**PHASE IV – FINAL ASSESMENT**

**Online Test Application**

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**Source Codes:**

**App-routing.module.ts:**

import { NgModule } from '@angular/core';

import { RouterModule, Routes } from '@angular/router';

import { QuestionComponent } from './question/question.component';

import { ResultComponent } from './result/result.component';

import { WelcomeComponent } from './welcome/welcome.component';

const routes: Routes = [

  {path:'', redirectTo:'welcome', pathMatch:"full"},

  {path:'welcome', component:WelcomeComponent},

  {path:'question', component:QuestionComponent},

  {path: 'result', component:ResultComponent}

];

@NgModule({

  imports: [RouterModule.forRoot(routes)],

  exports: [RouterModule]

})

export class AppRoutingModule { }

**App.component.html:**

import { Component } from '@angular/core';

@Component({

  selector: 'app-root',

  templateUrl: './app.component.html',

  styleUrls: ['./app.component.scss']

})

export class AppComponent {

  title = 'OnlineQuizApp';

}

**Index.html:**

<!doctype html>

<html lang="en">

<head>

  <meta charset="utf-8">

  <meta name="viewport" content="width=device-width, initial-scale=1">

  <title>OnlineQuizApp</title>

  <base href="/">

  <meta name="viewport" content="width=device-width, initial-scale=1">

  <link rel="icon" type="image/x-icon" href="favicon.ico">

  <link href="https://cdn.jsdelivr.net/npm/bootstrap@5.0.2/dist/css/bootstrap.min.css" rel="stylesheet"

    integrity="sha384-EVSTQN3/azprG1Anm3QDgpJLIm9Nao0Yz1ztcQTwFspd3yD65VohhpuuCOmLASjC" crossorigin="anonymous">

  <link rel="stylesheet" href="https://cdnjs.cloudflare.com/ajax/libs/font-awesome/4.7.0/css/font-awesome.min.css">

</head>

<body>

  <script src="https://cdn.jsdelivr.net/npm/bootstrap@5.0.2/dist/js/bootstrap.bundle.min.js"

    integrity="sha384-MrcW6ZMFYlzcLA8Nl+NtUVF0sA7MsXsP1UyJoMp4YLEuNSfAP+JcXn/tWtIaxVXM"

    crossorigin="anonymous"></script>

  <app-root></app-root>

</body>

</html>

**app.component.html:**

<app-header></app-header>

<router-outlet></router-outlet>

**header.component.ts:**

import { Component, OnInit } from '@angular/core';

@Component({

  selector: 'app-header',

  templateUrl: './header.component.html',

  styleUrls: ['./header.component.scss']

})

export class HeaderComponent implements OnInit {

  constructor() { }

  ngOnInit(): void {

  }

}

**Header.component.html:**

<nav class="navbar navbar-expand-sm bg-warning navbar-light">

  <div class="container-fluid">

    <a class="navbar-brand text-bold" routerLink="/welcome">

      <img src="https://img.icons8.com/color/96/000000/angularjs.png" alt="logo" width="40">

      <span class="text-uppercase">ngular Quiz</span>

    </a>

    <!-- Links -->

    <ul class="navbar-nav">

      <li class="nav-item">

        <a class="nav-link" href="#"><b>Quiz</b></a>

      </li>

      <li class="nav-item">

        <a class="nav-link" href="#"><b>Results</b></a>

      </li>

    </ul>

  </div>

</nav>

**welcome.component.ts:**

import { Component, OnInit, ViewChild, ElementRef } from '@angular/core';

@Component({

  selector: 'app-welcome',

  templateUrl: './welcome.component.html',

  styleUrls: ['./welcome.component.scss']

})

export class WelcomeComponent implements OnInit {

  @ViewChild('name') nameKey!: ElementRef;

  constructor() { }

  ngOnInit(): void {

  }

  startQuiz(){

    localStorage.setItem("name",this.nameKey.nativeElement.value);

  }

}

**Welcome.component.html:**

import { Component, OnInit, ViewChild, ElementRef } from '@angular/core';

@Component({

  selector: 'app-welcome',

  templateUrl: './welcome.component.html',

  styleUrls: ['./welcome.component.scss']

})

export class WelcomeComponent implements OnInit {

  @ViewChild('name') nameKey!: ElementRef;

  constructor() { }

  ngOnInit(): void {

  }

  startQuiz(){

    localStorage.setItem("name",this.nameKey.nativeElement.value);

  }

}

**Question.component.ts:**

import { Component, OnInit } from '@angular/core';

import { interval } from 'rxjs';

import { QuestionService } from '../service/question.service';

@Component({

  selector: 'app-question',

  templateUrl: './question.component.html',

  styleUrls: ['./question.component.scss']

})

export class QuestionComponent implements OnInit {

  public name: string = "";

  public questionList: any = [];

  public currentQuestion: number = 0;

  public points: number = 0;

  counter = 60;

  correctAnswer: number = 0;

  inCorrectAnswer: number = 0;

  interval$: any;

  progress: string = "0";

  isQuizCompleted : boolean = false;

  constructor(private questionService: QuestionService) { }

  ngOnInit(): void {

    this.name = localStorage.getItem("name")!;

    this.getAllQuestions();

    this.startCounter();

  }

  getAllQuestions() {

    this.questionService.getQuestionJson()

      .subscribe(res => {

        this.questionList = res.questions;

      })

  }

  nextQuestion() {

    this.currentQuestion++;

  }

  previousQuestion() {

    this.currentQuestion--;

