

## AMEFYS

### Eye control browser manual

#### Modes

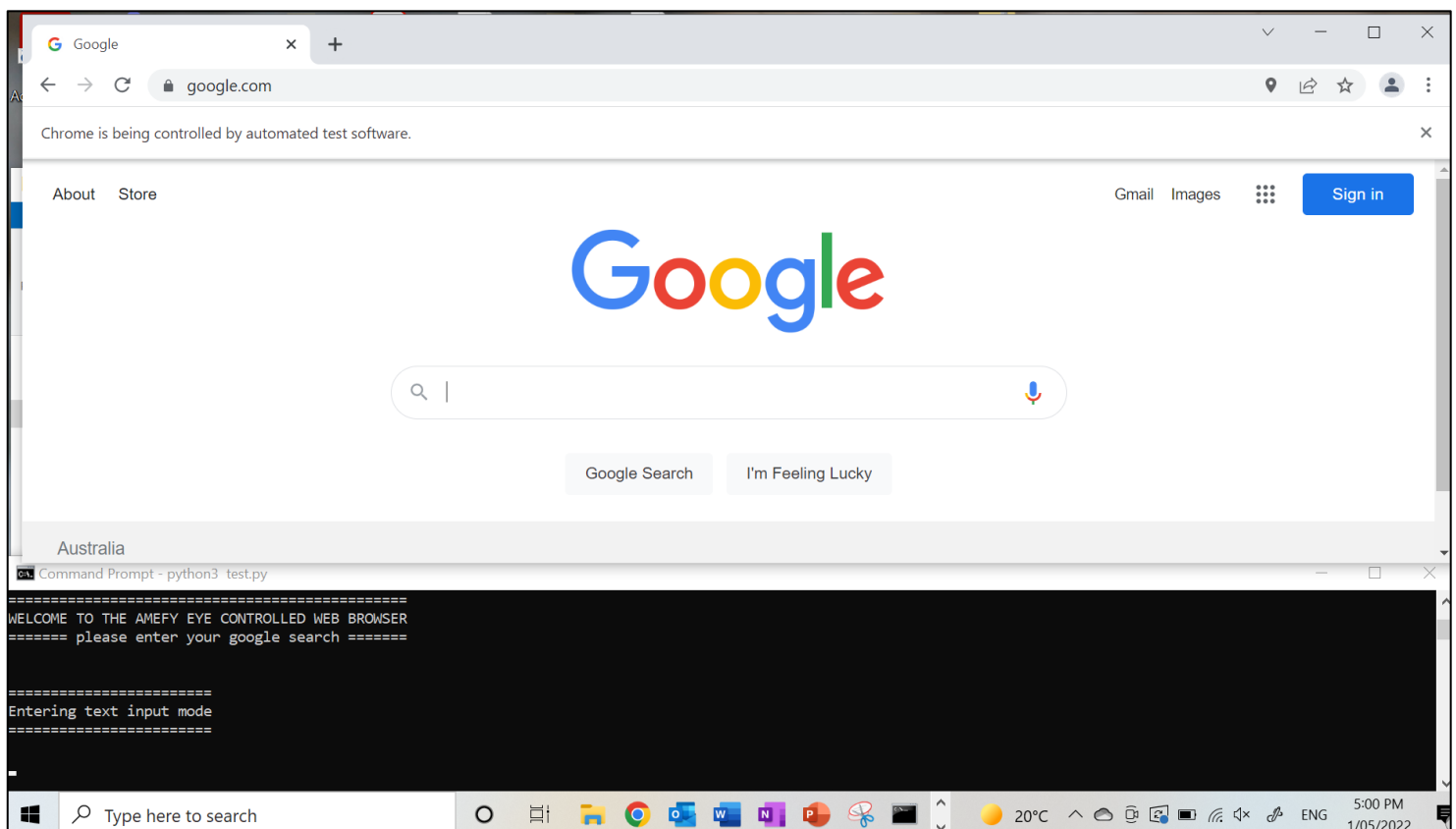
The selenium powered browser navigator has two modes:

1 – Text input mode

2 – Navigation mode

When the python script is run, the browser will open to google in 'text input' mode with the cursor positioned in the search bar ready for the users search.

