Department of Computer Science and Engineering

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UCS1611 - Internet Programming Lab

Ex 03: JavaScript event handling mechanisms, DOM

Patient Registration form

Objective:

Generate a registration form for a hospital to register new patient details.

Code:

HTML:

```html
<!DOCTYPE html>
<html>
  <head>
    <meta charset="utf-8">
    <title>Hospital Registration</title>
    <link rel="stylesheet" href="style_form.css">
  </head>
  <body>
        <div class="logo">
            <span>
             <img src="logo.png" alt="logo"  width="100"
    height="100">
             <p id="clock">8:10:45</p>
          </span>
             <h4 class="hosp">Royal Institute of Medicine</h4>
        </div>
        <div class="form">
            <h1>Patient Registration Form</h1>
            <table>
                <form name="regform" id="regform">
                    <tr>
                    <td><label for="name">Name: </label></td>
                    <td><input id="name" type="text"
    placeholder="John Johnson" onfocus="myFocus()" onblur="
    myBlur()" oninvalid="myInvalid()" required></td>
                    </tr>
                    <tr>
                    <td><label for="address">Address: </label
    ></td>
                    <td><input id="address" type="text"
    onselect="mySelect()" required></td>
                    </tr>
                    <tr>
                    <td><label for="age">Age: </label></td>
                    <td><input id="age" type="number"
    onkeypress="myKeypress()" min="0" required></td>
                    </tr>
                    <tr>
                    <td><label for="dob">Date of Birth: </
    label></td>
                    <td><input id="dob" type="date"
    placeholder="dd/mm/yyyy"></td>
                    </tr>
                    <tr>
                    <td><label >Gender: </label></td>
```

```
38          <td><input id="male" type="radio" value="
    Male" name="gender"><label for="male">Male</label>
39                    <input id="female" type="radio" value="
    Female" name="gender"><label for="female">Female</label>
40                    <input id="other" type="radio" value="
    Other" name="gender"><label for="other">Other</label>
41                    </td>
42                    </tr>
43                    <tr>
44                    <td><label for="status">Marital Status: <
    /label></td>
45                    <td><select id="status" onchange="
    myChange()">
46                        <option value="none"></option>
47                        <option value="Married">Married</
    option>
48                        <option value="single">Single</option
    >
49                    </select></td>
50                    </tr>
51                    <tr>
52                    <td><label for="phone">Contact number: </
    label></td>
53                    <td><input id="phone" type="tel" pattern=
    "##### #####" oninvalid="myNuminvalid()" required></td>
54                    </tr>
55                    <tr>
56                    <td><label for="addict">Addiction: </
    label></td>
57                    <td>
58                        <div id="addict" ondrop="drop(event)"
     ondragover="allowDrop(event)"></div>
59                        <span class="options">
60                            <p id="tobacco" draggable="true"
    ondragstart="drag(event)">Tobacco</p>
61                            <p id="alcohol" draggable="true"
    ondragstart="drag(event)">Alcohol</p>
62                            <p id="drugs" draggable="true"
    ondragstart="drag(event)">Drugs</p>
63                        </span>
64                    </td>
65                    </tr>
66                    <tr>
67                    <td><a href="#submission"><input type="
    button" value="Submit" id="submit" onclick="mySubmit()"></
```

```
      a></td>
68                     <td><input type="button" value="Reset" id
     ="resetBtn" onclick="myReset()"></td>
69                         </tr>
70                    </form>
71               </table>
72          </div>
73          <script src="script_form.js"></script>
74    </body>
75 </html>
```

