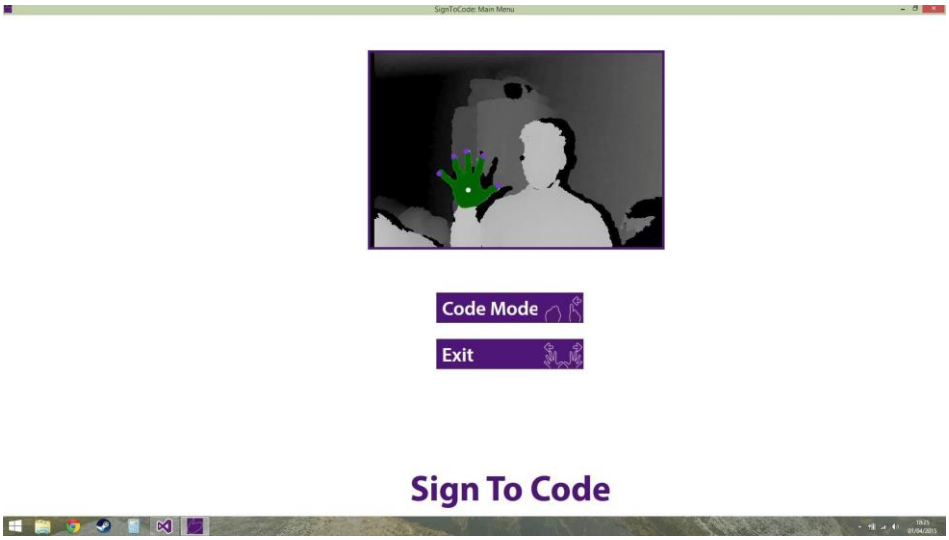
SignToCode User Manual

Main Menu

Sign To Code offers an alternative to typing for programmers to help reduce the occurrence of RSI (Repetitive Strain Injury) in suffers. This software is intended for the use of coding in CSS (Cascading Style Sheets) by performing gestures to complete a style sheet.



The Main Menu of Sign To Code showing the creator greeting fellow users while demonstrating the hand detection system.

Sign To Code greets you with a main menu that offers a sample of the systems capabilities. Its intended use is to display a practice ground for the user to arrange their seating setup into the most comfortable position for gesture performances.

Tip: It is best to arrange your seating position so that you are close enough to reach your keyboard and mouse. If you are able to, move your Kinect device to a desired distance that will be able to see your hands, in the detected stated, and you in the non-detected state. The image above portrays this setting.

Gestures are performed by raising your hands in front of the Microsoft Kinect Device, as shown in the picture above, into a specified combination (please refer to the Gesture Dictionary to view these combinations).

Once the finger combination is displayed, system will note the position of your hand and will wait for you to move your hand in the desired movement to activate a gesture.

For example, if you want to perform the gesture for ‘Code Mode’ raise both hands with your left hand showing 0 fingers and your right hand showing 1 finger.

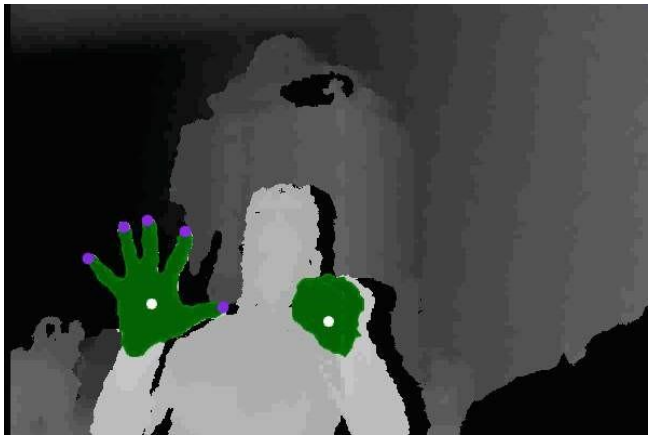
With the right hand, move from the current position, towards your left hand (without touching the left hand). The system will acknowledge your gesture and enter Code Mode.

