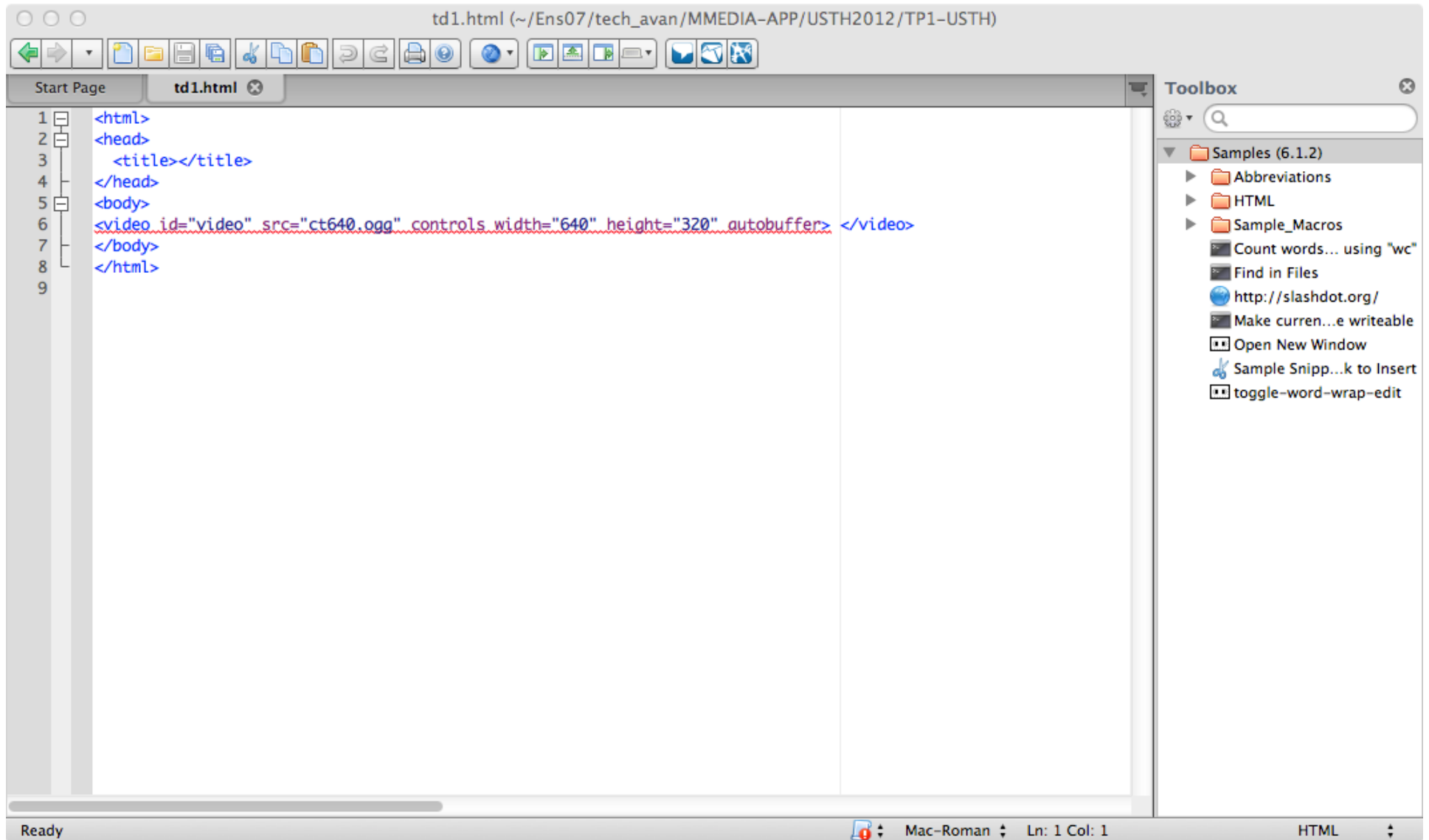
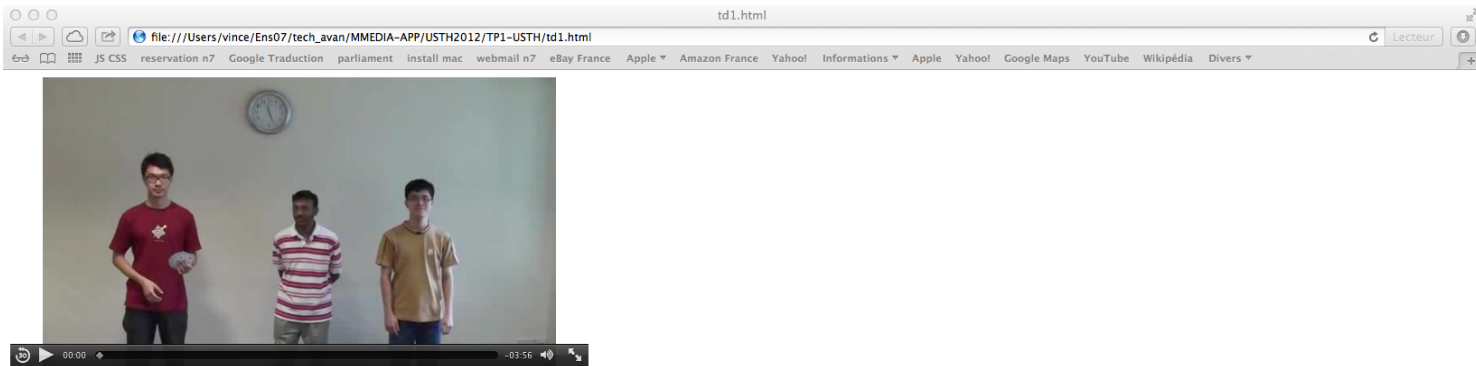


