AutomationAnalyzer - Selenium vs Cypress
Andrew Moskowitz
Instructor - Todd Gibson
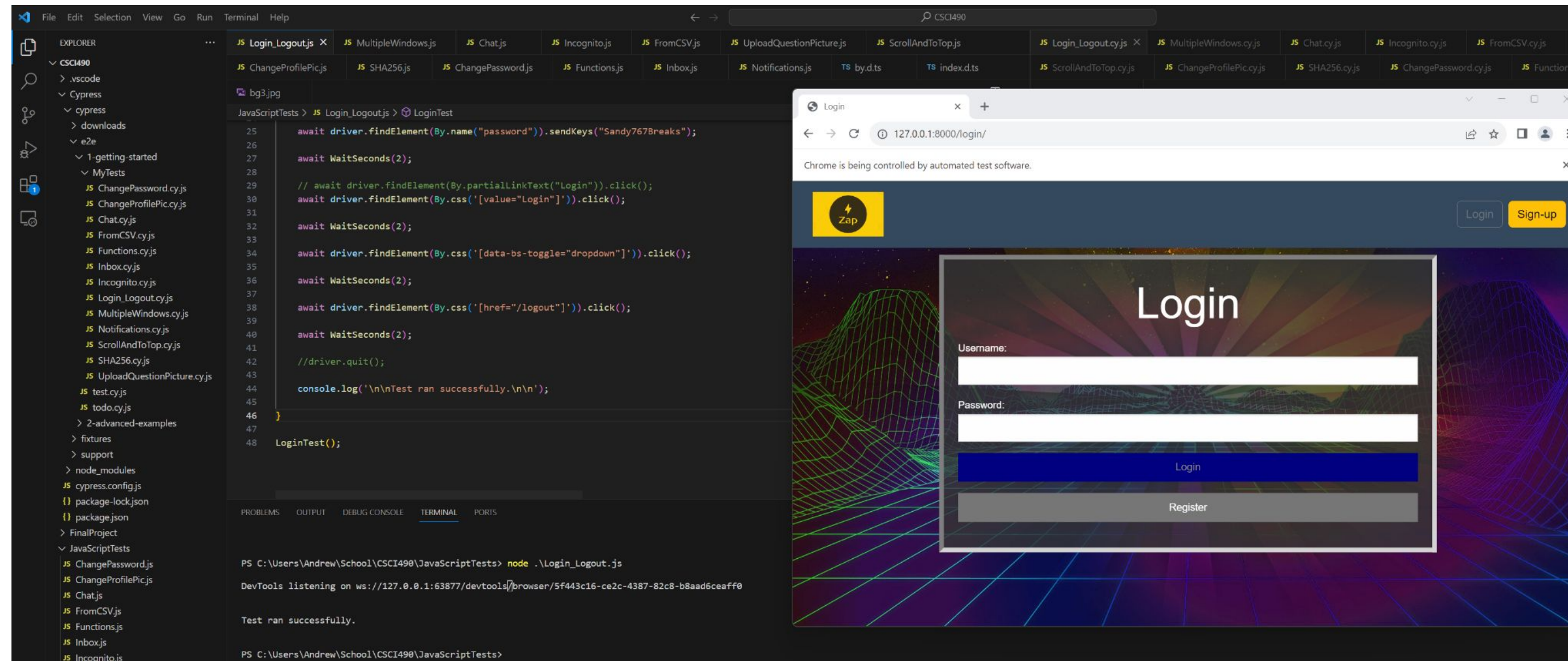## Fall 2023

California State University **Chico**

Overview

AutomationAnalyzer is a comprehensive project that systematically evaluates and compares the performance and efficiency of Selenium and Cypress, two leading web automation frameworks. This project leverages its thorough testing infrastructure to meticulously assess various aspects of Selenium and Cypress, facilitating an in-depth analysis of their capabilities, strengths, and potential trade-offs. Through detailed benchmarking and profiling, it aims to provide actionable insights for developers and testers to make informed decisions on choosing the most suitable tool for their web testing needs.

Languages and Tools

Selenium
- Cross-browser web automation framework supporting multiple languages for seamless testing across diverse environments. One of the tested frameworks.

