



NETAJI SUBHAS UNIVERSITY OF TECHNOLOGY

Practical Report

Web Technology

Computer Science Engineering (Internet of Things)

Semester 3

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DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

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1 Introduction

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2 Using Html

2.1 Project

Project Description

This is a simple webpage that showcases the usage of the *HTML* language.

Project Showcase

Welcome

This is just an example with some web content. This is the Hero Unit.

Featured Content 1

lorem dolor ametlorem ipsum dolor ametlorem ipsum dolor ametlorem ipsum.

Featured Content 2

lorem ipsum dolor amet lorem ipsum dolor amet.

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Figure 1: Simple Webpage

2.2 Source Code

```
1  <!DOCTYPE HTML>
2  <html lang="en-US">
3
4  <head>
5      <meta charset="UTF-8">
6      <title>My Pimpin Website</title>
7      <meta name="description" content="A sample website, nothin fancy">
8      <meta http-equiv="author" content="Simplistic webpage">
9      <meta name="keywords" content="html, css, web, design, sample,
10         ↪ practice">
11  </head>
12
13  <body>
14      <div class="container">
15          <header>
16              <div class="header">
17                  <h1>Welcome</h1>
18              </div>
19          </header>
```

```
19     <div class="main">
20         <h2>This is just an example with some web content. This is
           ↳ the Hero Unit.</h2>
21     </div>
22     <div class="feature">
23         <h3>Featured Content 1</h3>
24         <p>lorem dolor ametlorem ipsum dolor ametlorem ipsum dolor
           ↳ ametlorem ipsum.</p>
25     </div>
26     <div class="feature">
27         <h3>Featured Content 2</h3>
28         <p>lorem ipsum dolor amet lorem ipsum dolor ametr.</p>
29     </div>
30     <footer>
31         &copy;2022 KorigamiK Campos Arias, All Rights Reserved.
32     </footer>
33 </div>
34 </body>
35
36 </html>
```