And now do it yourself



And now do it yourself



And now do it yourself

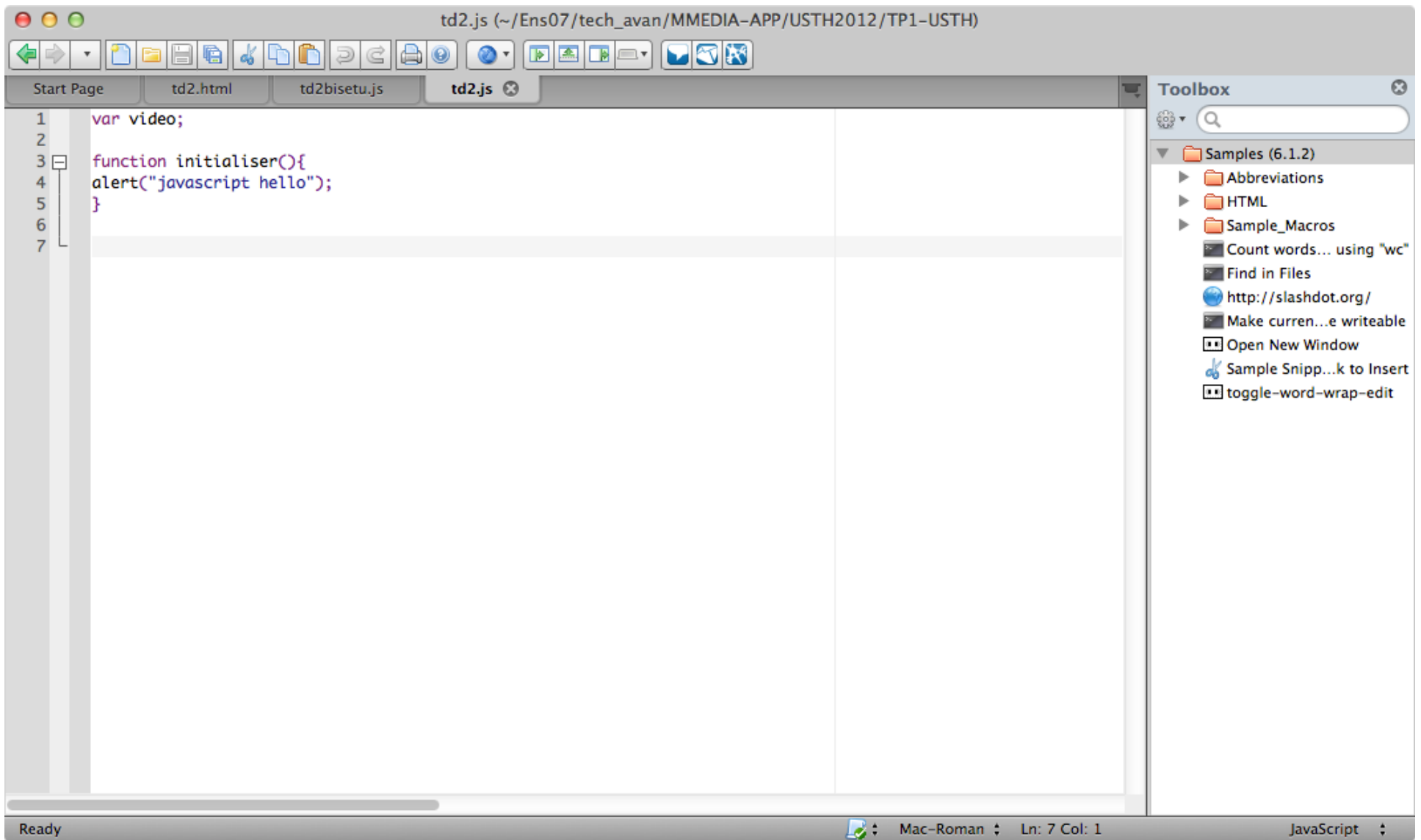
The screenshot shows a web browser window titled "td2.html (~/Ens07/tech_avan/MMEDIA-APP/USTH2012/TP1-USTH)". The browser's address bar and toolbar are visible at the top. The main content area displays the HTML source code for the page, with line numbers 1 through 10 on the left. The code is as follows:

```
1 <html>
2 <head>
3   <title></title>
4   <script type="text/javascript;version 1.8" src="td2.js"> </script>
5 </head>
6 <body onload=initialiser()>
7 <video id="video" src="ct640.ogg" controls width="640" height="320" autobuffer> </video>
8 </body>
9 </html>
10
```

The video tag on line 7 is highlighted with a red dashed line. To the right of the code editor is a "Toolbox" panel with a search bar and a list of tools and samples, including "Samples (6.1.2)", "Abbreviations", "HTML", "Sample_Macros", "Count words... using 'wc'", "Find in Files", "http://slashdot.org/", "Make curren...e writeable", "Open New Window", "Sample Snipp...k to Insert", and "toggle-word-wrap-edit".

At the bottom of the browser window, the status bar shows "Ready", "Mac-Roman", "Ln: 10 Col: 1", and "HTML".

And now do it yourself



And now do it yourself

The screenshot shows a web browser window with the title "td2.html (~/Ens07/tech_avan/MMEDIA-APP/USTH2012/TP1-USTH)". The browser's address bar is empty. The main content area displays the source code of the page, which includes a video player. The video player is defined by the following HTML code:

