

GNG2101

Introduction to Product Development and Management for Engineers and Computer Scientists

Project Deliverable J: User Manual

Submitted by

Computer Magnifier. Team E22.

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Abstract

Manual begins by introducing the software which is a magnification software that works in google chrome. The goal is to help the people who have visual impairments. Then logic of the software is briefly explained in order to understand the code and give knowledge to use the software. Code explanation part comes to have a deep understanding of the software. Software can be improved by understanding the old version. This program uses 2 different libraries which are under MIT license and authors names are given at the library section. There is also a part to install the software to the users chrome, and a troubleshooting section.

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Introduction

This is a magnification software which works on google chrome to help the people who have visual impairments. Because they can not see properly, they can not use computers without assistance. By making this software we are hoping to improve their quality of life and minimise their dependent on others. Everyone who has difficulty seeing their screen can use this software. The current problem with magnification software is that they are way too complicated to use, and the user has to remember a bunch of settings. The main feature about our software is easy to use. All of the details and files can be found on the makerepo link which is located in the bibliography section.

Logic of the software

- The logic of the software is very easy. To initiate the software user has to click on the “magnifier” icon. This is very easy because it’s a big icon and it’s located on the bottom left corner. So even if the user can’t see the icon he/she just can go to that location and press it, it is almost impossible to miss it.
- Once the software starts to work, user can zoom in or zoom out by using the mouse scroll
- When he/she is done with the magnifier or when they just want to turn it off, they have to press on the escape button for 1 second and then the software goes off.

Code explanation

Icon Code

First step is making a magnification icon in the screen

[illegible]

This is pretty straight forward, all it is doing is positioning the icon and deciding its width and height. Originally it was 100px to 100px. But to make it more visual we changed it to 300px to 300 px

Main Code

```

1  trying(); // calling this function trying in the bottom
2
3  function trying() {
4      // in order to add a constant div at the left bottom side, html data transfered to variable
5      var TEMPLATE_INFO = '<div class="zoomWidget" onclick="bora();"></div>';
6      $("body").after(TEMPLATE_INFO); // We select the body tag and add right after the html data that we created
7  }
8
9
10 //this is a javascript code that wrote in the variable, when the function bora triggered
11 // Software will take the screenshot of the website with the help of the html2canvas plugin
12 // and paste it over the website
13 var myvar = 'function bora() {' +
14     '    html2canvas(document.querySelector(\'body\')).then(canvas => {' +
15     '        var sss = canvas.toDataURL("image/png");' +
16     '        document.body.style.display = "none";' +
17     '        document.write(\'\');' +
18     '    });' +
19     '};'
20
21
22 //this script is adding to pages body tags as a plugin
23 let myScript = document.createElement("script");
24 myScript.setAttribute("src", "https://html2canvas.hertzen.com/dist/html2canvas.min.js");
25 document.body.appendChild(myScript);
26
27
28 var inlineScript = document.createElement('script');
29 inlineScript.innerHTML = myvar;
30 document.head.append(inlineScript);
31
32
33 var i = 0;
34
35 var timer = setInterval(function(){
36     var title = document.title; //title of the website transporting to a variable
37     if (i != 1 && title === "") { // if i is not equal to 1 or title is empty
38
39         //this script is adding to pages body tags as a plugin
40         //this is a imageviewer plugin that taken from a shopping website
41         //it's under MIT licence (will mention the autor name in the report)
42         let myScript2 = document.createElement("script");
43         myScript2.setAttribute("src", "https://tozmoda.com/catalog/view/javascript/jquery/jquery-2.1.1.min.js");
44         document.body.appendChild(myScript2);
45     }

```



```

46
47 let myScript3 = document.createElement("script");
48 myScript3.setAttribute("src", "https://tozmoda.com/catalog/view/javascript/imageviewer.js");
49 document.body.appendChild(myScript3);
50
51
52 $('img').elevateZoom({
53     zoomType      : "lens", //makes the magnifier round
54     lensShape : "round", //makes the magnifier round
55     lensSize   : 650, // size of the magnifier
56     easing    : false, // animation
57     scrollZoom : true, // zoom in and zoom out via mousescroll
58     gallery   : "gallery_09",
59     galleryActiveClass: "active"
60 });
61
62 // to see the keys the user pressing
63 document.onkeydown = function(evt) {
64     evt = evt || window.event;
65     var isEscape = false; // understand if the user pressing the esc botton with this variable
66     if ("key" in evt) {
67         isEscape = (evt.key === "Escape" || evt.key === "Esc");
68     } else {
69         isEscape = (evt.keyCode === 27);
70     }
71     if (isEscape && i != 0) {
72         location.reload(); //refresh the page
73     }
74 };
75
76 if (title.length === 0) {
77
78     //originaly this line was showing a "how to use message"
79     //but because it is hard to see it we decided to delete the message
80     setTimeout(function(){ $(".zoomLens").append('aa'); }, 3000);
81 }
82
83 i = 1; // make i equal to 1
84 clearInterval(timer); //reset the timer
85 }
86 }, 1000);
87