Stylesheet:

```
1 body {
2     font-size: 16pt;
3     font-family: -apple-system, BlinkMacSystemFont, 'Segoe UI
     ', 'Roboto', 'Oxygen',
4     'Ubuntu', 'Cantarell', 'Fira Sans', 'Droid Sans', '
     Helvetica Neue',
5     sans-serif;
6     background: rgb(1,4,12);
7     background: linear-gradient(118deg, rgba(1,4,12,1) 29%,
     rgba(51,5,157,1) 89%);
8     color: white;
9 }
10 h1 {
11     text-transform: uppercase;
12     text-align:center;
13 }
14
15 div {
16     display:block;
17     margin-left:auto;
18     margin-right:auto;
19     width:50%;
20     text-align:center;
21 }
22
23 table {
24     border-spacing: 15px;
25 }
26 .logo{
```

```
27      display: block;
28      margin-left: auto;
29      margin-right: auto;
30      text-align: center;
31      padding-top: 2rem;
32  }
33
34  .logo span{
35      display: flexbox;
36      flex-direction: row;
37  }
38
39  .form{
40      border: solid white 5px ;
41      padding: 2rem;
42      text-align: justify;
43  }
44
45  .form form {
46      text-align: justify;
47  }
48
49  #clock {
50      font-size: 50px;
51      text-align: right;
52      position: absolute;
53      top: 10px;
54      right: 10px;
55  }
56
57  .options{
58      display: flex;
59      flex-direction: row;
60  }
61
62  .options p{
63      padding: 2rem;
64  }
65  #addict {
66      width: 350px;
67      height: 50px;
68      border: 1px solid #aaaaaa;
69      display: flex;
70      flex-direction: row;
71  }
```

Script file:

```
1  function myFocus (){
2      document.getElementById("name").style.backgroundColor="#6
       bb8d8";
3  }
4
5  function myBlur (){
6      document.getElementById("name").style.backgroundColor="
       white";
7      document.getElementById("name").style.textTransform="
       uppercase";
8  }
9
10 function myInvalid (){
11     var name=document.regform.name.value;
12     if(name == null || name == ""){
13         alert("Name cannot be blank");
14         return false;
15     }
16 }
17
18 function mySelect (){
19     document.getElementById("address").style.backgroundColor=
       "black";
20     document.getElementById("address").style.color="white";
21 }
22
23 function myKeypress (){
24     var x = document.getElementById("age").value;
25     if(isNaN(x)){
26         window.alert("Enter numerical value only");
27     }
28 }
29
30 function myChange (){
31     var x = document.getElementById("status").value;
32     window.alert("You are " + x);
33 }
34
35 function myNuminvalid (){
36     var num = document.getElementById("phone").value;
37     if(isNaN(num)){
```

```
38          window.alert("Enter numerical value only");
39      }
40 }
41
42 function validateName(){
43      var name = document.getElementById("name").value;
44      if(name == " || name == null"){
45          window.alert("Enter Name");
46          return false;
47      }
48      return true;