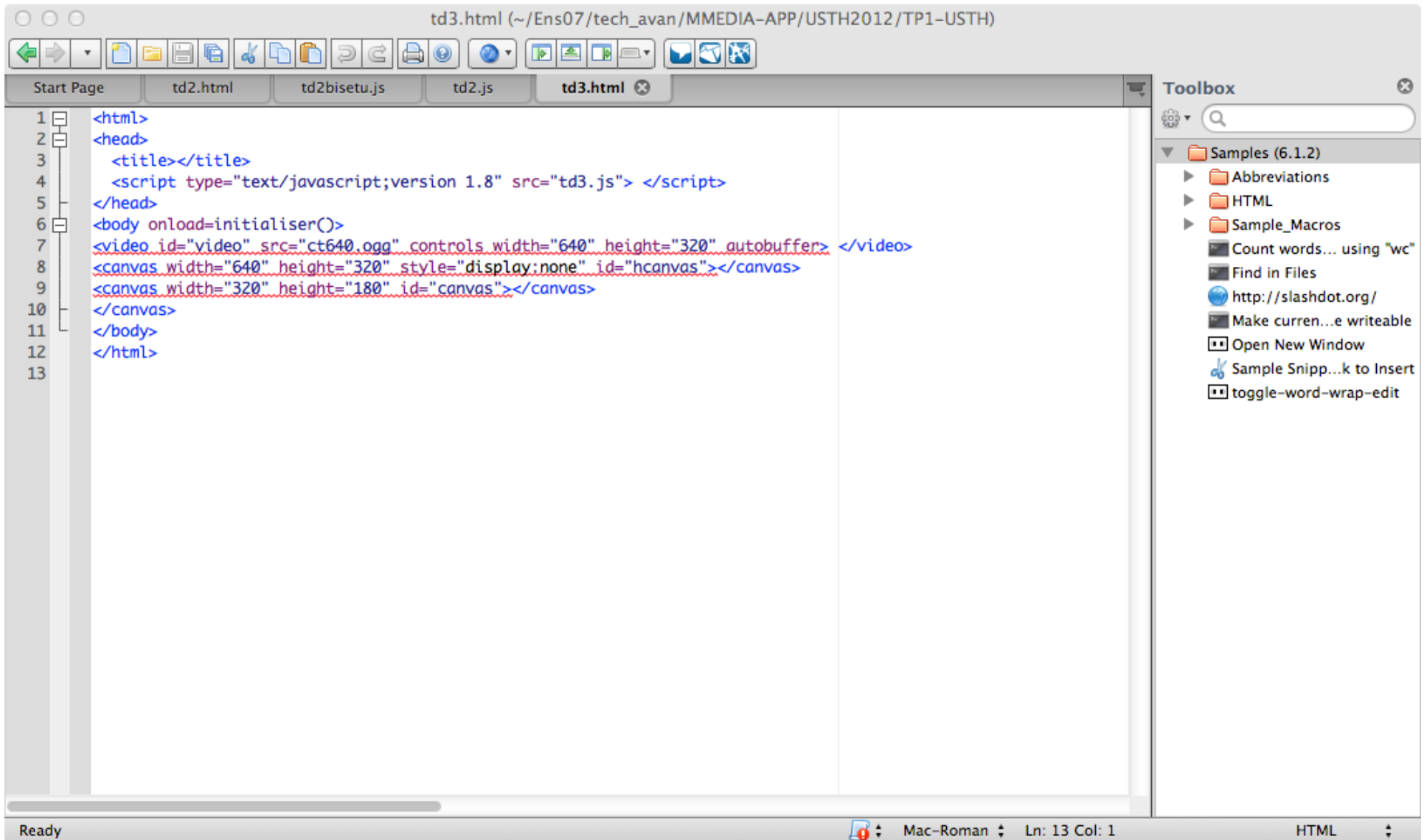
```
1 <html>
2 <head>
3   <title></title>
4   <script type="text/javascript;version 1.8" src="td2.js"> </script>
5 </head>
6 <body onload=initialiser()>
7 <video id="video" src="ct640.ogg" controls width="640" height="320" autobuffer> </video>
8 </body>
9 </html>
10
```

The video player is currently empty. The browser's status bar at the bottom shows "Ready", "Mac-Roman", "Ln: 10 Col: 1", and "HTML".

On the right side of the browser window, there is a "Toolbox" panel. It contains a search bar and a list of tools and samples:

- Samples (6.1.2)
 - Abbreviations
 - HTML
 - Sample_Macros
 - Count words... using "wc"
 - Find in Files
 - http://slashdot.org/
 - Make curren...e writeable
 - Open New Window
 - Sample Snipp...k to Insert
 - toggle-word-wrap-edit

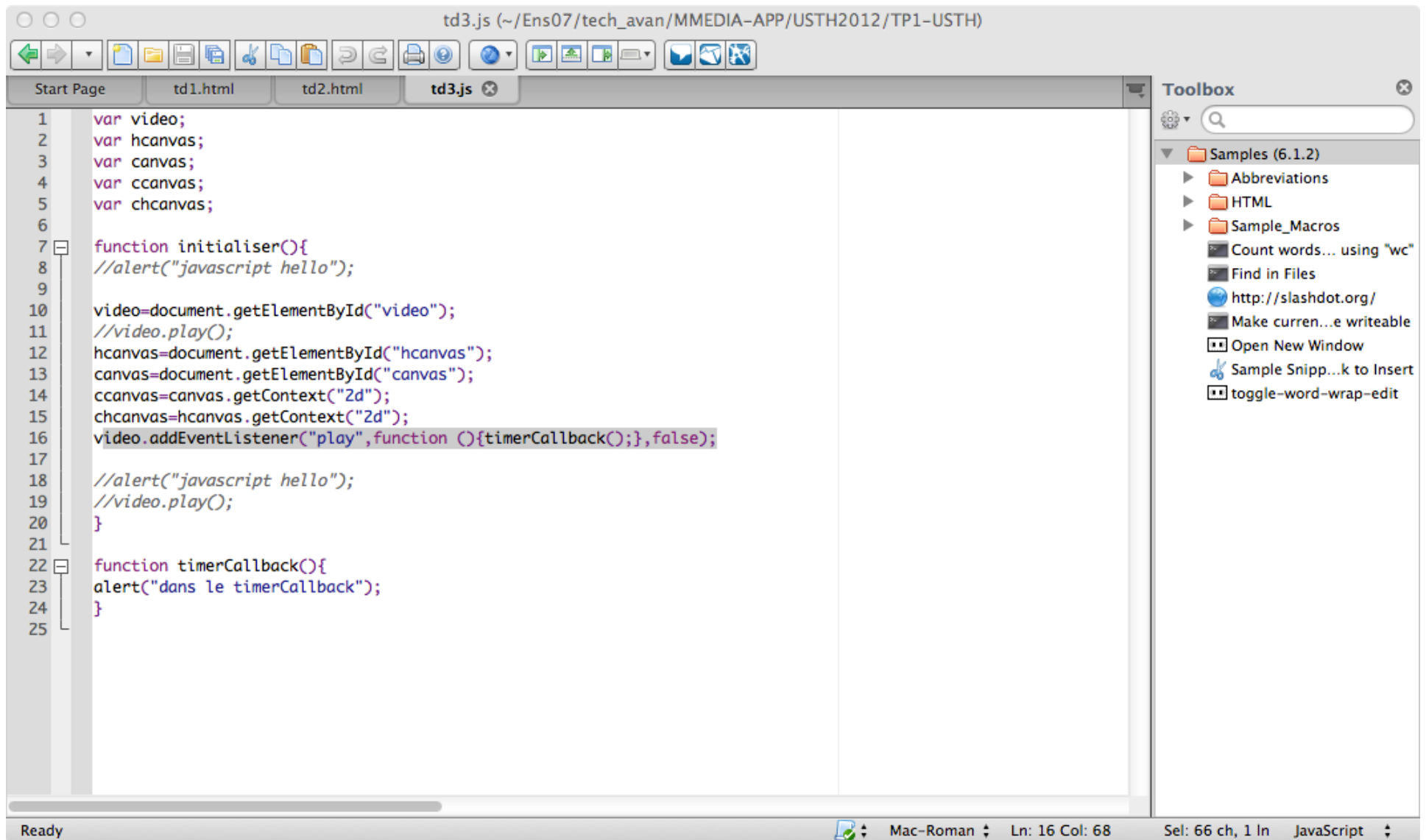
And now do it yourself



```
1 <html>
2 <head>
3   <title></title>
4   <script type="text/javascript;version 1.8" src="td3.js"> </script>
5 </head>
6 <body onload=initialiser()>
7 <video id="video" src="ct640.ogg" controls width="640" height="320" autobuffer> </video>
8 <canvas width="640" height="320" style="display:none" id="hcanvas"></canvas>
9 <canvas width="320" height="180" id="canvas"></canvas>
10 </canvas>
11 </body>
12 </html>
13
```

