Image-based Smoke Testing of Facebook Games: Web Test Automation via Python, Selenium and BrowserStack

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Abstract

Most of the test automation tools for web applications utilize HTML elements. Those elements may be used for testing form based web sites, however they are not enough to test Facebook games. So, we performed image processing to find buttons, to click them and to check expected outputs, which are images as well.

We used Numpy, Scikit, PIL and Selenium Web Driver libraries in Python. We used BrowserStack for browser drivers. BrowserStack includes many browsers and operating systems on which we can perform our tests in a wide range of options.

In the developed system, first we run asset automation script which lets us to create asset images by naming them with their missions and places in sequence. Then, we run smoke test, which parses the name of images in the given directory and understand their missions and places in sequence. It is a recursive process which runs until all the images in directory are verified. Since images are verified via pattern matching, image scale is a critical issue for the proposed system.