49 }
50
51 function validateAge(){
52      var age = document.getElementById("age").value;
53      if(isNaN(age)){
54          window.alert("Enter Numerical values only");
55          return false;
56      }
57      return true;
58 }
59
60 function validatePhone(){
61      var num = document.getElementById("phone").value;
62      if(isNaN(num)){
63          window.alert("Enter Numerical values only");
64          return false;
65      }
66      return true;
67 }
68
69 function mySubmit(){
70      if(validateName() && validateAge() && validatePhone()){
71          var name = document.getElementById("name").value;
72          localStorage.setItem("name", name);
73
74          var addr = document.getElementById("address").value;
75          localStorage.setItem("address", addr);
76
77          var age = document.getElementById("age").value;
78          localStorage.setItem("age", age);
79
80          var dob = document.getElementById("dob").value;
81          localStorage.setItem("dob", dob);
82
```

```
83
84         var ele = document.getElementsByName('gender');
85         for(i = 0; i < ele.length; i++) {
86             if(ele[i].checked)
87                 localStorage.setItem("gender", ele[i].value);
88         }
89
90         var status = document.getElementById("status").value;
91         localStorage.setItem("status", status);
92
93         var phone = document.getElementById("phone").value;
94         localStorage.setItem("phone", phone);
95
96         var addict = document.getElementById("addict").value;
97         localStorage.setItem("addict", addict);
98
99         //location.target = "_blank";
100        window.open("details.html", "_blank");
101     }
102 }
103
104 function myReset(){
105     document.getElementById("regform").reset();
106 }
107
108 var x = setInterval(function() {
109     let time = new Date();
110     let hour = time.getHours();
111     let min = time.getMinutes();
112     let sec = time.getSeconds();
113     am_pm = "AM";
114
115     if (hour > 12) {
116         hour -= 12;
117         am_pm = "PM";
118     }
119     if (hour == 0) {
120         hr = 12;
121         am_pm = "AM";
122     }
123
124     hour = hour < 10 ? "0" + hour : hour;
125     min = min < 10 ? "0" + min : min;
126     sec = sec < 10 ? "0" + sec : sec;
127
```
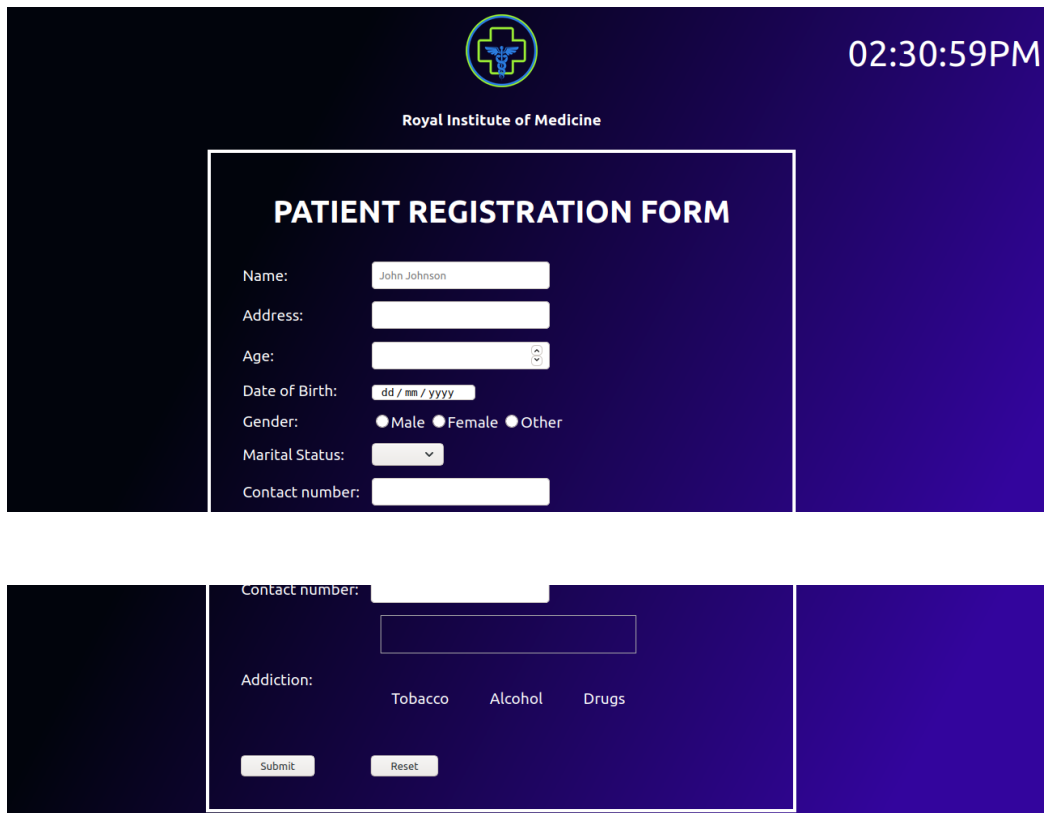
```
128    let currentTime = hour + ":"
129        + min + ":" + sec + am_pm;
130
131    document.getElementById("clock")
132        .innerHTML = currentTime;
133 }, 1000);
134
135 function allowDrop(ev) {
136    ev.preventDefault();
137  }
138
139  function drag(ev) {
140    ev.dataTransfer.setData("text", ev.target.id);
141  }
142
143  function drop(ev) {
144    ev.preventDefault();
145    var data = ev.dataTransfer.getData("text");
146    ev.target.appendChild(document.getElementById(data));
147  }
```

