

## ABSTRACT

The Skills Tracker Design note summarizes the Project Structure and includes the screenshots of the working application

## Developer

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# DESIGN NOTE ON SKILLS TRACKER

.Net FSD

## Contents

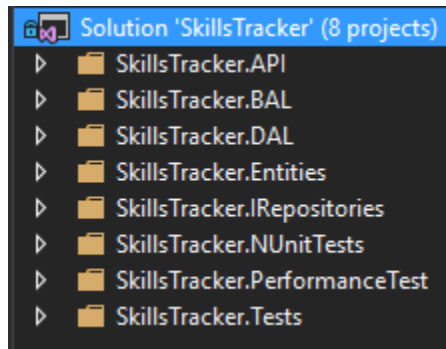
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# Project Structure:

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The Skills Tracker Project implements a “Separation of Concerns” pattern for maintainability. The following sections details each concern’s functionality.



## 1. SkillsTracker.API:

This is a ASP.NET Web API project which acts as a bridge between the Single Page Application (SPA - built with Angular) and the database. The request is in the form of Data Transfer Objects (DTO) which is sent to the next concern which is the SkillsTracker.BAL.

## 2. SkillsTracker.BAL (Business Access Layer):

This is a class library which contains all the business logic of the SkillsTracker . The incoming data from the API request is tranformed into the Database entities and sent to the next concern which is the SkillsTracker.DAL.

## 3. SkillsTracker.DAL (Data Access Layer):

This is a class library which contains all the data access logic of the SkillsTracker. The layer implements Repository pattern to access the data via the Entity Framework.

## 4. SkillsTracker.Entites:

This is a class library containing POCOs which are used as entities (for Entity Framework Code First approach) in the Data Access Layer and the Data Transfer Objects for APIs.

## 5. SkillsTracker.IRepositories:

This is a class library containing the contracts for the Repository Framework.

**6. SkillsTracker.NUnitTests:**

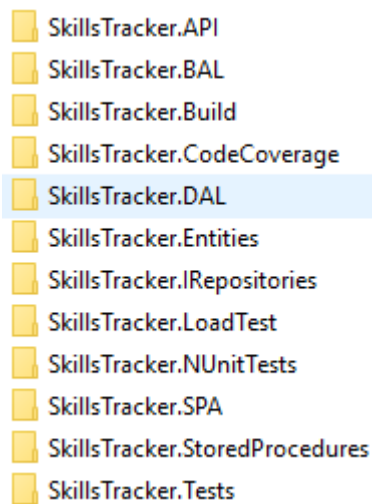
This is a class library containing unit tests implemented using the NUnit Framework.

**7. SkillsTracker.PerformanceTest:**

This is a class library containing performance tests implemented using the NBench. The folder contains a Readme.txt file containing the guidelines. Reports are copied in the folder.

**8. SkillsTracker.Tests:**

This is a class library containing unit tests implemented using MSTest.

**9. SkillsTracker.SPA:**

This is an Angular project built with Angular CLI.

**10. SkillsTracker.StoredProcedures:**

This contains the database scripts for creation of the database, tables, stored procedures and also seeding the tables.

**11. SkillsTracker.Build:**

This contains the build scripts written in NAnt which integrates with CruiseControl.NET Continuous Integration server. The folder contains a Readme.txt file containing the guidelines.

**12. SkillsTracker.CodeCoverage:**

This contains the script for running Code Coverage. The Code Coverage report for Skills Tracker has been copied in the folder. The folder also contains a Readme.txt file containing the guidelines.

**13. SkillsTracker.LoadTest:**

This contains the Load Test Plan configured using JMeter whose instructions are given in the Readme.txt available in the folder.

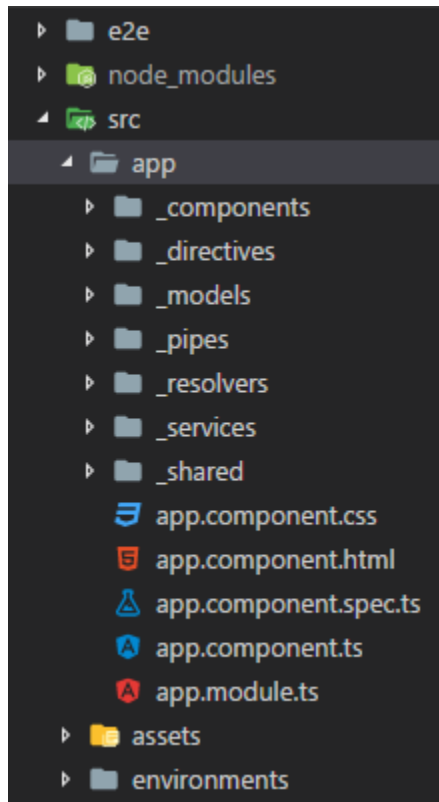
**Exception Handling and Logging:**

Skills Tracker project is configured with a Global Exception Handler (GlobalExceptionHandler.cs) which handles all uncaught exceptions and sends a user friendly response to the client. To log these exceptions, **log4net** framework with a custom wrapper class has been used.