3 CSS

3.1 Project

Project Description

This is a simple web-page that utilizes an external cascade stylesheet

Project Showcase

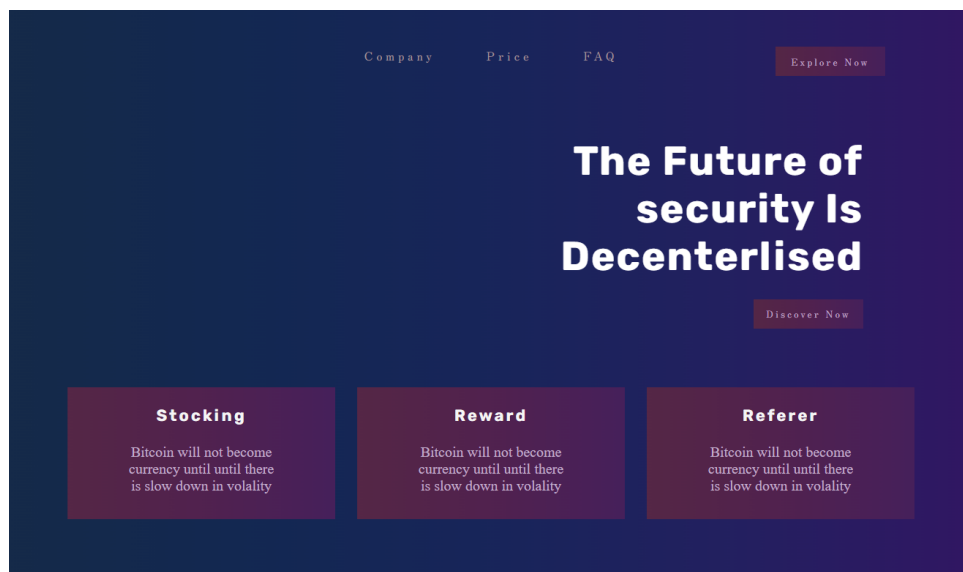


Figure 2: Styled Web page

3.2 Source Code

```
1  @import
   ↳ url('https://fonts.googleapis.com/css2?family=Zen+Old+Mincho&display=swap');
2  @import
   ↳ url('https://fonts.googleapis.com/css2?family=Zen+Old+Mincho:wght@900&display=sw
3  @import
   ↳ url('https://fonts.googleapis.com/css2?family=Rubik:wght@700&family=Zen+Old+Minc
4
5  body {
6      background-image: linear-gradient(to right, #152a49, #132852,
   ↳ #18255a,
7          #232060, #311763);
8  }
9
10 .nav {
11     margin: 50px;
```

```

12     list-style: none;
13     display: flex;
14     justify-content: center;
15     gap: 20px;
16     color: #A8999C;
17     letter-spacing: 5px;
18 }
19
20 .cnav {
21     margin: 0px 25px;
22     font-family: 'Zen Old Mincho', serif;
23 }
24
25 .b1 {
26     background-image: linear-gradient(to right, #552746, #53244a,
27         ↪ #51224f,
28         #4c2155, #46205b);
29     height: 40px;
30     width: 150px;
31     color: #C3AFCC;
32     border: none;
33     font-family: 'Zen Old Mincho', serif;
34     position: absolute;
35     top: 50px;
36     right: 120px;
37     letter-spacing: 3px;
38     font-weight: 100;
39 }
40
41 .content {
42     color: white;
43     font-family: 'Rubik', sans-serif;
44     font-size: 55px;
45     text-align: end;
46     letter-spacing: 2px;
47     padding-left: 800px;
48     margin-right: 150px;
49     margin-top: 100px;
50 }
51
52 .b2 {
53     background-image: linear-gradient(to right, #552746, #53244a,
54         ↪ #51224f,
55         #4c2155, #46205b);
56     height: 40px;

```

```

55     width: 150px;
56     color: #C3AFCC;
57     border: none;
58     letter-spacing: 3px;
59     font-family: 'Zen Old Mincho', serif;
60 }
61
62 .cb {
63     display: flex;
64     gap: 30px;
65     justify-content: center;
66     margin: 80px;
67 }
68
69 .cb1 {
70     background-image: linear-gradient(to right, #552746, #53244a,
71     ↪ #51224f,
72     #4c2155, #46205b);
73     height: 180px;
74 }
75
76 .h {
77     text-align: center;
78     font-family: 'Rubik', sans-serif;
79     margin: 25px;
80     font-size: 22px;
81     color: whitesmoke;
82     letter-spacing: 3px;
83 }
84
85 .pc {
86     text-align: center;
87     padding: 0px 75px;
88     font-size: 20px;
89     color: #C3AFCC;
90     letter-spacing: 2px;
91 }

```



```
@import url('https://fonts.googleapis.com/css2?family=Zen+Old+Mincho&display=swap')
@import url('https://fonts.googleapis.com/css2?family=Zen+Old+Mincho:wght@900&displ
@import url('https://fonts.googleapis.com/css2?family=Rubik:wght@700&family=Zen+Old

body {
    background-image: linear-gradient(to right, #152a49, #132852, #18255a,
                                     #232060, #311763);
}

.nav {
    margin: 50px;
    list-style: none;
    display: flex;
    justify-content: center;
    gap: 20px;
    color: #A8999C;
    letter-spacing: 5px;
}

.cnav {
    margin: 0px 25px;
    font-family: 'Zen Old Mincho', serif;
}

.b1 {
    background-image: linear-gradient(to right, #552746, #53244a, #51224f,
                                     #4c2155, #46205b);
    height: 40px;
    width: 150px;
    color: #C3AFCC;
    border: none;
    font-family: 'Zen Old Mincho', serif;
    position: absolute;
    top: 50px;
    right: 120px;
    letter-spacing: 3px;
    font-weight: 100;
}

.content {
    color: white;
    font-family: 'Rubik', sans-serif;
    font-size: 55px;
    text-align: end;
    letter-spacing: 2px;
    padding-left: 800px;
    margin-right: 150px;
    margin-top: 100px;
}
```