Output:

PATIENT REGISTRATION FORM

Name: SHIVANIRUDH S G

Address: Chennai

Age: 20

Date of Birth: 15 / 02 / 2001

Gender: ⦿ Male ◯ Female ◯ Other

Marital Status: Single ▾

Contact number: 9876543210

Tobacco

Addiction:

Alcohol   Drugs

Submit   Reset

Royal Institute of Medicine

Name	Shivanirudh S G
Address	Chennai
Age	20
DOB	2001-02-15
Gender	Male
Marital Status	single
Contact	9876543210
Addiction	undefined

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Memory Matching Game

Objective:

Write a JS program to develop a memory matching game.

Code:

HTML:

```html
<!DOCTYPE html>
<html>
  <head>
    <meta charset="utf-8">
    <title>Memory Matching</title>
    <link rel="stylesheet" href="style_game.css">
  </head>
  <body>
      <h1 class="heading">Memory Matching</h1>
      <form>
        <label for="level">Choose difficulty: </label>
        <select id="level">
          <option value="Normal">Noob</option>
          <option value="Easy">Amateur</option>
          <option value="Pro">Master</option>
        </select>
      </form>
      <input type="button" value="Start Game" id="start">

      <div class="game" id="game">
        <table>
          <tr>
          <td id="timer">

          </td>
          <td id="score">
          </td>
        </tr>
        </table>
        <div class="grid-container">
```

```
31          <div class="grid-item" data-framework="aang"><img
    class="back" src="Pics/logo.jpg" alt="1" id="item1" height
    ="100px" width="100px"></img><img class="front" src="Pics/
    aang.jpg" alt="1" id="item1-b" height="100px" width="100px
    "></img></div>
32          <div class="grid-item" data-framework="aang"><img
    class="back" src="Pics/logo.jpg" alt="2" id="item2" height
    ="100px" width="100px"></img><img class="front" src="Pics/
    aang.jpg" alt="2" id="item2-b" height="100px" width="100px
    "></img></div>
33          <div class="grid-item" data-framework="appa"><img
    class="back" src="Pics/logo.jpg" alt="3" id="item3" height
    ="100px" width="100px"></img><img class="front" src="Pics/
    appa.jpg" alt="3" id="item3-b" height="100px" width="100px
    "></img></div>
34          <div class="grid-item" data-framework="appa"><img
    class="back" src="Pics/logo.jpg" alt="4" id="item4" height
    ="100px" width="100px"></img><img class="front" src="Pics/
    appa.jpg" alt="4" id="item4-b" height="100px" width="100px
    "></img></div>
35          <div class="grid-item" data-framework="azula"><img
    class="back" src="Pics/logo.jpg" alt="5" id="item5" height
    ="100px" width="100px"></img><img class="front" src="Pics/
    azula.jpg" alt="5" id="item5-b" height="100px" width="100
    px"></img></div>
36          <div class="grid-item" data-framework="azula"><img
    class="back" src="Pics/logo.jpg" alt="6" id="item6" height
    ="100px" width="100px"></img><img class="front" src="Pics/
    azula.jpg" alt="6" id="item6-b" height="100px" width="100
    px"></img></div>
37          <div class="grid-item" data-framework="bumi"><img
    class="back" src="Pics/logo.jpg" alt="7" id="item7" height
    ="100px" width="100px"></img><img class="front" src="Pics/
    bumi.jpg" alt="7" id="item7-b" height="100px" width="100px
    "></img></div>
38          <div class="grid-item" data-framework="bumi"><img
    class="back" src="Pics/logo.jpg" alt="8" id="item8" height
    ="100px" width="100px"></img><img class="front" src="Pics/
    bumi.jpg" alt="8" id="item8-b" height="100px" width="100px
    "></img></div>
39          <div class="grid-item" data-framework="iroh"><img
    class="back" src="Pics/logo.jpg" alt="9" id="item9" height
    ="100px" width="100px"></img><img class="front" src="Pics/
    iroh.jpg" alt="9" id="item9-b" height="100px" width="100px
    "></img></div>
```

```
40          <div class="grid-item" data-framework="iroh"><img
    class="back" src="Pics/logo.jpg" alt="10" id="item10"
    height="100px" width="100px"></img><img class="front" src=
    "Pics/iroh.jpg" alt="10" id="item10-b" height="100px"
    width="100px"></img></div>
41          <div class="grid-item" data-framework="katara"><img
     class="back" src="Pics/logo.jpg" alt="11" id="item11"
    height="100px" width="100px"></img><img class="front" src=
    "Pics/katara.png" alt="11" id="item11-b" height="100px"
    width="100px"></img></div>
42          <div class="grid-item" data-framework="katara"><img
     class="back" src="Pics/logo.jpg" alt="12" id="item12"
    height="100px" width="100px"></img><img class="front" src=
    "Pics/katara.png" alt="12" id="item12-b" height="100px"
    width="100px"></img></div>
43          <div class="grid-item" data-framework="momo"><img
    class="back" src="Pics/logo.jpg" alt="13" id="item13"
    height="100px" width="100px"></img><img class="front" src=
    "Pics/momo.png" alt="13" id="item13-b" height="100px"
    width="100px"></img></div>
44          <div class="grid-item" data-framework="momo"><img
    class="back" src="Pics/logo.jpg" alt="14" id="item14"
    height="100px" width="100px"></img><img class="front" src=
    "Pics/momo.png" alt="14" id="item14-b" height="100px"
    width="100px"></img></div>
45          <div class="grid-item" data-framework="sokka"><img
    class="back" src="Pics/logo.jpg" alt="15" id="item15"
    height="100px" width="100px"></img><img class="front" src=
    "Pics/Sokka.png" alt="15" id="item15-b height="100px"
    width="100px"" height="100px" width="100px"></img></div>
46          <div class="grid-item" data-framework="sokka"><img
    class="back" src="Pics/logo.jpg" alt="16" id="item16"
    height="100px" width="100px"></img><img class="front" src=
    "Pics/Sokka.png" alt="16" id="item16-b" height="100px"
    width="100px"></img></div>
47          <div class="grid-item" data-framework="toph"><img
    class="back" src="Pics/logo.jpg" alt="17" id="item17"
    height="100px" width="100px"></img><img class="front" src=
    "Pics/toph.jpg" alt="17" id="item17-b" height="100px"
    width="100px"></img></div>
48          <div class="grid-item" data-framework="toph"><img
    class="back" src="Pics/logo.jpg" alt="18" id="item18"
    height="100px" width="100px"></img><img class="front" src=
    "Pics/toph.jpg" alt="18" id="item18-b" height="100px"
    width="100px"></img></div>
```

```
49          <div class="grid-item" data-framework="zuko"><img
     class="back" src="Pics/logo.jpg" alt="19" id="item19"
     height="100px" width="100px"></img><img class="front" src=
     "Pics/zuko.jpg" alt="19" id="item19-b" height="100px"
     width="100px"></img></div>
50          <div class="grid-item" data-framework="zuko"><img
     class="back" src="Pics/logo.jpg" alt="20" id="item20"
     height="100px" width="100px"></img><img class="front" src=
     "Pics/zuko.jpg" alt="20" id="item20-b" height="100px"
     width="100px"></img></div>
51        </div>
52      </div>
53      <script src="script_game.js"></script>
54   </body>
55 </html>
```