# Skills Tracker – SPA:

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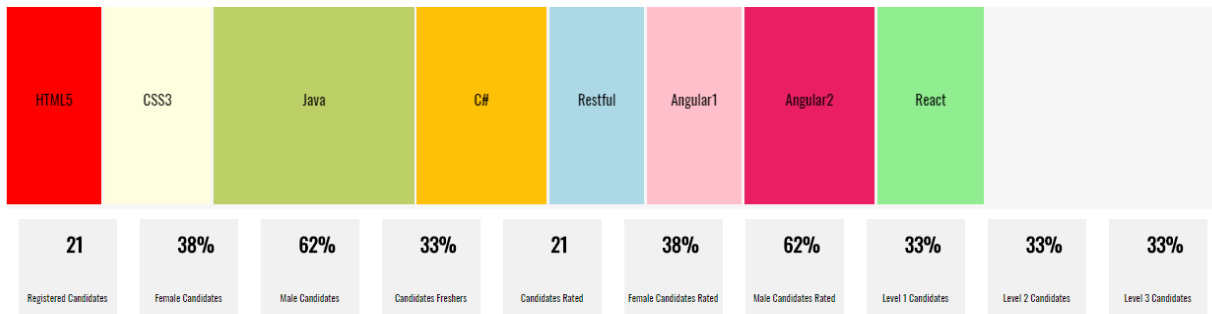
Skills Tracker is a Single Page Application built with Angular 5 and Bootstrap. Prominence have been given to adhere to the coding standards, structuring it into different modules (shown below) which is quite self-explanatory.



# Working Screenshots of Skills Tracker:

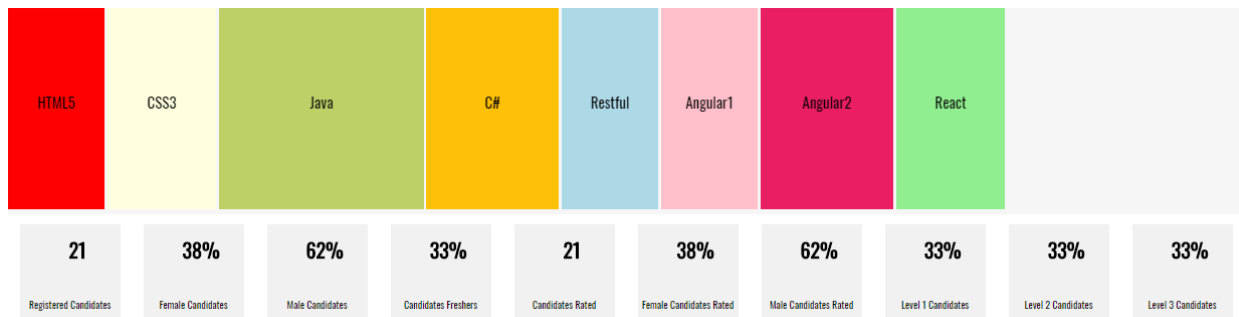
## Landing/Home Page

### SKILLS TRACKER
























Pic	Status	Search By Name	Search By ID	Search By Email ID	Search By Mobile	Search By Strong Skills	ADD NEW ASSOCIATE
	<span></span>	Nakash Sheikh	295380	Nakash.Sheikh@cognizant.com	9880940088	Angular 1, C#, CSS3, Java, React, Restful, Spring, Spring Restful	
	<span></span>	Tony Stark	295381	Tony.Stark@cognizant.com	9880940081	Bootstrap, DevOps, Java, Spring, Testing	
	<span></span>	Pepper Potts	295382	Pepper.Potts@cognizant.com	9880940082	Bit Bucket, HTML5, Javascript, Jenkins, JQuery, Spring Restful	
	<span></span>	Natasha Romanov	295383	Natasha.Romanov@cognizant.com	9880940083	CSS3, DevOps, HTML5, Java, PM, React	
	<span></span>	Bruce Banner	295384	Bruce.Banner@cognizant.com	9880940084	Angular 1, Angular 2, C#, CSS3, DevOps, Java, React, Restful	






