Active Window Write Up

Background

Being able to understand how people use their computer to navigate between different applications is of tremendous value to UX designer. Active window detection will help us to know if a user is still actively engaging with the browser or switched to another program. With that information we will have more fine grained information about a visit session.

Problem Description

Given a Mac screenshot, often there are multiple applications running on the foreground, there is only one active application. Your task is to identify the window of the active application and find the coordinates for the top left corner and bottom right corner of that application's window.

Training Data

Training data will be provided in a folder called train_screenshots. The train_screenshots folder contains images of Mac screen captures in the format-

`screenshot#.jpeg`

where # is a number between 1 and 9000

You will also be given a text file called train_coordinates.txt. This file contains the 9000 active window coordinates that correspond to the images in the train_screenshots folder. The coordinates will be in the format-

`top_left_x,top_left_y|bottom_right_x,bottom_right_y`

excerpt from train_coordinates.txt:

`649,23|1049,890`

`1433,371|1634,660`

`1034,494|1655,791`

`1532,83|1666,1008`

`0,23|700,1046`

The coordinates for the active window in screenshot1.jpg will be on the first line of coordinates.txt, The coordinates for the active window in screenshot2.jpg will be on the second line of coordinates.txt…

Testing

You will run your model with a set of test images and give us the predicted coordinates for the active window for each of the screenshots in the form given below in "Output".

Input

The input to your classifier will be 1000 screen shot images located in the folder test_screenshots. The test_screenshots folder contains images of Mac screen captures in the format-

`screenshot#.jpeg`

where # is a number between 9001 and 10000

Output

The output of your classifier should be a text file in the format -

`top_left_x,top_left_y|bottom_right_x,bottom_right_y`

It should look like the training data file. The coordinates for the active window in screenshot9001.jpg will be on the first line of coordinates.txt, The coordinates for the active window in screenshot9002.jpg will be on the second line of coordinates.txt…

Scoring

Scores will be the accuracy of your labeling. Coordinates will be considered correct if they are within 5 pixels of the actual active window coordinates. Both the top left corner coordinates and bottom right coordinates must be within the acceptable range for a label to be consider correct (i.e. no half points for half correct labels).