Ready Mac-Roman Ln: 13 Col: 1 HTML

And now do it yourself

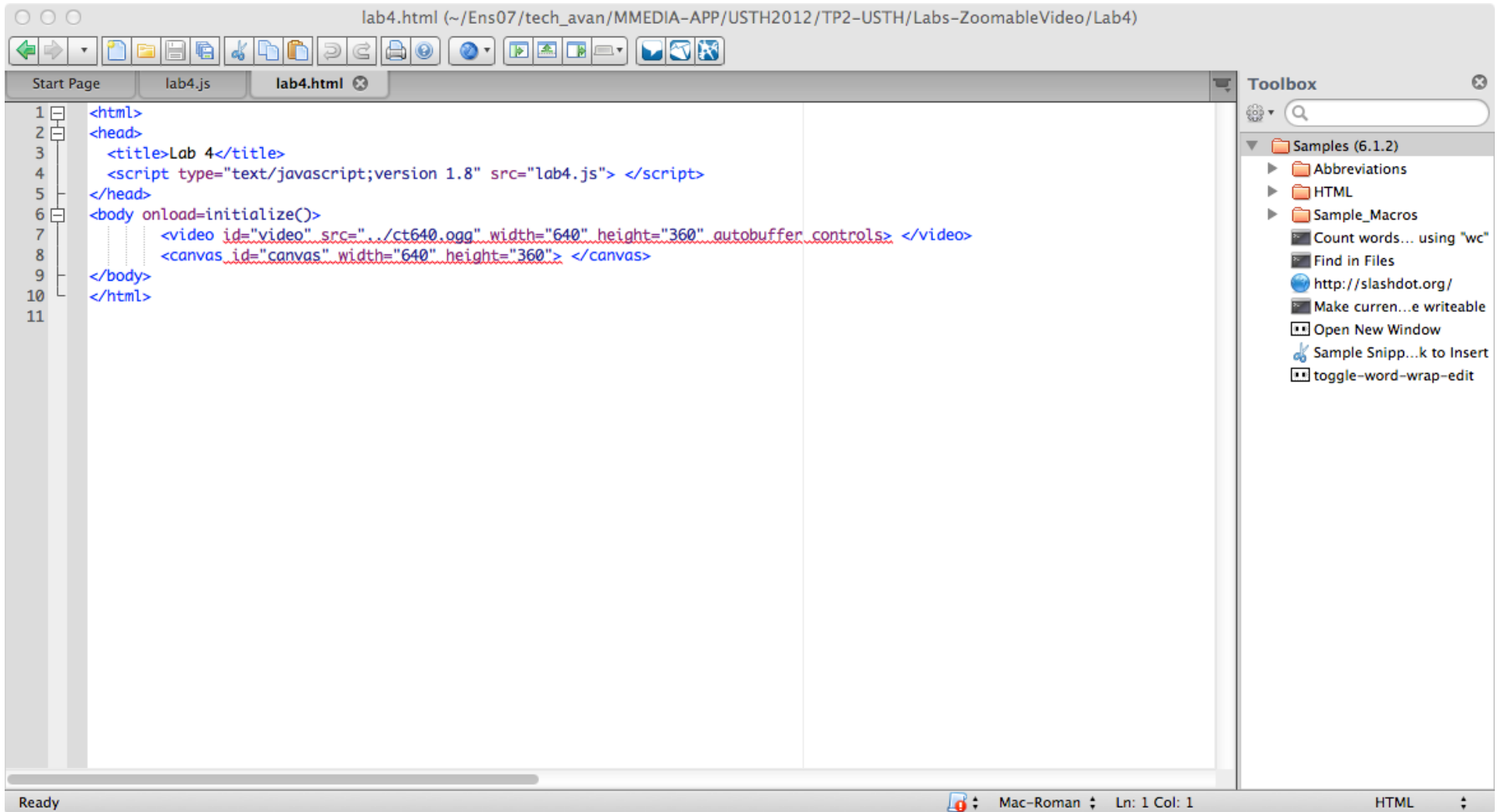


td3.js (~/.Enso7/tech_avan/MMEDIA-APP/USTH2012/TP1-USTH)

```
1  var video;
2  var hcanvas;
3  var canvas;
4  var ccanvas;
5  var chcanvas;
6
7  function initialiser(){
8    //alert("javascript hello");
9
10   video=document.getElementById("video");
11   //video.play();
12   hcanvas=document.getElementById("hcanvas");
13   canvas=document.getElementById("canvas");
14   ccanvas=canvas.getContext("2d");
15   chcanvas=hcanvas.getContext("2d");
16   video.addEventListener("play",function (){timerCallback();},false);
17
18   //alert("javascript hello");
19   //video.play();
20 }
21
22 function timerCallback(){
23   alert("dans le timerCallback");
24 }
25
```