Stylesheet:

```
1 body {
2     font-size: 16pt;
3     font-family: -apple-system, BlinkMacSystemFont, 'Segoe UI
     ', 'Roboto', 'Oxygen',
4     'Ubuntu', 'Cantarell', 'Fira Sans', 'Droid Sans', '
     Helvetica Neue',
5     sans-serif;
6     background: rgb(26,2,76);
7     background: linear-gradient(0deg, rgba(26,2,76,1) 29%,
     rgba(205,91,3,1) 89%);
8     color: white;
9     height: 250vh;
10 }
11 h1 {
12     text-transform: uppercase;
13     text-align:center;
14     font-size: 50pt;
15 }
16
17 form{
18     text-align: center;
19     padding: 5rem;
20     font-size: xx-large;
21 }
```

```
22
23  #start{
24      display: block;
25      margin-left: auto;
26      margin-right: auto;
27      font-size: xx-large;
28  }
29
30  .game{
31      display: none;
32      margin-left: auto;
33      margin-right: auto;
34      padding-top: 15rem;
35      width:60%;
36  }
37  .game table{
38      border-spacing: 50px;
39      font-size: 40pt;
40      width: 100%;
41  }
42
43  #score{
44      text-align: right;
45  }
46
47
48  .grid-container{
49      width: 700px;
50      height: 700px;
51      margin: auto;
52      display: flex;
53      flex-wrap: wrap;
54      perspective: 1000px;
55  }
56
57  .grid-item{
58      width: calc(25% - 10px);
59      height: calc(33.333% - 10px);
60      margin: 5px;
61      position: relative;
62      transform: scale(1);
63      transform-style: preserve-3d;
64      transition: transform .5s;
65  }
66
```

```css
67 .grid-item:active {
68     transform: scale(0.97);
69     transition: transform 0.2s;
70 }
71
72 .grid-item.flip{
73     transform: rotate3d(0, 1, 0, 180deg);
74 }
75
76 .front,.back {
77     width: 100%;
78     height: 100%;
79     padding: 50px;
80     border-radius: 5px;
81     position: absolute;
82     backface-visibility: hidden;
83 }
84
85 .front{
86     transform: rotate3d(0, 1, 0, 180deg);
87   }
```