#### *The opening state of the python script*



#### 1 - Text input mode

##### 1.1 - Inputting Letters

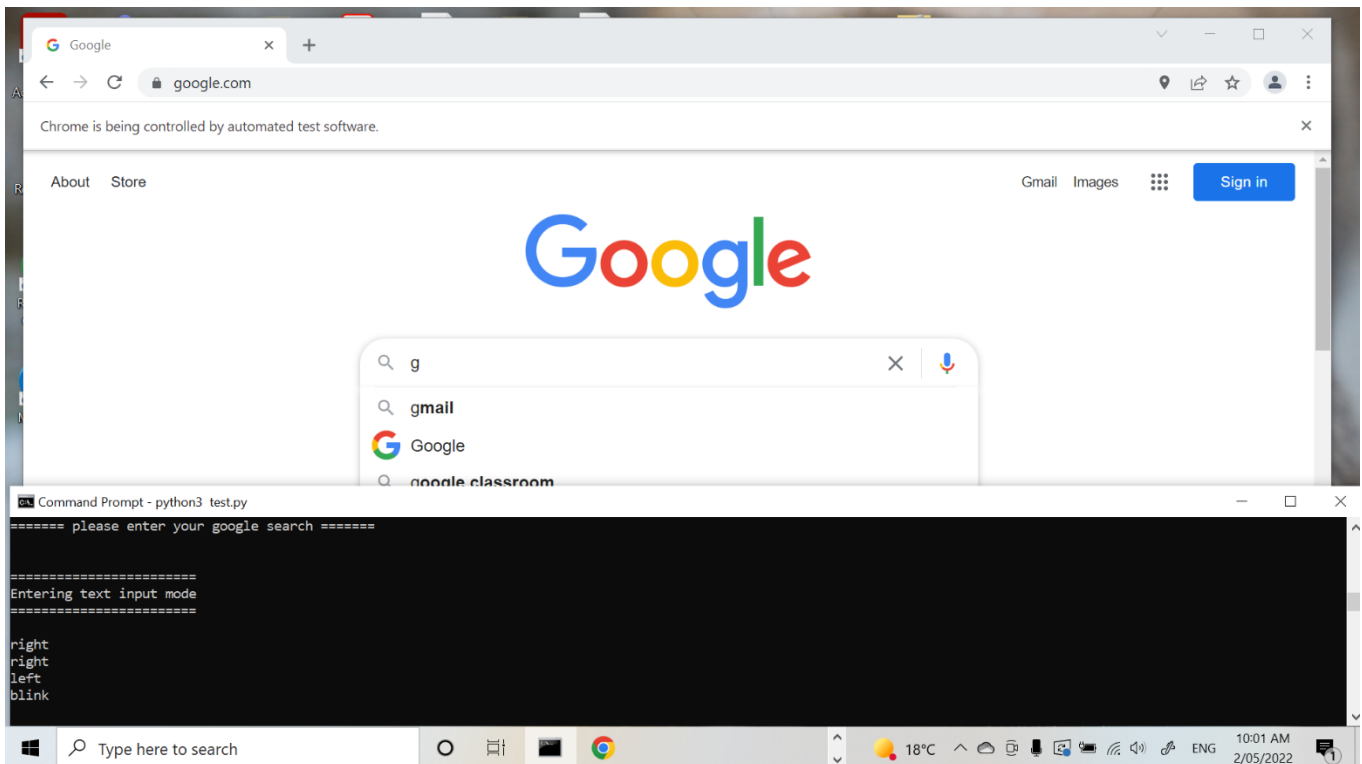
Text input mode converts eye movement to letters using morse code where:

- Left eye movement = dot
- Right eye movement = dash

A letter is 'submitted' to the browser when the user blinks.