Ready | Mac-Roman | Ln: 16 Col: 68 | Sel: 66 ch, 1 ln | JavaScript

And now do it yourself



lab4.html (~/Ens07/tech_avan/MMEDIA-APP/USTH2012/TP2-USTH/Labs-ZoomableVideo/Lab4)

```
1 <html>
2 <head>
3   <title>Lab 4</title>
4   <script type="text/javascript;version 1.8" src="lab4.js"> </script>
5 </head>
6 <body onload=initialize(>
7   <video id="video" src="../../ct640.ogg" width="640" height="360" autobuffer controls> </video>
8   <canvas id="canvas" width="640" height="360"> </canvas>
9 </body>
10 </html>
11
```

Toolbox

- Samples (6.1.2)
 - Abbreviations
 - HTML
 - Sample_Macros
 - Count words... using "wc"
 - Find in Files
 - <http://slashdot.org/>
 - Make curren...e writeable
 - Open New Window
 - Sample Snipp...k to Insert
 - toggle-word-wrap-edit

Ready Mac-Roman Ln: 1 Col: 1 HTML

And now do it yourself

The screenshot shows a web browser window with the address bar displaying the file path: `lab4.js (~/.Enso7/tech_avan/MMEDIA-APP/USTH2012/TP2-USTH/Labs-ZoomableVideo/Lab4)`. The browser's address bar shows "Start Page" and "lab4.js". The main content area displays the following JavaScript code:

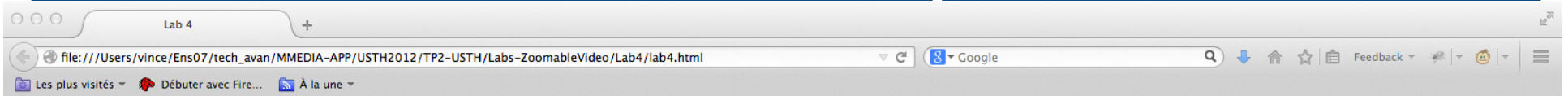
```
1  /* Variables declaration */
2  // Image
3  var video;
4
5  // Canvas and context
6  var canvas;
7  var context;
8
9  function initialize() {
10     // Variables initialization
11     video = document.getElementById("video");
12
13     canvas = document.getElementById("canvas");
14     context = canvas.getContext("2d");
15
16     video.addEventListener("play", timerCallback, false);
17 }
18
19 /* Function calling itself and calling computeFrame() at each execution */
20 function timerCallback() {
21     computeFrame();
22     setTimeout(function () {
23         timerCallback();
24     }, 0);
25 }
26
27 /* Function copying the frame from the video element to the canvas element */
28 function computeFrame() {
29     context.drawImage(video, 0, 0);
30 }
31
```

On the right side of the browser, there is a "Toolbox" panel with a search bar and a list of items:

- Samples (6.1.2)
 - Abbreviations
 - HTML
 - Sample_Macros
 - Count words... using "wc"
 - Find in Files
 - <http://slashdot.org/>
 - Make curren...e writeable
 - Open New Window
 - Sample Snipp...k to Insert
 - toggle-word-wrap-edit

The status bar at the bottom of the browser shows "Ready", "Mac-Roman", "Ln: 1 Col: 1", and "JavaScript".