Script file:

```javascript
1 const cells = document.querySelectorAll(".grid-item");
2
3 var score = 0;
4 let openedCards = [];
5 let matchedCards =   [];
6 var flip = false;
7 var pause = false;
8 var countDown = 0;
9
10 var level = document.getElementById("level").value;
11 if (level == "Normal"){
12     countDown = 120;
13 }
14 else if (level == "Easy") {
15     countDown = 90;
16 } else {
17     countDown = 60;
18 }
```

```
19
20 document.getElementById("start").addEventListener("click",
     function(){
21     document.getElementById("game").style.display = "block";
22
23     var i;
24
25     score = 0;
26     document.getElementById("score").innerText = "Score:" +
     score.toString();
27
28     var x = setInterval(function() {
29         document.getElementById("timer").innerHTML = "Time
     left: " + countDown + " s ";
30         countDown -= 1;
31         if (countDown < 5) {
32             document.getElementById("timer").style.
     backgroundColor = "red";
33         }
34         if (countDown < 0) {
35         clearInterval(x);
36         window.alert("TIME UP\n Your score is: " + score.
     toString());
37         document.getElementById("game").style.display="none";
38         location.reload();
39         }
40     }, 1000);
41
42     location.href = "#game";
43 });
44
45 function showCard(){
46
47     if(pause){
48         return;
49     }
50
51     if(this === openedCards[0]){
52         return;
53     }
54
55     this.classList.add("flip");
56
57     if(!flip){
58         flip = true;
```

