1. **Project Description**

**1.1 Project Title Page**

**Project Title:** GitHub Testing

**Instructor Name:** Deepa Devasenapathy

**Course Name & Code:** Software Testing, CEN 4072

**Group Number:** 13

**Team Members:** Yanisley Mendiola

Erick Rodriguez

George Stephen

Peter Nguyen

**1.2 Project Goal**

The objective of this project was to test the web application GitHub. Through this testing suite we aimed to achieve testing different process users normally would go through while using the web application testing different features of GitHub. Our goal was to create a suite with 8 tests and at least 5 methods to fulfill the requirements for a successful project.

**1.3 System & Test Summary**

Our test suite automates and verifies a complete workflow of the GitHub interface related to repository, account management, pages, search, and docs page.

The test simulates users interacting with the webpage to perform different tasks. We implemented integration Testing using automation testing tools such as TestNG, Selenium, Maven, and Java. Our test covers creating an account, logging in, creating a repository and editing its features, interacting with the search field and other methods. We also implemented Functional Testing by ensuring individual features worked correctly on the browser.

**1.4 Workflow Diagram**

A screenshot of a computer screen

AI-generated content may be incorrect.

**1.5 Code Repository & Submission**

Code archive is attached to this report submission.

Repository: <https://github.com/ymendiola17/GitHub--Automation-Testing>

1. **Work Conducted**

2.1 Overview of Work

Over the testing period we planned timed meetings to begin setting up tests and splitting up tasks for each function and support any needed corrections of test bugs and errors over communication in group messaging. This helped understand procedures for each test case and establishing a design for planning topics for each test and functions. The tests made intended for understanding the uses of the GitHub structure to be used for practice using selenium and TestNG.

All the tests code was submitted into a GitHub account repository by each member then written into an integrated test code, and included xml/pom files, that executed all tests at once. The details and execution of the program test were recorded in a video and a report contributed by all members. This made the effort allocated optimized and delivered a successful project.

2.2 Individual Contributions

Yanisley: REPO TEST, PAGES TEST, RECORDING:

* Developed integration tests and configured testing.xm
* Planned for development meetings and tracked progress

Erick: LOGIN TEST, ACCOUNT TEST, PRESENTATION:

* Wrote unit tests for Login & Signup Modules
* Designed presentation aspects of the project's details

George: SEARCH TEST, FORK TEST:

* Designed test code for searching and forking repositories
* Troubleshooted test errors of web functions capabilities

Peter: ISSUE TEST, DOC TEST:

* Built tests on creating issues and navigating docs

1. **Tools Used**

* Java
* Selenium WebDriver
* TestNG
* Maven
* Git / GitHub
* ChromeDriver

**Browsers and OS environments tested on:**

* Chrome
* MacOS
* Windows 11

1. **Motivation**

Our GitHub automation project is aimed at ensuring core features such as the login process, repo creation, account management, and collaboration tools work reliably through automation testing. The main motivation behind choosing GitHub is its importance to software engineers and the benefit that may arise from automating its many processes, such as saving time and reducing manual effort, possibly leading to discovering bugs early.  
  
The tests we conducted help mitigate login failures due to invalid or missing credentials, user interface and profile update malfunctions, disruptions in repository creation, forking, and issue tracking workflows. As well as search and navigation errors and inconsistencies after system malfunctions. This in turn can lead to improvements to GitHub’s reliability, with the goal of creating a more stable and user-friendly experience.

1. **Appendix**

All files have been attached to the submission in the githubtests folder