*e.g. Spelling the letter 'g' and submitting to the browser*

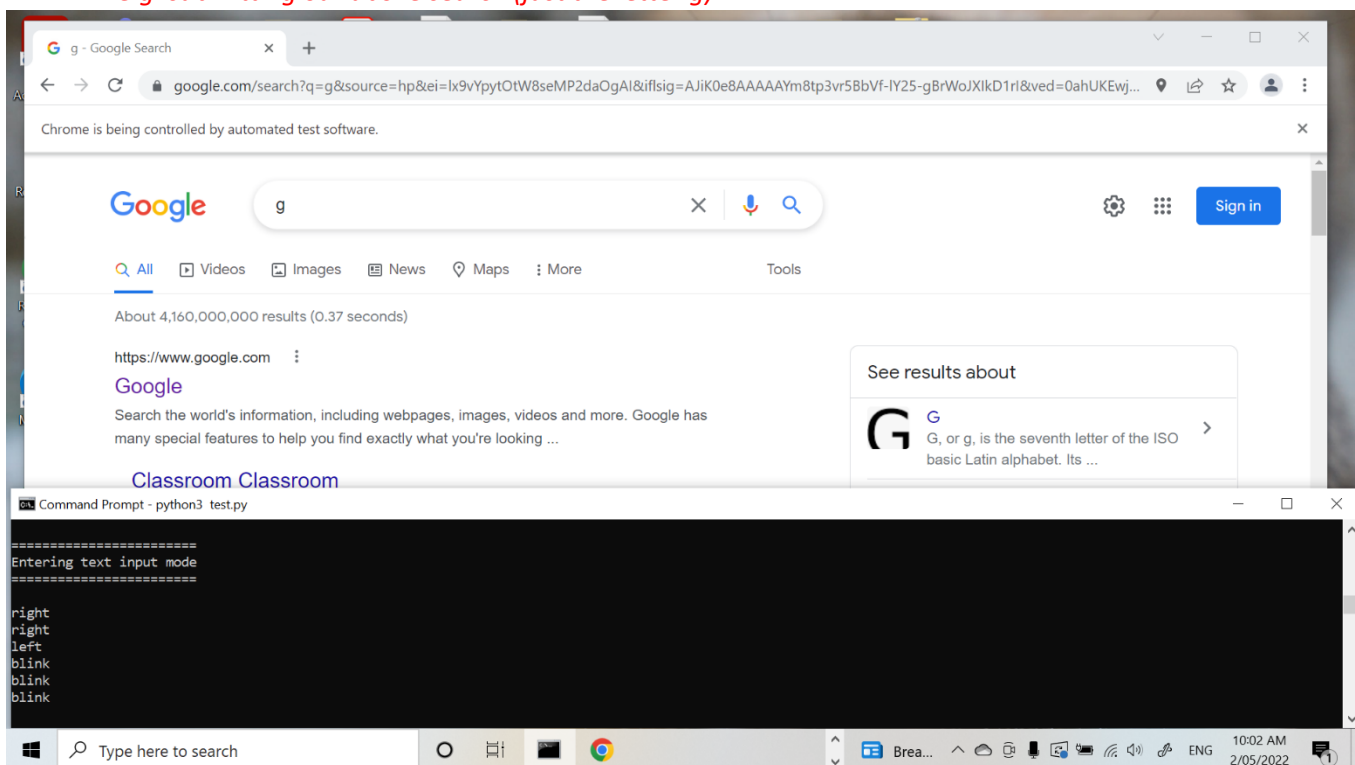
g = dash, dash, dot = right, right, left, blink (to submit to chrome)



## 1.2 - Submitting a text input

To send the 'enter' key to the browser the user must blink twice.

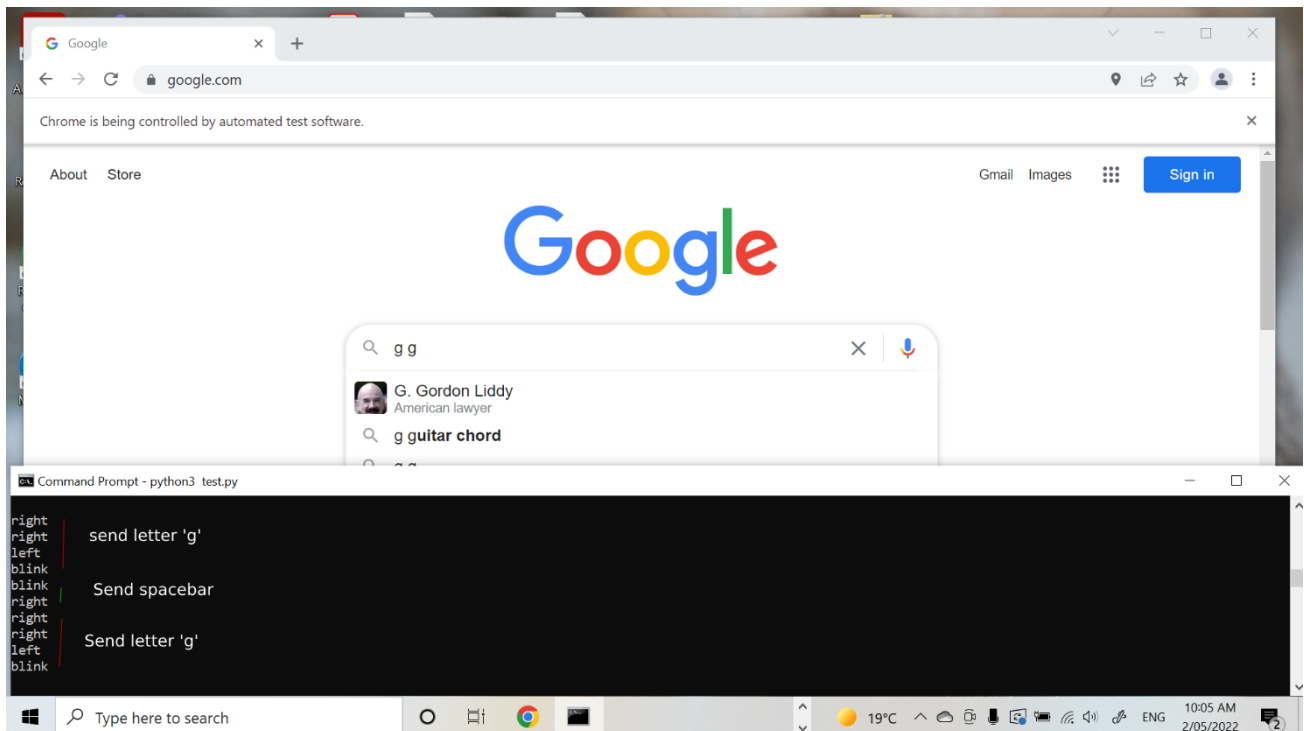
*e.g. submitting our above search (just the letter g)*



### 1.3 – Sending a space bar to text input

To send a space bar to the text input, a user must blink once and then look right.