page.html

```
1  <!DOCTYPE html>
2  <html lang="en">
3
4  <head>
5      <meta charset="UTF-8" />
6      <meta http-equiv="X-UA-Compatible" content="IE=edge" />
7      <meta name="viewport" content="width=device-width, initial-scale=1.0"
      ↪ />
8      <title>Nft Marketplace</title>
9
10     <head>
11         <link rel="stylesheet" href="style.css" />
12     </head>
13
14 <body>
15     <nav>
16         <ul class="nav">
17             <li class="cnav">Company</li>
18             <li class="cnav">Price</li>
19             <li class="cnav">FAQ</li> <button class="b1">Explore
            ↪ Now</button>
20         </ul>
21     </nav>
22     <div class="content">The Future of security Is Decenterlised <br>
    ↪ <button class="b2">Discover Now</button></div>
23     <div class="cb">
24         <div class="cb1">
25             <p class="h">Stocking</p>
26             <p class="pc">
27                 Bitcoin will not become currency until until there is
                ↪ slow
28                 down in volality
29             </p>
30         </div>
31         <div class="cb1">
32             <p class="h">Reward</p>
33             <p class="pc">
34                 Bitcoin will not become currency until until there is
                ↪ slow
35                 down in volality
36             </p>
37         </div>
38         <div class="cb1">
39             <p class="h">Referer</p>
```

```
40      <p class="pc">
41          Bitcoin will not become currency until until there is
42              ↳ slow
43          down in volality
44      </p>
45  </div>
46 </div>
47 </body>
48 </html>
```

4 Form With Validation

4.1 Project

Project Description

This project is a Signup form with validation.

Project Showcase

Sign Up

Name

Email

Password

Password must contain the following:

- A lowercase letter
- A capital (uppercase) letter
- A number
- Minimum 8 characters

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Figure 3: Form With Validation

4.2 Source Code

```
1 <!DOCTYPE html>
2 <html lang="en">
3   <head>
4     <meta charset="UTF-8" />
5     <meta http-equiv="X-UA-Compatible" content="IE=edge" />
6     <meta name="viewport" content="width=device-width, initial-scale=1.0"
7     ↪ />
8     <title>SignUp Form</title>
9     <style>
```

```

9      :root {
10         --message-display: none;
11     }
12     body {
13         font-family: "Courier New", Courier, monospace;
14     }
15     main {
16         width: 100%;
17         height: 100vh;
18         display: flex;
19         flex-direction: column;
20         justify-content: center;
21         align-items: center;
22     }
23     form {
24         text-align: center;
25     }
26     form .user-input {
27         display: grid;
28         grid-template-columns: 1fr 1fr;
29         align-items: center;
30         border: 1px solid black;
31         border-radius: 10px;
32         padding: 20px;
33     }
34     input {
35         height: 30px;
36         margin: 10px 0;
37         border-radius: 5px;
38         padding: 5px;
39     }
40     button {
41         margin: 10px 0;
42         border: 1px solid black;
43         border-radius: 5px;
44         padding: 5px 10px;
45         background-color: #f1f1f1;
46     }
47     button:hover {
48         background-color: #ddd;
49     }
50     input:invalid {
51         border: 2px solid red;
52     }
53     input:valid {

```

```

54     border: 2px solid green;
55 }
56 #message {
57     display: var(--message-display);
58 }
59 .valid {
60     color: green;
61 }
62 .invalid {
63     color: red;
64 }
65 footer {
66     width: 100%;
67     text-align: center;
68     text-decoration: none;
69 }
70 footer a {
71     text-decoration: none;
72 }
73 </style>
74 </head>
75 <body>
76 <main>
77 <h1>Sign Up</h1>
78 <form action="/signup" method="POST">
79 <div class="user-input">
80 <label for="name">Name</label>
81 <input required type="text" name="name" id="name" />
82 <label for="email">Email</label>
83 <input required type="email" name="email" id="email" />
84 <label for="password">Password</label>
85 <input
86     required
87     type="password"
88     name="password"
89     pattern="(?=.*\d)(?=.*[a-z])(?=.*[A-Z]).{8,}"
90     id="password"
91 />
92 </div>
93 <button type="submit">Submit</button>
94 </form>
95
96 <div id="message">
97 <h3>Password must contain the following:</h3>
98 <p id="letter" class="invalid">A <b>lowercase</b> letter</p>