And now do it yourself



And now do it yourself

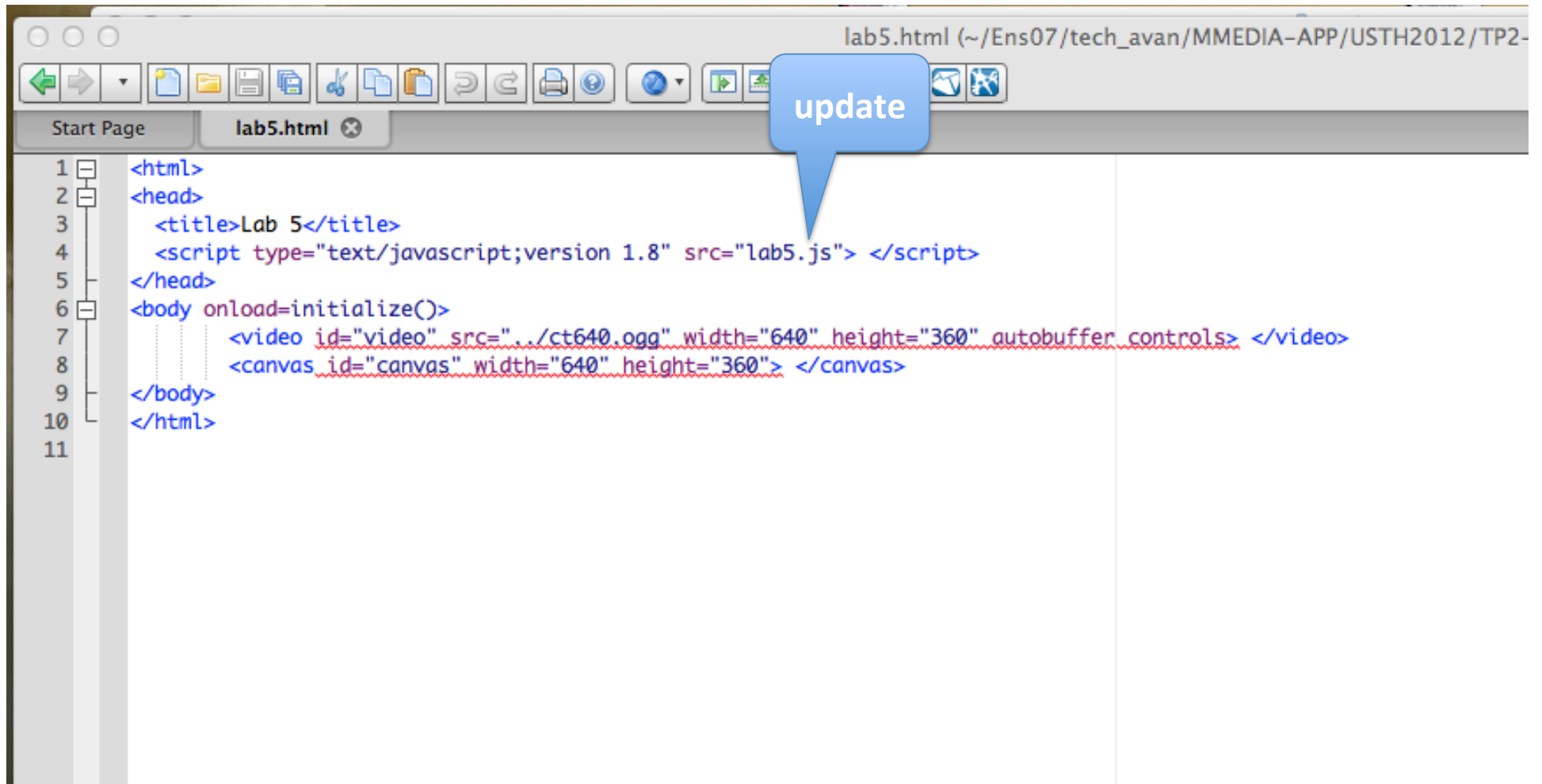
```
lab5.js* (~/.Ens07/tech_avan/MMEDIA-APP/USTH2012/TP2-USTH/Labs-ZoomableVideo/Lab5)
Start Page lab5.js *
2 // Image
3 var video;
4 // Canvas and context
5 var canvas;
6 var context;
7
8 function initialize() {
9     // Variables initialization
10    video = document.getElementById("video");
11    canvas = document.getElementById("canvas");
12    context = canvas.getContext("2d");
13    video.addEventListener("play",timerCallback,false);
14    video.addEventListener("click",displayMouseCoordinates,false);
15 }
16 /* Function calling itself and calling computeFrame() at each execution */
17 function timerCallback() {
18     computeFrame();
19     setTimeout(function () {
20         timerCallback();
21     }, 0);
22 }
23 /* Function copying the frame from the video element to the canvas element */
24 function computeFrame() {
25     context.drawImage(video,0,0);
26 }
27 function displayMouseCoordinates(event) {
28     // Position of the click in the page
29     pagePosition = new Array(event.clientX,event.clientY);
30     // Position of the mouse inside the video Element
31     mousePosition = getMousePosition(pagePosition,video);
32     alert("X = " + mousePosition[0] + " and Y = " + mousePosition[1]);
33 }
34
35 /* Functions that allow a user to get the position of their mouse */
36 function getMousePosition(coord,obj) {
37     var scroll = new Array((document.documentElement && document.documentElement.scrollLeft) || window.pageXOffset || self.pageXOffset || document.body.scrollLeft,
38                           (document.documentElement && document.documentElement.scrollTop) || window.pageYOffset || self.pageYOffset || document.body.scroll
39 );
40     var offset = findPosition(obj);
41     var mouseVals= Array(coord[0] + scroll[0] - document.body.clientLeft -offset[0],coord[1] + scroll[1] - document.body.clientTop-offset[1]);
42     return mouseVals;
43 }
44 function findPosition(obj) {
45     var curleft = curtop = 0;
46     if (obj.offsetParent) {
47         do {
48             curleft += obj.offsetLeft;
49             curtop += obj.offsetTop;
50         } while (obj = obj.offsetParent);
51     }
52     return [curleft,curtop];
53 }
54
```

Toolbox

- Samples (6.1.2)
 - Abbreviations
 - HTML
 - Sample_Macros
 - Count words... using
 - Find in Files
 - <http://slashdot.org/>
 - Make curren...e write
 - Open New Window
 - Sample Snipp...k to Ir
 - toggle-word-wrap-e

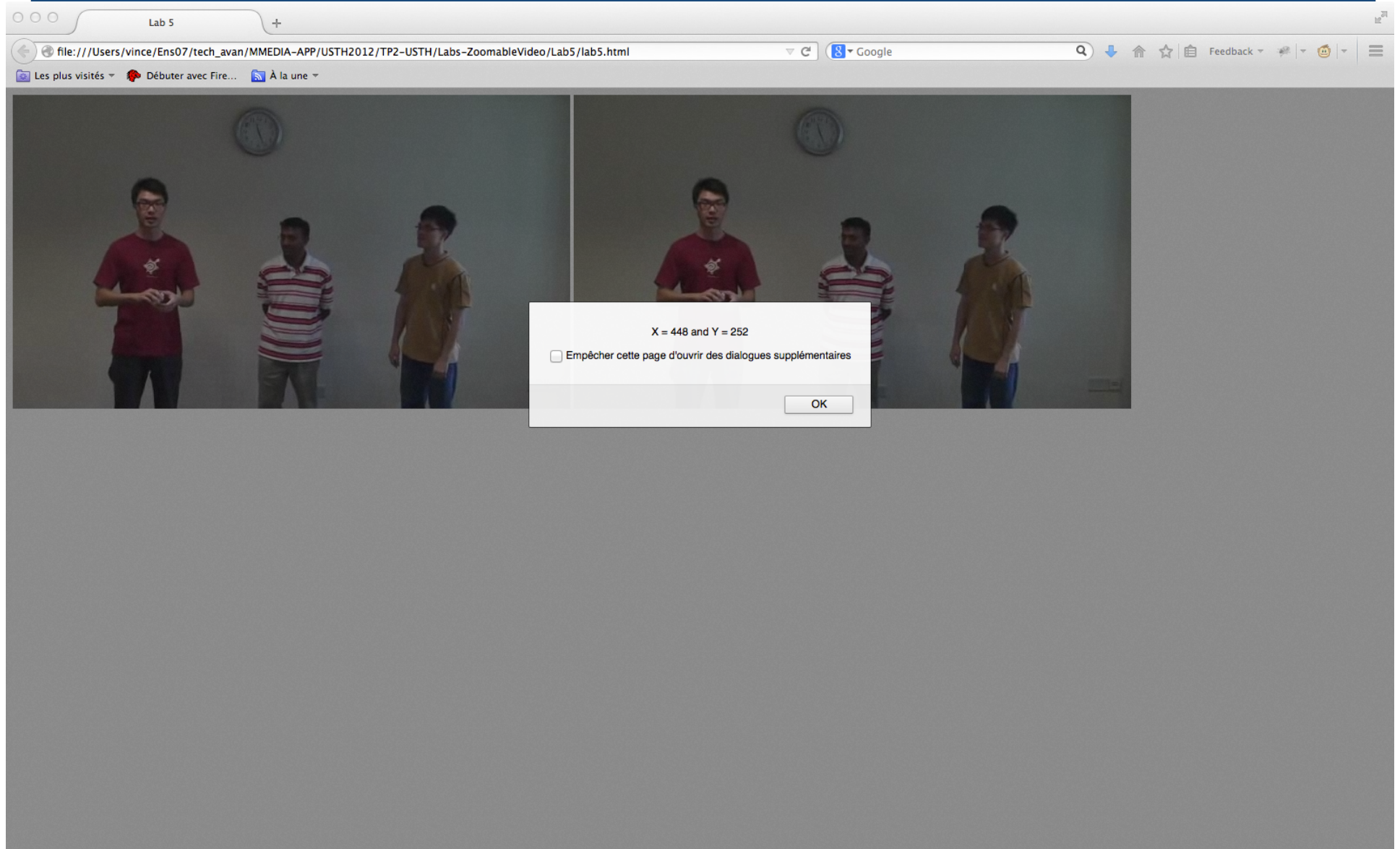
Ready Mac-Roman Ln: 43 Col: 1 JavaScript

