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Introduction to Computer Science (CS164)

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Documentation of PET Project

Link: <https://www.cs.drexel.edu/~mom34/PETProjectV2.html>

Backstory: “This is Cat the.... Cat. I honestly couldn’t think of a better name for it, so I will leave it to the grader or whoever is reading this documentation. He’s/She’s (could not think of a gender too) just your average cat. It likes to be petted and being fed. It hates to be given baths. But one thing that makes Cat special is the fact not only does it change its fur color and breed depending on what state it is, but it likes video games, specifically the Super Smash Bros. series and its hype for the newest Smash Bros. game to come out this week, Smash Bros. Ultimate!”

Purpose: To simulate a form of AI through making a virtual PET.

HTML extras: These lines of HTML codes give the webpage its name and show the header of the webpage, as well as stylize said header.

```
1 <html>
2 <head>
3   <meta name="viewport" content="width=device-width, initial-scale=1">
4   <title>PET Project: Lab 8</title>
5   <p style="font-size:40px;font-family:arial" align="center">PET Project: Lab 8</p>
6 </style>
```

The HTML code: This code sets the class for all the pictures to be put in a slideshow, with the “PictFrame” class which holds the all pictures’ class via nesting of div tags upon each other, which also help accompanies each text class to accompany its respective class. This is done for all five states. The following lines makes buttons with specific labels and functions in doing so. The last line before the </body> tag is of a text area that will indicate to the user if a state has been changed or is in initial.

```

25 </style>
26 </head>
27 <body>
28
29 <div class="PictFrame" align="center"> <!--The frame that holds the pictures in the slideshow-->
30
31 <div class="MyPics"> <!--This class is what aligns the pictures together to make an slideshow-->
32    <!--This format is used to
33   <div class="text" id="RelaxedText">Relaxed</div> <!--This displays the text to accompany the picture-->
34 </div>
35
36 <div class="MyPics">
37   
38   <div class="text" id="HappyText">Happy</div>
39 </div>
40
41 <div class="MyPics">
42   
43   <div class="text" id="AngryText">Angry</div>
44 </div>
45
46 <div class="MyPics">
47   
48   <div class="text" id="SadText">Sad</div>
49 </div>
50
51 <div class="MyPics">
52   
53   <div class="text" id="SleepyText">Sleepy</div>
54 </div>
55
56 <p></p>
57 </div>
58 <button align="center" type="button" onclick="Justwaiting()">Info</button> <!-- The layout of the button and the onclick function they start-->
59 <button align="center" type="button" onclick="ProgPics(1)">Switch emotions</button>
60 <br></br>
61 <button align="center" type="button" onclick="BeingFed()">Being Fed</button>
62 <button align="center" type="button" onclick="PettingPet()">Petting Pet</button>
63 <button align="center" type="button" onclick="TakingBath()">Taking a Bath</button>
64 <button align="center" type="button" onclick="PlaySmash()">Playing Smash Ultimate</button>
65 <br></br>
66 <textarea readonly style="overflow:auto;resize:none" id="Indicator">Initial state.</textarea>
67 </body>

```

The CSS code: This code was mainly used to construct the main slideshow frames, such as the borders of the frame; and by extension the picture. The section starting with “.text” stylizes the text by making the border, making the font different and size larger.

```

6 <style>
7 .MyPics {display: block}
8
9 .PictFrame { <!--This builds the frame for the pictures.-->
10   max-width: 500px;
11   position: relative;
12   margin: auto;
13   border: 15px black;
14 }
15 .text { <!--Stylizes the text for the various states-->
16   color: #000000;
17   font-size: 30px;
18   bottom: 0px;
19   width: 50.0%;
20   text-align: center;
21   border: 1px solid blue;
22   background-color: white;
23   font-family: Arial;
24 }
25 </style>