18

```
59          openedCards[0] = this;
60          return;
61      }
62
63      openedCards[1] = this;
64
65      if(openedCards[0].dataset.framework === openedCards[1].
    dataset.framework){
66          pause = true;
67          setTimeout(disableCards, 450);
68          updateScore();
69      }
70      else{
71          hideCards();
72      }
73 }
74
75 function updateScore(){
76      score++;
77      document.getElementById("score").innerText = "Score:" +
    score.toString();
78      if(score == 10){
79          window.alert("Congratulations! You won!!");
80          location.reload();
81      }
82 }
83
84 function disableCards(){
85      //Disables the chosen cards
86
87      openedCards[0].removeEventListener("click", showCard);
88      openedCards[1].removeEventListener("click", showCard);
89
90      openedCards[0].style.setProperty("visibility", "hidden");
91      openedCards[1].style.setProperty("visibility", "hidden");
92
93      resetGame();
94 }
95
96 function hideCards(){
97
98      lockBoard = true;
99
100     setTimeout(() => {
101         openedCards[0].classList.remove("flip");
```
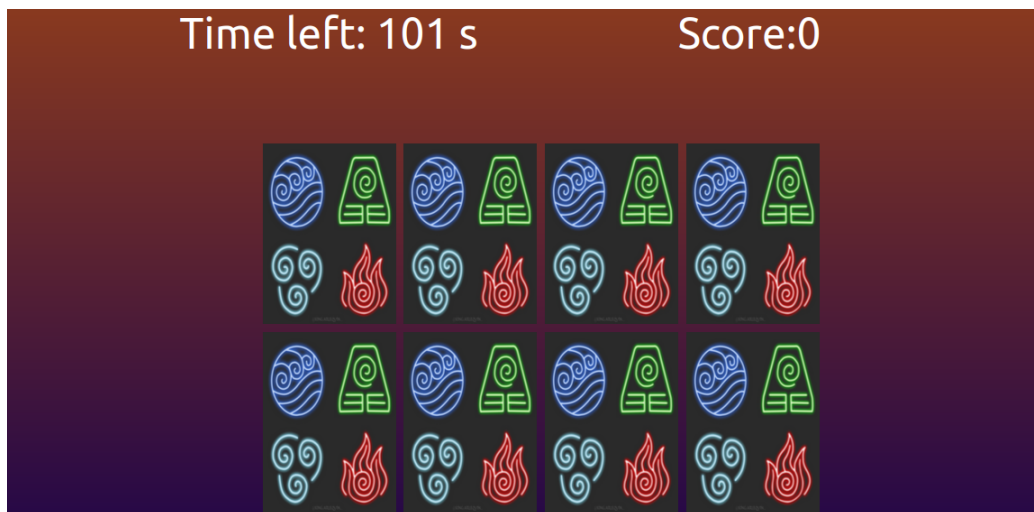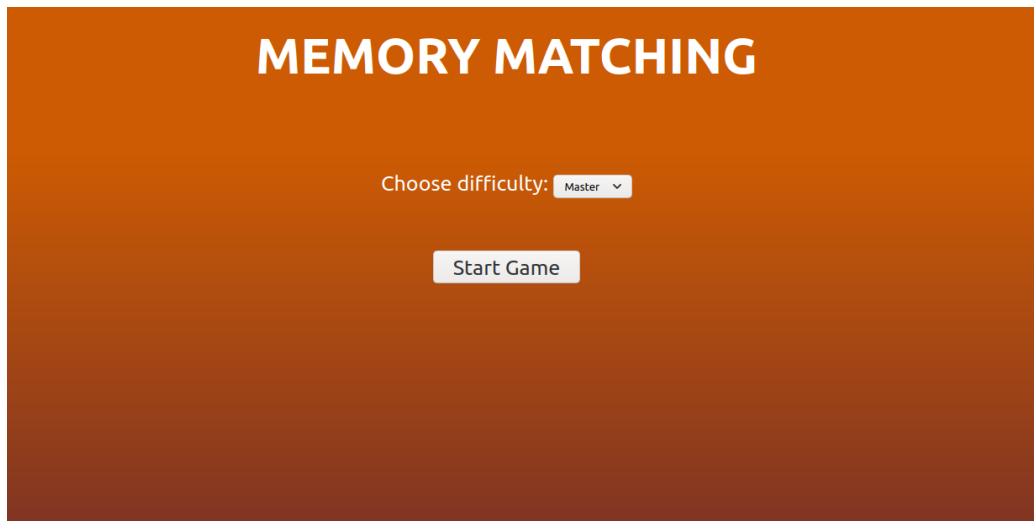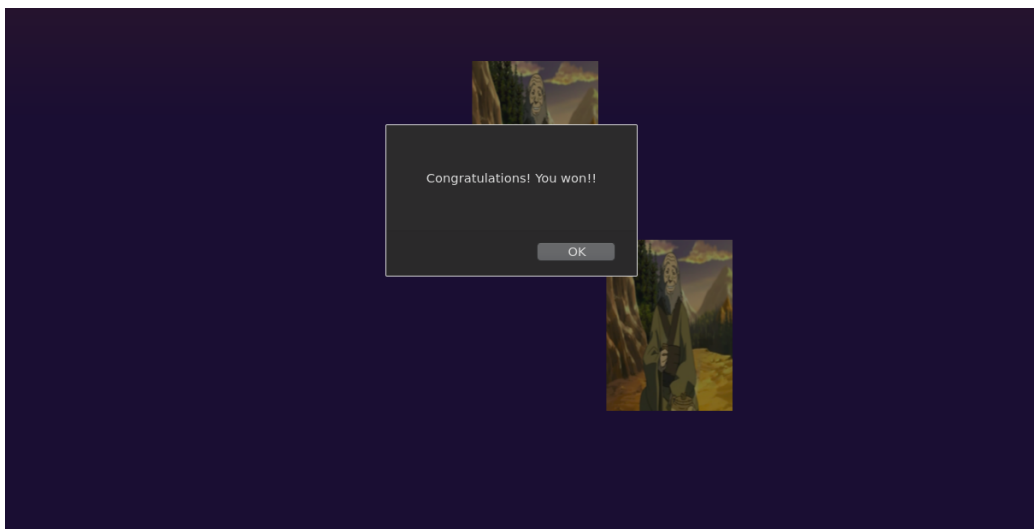
```
102          openedCards [1].classList.remove("flip");
103          resetGame ();
104      }, 1000);
105 }
106
107 function resetGame (){
108
109      [flip, pause] = [false, false];
110      openedCards = [];
111 }
112
113 (function shuffle () {
114      cells.forEach(cell => {
115        let randomPos = Math.floor(Math.random() * 20);
116        cell.style.order = randomPos;
117      });
118    })();
119
120    cells.forEach(cell => cell.addEventListener('click',
      showCard));
```

Output:

Learning Outcomes:

– Learnt to build a website with HTML5, CSS and JavaScript.

– Learnt to use JS scripts to control behaviour of elements.

– Learnt to use embedded and external scripts using **script** tag, and external scripts.

– Learnt the different types of events in JS that can be handled and their varied uses.

– Learnt to use styling, and behaviour of items using JS.