AB Testing for the Web Application

Objective:

 Increase the conversion rate (number of product purchases) on the product detail page.

Variations:

- **Version A (Control)**: The original "Buy Now" button with a green color.

- **Version B (Variant)**: The "Buy Now" button with a red color.

Steps:

1. Define Objective: The primary goal is to increase the conversion rate on the product detail page.

2. Create Variations: Design two versions of the product detail page, one with the original green "Buy Now" button and another with a red "Buy Now" button.

3. Random Sampling: Randomly divide the incoming traffic to the product detail page into two groups: one group will see Version A, and the other will see Version B.

4. Traffic Allocation: Allocate an equal percentage of traffic to both versions (e.g., 50% to Version A and 50% to Version B).

5. Run the Test: Launch the A/B test and let it run for a sufficient period (e.g., one week) to collect enough data.

6. Analyze Results: After the test period, analyze the data collected from both versions. Calculate the conversion rates for both Version A and Version B.

7. Draw Conclusions: Suppose Version B (the one with the red "Buy Now" button) had a higher conversion rate with statistical significance. In that case, you can conclude that changing the button color to red improved the conversion rate.

8. Implement the Winner: Implement the successful variation (Version B) with the red "Buy Now" button on the product detail page to the entire user base. Continue monitoring the conversion rate to ensure the results are consistent.