Tip: It is advisable to keep both hands at slightly wider than shoulder length distance from each other so that gestures can be performed efficiently.

Some functional gestures are portrayed on their relevant buttons. For example, the ‘Exit’ button illustrates how to perform the ‘exit’ gesture.

The ‘Exit’ button shows the gesture required to execute the function.

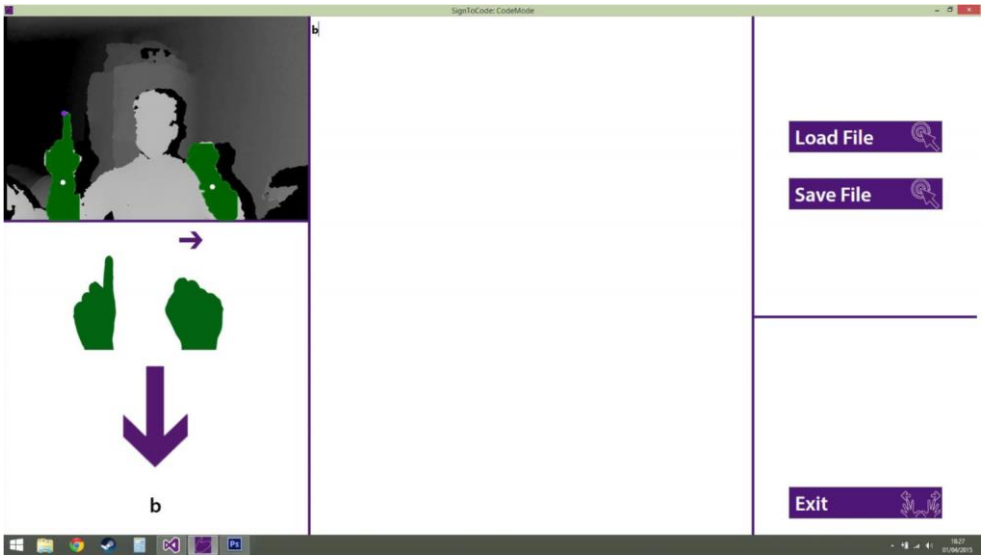
Tip: Buttons can key clicked if desired, the whole system allows user’s to code and navigate through the system with keystrokes and mouse clicks.



Demonstration of the two hands, one without the fingers detected and the other with all fingers detected.

When the system detects a hand it will display a green overlay covering the area of that hand with a white dot in the center. This dot represents a palm that is detected by the system. When the system detects a finger, it will display the finger in a similar fashion to the palm with the difference of a purple dot on the tip of a finger.

Code Mode



Code Mode with a demonstration of what happens when a gesture has been performed.

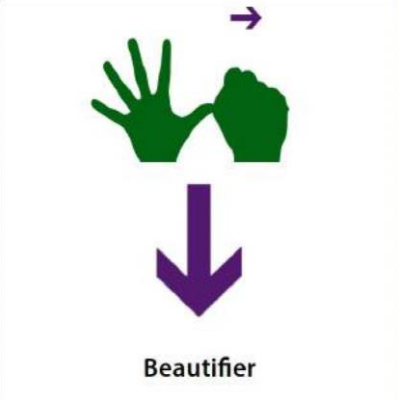
Code Mode is where the heart and soul of the system is. It allows users to code in CSS without ever having to need a keyboard.

Code Mode allows you create new style sheets or load previously saved sheets that can be edited with gestures. The save and load buttons are the only parts of the system that require a keyboard and mouse. This is because you will be interacting with an operating system (OS) dialog box and therefore an unmaintained user interface (UI).

There are 3 main sections of Code Mode that is used to assist you in coding your style sheets.

The live video feed that is identical to the video feed in the Main Menu, is available to show any user exactly what they are doing. This is available so that you can see your hand positions and adjust them to a suitable position for finger detection.

The Content Display shown in the bottom left hand corner, shows any active gesture to the user. This section is a clear indication of what the system has acknowledged so that if there are any mistakes made, you can clearly see it without having to read through your code.



