Beta Presentation

Taking Firefox Screenshots Testing Suite to 11

The Capstone Experience

Team Mozilla

Christopher Cho
Robin Miller
Rand Mustafa
Michael Williams

Department of Computer Science and Engineering
Michigan State University
Fall 2017
Project Overview

• Mozilla’s Screenshot Testing Suite assists developers in catching visual bugs
• Our contributions will allow developers to only test parts of the UI that are pertinent to their work
• Developers will not be bombarded with irrelevant alerts
• The goal is to mature the tool
System Architecture

Legacy Firefox Extension

Command line

Try server

Autoland CI

Mochitest

Configurations

Test Runner

Crop Screenshots

Screenshot Utilities

Compare Screenshots Locally

Compare Screenshots With Web UI
Automated Cropping Region
Major Difference Detected

https://screeshots.mattn.ca/compare/?oldProject=mozilla-central&oldRev=6f8f10f48ace5692256efd91f011bd23054ee2ec&newProject=mozilla-central&newRev=5342d9e5011c53328468733704368e743affa817
Subtle Difference Detected

Before Change

After Change

Difference

https://groups.google.com/forum/#!topic/mozilla.dev.ui-alerts/6-1of3K2wFY
New Configuration – UI Density

Compact

Normal

Touch
Improved Tool Output

```
INFO *** Start BrowserChrome Test Results ***
1 INFO checking window state
2 INFO TEST-START | browser/tools/mozscreenshots/browser_screenshots.js
3 INFO Entering test bound setup
4 INFO installing extension temporarily
5 INFO Checking for mozscreenshots extension
6 INFO TEST-PASS | browser/tools/mozscreenshots/browser_screenshots.js | The mozscreenshots extension should be installed -
7 INFO Leaving test bound setup
8 INFO Entering test bound capture
9 INFO Saving screenshots to:
10 INFO 2 sets:
11 INFO 28 combinations
12 INFO Console message: [JavaScript Warning: "Use of nsIFile in content process is deprecated." [file: "resource://gre/modules/FileUtils.jsm" line: 474]]
13 INFO Combination 09/28: nokIT navBarButtons
14 INFO promising nokIT
15 INFO calling nokIT
16 INFO called nokIT
17 INFO Console message: 15195828257210 addons.xml WARN Attempting to activate an already active default theme
18 INFO promising navBarButtons
19 INFO calling navBarButtons
20 INFO called navBarButtons
21 INFO fulfilled all applyConfig so setting lastCombo.
22 INFO TEST-PASS | browser/tools/mozscreenshots/browser_screenshots.js | A valid bounding box was found -
23 INFO _onConfigurationReady
24 INFO Combination 09/28: nokIT tabsToolbarButtons
25 INFO promising tabsToolbarButtons
26 INFO calling tabsToolbarButtons
27 INFO called tabsToolbarButtons
28 INFO fulfilled all applyConfig so setting lastCombo.
29 INFO TEST-PASS | browser/tools/mozscreenshots/browser_screenshots.js | A valid bounding box was found -
30 INFO _onConfigurationReady
31 INFO Combination 09/28: nokIT menuPanelButtons
32 INFO promising menuPanelButtons
33 INFO calling menuPanelButtons
34 INFO called menuPanelButtons
35 INFO fulfilled all applyConfig so setting lastCombo.
36 INFO checking if the combo is valid with menuPanelButtons
37 INFO shipped configuration [ nokIT, menuPanelButtons ]
38 INFO reason: the button isn't shown when the panel isn't open.
39 INFO Combination 09/28: nokIT custPaletteButtons
40 INFO promising custPaletteButtons
41 INFO calling custPaletteButtons
42 INFO called custPaletteButtons
43 INFO fulfilled all applyConfig so setting lastCombo.
44 INFO checking if the combo is valid with custPaletteButtons
```
What’s left to do?

• Land all code
  ▪ New configurations
  ▪ Integration (cropping)
  ▪ Integrated output

• More configurations (ongoing)

• Intermittent failure bugs (ongoing)

• Community announcements

• Hg hook (stretch)
Questions?