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**1. Present the problem statement.**

Marketing agencies and sponsors invest heavily in advertising but often lack efficient tools to measure the visibility and prominence of their branding across various types of media. Current methods are frequently manual, error-prone, and inefficient, limiting organizations’ ability to assess the ROI of their campaigns. This project aims to develop a computer vision-based system to automatically track and analyze brand logos in visual content, providing actionable insights on visibility and exposure to optimize marketing and sponsorship strategies.

**2. Explain who the intended user is. It can be you or a fictitious entity you will represent.**

**Brand Owners and Marketing Teams**, who are looking to promote their products or services and evaluate the effectiveness of their advertising investments.

**Event Organizers and Marketing Agencies**, who are aiming to earn or increase the revenue they are receiving from sponsorships by offering transparency and value to their clients.

**3. Describe why the user has this problem. For example, there are decisions to make and many options, which are difficult to manage for the average user.**

Brands and marketers need to know how often their logos or advertisements appear in videos or events to be able to make informed decisions and maximize their return on investment. Without having a reliable tool to be able to track and visualize this data, they struggle to accurately measure their campaigns' success and identify improvement opportunities.

**4. Describe how a solution would benefit the user.**

This solution helps brands and marketers by helping them gain valuable insights into the visibility and impact of their advertisements by tracking their screen time and measuring the effectiveness of their advertisement strategies. It would better enable these teams to make data-driven decisions to maximize their ROI and optimize future campaigns. For agencies and organizations, it offers transparent analytics to improve reporting, help attract potential clients, and show the value of their promotional opportunities.

**5. Describe the general flow for addressing the problem. The existing (or imagined) flow does not have to involve a computational solution.**

Marketers define their visibility goals for their brands or advertisements. Using a computer vision-based system, the solution analyzes video footage to detect how long the brand or product that they are promoting appears on the screen. The results are streamed to users in real-time or provided as a report, helping marketers assess whether their visibility targets are met and determine if their campaigns are delivering a strong ROI.

**6. What is the general nature of the solution?**

The solution is a **standalone program** designed to perform computer vision analysis on video footage. Users will be able to upload videos through a **web-based dashboard**, which will process the footage and display detailed analytics on logo detection, screen time, and visibility. The dashboard will offer an intuitive and interactive way for users to access and interpret the data.

**7. List the general software components you envision playing a role.**

The solution will be developed using Python, with libraries such as TensorFlow for image recognition and processing, and OpenCV or YOLO for video capture. The backend of the system will be powered by a web server, which will handle video uploads and process the footage. The web-based dashboard will provide a simple and intuitive interface to be able to visualize the analytics. The system will also require a dataset containing images of the logos and advertisements that will be utilized for training the machine learning models.

**8. List the general hardware components you envision playing a role.**

**No external hardware components** will be needed for this project. The project solution will work with pre-recorded video footage, so any specialized cameras or external devices are not required. The application will be able to run on a standard computer with adequate processing power to handle machine learning and video processing tasks.

**9. Describe similar solutions, if any, and justify (or make up a justification) for why they are inadequate.**

Relo Metrics provides a computer vision solution to track sponsors during live TV broadcasts. However, their service is limited to live events. Our solution, on the other hand, allows users to upload any type of video and analyze the exposure of their brand or sponsors within that content, offering greater flexibility and applicability across various media types.