*e.g. sending the letter g twice with a space in between*

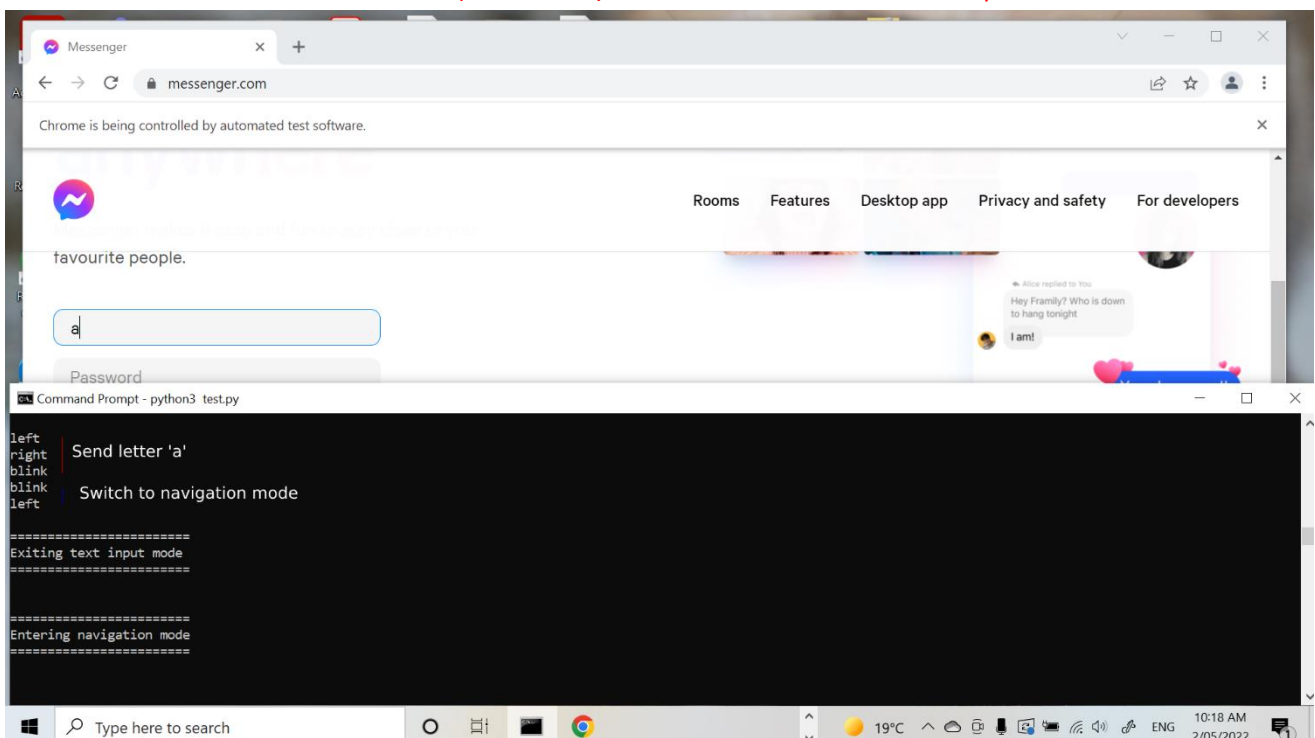


### 1.4 – Switching to navigation mode

To switch from text input mode to navigation mode the user must blink and then look left

*e.g. Switching to navigation mode for a user to move from username to password input boxes*

*The user submits their username (which is 'a') and then wants to move to the password box*