Cypress
- Modern web testing framework designed for simplicity and speed, offering an intuitive and developer-friendly experience with built-in features for end-to-end testing. One of the tested frameworks.
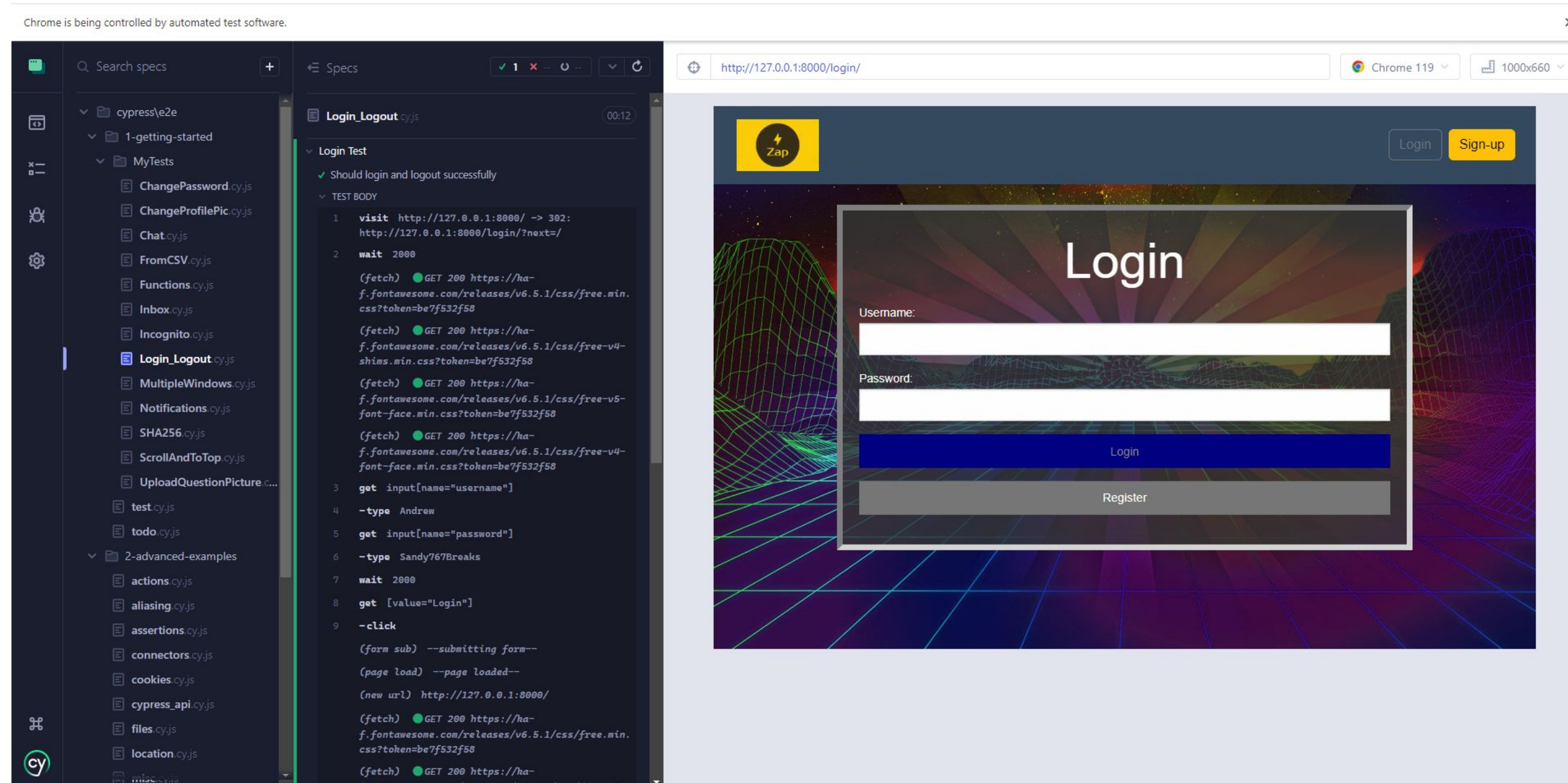
JavaScript
- Versatile and widely-used programming language, offering flexibility for web development, automation, and a variety of applications. The language used in both frameworks.

NodeJS
- A powerful JavaScript runtime, enabling server-side scripting and building scalable network applications with efficiency and speed. Also used for package management.

VSCode
- Feature-rich and lightweight code editor by Microsoft, offering a highly customizable and efficient development environment with support for various languages and extensions. Used to develop test cases.

Selenium Advantages

- Multiple Language Support
- Parallel Test Support
- Browser Interaction Flexibility
- Multiple Windows Support
- Access to Browser DevTools

Cypress Advantages

- Intuitive User Interface
- Real-Time reloads
- Automatic Waiting
- Comprehensive Debugging
- Automatic Screenshots / Videos

Selenium or Cypress?

The choice between Cypress and Selenium hinges on specific project requirements and objectives. Opt for Cypress when prioritizing a fast and modern testing experience with a simplified setup, particularly for single-page applications. Selenium, on the other hand, is the preferred choice for diverse language support, extensive browser coverage, and scenarios requiring parallel testing across multiple environments