IT team
  + Help set up & run the game competitions
* event promoters - marketing team
* Event operations team
  + manage vendor services
  + manage agenda

Event goals:

* Complete at least 90% of ticket sales by event end

Estimated costs and Potential Venues

ChatGPT

**Marketing Plan: Formula 1 Ticket Campaign**

**Project Title:** Formula 1 Ticket Marketing Campaign

**Purpose of the Event:**

* Attract more personal interest to Formula 1
* Provide fans a chance to interact with their favorite teams & drivers
* Goal: Achieve at least 90% ticket sales by the end of the event

**Targeted Audience:**

* Formula 1 fans
* General racing enthusiasts
* People who enjoy competition
* Sports enthusiasts
* Gamers
* Thrill seekers

**Event Activities:**

**Phase One: Ways to Win A Ticket**

1. VR Racing Competition:

* Participants compete in virtual reality races using F1 simulators.
* Top performers earn tickets to the live event.

1. Knowledge Competition:

* Quiz-style competition testing participants' knowledge of Formula 1 history, drivers, and teams.
* Winners receive complimentary tickets.

1. F1 22 Cross-Play Competition:

* Multi-platform gaming competition allowing players to compete against each other in the latest F1 game.
* Winners qualify for free tickets to the live event.

**Phase Two: Attending Live Event**

1. Ticket Option 1: Live Drive in a Real F1 Car:

* Participants have the opportunity to experience the thrill of driving an actual F1 car on a track.
* Limited slots available, with winners selected through a lottery or additional competition.

1. Ticket Option 2: Winner Gets to Meet with Drivers:

* Exclusive meet-and-greet sessions with F1 drivers, allowing fans to interact and take photos.
* Winners chosen through special contests or raffles.

**Event Organization and Management:**

1. Professional Coaches/Retired F1 Drivers:

* Experienced coaches and former F1 drivers provide guidance and support during the event.

1. Technical IT Team:

* Skilled IT professionals responsible for setting up and managing the technical aspects of VR simulations and gaming competitions.

1. Event Promoters/Marketing Team:

* Creative team tasked with promoting the event through various channels, including social media, advertising, and partnerships.

1. Event Operations Team:

* Logistics experts responsible for managing vendor services, coordinating schedules, and ensuring the smooth execution of the event.

**Estimated Costs and Potential Venues:**

1. Costs:

* Breakdown includes venue rental, equipment rental (simulators, gaming consoles), staffing, marketing expenses, prizes, and miscellaneous expenses.

1. Potential Venues:

* Consider venues with high foot traffic and ample space for both virtual and live activities, such as convention centers, shopping malls, or dedicated F1 tracks.

G> According to this marketing planning plan, prepare a PPT page design to introduce the project execution process

ChatGPT

Here is a detailed outline for a PowerPoint slide design to introduce the project execution process for the Formula 1 Ticket Marketing Campaign:

Slide 1: **Title Slide**

**Title:** Formula 1 Ticket Marketing Campaign Execution Process

**Subtitle:** Attracting Interest, Engaging Fans, Achieving Sales

**Date:** [Insert Date]

**Presented By:** [Your Name/Company Name]

**Visuals:** Formula 1 car image, company logo

Slide 2: **Purpose of the Event**

**Title:** Purpose of the Event

**Bullet Points:**

* Attract more personal interest to Formula 1
* Give fans a chance to interact with their favorite teams & drivers
* Achieve at least 90% ticket sales by the end of the event

**Visuals:** Engaging images of fans at F1 events, interaction with drivers

Slide 3: **Targeted Audience**

**Title:** Targeted Audience

**Bullet Points:**

* Formula 1 fans
* General racing enthusiasts
* People who enjoy competition
* Sports enthusiasts
* Gamers
* Thrill seekers

**Visuals:** Diverse crowd images, gaming scenes, race audiences

Slide 4: **Event Activities: Phase One**

**Title:** Phase One: Ways to Win A Ticket

**Subsections:**

1. **VR Racing Competition**

* Participants compete in VR races using F1 simulators.
* Top performers earn tickets.

1. **Knowledge Competition**

* Quiz-style competition on F1 history, drivers, teams.
* Winners receive tickets.

1. **F1 22 Cross-Play Competition**

* Multi-platform gaming competition.
* Winners qualify for free tickets.

**Visuals:** VR simulators, quiz competition images, F1 game visuals

Slide 5: **Event Activities: Phase Two**

**Title:** Phase Two: Attending Live Event

**Subsections:**

**Ticket Option 1:** Live Drive in a Real F1 Car

* Experience driving an actual F1 car.
* Limited slots through lottery or competition.

**Ticket Option 2:** Meet with Drivers

* Exclusive meet-and-greet with F1 drivers.
* Winners chosen through contests or raffles.

**Visuals:** Images of F1 cars on tracks, meet-and-greet sessions

Slide 6: **Event Organization and Management**

**Title:** Event Organization and Management

**Subsections:**

* **Professional Coaches/Retired F1 Drivers:** Guidance and support.
* **Technical IT Team:** Manage VR and gaming setups.
* **Event Promoters/Marketing Team:** Promote event via various channels.
* **Event Operations Team:** Oversee logistics, vendor services, and schedule.

**Visuals:** Team working images, tech setup photos, promotional material visuals

Slide 7: **Event Goals**

**Title:** Event Goals

**Bullet Points:**

* Achieve at least 90% ticket sales by the end of the event

**Visuals:** Sales target graphics, goal achievement visuals

Slide 8: **Estimated Costs and Potential Venues**

**Title:** Estimated Costs and Potential Venues

**Subsections:**

* **Costs:** Venue rental, equipment rental, staffing, marketing, prizes.
* **Venues:** High foot traffic areas, convention centers, F1 tracks.

**Visuals:** Cost breakdown charts, venue images

Slide 9: **Execution Timeline**

**Title:** Execution Timeline

**Bullet Points:**

* **Planning Phase:** Define goals, assemble team, secure venues.
* **Promotion Phase:** Launch marketing campaigns, engage audience.
* **Event Phase:** Conduct competitions, manage live event.
* **Post-Event Phase:** Analyze results, follow-up with participants.

**Visuals:** Timeline graphics, key milestone icons

Slide 10: **Conclusion and Q&A**

**Title:** Conclusion and Q&A

**Bullet Points:**

* Recap event purpose and goals
* Open the floor for questions and feedback

**Visuals:** Thank you image, contact information

**Generate HTML pages**

**G>**

**According to this marketing plan, design a login homepage named index.html and a content page named content.html for this event.**

**G>**

**generate a page called slide5.html for Slide 5: Event Activities: Phase Two. and add a button on content.html to access these two pages**

**Generate Images**

**Mid>**

The following is basic information:

Project name: Formula 1 Ticket Marketing Campaign.

Purpose of the Event:

* Attract more personal interest to Formula 1
* Give fans a chance to interact w/ their favorite teams & drivers
* Complete F1 2025 tickets sale

Targeted Audience:

* Formula 1 fans
* Sports Enthusiasts
* Gamers

Event Activities:

Phase One: Ways to Win A Ticket

* VR racing competition
* Knowledge Competition
* F1 Cross-Play Competition

Phase Two: Attending Live Event

* Ticket Option 1: Live Drive in a Real F1 Car
* Ticket Option 2: Winner Gets to Meet w/ Drivers

Event goals:

* Complete at least 90% of ticket sales by event end

Generate Video: <https://pika.art/home>

Formula 1's large crowds of spectators cheer during the race. Deafening

Play Formula 1 VR simulators. add background noise. youth people