## 2 – Navigation Mode

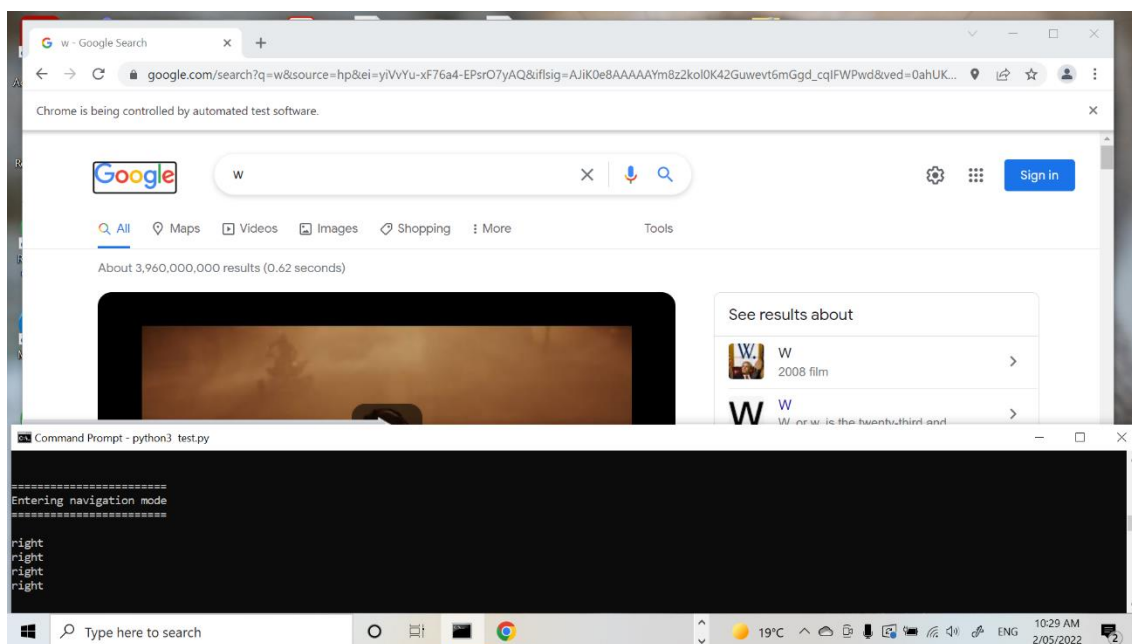
The web navigator operates by sending 'TAB', 'SHIFT TAB' and 'ENTER' to the browser. This built in browser feature allows users to navigate the web using only their keyboard where clicking TAB takes the user to the next HTML element and SHIFT TAB takes the user backwards and enter clicks on the element. The AMEFYS eye control browser utilises this by mapping right eye movements to TAB, left eye movements to SHIFT TAB and blinks to ENTER.

### 2.1 – Sending TAB

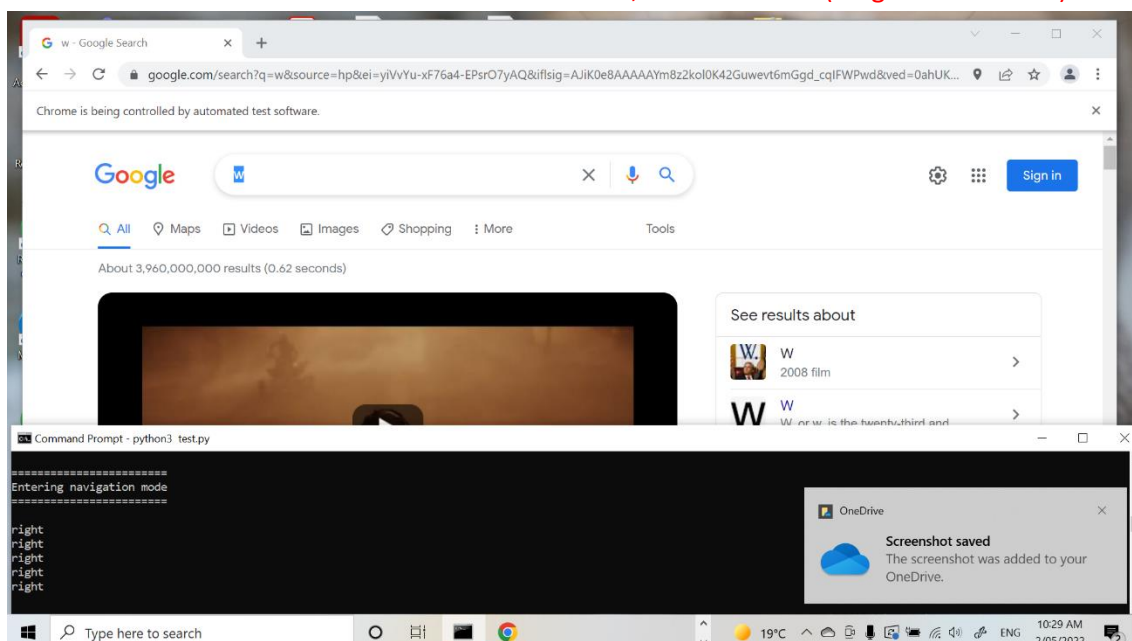
A user can travel to the next HTML element using a right eye movement

*e.g. Before and after a user enters a right eye movement in navigation mode*

*Before – the users currently has the google logo selected (4 right movements)*



*After – The user is moved to the next HTML element, the search bar (5 right movements)*