And now do it yourself



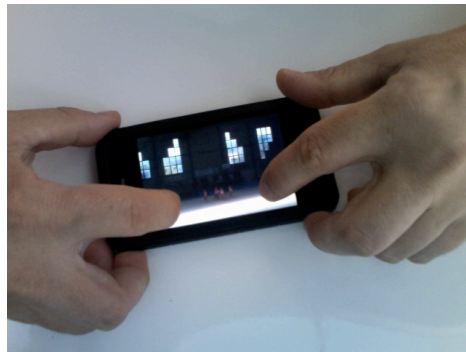
```
lab5.html (~/Ens07/tech_avan/MMEDIA-APP/USTH2012/TP2-
Start Page lab5.html
1 <html>
2 <head>
3   <title>Lab 5</title>
4   <script type="text/javascript;version 1.8" src="lab5.js"> </script>
5 </head>
6 <body onload=initialize()>
7   <video id="video" src="../../ct640.ogg" width="640" height="360" autobuffer controls> </video>
8   <canvas id="canvas" width="640" height="360"> </canvas>
9 </body>
10 </html>
11
```

And now do it yourself



And now do it yourself

ZOOMABLE VIDEO



And now do it yourself



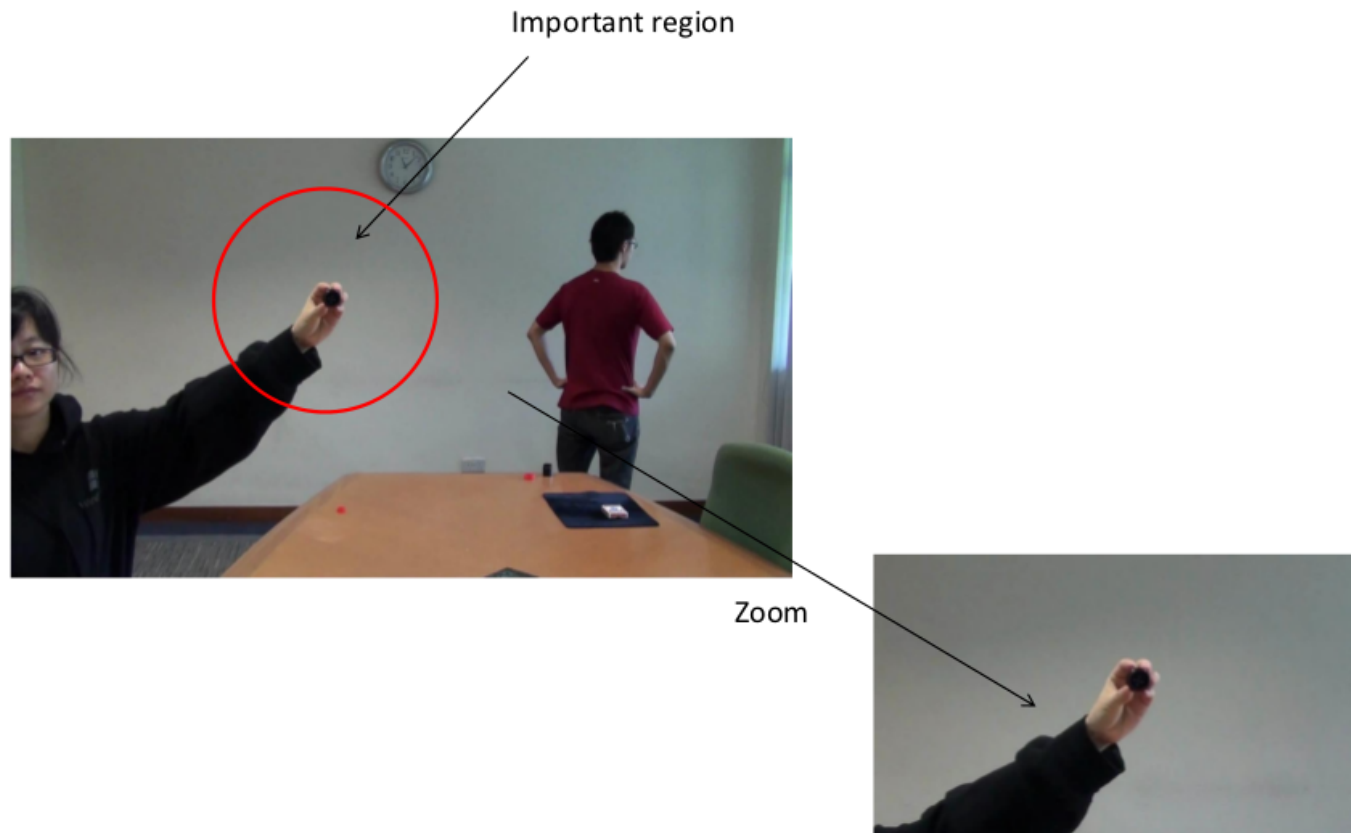
0:34 / 3:26



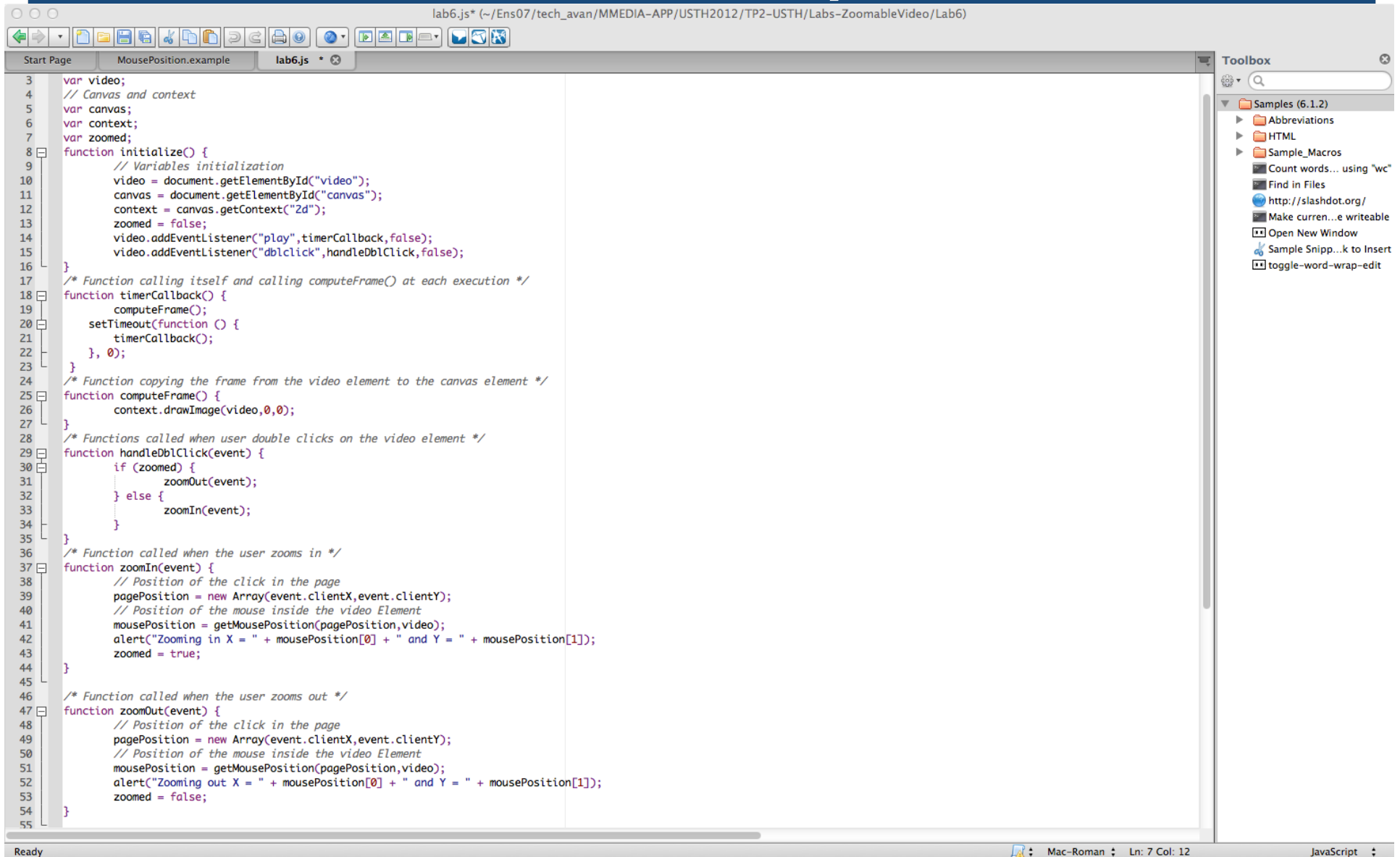
00:00



Two states: zoomed or not



And now do it yourself



The screenshot shows a web browser window with a code editor for a file named 'lab6.js'. The code is written in JavaScript and implements a zoomable video player. The code includes variables for video, canvas, context, and zoomed status, along with functions for initialization, timer callbacks, frame computation, and zooming in/out. A toolbox on the right side of the browser contains various utility functions and samples.

```
3 var video;
4 // Canvas and context
5 var canvas;
6 var context;
7 var zoomed;
8 function initialize() {
9     // Variables initialization
10    video = document.getElementById("video");
11    canvas = document.getElementById("canvas");
12    context = canvas.getContext("2d");
13    zoomed = false;
14    video.addEventListener("play", timerCallback, false);
15    video.addEventListener("dblclick", handleDbClick, false);
16 }
17 /* Function calling itself and calling computeFrame() at each execution */