```

Library

1) Imageviewer library

```
/*
 * jQuery elevateZoom 3.0.8
 * Demo's and documentation:
 * www.elevateweb.co.uk/image-zoom
 *
 * Copyright (c) 2012 Andrew Eades
 * www.elevateweb.co.uk
 *
 * Dual licensed under the GPL and MIT licenses.
 * http://en.wikipedia.org/wiki/MIT_License
 * http://en.wikipedia.org/wiki/GNU_General_Public_License
 *
 */

/*
 * jQuery elevateZoom 3.0.3
 * Demo's and documentation:
 * www.elevateweb.co.uk/image-zoom
 *
 * Copyright (c) 2012 Andrew Eades
 * www.elevateweb.co.uk
 *
 * Dual licensed under the GPL and MIT licenses.
 * http://en.wikipedia.org/wiki/MIT_License
 * http://en.wikipedia.org/wiki/GNU_General_Public_License
 */
```

2) Html2canvas library

```
/*!
 * html2canvas 1.0.0-rc.7 <https://html2canvas.hertzen.com>
 * Copyright (c) 2020 Niklas von Hertzen <https://hertzen.com>
 * Released under MIT License
 */
```

Installation of the Software

- 1) Install the zip file from <https://makerepo.com/Btavman/gng2101e22google-chrome-magnifier->
- 2) Unzip the file
- 3) Turn on the google chrome
- 4) Press on the puzzle icon which is located on the top right corner. Then press on the “manage extensions”
- 5) Turn on the developer mode and press on the load unpacked button (is it shown in figure.1). Load the unzipped file and press on the refresh button.