The Content Displayer displaying the Beautifier gesture.

Tip: The Content Displayer is also a good indicator of how long gestures are blocked for. It is best to prepare for you gesture as soon as possible, so while the Content Displayer is active, you can move around and prepare for your next gesture without having to worry about making any accidental gestures.

The final section is the text block that occupies the majority of the UI. This is were the text from a performed gesture will be printed out.

There are 6 types of gestures that can be performed:

- Functional Gestures: these gestures manipulate the system itself.
- Alphabetical Gestures: gestures that produce text letters.
- Numerical Gestures: gestures that produce text number.
- Selector Gestures: produces gestures that are known as CSS selectors.
- Property Gestures: produces gestures that are known as CSS properties.
- Value Gestures: produces gestures that are known as CSS values.

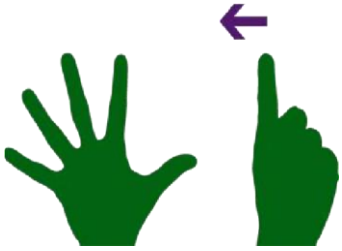
CSS example with its respective elements.

The gestures for each gesture type can be found within the Gesture Dictionary. When coding, after each gesture is performed, to lay out the text block into a CSS readable format, the Beautifier gesture is required.

In most cases the Beautifier gesture is required after every Selector, Property or Value gesture is performed. However, there are some cases when the user is required to use Alphabetical and Numerical gestures to spell out a word.

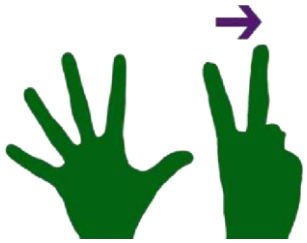
For example, in CSS a class (.) selector requires the name of a specified class that is chosen by the user. Since this unique name would not be in the CSS library, the user must perform gestures to complete the name before performing the Beautifier gesture to format the lay out.

Tip: It is best to keep the Gesture Dictionary in a viewable location for quick and easy referencing.



New Line gesture

If you wish to make multiple styles in one selector, the New Line gesture is available to add a new line within a selector group for your convenience. All you need to do is perform the New Line gesture instead of the Beautifier gesture after a Value gesture has been performed.



Undo gesture

Mistakes are inevitable in coding, and Sign To Code is no exception. That's why there is the Undo gesture that can undo any mistakes made without you ever having to use your keyboard or mouse. This gesture can be performed at anytime for as many times as you need it to wipe away those mistakes while still keeping your code nice and neat.

When your code is complete and ready for deployment, Sign To Code offers a quick and easy save feature that is predefined to save in CSS for ease of use. Just click the button, enter a name and location and you'll be all set to test your code.

Loading is just as easy. Simply find your CSS file and Sign To Code will load in your work and will prepare the text block to be ready for incoming gestures.

Save and Load buttons in Code Mode

Sign To Code strives to improve the health and comfort of its users and hopes that you as the user is satisfied with the system.

14.4. Gesture Dictionary

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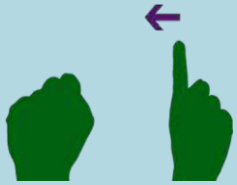
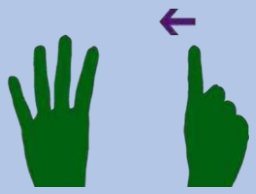
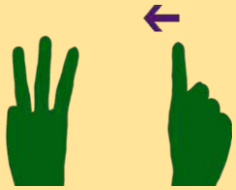
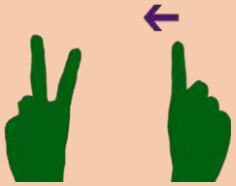
Code Mode	. (class)	background	absolute
			
