**CHAPTER 3**

**TASK PERFORMED**

All the tasks performed during the internship program were based on JAVA and Web development. The new concept learned in this program was the JavaScript Programming language and its various frameworks. Few assignments were given related to Web designing.

**3.1 Java**

Java is a popular programming language that was developed by James Gosling at Sun Microsystems in the mid-1990s. It is an object-oriented language that is known for its platform independence, which allows developers to write code once and run it on multiple platforms. Java is widely used for building web applications, mobile applications, desktop applications, and enterprise applications.

The Java assignments encompassed a comprehensive range of topics, including both fundamental and challenging concepts. The assignments covered all essential Object-Oriented-Concepts, such as Inheritance, Polymorphism, Abstraction, and Encapsulation, which are considered the cornerstones of Java programming. Inheritance allows developers to create new classes by inheriting the properties and methods of an existing class. Polymorphism enables the creation of multiple methods with the same name, but different implementations, based on the context. Abstraction helps to hide the implementation details of a program, while Encapsulation ensures data security by preventing unauthorized access. These concepts are vital to building complex software systems and require a deep understanding of the Java language.

Some Java-based tasks that were assigned to the intern are listed below.

**Task #1:**

**Write a function to print an array**

public class arrFunc {

public static void displayArray(int[] a) {

for (int i = 0; i < a.length; i++) {

System.out.println(a[i] + " ");

}

}

public static void main(String[] args) {

int[] a = new int[3];

a[0] = 1;

a[1] = 2;

a[2] = 3;

displayArray(a);

}

}

**Task#2**

**Program to demonstrate Tree Set and Tree Map**

package day4;

import java.util.TreeMap;

import java.util.TreeSet;

public class treeSetTreeMap {

public static void main(String[] args) {

// Sorts the ele and doesnt allow duplicate values

TreeSet<Integer>treeSet=new TreeSet<Integer>();

treeSet.add(1);

treeSet.add(0);

treeSet.add(8);

treeSet.add(5);

treeSet.add(3);

System.out.println(treeSet);

// Sorts the eles and stores in maps form

TreeMap<Integer,String>treeMap=new TreeMap<Integer,String>();

treeMap.put(10, "Apple");

treeMap.put(1, "Vegetab;e");

treeMap.put(87, "Mango");

treeMap.put(6, "Apple");

treeMap.put(10, "Orange");

System.out.println(treeMap);

}

}

**3.2 Web Development**

Learning Web development was the basis for this project. Web development is the process of creating websites and web applications for the internet or an intranet. It involves several disciplines, such as web design, web programming, server-side scripting, and network security. The internship tasks were based on HTML, CSS, and JavaScript which are the fundamental technologies for Web development.

HTML (Hypertext Markup Language) is a markup language used to create the structure and content of web pages. HTML is the foundation of most websites and is used to create text, images, links, and other media that are displayed on web pages.

CSS (Cascading Style Sheets) is a style sheet language used to describe the presentation and visual appearance of HTML documents. CSS separates the content of a web page from its presentation, allowing developers to create dynamic and responsive web pages. CSS is used to style HTML elements, such as fonts, colors, layouts, and animations.

JavaScript (JS) is a high-level programming language that is commonly used to create interactive web pages and dynamic web applications. JS allows developers to add interactivity, animations, and advanced functionality to web pages. JS is a client-side language, meaning that it runs on the user's computer rather than the web server. JS is also used on the server side, using platforms such as Node.js. This allows developers to create full-stack web applications using a single language.

Some of the tasks that became the basis for the project are listed below. These tasks were assigned to the interns which helped them to strengthen their foundation and build upon them.

**Task#1**

**Text-To-Speech Web Application**

**HTML File**

<!DOCTYPE html>

<head>

<title>Text tp Speech</title>

</head>

<body>

<textarea name="" id="text" cols="30" rows="10"></textarea>

<button id="btn">Text To Speech</button>

<script src="./app.js"></script>

</body>

</html>

**JS File**

const btn=document.querySelector("#btn")

const textarea=document.querySelector("#text")

var speech=new SpeechSynthesisUtterance()

console.log(speech);

btn.addEventListener("click",()=>{

console.log(textarea.value);

speech.text=textarea.value

speech.pitch=0.5

speech.volume=1

speech.lang="en-US"

speech.rate=1

speechSynthesis.speak(speech)

})

**Task#2**

**Random Color Generator Web Application**

**HTML File**

<!DOCTYPE html>

<head>

<title>Random Color Gen</title>

</head>

<style>

\*{

margin: 0;

padding: 0;

}

body{

height: 100vh;

display: flex;

justify-content: center;

align-items: center;

flex-direction: column;

gap: 20px;

}

input{

padding: 10px;

text-align: center;

}

button{

padding: 15px;

}

</style>

<body>

<input type="text" id="input" readonly>

<button id="btn">

Change Color

</button>

<script src="./rcolor.js"></script>

</body>

</html>

**JS File**

const btn = document.getElementById('btn')

const input=document.getElementById('input')

const getcolor = () => {

var letters = "0123456789ABCDEF"

var color = "#"

for (let i = 0; i < 6; i++) {

color += letters[Math.floor(Math.random() \* 16)]

}

return color

}

btn.addEventListener('click',()=>{

var c=getcolor()

document.body.style.backgroundColor=c

input.value=c

})

**Task#3**

**HTML Form using various input methods**

<!DOCTYPE html>

<html lang="en">

<head>

<title>Form</title>

</head>

<body>

<form action="#">

<fieldset>

<legend>Registration form</legend>

<table>

<tr>

<td>

<label for="">Name</label>

</td>

<td>

<input type="text">

</td>

</tr>

<tr>

<td>

<label for="">Phone</label>

</td>

<td>

<input type="number">

</td>

</tr>

<tr>

<td>

<label for="">Email</label>

</td>

<td>

<input type="email" name="" id="">

</td>

</tr>

</table>

<fieldset>

<legend>

Which taxi do you require?

</legend>

<input type="radio" name="taxi" id="">Car

<br>

<input type="radio" name="taxi" id="">Van

<br>

<input type="radio" name="taxi" id="">Tuk Tuk

<br>

</fieldset>

<fieldset>

<legend>

Extras

</legend>

<input type="checkbox" name="extra" id="">Baby Seat

<br>

<input type="checkbox" name="extra" id="">Wheelchail access

<br>

<input type="checkbox" name="extra" id="">Stock Tip

</fieldset>

<table>

<tr>

<td>

Pickup Date Time:

</td>

<td>

<input type="date" name="" id="">

</td>

</tr>

<tr>

<td>

Pickup place:

</td>

<td>

<select name="place" id="">

<option value=""></option>

<option value="mlore">Mangalore</option>

<option value="blore">Bangalore</option>

</select>

</td>

</tr>

<tr>

<td>

Dropoff place:

</td>

<td>

<input type="text">

</td>

</tr>

</table>

</fieldset>

</form>

<br>

<hr>

<br>

</body>

</html>