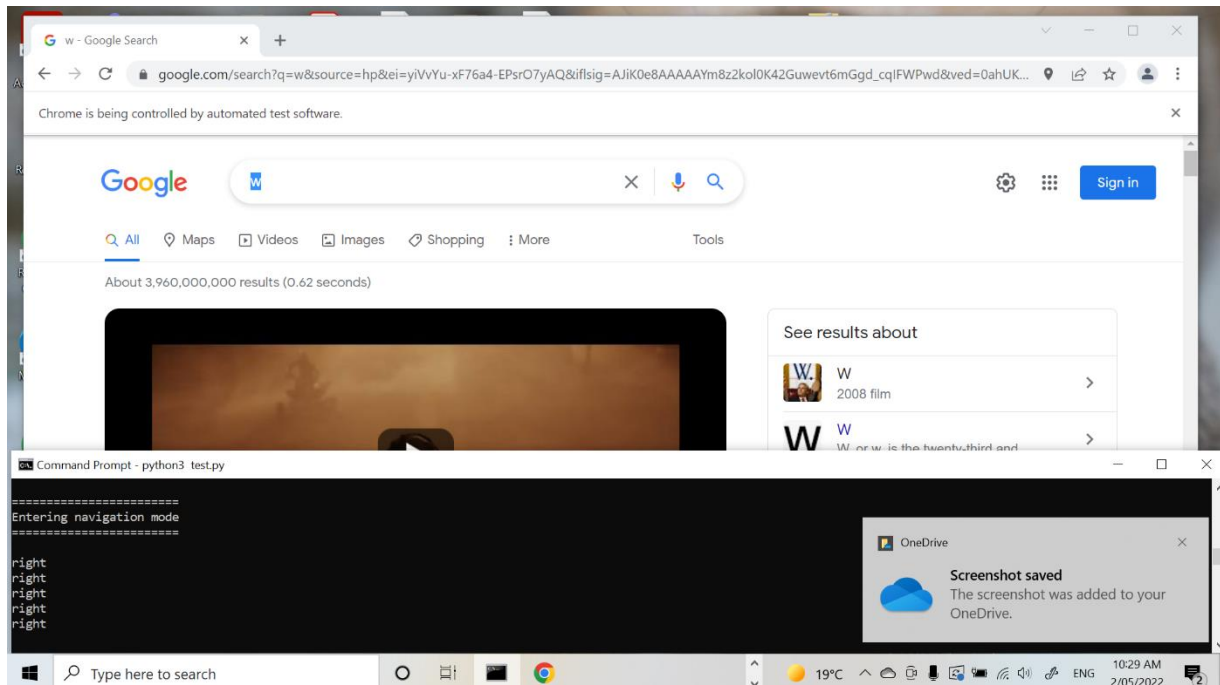


## 2.2 – Sending ALT TAB

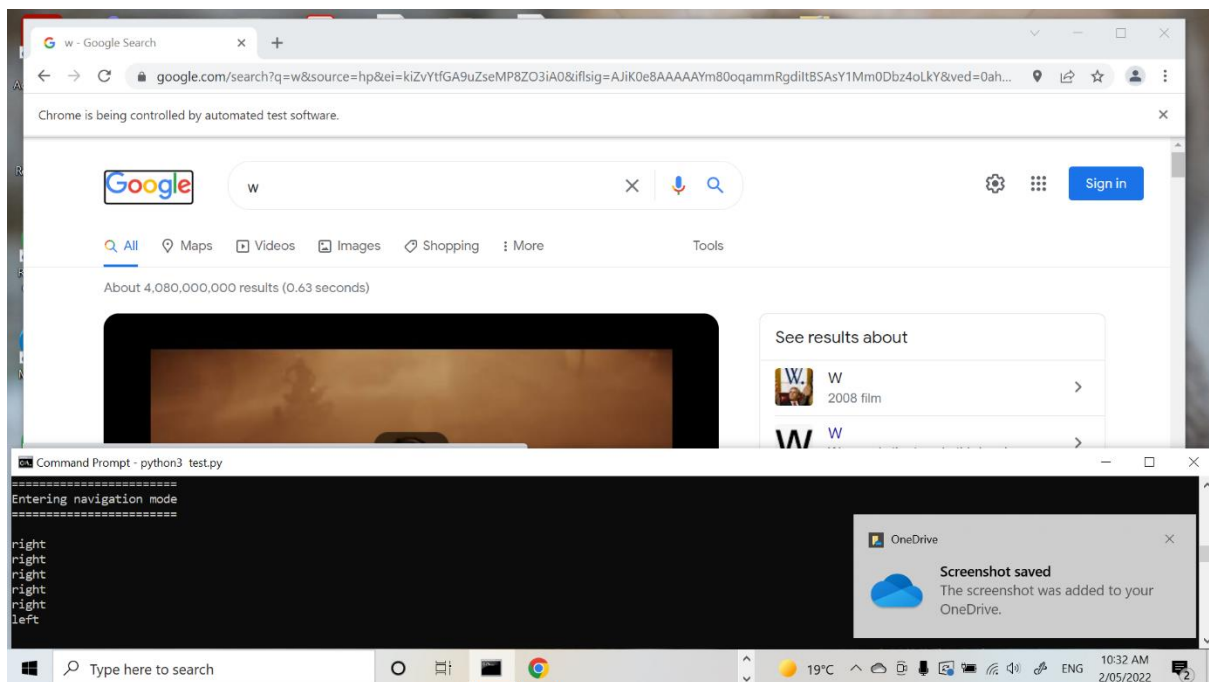
A user can travel to the previous HTML element using a left eye movement