  }

  answer(currentQno: number, option: any) {

    if(currentQno === this.questionList.length){

      this.isQuizCompleted = true;

      this.stopCounter();

    }

    if (option.correct) {

      this.points += 10;

      setTimeout(() => {

        this.currentQuestion++;

        this.resetCounter();

        this.correctAnswer++;

        this.getProgressPercent();

      }, 700);

    }

    else {

      setTimeout(() => {

        this.currentQuestion++;

        this.resetCounter();

        this.inCorrectAnswer++;

        this.getProgressPercent();

      }, 700);

      this.points -= 5;

    }

  }

  startCounter() {

    this.interval$ = interval(1000)

      .subscribe(val => {

        this.counter--;

        if (this.counter === 0) {

          this.currentQuestion++;

          this.counter = 60;

          this.points -= 10;

        }

      });

    setTimeout(() => {

      this.interval$.unsubscribe();

    }, 600000);

  }

  stopCounter() {

    this.interval$.unsubscribe();

    this.counter = 0;

  }

  resetCounter() {

    this.stopCounter();

    this.counter = 60;

    this.startCounter();

  }

  resetQuiz() {

    this.resetCounter();

    this.getAllQuestions();

    this.points = 0;

    this.counter = 60;

    this.currentQuestion = 0;

    this.progress = "0";

  }

  getProgressPercent() {

    this.progress = ((this.currentQuestion / this.questionList.length) \* 100).toString();

    return this.progress;

  }

}

**Question.component.html:**

<div class="container mt-5">

    <div class="card">

        <div class="d-flex justify-content-between p-3">

            <div class="image">

                <img src="https://img.icons8.com/color/96/000000/angularjs.png" alt="logo" width="90">

            </div>

            <div class="quiz-header">

                <h4 style="font-family: cursive;">Angular & Type Script Quiz!</h4>

                <span style="font-style: italic;">Welcome, <b>{{name}}</b>!</span>

            </div>

        </div>

        <ng-container \*ngIf="!isQuizCompleted">

            <div class="d-flex justify-content-around py-3">

                <div class="score">

                    <h5>{{points}} Points</h5>

                </div>

                <div class="question-remain">

                    <span style="font-style: italic;">Question {{currentQuestion+1}} of {{questionList.length}}</span>

                </div>

                <div class="timer">

                    <h5>{{counter}} sec ⏱️</h5>

                </div>

            </div>

            <div class="progress mb-3">

                <div class="progress-bar bg-danger" role="progressbar" [ngStyle]="{'width': progress+'%'}"

                    aria-valuenow="25" aria-valuemin="0" aria-valuemax="100"></div>

            </div>

            <div class="question">

                <div class="card">

                    <h4>{{questionList[currentQuestion]?.questionText}}</h4>

                </div>

            </div>

            <div class="options">

                <ol \*ngFor="let option of questionList[currentQuestion]?.options">

                    <li (click)="answer(currentQuestion+1,option)">

                        <div appChangeBg [isCorrect]="option.correct" class="card">

                            {{option.text}}

                        </div>

                    </li>

                </ol>

            </div>

            <div class="d-flex justify-content-between">

                <button [disabled]="currentQuestion===0" class="btn" (click)="previousQuestion()"><i

                        class="fa text-danger fa fa-chevron-left fa-2x" aria-hidden="true"></i></button>

                <button class="btn" (click)="resetQuiz()"><i class="fa text-danger fa-refresh fa-2x"

                        aria-hidden="true"></i></button>

                <button class="btn" (click)="nextQuestion()"><i class="fa text-danger fa fa-chevron-right fa-2x"

                        aria-hidden="true"></i></button>

            </div>

        </ng-container>

        <ng-container \*ngIf="isQuizCompleted">

            <div class="row d-flex justify-content-between">

                <img style="width: 50%;" class="img-fluid col-sm-12 mx-auto"

                    src="https://icon-library.com/images/celebration-icon-png/celebration-icon-png-7.jpg"

                    alt="Hurray!!!" />

                <div class="result text-center col-md-6 col-sm-12">

                    <h3>Congratulations! <br>You have completed the quiz. <br>Below is your result:</h3>

                    <p>Total Questions Attempted : {{questionList.length}}</p>

                    <p>Total Correct Answers : {{correctAnswer}} </p>

                    <p>Total Wrong Answers : {{inCorrectAnswer}} </p>

                    <p>Your Score : {{points}} </p>

                </div>

                <div class="align-items-right">

                    <button class="btn btn-warning float-right" style="width: 300px;"

                        routerLink="/welcome">Logout</button>

                </div>

            </div>

        </ng-container>

    </div>

</div>

**Question.component.scss:**

.card{

    max-width: 800px;

    margin: 0 auto;

    padding: 10px;

}

li{

    list-style-type: none;

    cursor: pointer;

    margin: 10px 0;

}

li .card:hover{

    border: 1px solid red;

}

ol{

    padding: 0;

}

**Question.service.ts:**

import { Injectable } from '@angular/core';

import { HttpClient } from '@angular/common/http'

@Injectable({

  providedIn: 'root'

})

export class QuestionService {

  constructor(private http : HttpClient) { }

  getQuestionJson(){

    return this.http.get<any>("assets/questions.json");

  }

}

**Questions.json:**

import { Injectable } from '@angular/core';

import { HttpClient } from '@angular/common/http'

@Injectable({

  providedIn: 'root'

})

export class QuestionService {

  constructor(private http : HttpClient) { }

  getQuestionJson(){

    return this.http.get<any>("assets/questions.json");

  }

}