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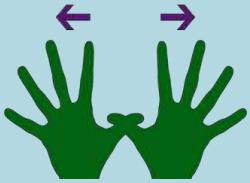	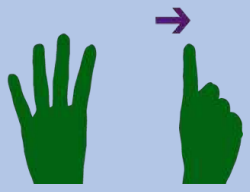	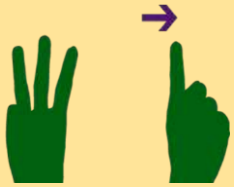	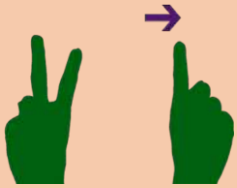
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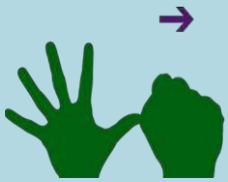	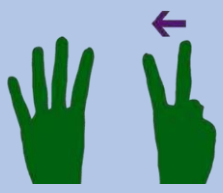	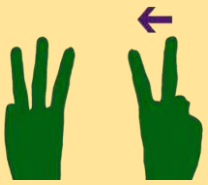	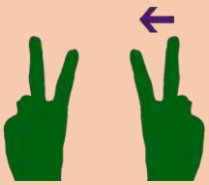
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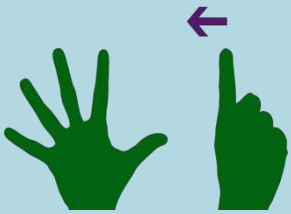	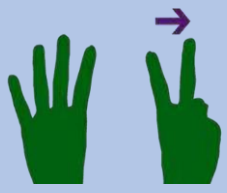	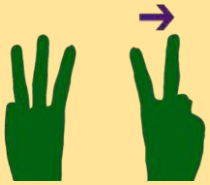	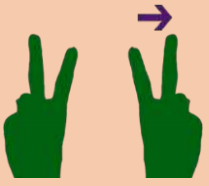
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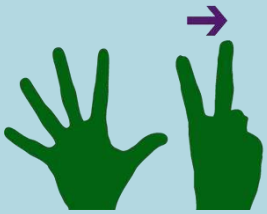	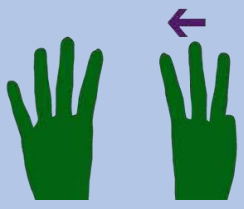	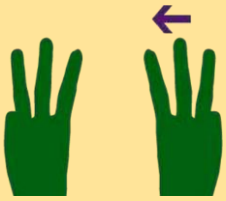	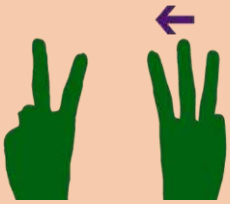

