

# COS10026

## Computing Technology Inquiry Project

### Lecture 9

## Web UI (User Interface) Testing

# What is Web UI Testing

- Web UI Testing is to ensure that your web application meets the requirements that guided its design and development.
- Website web elements created with CSS, JavaScript, and numerous other programming languages.
- UI testing performs tests and assertions of these elements to validate their efficacy.

# What is Web UI Testing

- UI testing covers the gamut of visual indicators and graphic-based icons – toolbars, fonts, menus, boxes, radio buttons, checkboxes, colors, and more

# Features

- Some of the features included in UI test suits include:
  - Functionality
  - Visual design
  - Performance
  - Usability
  - Compliance

# The scope

## 1. Data type errors

- The test checks that only valid data can be entered for certain data field: dates, currency, etc.

## 2. Field width

- The test checks that certain text fields do not allow the user to place inputs over a specific character limit.

# The scope

## 3. Navigational elements

- The test checks that all navigational buttons on a page are working, and that they redirect users to the right page.

## 4. Progress bars

- The test checks that when displaying pages or screens that take time to load completely, a progress bar appears to let the user know that the page is loading.

# The scope

## 5. Type-ahead

- If the UI uses drop-down lists, type-ahead is required. In a drop-down menu with multiple options, the user should be able to find the right one by typing the first letter. Making the user go through a long list constitutes unfavorable user experience.

## 6. Table scrolling

- If the website has data tables, and if the table extends into second page, then the user should be able to scroll through all the data while keeping the headers visible and in place.

# The scope

## 7. Error Logging

- This test checks that in case of a system error, the software records error details to a log file so that it can be reviewed later.

## 8. Menu Items

- The test checks that the software displays only the menu available in its particular geographical location (if that is applicable)



# The scope

## 9. Working shortcuts:

- If the software supports shortcuts, this test validates that each of them works as expected across multiple browsers, platforms, and devices

# Example

Imagine the following scenario:

- Log in > add items to cart > view cart > make payment > enter delivery address > buy now.

It is recommended to run UI tests on the significant end-to-end processes.

# Manual or Automated?

Manual	Automated
Tester manually uses all the features of the website of app to check for any discrepancies	Test scripts are written correctly and right tools are in place, test results will be accurate.
Suitable for the software with limited number of UI elements	It allows the software to be put through multiple test scenarios, run repeatedly quickly and correctly.
Inefficient, time-consuming, prone to human error.	Tests are completed faster.
E.g. Imagine how many times a user has to manually input information into page with more than 10 input fields if the page has to be tested with multiple sets of values.	

# Test Scenarios

- Think of the test scenario as a document that defines how the application is likely to be used in the real world.

# Test Scenarios

- Example: a user will successfully sign in with a valid username and password.
- The test script has to take into account the following possibilities:
  - User enters a valid username and password
  - User enters a valid username and invalid password
  - User resets the password
  - User tries to copy password from password field
  - User tries to copy password to password field
  - User clicks Help button

# Build Test cases

- By mapping the various possible user actions, you can build test cases and write test scripts that specifically replicate or target those actions.
- It is to ensures that the UI test does not miss out on any part of the user journey and leave the application with a bug.
- UI tests are best executed on real browsers, devices and operating systems.

# Tools

- Selenium
- Cucumber
- Worksoft
- Etc.

# Thank You