```

```

99     <p id="capital" class="invalid">A <b>capital (uppercase)</b>
    ↪ letter</p>
100    <p id="number" class="invalid">A <b>number</b></p>
101    <p id="length" class="invalid">Minimum <b>8 characters</b></p>
102  </div>
103  </main>
104  <footer>
105    &copy; 2022 - 2023
106    <a target="_blank"
    ↪ href="https://github.com/KorigamiK">KorigamiK</a>
107  </footer>
108
109  <script type="text/JavaScript">
110    const form = document.querySelector("form");
111    form.addEventListener("submit", (e) => {
112      e.preventDefault();
113    });
114
115    const password = document.getElementById("password");
116    password.addEventListener("blur", () =>
    ↪ document.documentElement.style.setProperty("--message-display",
    ↪ "none"));
117    password.addEventListener("focus", () =>
    ↪ document.documentElement.style.setProperty("--message-display",
    ↪ "block"));
118
119    const message = document.getElementById("message");
120    const letter = document.getElementById("letter");
121    const capital = document.getElementById("capital");
122    const number = document.getElementById("number");
123    const length = document.getElementById("length");
124
125    password.onkeyup = () => {
126      const lowerCaseLetters = /[a-z]/g;
127      if (password.value.match(lowerCaseLetters)) {
128        letter.classList.toggle("invalid");
129        letter.classList.add("valid");
130      } else {
131        letter.classList.remove("valid");
132        letter.classList.add("invalid");
133      }
134
135      const upperCaseLetters = /[A-Z]/g;
136      if (password.value.match(upperCaseLetters)) {
137        capital.classList.remove("invalid");

```

```
138         capital.classList.add("valid");
139     } else {
140         capital.classList.remove("valid");
141         capital.classList.add("invalid");
142     }
143
144     const numbers = /[0-9]/g;
145     if (password.value.match(numbers)) {
146         number.classList.remove("invalid");
147         number.classList.add("valid");
148     } else {
149         number.classList.remove("valid");
150         number.classList.add("invalid");
151     }
152
153     if (password.value.length >= 8) {
154         length.classList.remove("invalid");
155         length.classList.add("valid");
156     } else {
157         length.classList.remove("valid");
158         length.classList.add("invalid");
159     }
160 };
161 </script>
162 </body>
163 </html>
```

5 Using HTML, CSS & JavaScript

5.1 Project

Project Description

This is a minimal To-do List application written in HTML, CSS and JavaScript. It is a single page application that allows the user to add, edit and delete tasks.

The tasks are added through a form that is displayed at the top of the page. The tasks are displayed in an unordered list below the form. And a delete button is displayed next to each task. The click and submit events are handled by JavaScript functions.

Project Showcase

To-do List

Learn DanceDelete

Play gamesDelete

Do homeworkDelete

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5.2 Source Code

```
1  <!DOCTYPE html>
2  <html lang="en">
3    <head>
4      <meta charset="UTF-8" />
5      <meta http-equiv="X-UA-Compatible" content="IE=edge" />
6      <meta name="viewport" content="width=device-width, initial-scale=1.0"
7        ↪ />
8    <style>
9      body {
10        font-family: "Courier New", Courier, monospace;
11      }
12
13      footer {
14        position: static;
15        width: 100%;
16        text-align: center;
17        text-decoration: none;
18        margin-top: 1rem;
19      }
20
21      footer a {
22        text-decoration: none;
23      }
24
25      .todo-list {
26        display: flex;
27        flex-direction: column;
28        align-items: center;
29        justify-content: space-between;
30        margin-top: 1rem;
31      }
32
33      .todo-list ul {
34        list-style: none;
35        padding: 0;
36      }
37
38      .todo-list li {
39        display: flex;
40        flex-direction: row;
41        justify-content: space-between;
42        max-width: 500px;
43        min-width: 300px;
```

```

43     margin: 0.5rem;
44     padding: 10px;
45     border: 1px solid black;
46     border-radius: 5px;
47 }
48
49 .todo-list li button {
50     border: none;
51     background-color: transparent;
52     cursor: pointer;
53     margin-left: 0.5rem;
54 }
55 .todo-list li button:hover {
56     color: red;
57 }
58 </style>
59 <title>To-do List</title>
60 </head>
61 <body>
62     <main class="todo-list">
63         <h1>To-do List</h1>
64
65         <form class="new-todo__form" action="/new-todo" method="POST">
66             <input type="text" name="todo" placeholder="New Todo" />
67             <button type="submit">Add To-do</button>
68         </form>
69
70         <ul>
71             <li>
72                 <span>Learn Node.js</span>
73                 <button>Delete</button>
74             </li>
75         </ul>
76     </main>
77
78     <footer>
79         &copy; 2022 - 2023
80         <a target="_blank"
81             ↪ href="https://github.com/KorigamiK">KorigamiK</a>
82     </footer>
83
84     <script type="text/javascript">
85         const deleteButtons = document.querySelectorAll(".todo-list li
86             ↪ button");