18 function timerCallback() {
19     computeFrame();
20     setTimeout(function () {
21         timerCallback();
22     }, 0);
23 }
24 /* Function copying the frame from the video element to the canvas element */
25 function computeFrame() {
26     context.drawImage(video, 0, 0);
27 }
28 /* Functions called when user double clicks on the video element */
29 function handleDbClick(event) {
30     if (zoomed) {
31         zoomOut(event);
32     } else {
33         zoomIn(event);
34     }
35 }
36 /* Function called when the user zooms in */
37 function zoomIn(event) {
38     // Position of the click in the page
39     pagePosition = new Array(event.clientX, event.clientY);
40     // Position of the mouse inside the video Element
41     mousePosition = getMousePosition(pagePosition, video);
42     alert("Zooming in X = " + mousePosition[0] + " and Y = " + mousePosition[1]);
43     zoomed = true;
44 }
45
46 /* Function called when the user zooms out */
47 function zoomOut(event) {
48     // Position of the click in the page
49     pagePosition = new Array(event.clientX, event.clientY);
50     // Position of the mouse inside the video Element
51     mousePosition = getMousePosition(pagePosition, video);
52     alert("Zooming out X = " + mousePosition[0] + " and Y = " + mousePosition[1]);
53     zoomed = false;
54 }
55 }
```

The toolbox on the right contains the following items:

- Samples (6.1.2)
 - Abbreviations
 - HTML
 - Sample_Macros
 - Count words... using "wc"
 - Find in Files
 - <http://slashdot.org/>
 - Make curren...e writeable
 - Open New Window
 - Sample Snipp...k to Insert
 - toggle-word-wrap-edit