**Capstone Project: Automated Testing of Healthcare Website (westfloridaahec.org)**

**Project Overview:**

This project focuses on automating the testing of the West Florida AHEC healthcare website using Selenium for UI testing, manual testing techniques Cucumber for Behavior-Driven Development (BDD). The primary objective is to ensure the website's functionality, reliability, and user experience are maintained to a high standard.

**Assignment Tasks:**

**1. Automated UI Testing with Selenium**

* **Task:** Develop an automated test suite to verify key functionalities on the West Florida AHEC website using Selenium.
* **Test Environment Setup:**
  + Set up Selenium WebDriver with a test framework like TestNG.
  + Integrate the project with Maven or Gradle for managing dependencies.
  + Configure browser drivers (e.g., ChromeDriver, GeckoDriver) to facilitate cross-browser testing.
  + Establish a Continuous Integration (CI) pipeline using Jenkins for automated test execution.
* **Automated Test Cases:**
  + **Home Page:**
    - Verify the proper loading of key sections like the navigation menu, health programs, and resource links.
    - Test the functionality of the search bar and the links to various health programs and services.
  + **Health Programs and Services:**
    - Automate the navigation to different programs and ensure the correct display of content and related resources.
  + **Contact Us Page:**
    - Validate the form submission process, including verifying the functionality of all input fields and buttons.
  + **User Registration and Login:**
    - Automate the process of user registration, login, and password recovery, if applicable.
  + **Cross-Browser Testing:** Run tests on various browsers to ensure compatibility.
* **Reporting:**
  + Generate detailed test execution reports using ExtentReports.

**2. Manual Testing**

* **Task:** Perform manual testing to validate the user interface, core functionalities, and explore edge cases.
* **Test Plan and Test Cases:**
  + **Home Page:** Manually test navigation, search functionality, and the display of health programs.
  + **Program Details Pages:** Verify the accuracy and completeness of content on health program pages.
  + **Forms and Submissions:** Test all forms on the website, including contact forms and registration forms, for proper validation and submission.
  + **User Account Management:** If applicable, test account creation, login, and profile management manually.
* **Documentation:**
  + Document test cases, expected results, and actual outcomes in a test management tool like Jira or TestRail.
  + Log any defects or issues discovered during testing and track their resolution.

**3. Behavior-Driven Development (BDD) with Cucumber**

* **Task:** Implement BDD using Cucumber to define and automate test scenarios in Gherkin syntax.
* **Gherkin Syntax:** Write feature files to describe the expected behavior of the West Florida AHEC website.
* **Test Scenarios:**
  + **Navigation and Access to Health Programs:** Define scenarios for navigating to different health programs and accessing relevant content.
  + **Form Submissions:** Write scenarios for the correct functioning of forms, including form validation and successful submission.
  + **User Account Management (if applicable):** Define scenarios for user registration, login, and profile management.
* **Execution and Reporting:** Run Cucumber tests and generate detailed reports.

**Tools and Technologies:**

* **UI Testing:** Selenium WebDriver, TestNG/JUnit, Maven/Gradle, Jenkins, ExtentReports.
* **Manual Testing:** Jira, Zephyr, or similar tools for test management.
* **BDD:** Cucumber, Gherkin syntax, Jenkins for CI.
* **CI/CD:** Jenkins

**Expected Deliverables:**

* **Automated Test Scripts:** Selenium scripts for key functionalities.
* **Manual Test Cases:** Documented manual test cases and exploratory testing results.
* **Test Reports:** Comprehensive reports from both automated and manual testing.
* **CI/CD Pipeline:** A fully integrated CI/CD pipeline with automated tests.
* **BDD Feature Files:** Gherkin feature files detailing expected behavior.
* **Project Presentation:** A summary presentation covering the testing strategy, tools used, and results.