## Dashboard: (Built with HTML5 Canvas elements without using any 3<sup>rd</sup> party charts)



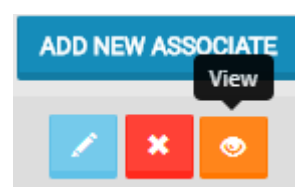
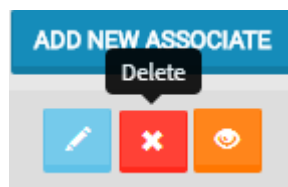
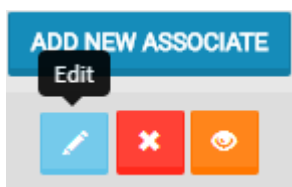
Candidates Data Table: (Scrollable table with Picture and Status)

Pic	Status	Search By Name	Search By ID	Search By Email ID	Search By Mobile	Search By Strong Skills	ADD NEW ASSOCIATE
		Nakash Sheikh	295380	Nakash.Sheikh@cognizant.com	9880940088	Angular 1, C#, CSS3, Java, React, Restful, Spring, Spring Restful	  
		Tony Stark	295381	Tony.Stark@cognizant.com	9880940081	Bootstrap, DevOps, Java, Spring, Testing	  
		Pepper Potts	295382	Pepper.Potts@cognizant.com	9880940082	Bit Bucket, HTML5, Javascript, Jenkins, JQuery, Spring Restful	  
		Natasha Romanov	295383	Natasha.Romanov@cognizant.com	9880940083	CSS3, DevOps, HTML5, Java, PM, React	  
		Bruce Banner	295384	Bruce.Banner@cognizant.com	9880940084	Angular 1, Angular 2, C#, CSS3, DevOps, Java, React, Restful	  

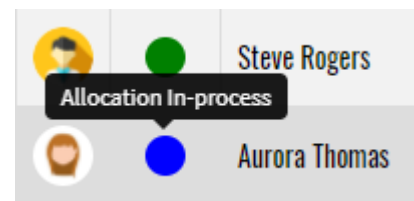
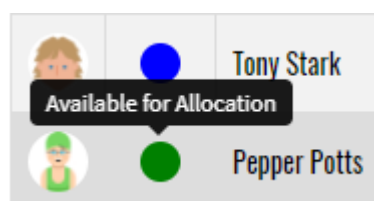
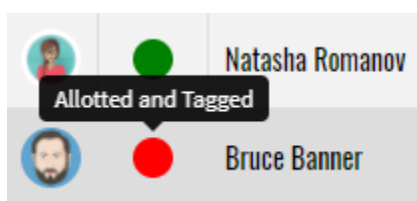
Candidates Data Table: (Filter by each column)

Pic	Status	rogers	Search By ID	Search By Email ID	Search By Mobile	Search By Strong Skills	ADD NEW ASSOCIATE
		Steve Rogers	295387	Steve.Rogers@cognizant.com	9880940087	Angular 2, Angular 4, Spring Restful, XML	  

Candidates Data Table: (Navigation buttons with tooltip)



Candidates Data Table: (Different status tooltips)





## Candidates Data Table: View (Candidate Data via Modal Pop-up)

**Steve Rogers**

Employee ID	295387
Email	Steve.Rogers@cognizant.com
Phone	9880940087
Gender	Male
Skills	Spring Restful, XML, Angular 4, Angular 2
Strength	Strengths of Steve
Weakness	Weakness of Steve
Level	Level 2
Status	Available for Allocation

Avatar	Gender	Name	Employee ID	Email	Phone	Skills	Actions
	Female	Natasha Romanov	295383	Natasha.Romanov@cognizant.com	9880940083	CSS3, DevOps, HTML5, Java, PM, React	
	Male	Bruce Banner	295384	Bruce.Banner@cognizant.com	9880940084	Angular 1, Angular 2, C#, CSS3, DevOps, Java, React, Restful	
	Female	Jean Grey	295385	Jean.Grey@cognizant.com	9880940085	Git, JAX-RS, JSON, SVN, Testing	
	Male	Scott Summers	295386	Scott.Summers@cognizant.com	9880940086	CI, Hibernate, Logic, Testing	
	Male	Steve Rogers	295387	Steve.Rogers@cognizant.com	9880940087	Angular 2, Angular 4, Spring Restful, XML	
	Female	Aurora Thomas	295388	Aurora.Thomas@cognizant.com	9880940089	Angular 2, C#, CSS3, DevOps, HTML5, Java, React, Restful	

## Candidates Data Table: Delete with confirmation

Are you sure you want to delete the candidate?