```

```

86     deleteButtons.forEach((button) => {
87         button.addEventListener("click", (event) => {
88             event.target.parentElement.remove();
89         });
90     });
91
92     const todoList = document.querySelector(".todo-list > ul");
93
94     const addTodo = (todo) => {
95         const todoItem = document.createElement("li");
96         const todoText = document.createElement("span");
97         todoText.innerText = todo;
98
99         const deleteButton = document.createElement("button");
100        deleteButton.innerText = "Delete";
101
102        deleteButton.addEventListener("click", (e) =>
103            e.target.parentElement.remove()
104        );
105
106        todoItem.appendChild(todoText);
107        todoItem.appendChild(deleteButton);
108
109        todoList.appendChild(todoItem);
110    };
111
112    const newTodoForm = document.querySelector(".new-todo__form");
113
114    newTodoForm.addEventListener("submit", (event) => {
115        event.preventDefault();
116
117        const formData = new FormData(event.target);
118        const todo = formData.get("todo");
119        todo.length ? addTodo(todo) : alert("Please enter a todo");
120
121        event.target.reset();
122    });
123
124    addTodo("Learn React");
125 </script>
126 </body>
127 </html>

```

6 XML

6.1 Project

Project Description

This is a syndication feed for my blog written in *XML* following the Atom standard for syndication.

6.2 Source Code

```
1  <?xml version="1.0" encoding="utf-8"?>
2  <feed xmlns="http://www.w3.org/2005/Atom">
3      <id>https://korigamik.deno.dev/blog</id>
4      <title>Blogs on paper</title>
5      <updated>2022-11-02T06:46:07.509Z</updated>
6      <link rel="alternate" href="https://korigamik.deno.dev/blog"/>
7      <link rel="self" href="https://korigamik.deno.dev/feed"/>
8      <subtitle>Articles thrown at you.</subtitle>
9      <icon>https://korigamik.deno.dev/favicon.ico</icon>
10     <rights>Copyright 2022 https://korigamik.deno.dev</rights>
11     <entry>
12         <title type="html"><![CDATA[Bags with Balls]]></title>
13         <id>https://korigamik.deno.dev/Bags with Balls</id>
14         <link href="https://korigamik.deno.dev/bags_with_balls"/>
15         <updated>2022-08-16T13:15:18.514Z</updated>
16         <summary type="html"><![CDATA[An approach to solving this
17         ↪ codeforces problem]]></summary>
18         <published>2022-08-16T13:15:18.514Z</published>
19         <rights>Copyright 2022 https://korigamik.deno.dev</rights>
20     </entry>
21     <entry>
22         <title type="html"><![CDATA[Hello world!]]></title>
23         <id>https://korigamik.deno.dev/Hello world!</id>
24         <link href="https://korigamik.deno.dev/hello_world"/>
25         <updated>2022-08-15T19:15:18.514Z</updated>
26         <summary type="html"><![CDATA[This is my first blog post!
27         ↪ ]]]></summary>
28         <published>2022-08-15T19:15:18.514Z</published>
29         <rights>Copyright 2022 https://korigamik.deno.dev</rights>
30     </entry>
31     <entry>
32         <title type="html"><![CDATA[Raycasting Adventures]]></title>
33         <id>https://korigamik.deno.dev/Raycasting Adventures</id>
```

```
32     <link href="https://korigamik.deno.dev/raycasting_adventures"/>
33     <updated>2022-10-25T13:15:18.514Z</updated>
34     <summary type="html"><![CDATA[A deep dive into
    ↪  game...]]></summary>
35     <published>2022-10-25T13:15:18.514Z</published>
36     <rights>Copyright 2022 https://korigamik.deno.dev</rights>
37     </entry>
38 </feed>
```

References

- [1] A. Einstein, “Very cool guy. (German) [On the electrodynamics of moving bodies],” *Physics*, vol. 322, no. 10, pp. 891–921, 1905.