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	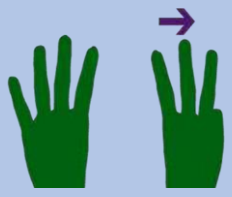	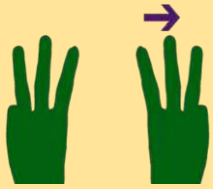	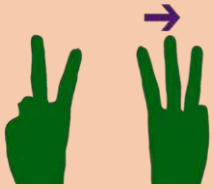
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	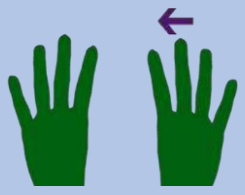	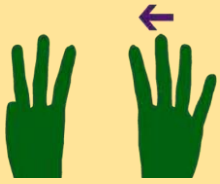	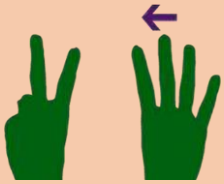
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	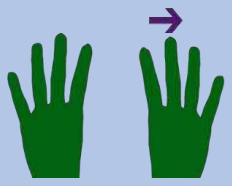	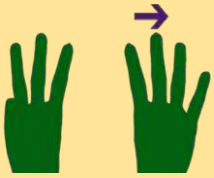	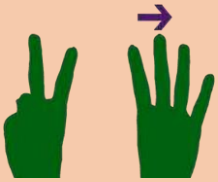
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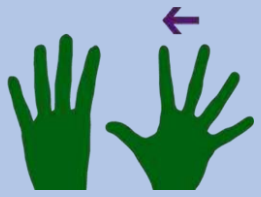
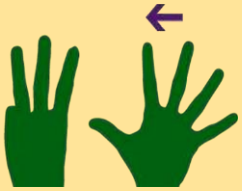
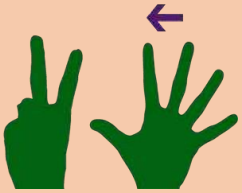
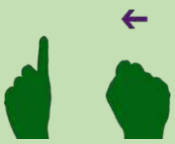
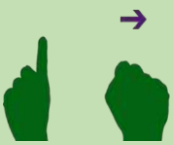
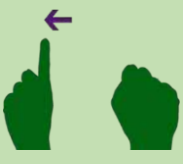
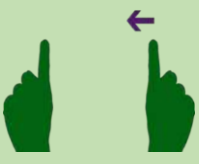
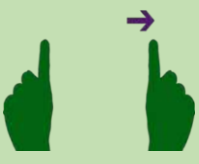
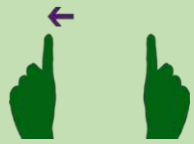
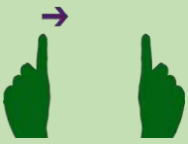
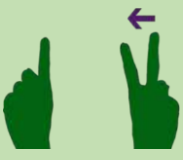
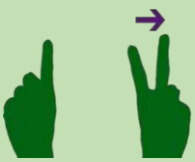
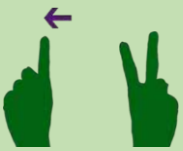
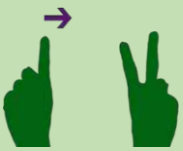
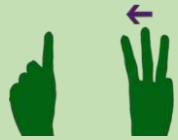
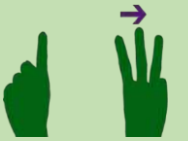
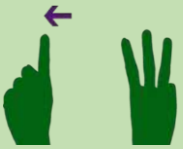
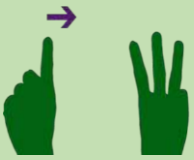
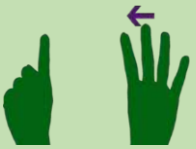
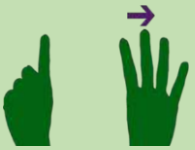
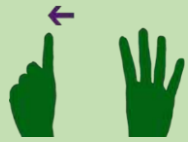
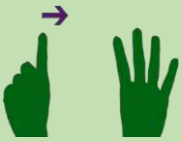
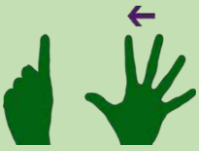
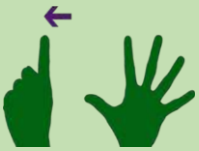
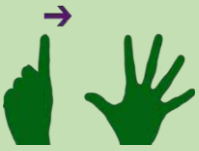
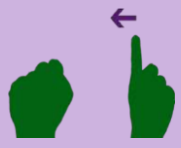
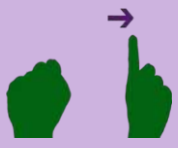
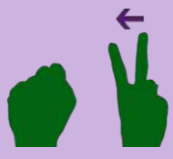
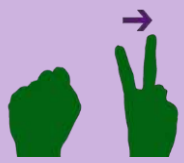
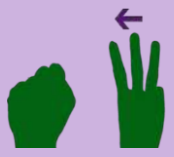
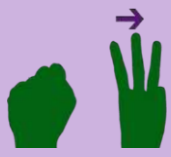
			

Page

Alphabet Left Hand(1)					
a	b	c	d	e	f
					
g	h	i	j	k	l

					
m	n	o	p	q	r
					
s	t	u	v	w	x
					
y	z				
					
Numbers Left Hand(0)					
0	1	2	3	4	5
					
6	7	8	9