```

The JavaScript code: The DisplayPics() function is the main function that gives the pictures its order and allows the value “i” to increment to match the value of the specific class of pictures. The function ProgPics compiles the previous function with the picture index to alter the picture based on the picture displayed. The function Justwaiting() is linked to one of the buttons established in the HTML code, which details to the user how the PET’s interface should work. HoverEmotTouch and HoverEmotLeave work concurrently with one hovering their mouse over the image and out of it to toggle Happy and Relaxed states. The last set of functions TimeToEmotEX(), TimeToEmot(), and TimeToEmotMess() are a time function that if its goal off, the state will change and a message should appear

```

68 </script>
69 var PicIndex = 1;
70 DisplayPics(PicIndex);
71
72 function DisplayPics(n) { // The main function that indicates the level of slides and what order they precede each other.
73   var i;
74   var pics = document.getElementsByClassName("MyPics");
75   if (n > pics.length) {PicIndex = 1}
76   if (n < 1) {PicIndex = pics.length}
77   for (i = 0; i < pics.length; i++) {
78     pics[i].style.display = "none";
79   }
80   pics[PicIndex-1].style.display = "block";
81 }
82
83 function ProgPics(n) {
84   DisplayPics(PicIndex += n);
85 }
86
87 function Justwaiting() { //This is used for the info button to show how people can get started.
88   alert("Yes, the PET is a cat. I know, pretty generic, but just give it a try. Use the 'Change emotions' button to analyze the PET's behavioral structures and c
89   clearTimeout('TimeToEmotEX()');
90   clearTimeout('TimeToEmotMess()');
91 }
92
93 function HoverEmotTouchEX() { //The root of when a user touches the screen of the picture, a new emotion would show.
94   document.getElementById("Relaxed").src = "CatHappyFace.jpg";
95   document.getElementById("RelaxedText").innerHTML = "Happy";
96 }
97
98 function HoverEmotTouch() { //An extension of the rooted function.
99   setTimeout('HoverEmotTouchEX()', 2000);
100   clearTimeout('TimeToEmotEX()');
101   clearTimeout('TimeToEmotMess()');
102 }
103
104 function HoverEmotLeaveEX() { //The root of when a user touches the screen of the picture, a new emotion would show.
105   document.getElementById("Relaxed").src = "CatRelaxedFace.jpg";
106   document.getElementById("RelaxedText").innerHTML = "Relaxed";
107 }
108
109 function HoverEmotLeave() { //The extension of the rooted function.
110   setTimeout('HoverEmotLeaveEX()', 4000);
111   clearTimeout('TimeToEmotEX()');
112   clearTimeout('TimeToEmotMess()');
113 }
114
115 function TimeToEmotEX() { //The function that will start if idle over 15 seconds, changing the state of the PET.
116   document.getElementById("Relaxed").src = "CatSadFace.jpg";
117   document.getElementById("RelaxedText").innerHTML = "Sad";
118 }
119
120 function TimeToEmotMess() { //The message that accompanies the function that work over the auto change of emotions.

```

The TimeToEmot() works when the user has the PET in idle, and after a few more seconds, will starts the previously talked about functions. This called immediately after the function's construction. The last functions just display the work behind what changes the pictures, by taking an id's properties and changing the source of it into a different picture. The variables that are the arrays are the root of the functions that randomly select a state in place of another. The math.random() take that substring and selecting a slide corresponding to that number and displays it. This is done to three out of the four functions. The various clearTimeouts are done to stop any prompts from appearing when you finish

```

121   alert("Hey. Hey, you. You're forgetting your PET again. Press a button or hover over the picture to change its emotion.");
122   clearTimeout('TimeToEmotEX()');
123   clearTimeout('TimeToEmotMess()');
124 }
125
126 function TimetoEmot() { //This starts the function that both messages and changes the PET's emotion.
127   setTimeout('TimeToEmotEX()', 15000);
128   setTimeout('TimeToEmotMess()', 15050);
129 }
130
131 TimetoEmot(); //This function is being called.
132
133 var ImageRanFed = ["CatAngryFace.jpg", "CatHappyFace.jpg", "CatSleepyFace.jpg"]
134
135 function BeingFed() { //The function and the others succeeding it change the state of the PET depending on its initial state when selected on the webpage.
136   var numFed = Math.floor(Math.random() * 3);
137   document.getElementById("Angry").src = "CatHappyFace.jpg";
138   document.getElementById("AngryText").innerHTML = "Happy";
139   document.getElementById("Sad").src = "CatAngryFace.jpg";
140   document.getElementById("SadText").innerHTML = "Angry";
141   document.getElementById("Happy").src = "CatSleepyFace.jpg";
142   document.getElementById("HappyText").innerHTML = "Sleepy";
143   document.getElementById("Relaxed").src = "CatAngryFace.jpg";
144   document.getElementById("RelaxedText").innerHTML = "Angry";
145   document.getElementById("Sleepy").src = ImageRanFed[numFed];
146   document.getElementById("SleepyText").innerHTML = "Randomized!";
147   document.getElementById("Indicator").value = "Changed states."; //Indicates to the user if a state has changed.
148   setTimeout(window.location.reload.bind(window.location), 10000);
149   clearTimeout('TimeToEmotEX()');
150   clearTimeout('TimeToEmotMess()');
151 }
152
153 var ImageRanPetting = ["CatAngryFace.jpg", "CatRelaxedFace.jpg", "CatSleepyFace.jpg"] //This array determines what states can be randomly selected for the Petting!
154
155 function PettingPet() {
156   var numPetting = Math.floor(Math.random() * 3);
157   document.getElementById("Relaxed").src = "CatHappyFace.jpg";
158   document.getElementById("RelaxedText").innerHTML = "Happy";
159   document.getElementById("Happy").src = "CatRelaxedFace.jpg";
160   document.getElementById("HappyText").innerHTML = "Relaxed";
161   document.getElementById("Angry").src = "CatRelaxedFace.jpg";
162   document.getElementById("AngryText").innerHTML = "Relaxed";
163   document.getElementById("Sad").src = "CatHappyFace.jpg";
164   document.getElementById("SadText").innerHTML = "Happy";
165   document.getElementById("Sleepy").src = ImageRanPetting[numPetting];
166   document.getElementById("SleepyText").innerHTML = "Randomized!";
167   document.getElementById("Indicator").value = "Changed states.";
168   setTimeout(window.location.reload.bind(window.location), 10000);
169   clearTimeout('TimeToEmotEX()');
170   clearTimeout('TimeToEmotMess()');
171 }

