3 ways to use events

1) HTML event handlers – old fashioned

```
<a onclick="hide()">
```

2) DOM event handlers

```
var el = document.getElementById('username');
el.onblur = checkUsername();
```

3) Event listeners

```
var el = document.getElementById('username');
el.addEventListener('blur', checkUsername, false);
```

Event Listeners

Most recent approach

Can call more than one function at a time

Not supported by older browsers

element.addEventListener ('event', functionName, [Boolean]);

DOM element   'blur'   checkUserName   false

Indicates capture

Usually set to false

Event Listeners – event-listener.html

```
function checkUsername() {

var elMsg = document.getElementById('feedback');

if (this.value.length < 5) {

elMsg.textContent = 'Username must be 5 characters or more';

} else {

elMsg.textContent = '';

} }

var elUsername = document.getElementById('username');
elUsername.addEventListener('blur', checkUsername, false);
```

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IE 5-8 did not support event listeners

Example fallback

attachEvent() method

```
if (elUsername.addEventListener) {
  elUsername.addEventListener('blur', function(){   checkUsername(5);
}, false);
} else {
elUsername.attachEvent('onblur', function(){
checkUsername(5);
});
}
```

```
if (elUsername.addEventListener) {
  elUsername.addEventListener('blur', function(){   checkUsername(5);
}, false);
} else {
elUsername.attachEvent('onblur', function(){
checkUsername(5);
});
}
```

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Types of Events

W3C DOM Events	HTML5 Events	BOM Events
	Under development	Touchscreen devices, accelerometer, etc.
	submit	touchstart
	Input	touched
	change	orientationchange
	hashchnage	

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UI Events

error	The event occurs when an error occurs while loading an external file
load	The event occurs when an object has loaded
resize	The event occurs when a document view is resized
scroll	The event occurs when an element's scrollbar is being scrolled
unload	The event occurs once a page has unloaded (for <body>)

Example- load.html

```
function setup() {
var textInput;
textInput = document.getElementById('username');
input
  textInput.focus();
}
window.addEventListener('load', setup, false);
```

Focus & Blur Events

blur	The event occurs when an element loses focus
focus	The event occurs when an element gets focus
focusin	same as focus
focusout	same as blur

Example: focus-blur.html

A the text input gains and loses focus,
 the feedback is shown to the user in the <div> element below

Mouse Events

click	The event occurs when the user clicks on an element
dblclick	The event occurs when the user double-clicks on an element
mousedown	The event occurs when a user presses a mouse button over an element
mouseover	The event occurs when the pointer is moved onto an element, or onto one of its children
mouseout	The event occurs when a user moves the mouse pointer out of an element, or out of one of its children
mouseup	The event occurs when a user releases a mouse button over an element
mousemove	occurs when the cursor is moved around the element

Mouse Events

Example: click.html

Where Events Occur

screen	page	client
screenX	pageX	clientX
screenY	pageY	clientY

Where Events Occur

Example: position.html

Where Events Occur

```
var sx = document.getElementById('sx');
var sy = document.getElementById('sy');
var px = document.getElementById('px')
 var py = document.getElementById('py')
 var cx = document.getElementById('cx')
 var cy = document.getElementById('cy')

function showPosition(event) {
sx.value = event.screenX;
sy.value = event.screenY;
px.value = event.pageX;
py.value = event.pageY;
cx.value = event.clientX;
cy.value = event.clientY;
}
var el = document.getElementById('body');
el.addEventListener('mousemove', showPosition, false);
```

Keyboard Events

input	Occurs when the value of <input> or <textarea> chnages
keydown	The event occurs when the user is pressing a key
keypress	The event occurs when the user presses a key
keyup	The event occurs when the user releases a key

Keyboard Events

Example: keypress.html

Event listener checks for keypress event on the <textarea> element

Each time it fires, the charCount() function updates the character count and shows the last character used.

Keyboard Events

```
var el;
function charCount(e) {
var textEntered, charDisplay, counter, lastkey;
textEntered = document.getElementById('message').value;
charDisplay = document.getElementById('charactersLeft');
counter = (180 - (textEntered.length));
charDisplay.textContent = counter;
lastkey = document.getElementById('lastKey');
lastkey.textContent = 'Last key in ASCII code: ' + e.keyCode;
}
el = document.getElementById('message');
el.addEventListener('keypress', charCount, false);
```

Form Events

submit · Occurs when form is submitted

change · occurs when the status of forms change (ex. radio button selected)

input · occurs when user types in text in the <input> or <textarea>

Form Events

Example: form.html

The change events triggers the PackageHint() function.