*e.g. Before and after a user enters a left eye movement in navigation mode*

Before – The user currently has the search bar selected (5 right movements)



After – The user is moved to the previous HTML element (5 right movements and 1 left movement)

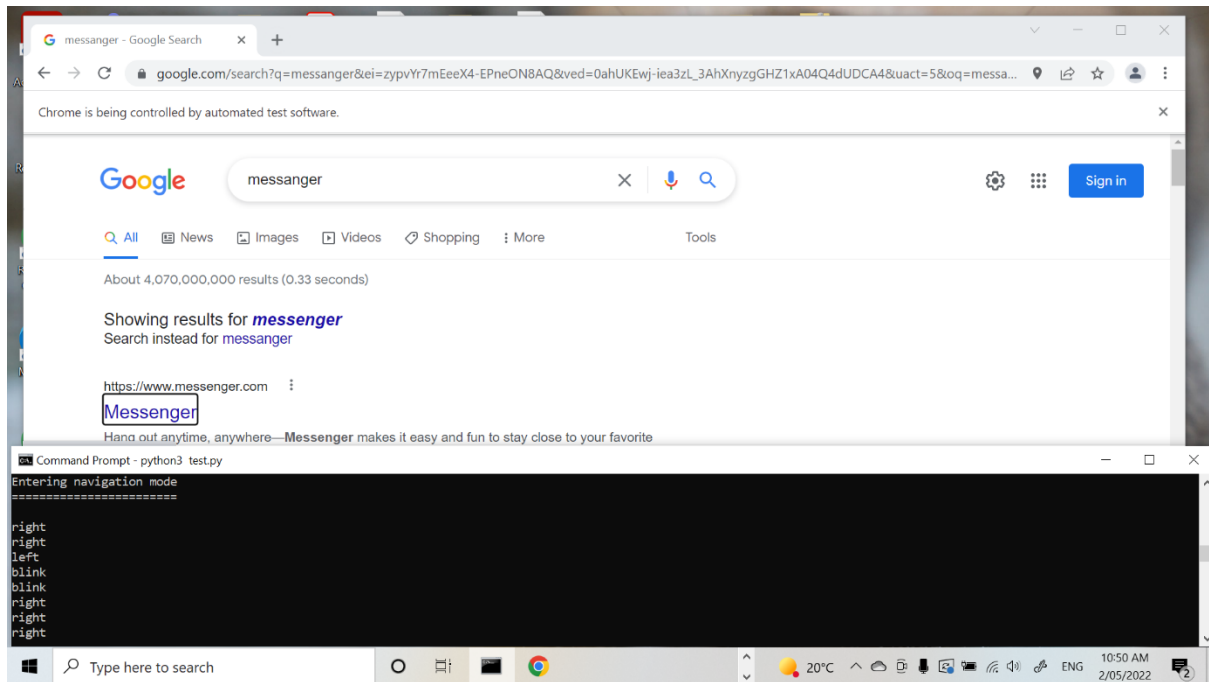


## 2.3 – Sending ENTER

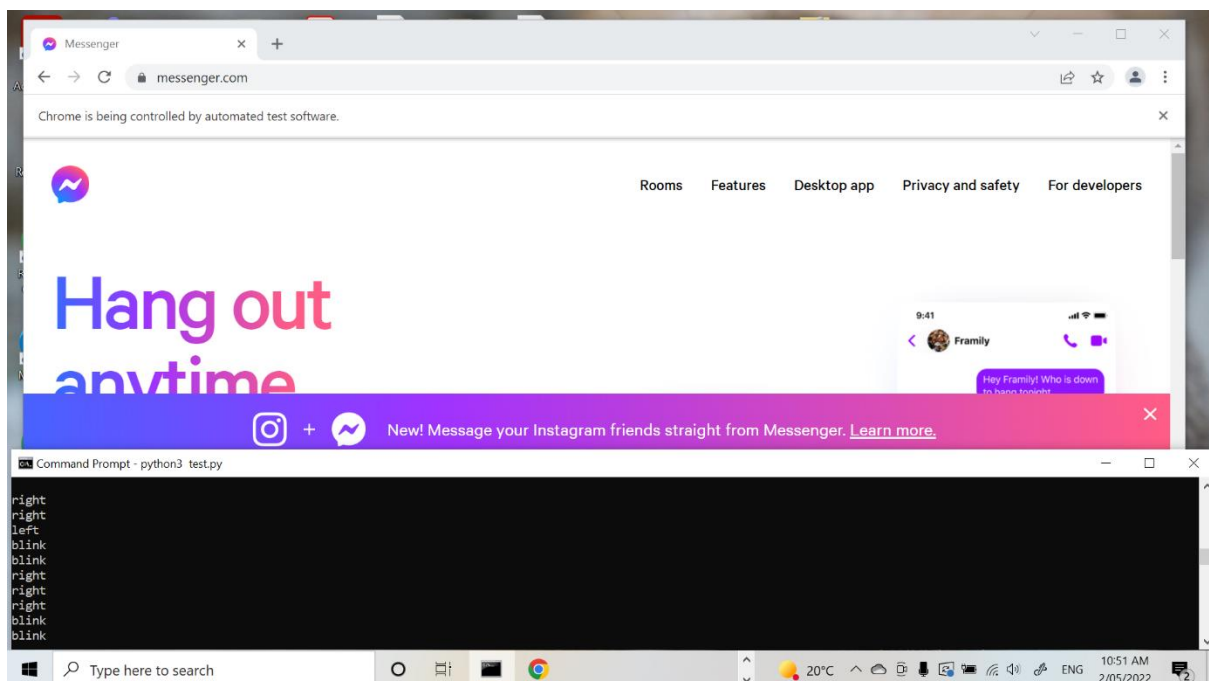
A user can click on an HTML element by sending enter to that element. To do this they must blink twice in navigation mode

*e.g. Before and after a user sends enter when the 'messenger' link is selected*

Before – The user currently has the messenger object bar