```

```

162 var ImageRanBath = ["CatAngryFace.jpg", "CatHappyFace.jpg", "CatSadFace.jpg"]
163 function TakingBath(){
164     var numBath = Math.floor(Math.random() * 3);
165     document.getElementById("Relaxed").src = "CatAngryFace.jpg";
166     document.getElementById("RelaxedText").innerHTML = "Angry";
167     document.getElementById("Happy").src = ImageRanBath[numBath];
168     document.getElementById("HappyText").innerHTML = "Randomized!";
169     document.getElementById("Angry").innerHTML = "CatAngryFace.jpg";
170     document.getElementById("AngryText").innerHTML = "Angry";
171     document.getElementById("Sad").src = "CatSadFace.jpg";
172     document.getElementById("SadText").innerHTML = "Sad";
173     document.getElementById("Sleepy").src = "CatAngryFace.jpg";
174     document.getElementById("SleepyText").innerHTML = "Angry";
175     document.getElementById("Indicator").value = "Changed states.";
176     setTimeout(window.location.reload.bind(window.location), 10000);
177     clearTimeout('TimeToEmotEX()');
178     clearTimeout('TimeToEmotMess()');
179 }
180 function PlaySmash(){ //I honestly added this one as a joke.
181     document.getElementById("Relaxed").src = "CatHappyFace.jpg";
182     document.getElementById("RelaxedText").innerHTML = "Happy";
183     document.getElementById("Happy").src = "CatHappyFace.jpg";
184     document.getElementById("HappyText").innerHTML = "Happy";
185     document.getElementById("Angry").src = "CatHappyFace.jpg";
186     document.getElementById("AngryText").innerHTML = "Happy";
187     document.getElementById("Sad").src = "CatHappyFace.jpg";
188     document.getElementById("SadText").innerHTML = "Happy";
189     document.getElementById("Sleepy").src = "CatHappyFace.jpg";
190     document.getElementById("SleepyText").innerHTML = "Happy";
191     document.getElementById("Indicator").value = "Changed states.";
192     setTimeout(window.location.reload.bind(window.location), 10000);
193     clearTimeout('TimeToEmotEX()');
194     clearTimeout('TimeToEmotMess()');
195 }
196 </script>
197 </html>

```

Full Table of States

	Being Fed	Petting Pet	Taking a Bath	Playing Smash Bros. Ultimate
Relaxed	Angry	Happy	Angry	Happy
Happy	Sleepy	Relaxed	R (Angry, Happy, or Sad)	Happy
Angry	Happy	Relaxed	Angry	Happy
Sad	Angry	Happy	Sad	Happy
Sleepy	R (Angry, Happy, or Sleepy)	R (Angry, Relaxed, and Sleepy)	Angry	Happy

Further information can be found in the comments of the code.