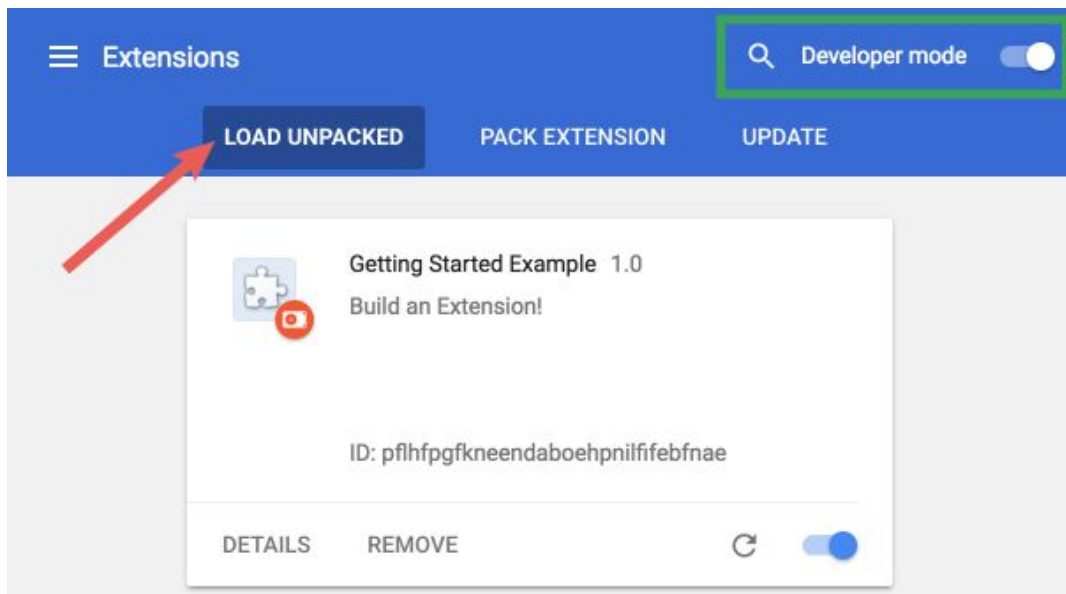
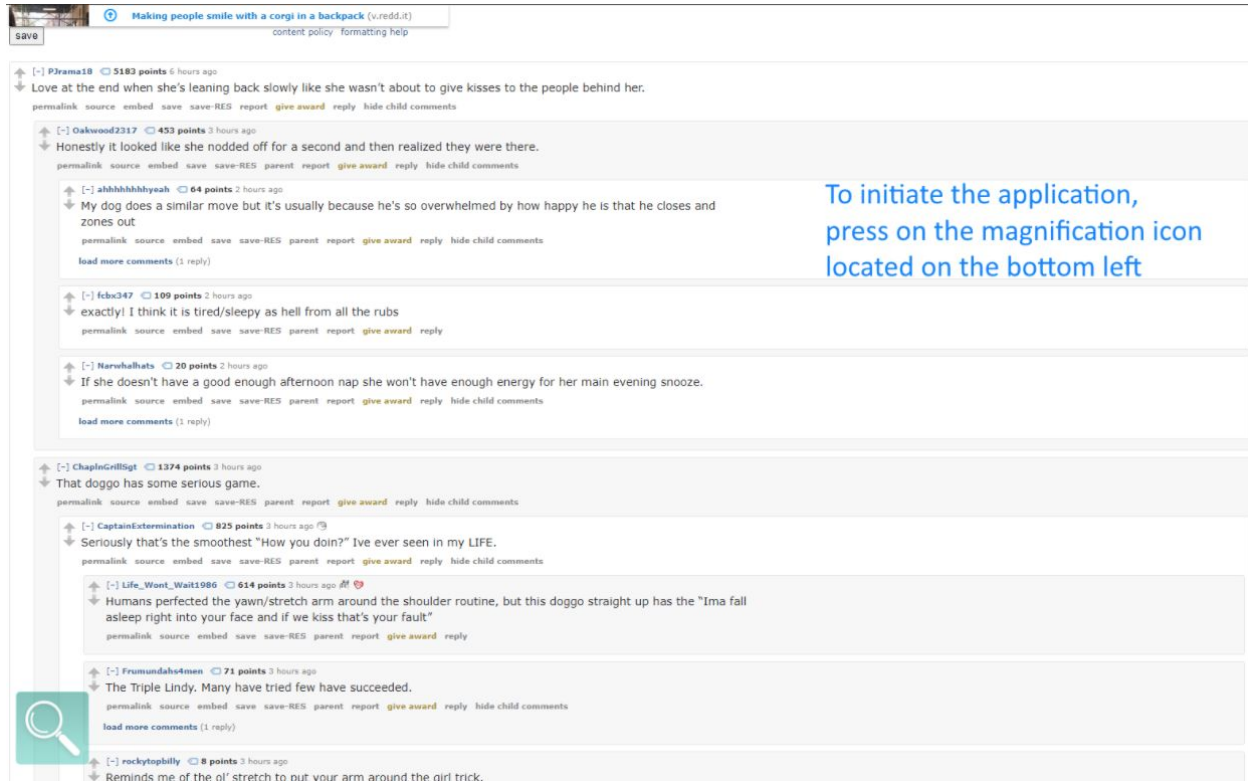


Figure.1

- 6) Done!

Software Screenshots



To initiate the application, press on the magnification icon located on the bottom left



Once the application is open, it will follow the user's mouse around and magnify whatever is currently being hovered over.

save

content policy formatting help

[~] PJrama18 183 points 6 hours ago
Love at the end when she's leaning back slowly like she wasn't about to give kisses to the people behind her.
permalink source embed save save-RES report give award reply hide child comments

[~] Oakwood2317 453 points 3 hours ago
Honestly it looked like she nodded off for a second and then realized they were there.
permalink source embed save save-RES parent report give award reply hide child comments

[~] abbbbbbhyeah 64 points 2 hours ago
My dog does a similar move but it's usually because he's so overwhelmed by how happy he is that he closes and zones out.
permalink source embed save save-RES parent report give award reply hide child comments

load more comments (1 reply)

[~] fchx347 109 points 2 hours ago
exactly! I think it is tired/sleepy as hell from all the rubs.
permalink source embed save save-RES parent report give award reply hide child comments

[~] Naruhalkats 20 points 2 hours ago
If she doesn't have a good enough afternoon nap she won't have enough energy for her main evening snooze.
permalink source embed save save-RES parent report give award reply hide child comments

load more comments (1 reply)

[~] ChapleGrillSgt 174 points 3 hours ago
That doggo has some serious game.
permalink source embed save save-RES parent report give award reply hide child comments

[~] CaptainExtermination 825 points 4 hours ago
Seriously that's the smoothest "How you doing?" I've ever seen in my LIFE.
permalink source embed save save-RES parent report give award reply hide child comments

[~] Life_Wont_Wait1986 614 points 4 hours ago
Humans perfected the yawn/stretch arm around the shoulder routine, but this doggo straight up has the "Ima fall asleep right into your face and if we kiss that's your fault"
permalink source embed save save-RES parent report give award reply hide child comments

[~] Frumundahs4men 71 points 3 hours ago
The Triple Lindy. Many have tried few have succeeded.
permalink source embed save save-RES parent report give award reply hide child comments

load more comments (1 reply)

[~] rockytophilly 8 points 3 hours ago
Reminds me of the ol' stretch to put your arm around the girl trick.
permalink source embed save save-RES parent report give award reply hide child comments

load more comments (1 reply)

Maximum zoom in is currently at about 1000x strength.