After – The user blinks twice and the link is clicked

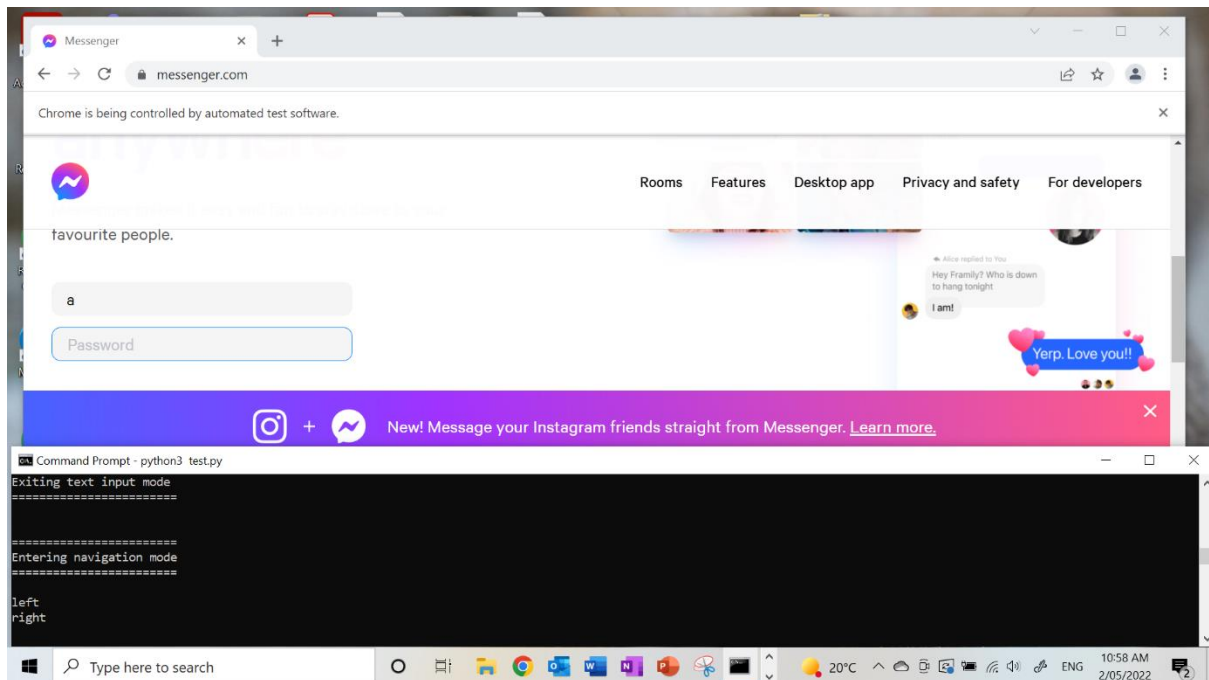


## 2.4 – Switching to text input mode

If a user wants to switch back to text input mode the must blink then send either a left or right eye movement to the application. This blink then not blink movement will enter text input mode and enable letters to be sent to the currently selected element.

*e.g. Before and after a user switches to text input mode to input their password*

**Before – The user has navigated to the password text box and now wants to input text**



**After – The user switches to text input mode and submits the letter 'a' as their password**

