Module Title: Web Development

Assessment Name: Design and create content for a small website.

Student ID: RAPUD95503

I confirm that this assignment is my own work.

Where I have referred to academic sources or online sources, I have provided in-text citations and included the sources in the final reference list.

**Section 1: Project Overview**

* This project caters to football enthusiasts engaged in the perennial debate over who reigns supreme between Cristiano Ronaldo and Lionel Messi. It aims to provide a comprehensive platform for exploring, analyzing, and contributing to the ongoing discourse surrounding these two footballing legends.

**User story and Persona**

* **Story**
  + "As a football fan, I want to read in-depth analyses and comparisons of Messi and Ronaldo's playing styles, achievements, and impact on the sport so that I can deepen my understanding of their rivalry."
* **Persona**
  + **Name:** Alex
  + **Age:** 25
  + **Occupation:** Soccer coach
  + **Goals**: Stay informed about the latest developments and debates in the world of football, including the ongoing Messi vs Ronaldo rivalry, to enrich his coaching strategies and discussions with players.
  + **Challenges**: Limited time due to busy coaching schedule, needs reliable and concise information presented in an engaging manner to keep up with football news and debates. Diagnosed with color blindness by the doctor, hence the color scheme must not stop him from being able to read every information available.

**Requirements**

* Must Have:
  + Information about each player (Ronaldo and Messi).
  + A dedicated page for comparing the two players, including their statistics, achievements, playing styles, and impact on the sport.
  + A platform for users to express their dissenting opinions and engage in discussions.
* Will not Have:
  + An overload of information, ensuring content remains concise and focused.

**Section 2: Plan**

**Overall Project Plan**

* This project aims to give users information on who is the better player between Ronaldo and Messi
* This project aims to reach out to football lovers all ages who have always wondered who the better player is between Ronaldo and Messi.
* This project hopes to generate high user interactions while providing them with facts to support their arguments.
* In order to make this project work, we need to:
  1. Collect valid information, from verified websites, about each player.
  2. Display that information on several pages.
  3. Generate a web design that allows high interactions level from users.

**Identification of Timeline and Milestones**

* Research
  + - * Conducted comprehensive research on Messi and Ronaldo's careers, achievements, playing styles, and impact on football from relevant verified sources.
* Content creation
  + - * Typed out high-quality, engaging content for the blog, focusing on deep analysis, comparisons, and insights into Messi and Ronaldo's careers. Then structure the content into a way to be easily readable.
* Website Development
  + - * Designed the website layout, incorporating user-friendly navigation, responsive design elements, and visually appealing aesthetics.
      * Developed website commenting functionality.
      * Continuous testing to ensure page is suitable with mobile devices.
* Testing
  + - * Conducted extensive testing of the website's functionality, performance, and user experience.
      * Found and addressed any bugs, errors, or usability issues through rigorous testing and debugging.
* Launching
  + - * Check to see if app.py program debugging condition has been put to false.

**Section 3: Design**

A close-up of a paper

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**Section 4: Implementation**

**Implementation Process**

* Build and configure the website's frontend and backend components, including the user interface, database management system, and server infrastructure.
  + User Interface: This includes clickable buttons that conduct relevant events, videos, headers that correctly navigate to the correct webpages.
  + Database Management System: This includes a correct database system that links to the flask file allowing data to be stored properly.
  + Server Infrastructure: Correct creation of flask program on the website and each page is routed and has the correct format of linking images or external links. E.g., ‘{{url\_for(…)}}’

**Challenges Faced and Changes Made from Design**

* When creating a relationship between users table and comments, there was a problem with: No foreign key stated, repeating data, migration version needed to be updated, collecting the name from the user table, and collecting the comment for that name.
  + To make all this work, the earlier migration was deleted then the initialization steps were re-run but, in this case, the correct primary-keys and foreign-keys had to be created.
  + In order to extract the data, we needed to call those data from their respective tables. E.g., ‘{{comment.User.user\_name}}’

**Section 5: Implementation**

**Testing Procedure**

* Types of test run:
  + Performance Test: After creating the whole webpage, a test on how fast each page loaded up was run. Checked to see if the form added would cause problems to how fast each page loaded up and it passed the test because the speed was not affected one bit. However, the pages with the most content take some extra time to load (the page describing Messi and Ronaldo). This is because the page is loaded with some pictures, a video, and information.
  + Functional Test: After successfully including the database with relationships and connecting this database to my HTML and FLASK application, a re-run of the website was executed to make sure that the website works well with the form and the form does its instructions correctly.
  + User Interface Testing: Checks were done to see if the JS, CSS, and HTML coding still have effect on the webpage. So, to check if the whole website was mobile responsive.
  + Database Testing: Operations such as, adding complete data, incomplete data, default data, repeated data, were all done on the database.

**Existing and Repaired bugs**

* Bugs Generated Overtime:
  + Data inputted into the form was not clearing after submit button was clicked. Forcing users to delete that information by themselves which can be nuisance to some people. JavaScript instructions were added to ‘commenting.js’ to make this possible. Bug now fixed.
  + Website was not responsive to the change in environment. When testing to see if the design of the website reacts to the change of device, it did not respond so the design was overloading on mobile devices. Bootstrap and mindset of using columns and rows and sections to make the website was implemented. Bug now fixed.

**Section 6: Maintenance**

**Maintenance procedure for future development**

* Video maintenance
  + The video of each player is a video directly from YouTube. This owner of the video (credit given) could decide to make this video private, and this would cause problems for the website because the video will no longer be accessible. So, a weekly check of the videos on the website will be done.
* Corrective Maintenance
  + Users are given the choice to rate us if they want to by clicking a href link that says ‘Don’t forget to rate us’ at the end of each page. So, if a user has a problem, they can leave a comment about the problem and an alert will be sent to us which allows us to check for this error.
    - A screenshot of a computer

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