The size of the magnification lens can be altered within the code only currently.

[~] Oakwood2317 506 points 4 hours ago
Honestly it looked like she nodded off for a second and then realized they were there.
permalink source embed save save-RES parent report give award reply hide child comments

[~] abbbbbbhyeah 76 points 3 hours ago
My dog does a similar move but it's usually because he's so overwhelmed by how happy he is that he closes and zones out.
permalink source embed save save-RES parent report give award reply hide child comments

[~] Zealousideal_Ad_609 5 points 34 minutes ago
That cutie can take me home in a backpack.
permalink source embed save save-RES parent report give award reply hide child comments

[~] fchx347 111 points 3 hours ago
exactly! I think it is tired/sleepy as hell from all the rubs.
permalink source embed save save-RES parent report give award reply hide child comments

[~] Naruhalkats 20 points 2 hours ago
If she doesn't have a good enough afternoon nap she won't have enough energy for her main evening snooze.
permalink source embed save save-RES parent report give award reply hide child comments

load more comments (1 reply)

[~] ChapleGrillSgt 1382 points 4 hours ago
That doggo has some serious game.
permalink source embed save save-RES parent report give award reply hide child comments

[~] CaptainExtermination 832 points 4 hours ago
Seriously that's the smoothest "How you doing?" I've ever seen in my LIFE.
permalink source embed save save-RES parent report give award reply hide child comments

[~] Life_Wont_Wait1986 635 points 4 hours ago
Humans perfected the yawn/stretch arm around the shoulder routine, but this doggo straight up has the "Ima fall asleep right into your face and if we kiss that's your fault"
permalink source embed save save-RES parent report give award reply hide child comments

[~] Frumundahs4men 74 points 4 hours ago
The Triple Lindy. Many have tried few have succeeded.
permalink source embed save save-RES parent report give award reply hide child comments

load more comments (1 reply)

[~] rockytophilly 8 points 4 hours ago
Reminds me of the ol' stretch to put your arm around the girl trick.
permalink source embed save save-RES parent report give award reply hide child comments

load more comments (1 reply)

After holding esc for at least one second, the application will close and reload the page along with the initiate button being visible on the bottom left.



Capabilities

As it stated in the code explanation part, when the user clicks on the magnifier icon software takes a screenshot and paste it on the website. That means actually the user is not zooming in to the website but he/she zooming in to an image. Because of all of that this software can't be used

1. to watch a video
2. to follow what the users typing
3. to click on a link

Because the program using mouse scroll to zoom in and zoom out, when the magnifier is turned on, the user can't use the mouse scroll to scroll down on the website.

Because of this change in Github

(<https://github.blog/2013-04-24-heads-up-nosniff-header-support-coming-to-chrome-and-firefox/>) it is not possible to include a JavaScript file from GitHub into a local HTML. That means this software does not work on GitHub. Or any other website that has this problem.

Troubleshooting

Problem	Possible Cause	Solution
Couldn't manage to turn on the magnification	Forget to press on the refresh button after installation	Go to chrome extensions page and press on the refresh button
Can initiate the software but can't zoom in	Mouse detached from computer	Check your mouse connection

Conclusion

We saw that making a magnification software is actually very difficult. In order to do it you have to constantly take information from the website and from your mouse pointer. Because we couldn't figure out how to do that we are basically taking a screenshot and zooming in to that. The possible feature work is to make this magnification software work on the videos and in every website. But in order to do that you have to entirely change the software. An easy improvement would be changing the color of the magnification icon when the pointer moves on to the icon. And another one is adding a "how to use" feature by a button or another way.

Bibliography

<https://makerepo.com/Btavman/gng2101e22google-chrome-magnifier->

<https://html2canvas.hertzen.com/dist/html2canvas.min.js>

<https://www.elevateweb.co.uk/image-zoom/>

<https://github.blog/2013-04-24-heads-up-nosniff-header-support-coming-to-chrome-and-firefox/>

Appendices

Our final prototype's bill of materials and parts is equal to 0.