Avatar	Gender	Name	Employee ID	Email	Phone	Skills	Actions
	Female	Natasha Romanov	295383	Natasha.Romanov@cognizant.com	9880940083	CSS3, DevOps, HTML5, Java, PM, React	
	Male	Bruce Banner	295384	Bruce.Banner@cognizant.com	9880940084	Angular 1, Angular 2, C#, CSS3, DevOps, Java, React, Restful	
	Female	Jean Grey	295385	Jean.Grey@cognizant.com	9880940085	Git, JAX-RS, JSON, SVN, Testing	
	Male	Scott Summers	295386	Scott.Summers@cognizant.com	9880940086	CI, Hibernate, Logic, Testing	
	Male	Steve Rogers	295387	Steve.Rogers@cognizant.com	9880940087	Angular 2, Angular 4, Spring Restful, XML	
	Female	Aurora Thomas	295388	Aurora.Thomas@cognizant.com	9880940089	Angular 2, C#, CSS3, DevOps, HTML5, Java, React, Restful	

Add New Employee Screen

SKILLS TRACKER

Add New Employee Skill

Name

Enter Full Name

Associate ID

Enter Associate ID

Email

Enter email

Mobile

Enter mobile number

Gender

MALE

FEMALE

Remarks

Enter Remarks

Click to upload Image

STATUS GREEN

L1

STATUS BLUE

L2

STATUS RED

L3

Skills (Rating 0 - 20)

ADD OR UPDATE SKILL

HTML5: 0

CSS3: 0

Bootstrap: 0

Javascript: 0

JQuery: 0

Angular 1: 0

Angular 2: 0

Angular 4: 0

Restful: 0

React: 0

Spring: 0

Spring MVC: 0

Java: 0

C#: 0

Spring Restful: 0

JAX-RS: 0

JSON: 0

XML: 0

Hibernate: 0

Spring Caching: 0

Strength

Enter Candidate Strength

Weakness

Enter Candidate Weakness

RESET

CANCEL

SAVE

Add New Employee Screen (Validation)

SKILLS TRACKER

Name

Enter Full Name

Please enter Candidate's full name

Associate ID

Enter Associate ID

Please enter Candidate's Employee ID

Email

Enter email

Please enter Candidate's Email ID

Mobile

Enter mobile number

Please enter Candidate's Mobile number

Gender

MALE

FEMALE

Remarks

Enter Remarks

Click to upload Image

STATUS GREEN

L1

STATUS BLUE

L2

STATUS RED

L3

Add New Employee Screen (Photo Upload)

SKILLS TRACKER

Add New Employee Skill

Name

Enter Full Name

Associate ID

Enter Associate ID

Email

Enter email

Mobile

Enter mobile

Gender

MALE

Remarks

Enter Remarks

Skills (Rating 0 - 20)

DevOps: 0

Bit Bucket: 0

SCRUM: 0

Aptitude: 0

Spoken: 0

Confidence: 0

Communication: 0

Other: 0

SVN: 0

PM: 0

Logic: 0

Strength

Enter Candidate Strength

Weakness

Enter Candidate Weakness

ADD OR UPDATE SKILL

RESET

CANCEL

SAVE

Open

This PC > Desktop > DAF

Search DAF

Organize

New folder

Quick access

This PC

Desktop

Documents

Downloads

Music

Pictures

Videos

Windows (C:)

Data (D:)

Network

download

images (1)

images (1)

images (2)

images (2)

images (3)

images (4)

images (5)

images (6)

images

images

File name:

Custom Files

Open

Cancel

Add New Employee Screen (Choose status and level)

STATUS GREEN

L1

STATUS BLUE

L2

STATUS RED

L3

**Add New Employee Screen (Skill Selection)**

**Skills (Rating 0 - 20)**ADD OR UPDATE SKILL

HTML5: 0	CSS3: 0	Bootstrap: 0	Javascript: 0
JQuery: 0	Angular 1: 0	Angular 2: 0	Angular 4: 0
Restful: 0	React: 0	Spring: 0	Spring MVC: 0
Java: 0	C#: 0	Spring Restful: 0	JAX-RS: 0
JSON: 0	XML: 0	Hibernate: 0	Spring Caching: 0

Strength

Weakness

RESET CANCEL SAVE

**Add New Employee Screen (Skill rating using HTML5 range slider with custom CSS)**

HTML5: 8	CSS3: 6
JQuery: 18	Angular 1: 0

**Add New Employee Screen (Add or Update Skill button)****ADD OR UPDATE SKILL**

Add New Skill Screen

SKILLS TRACKER

Add Skill

Search

Search Skill

Skill Name

Enter skill name

SUBMIT

CANCEL

HTML5

EDIT

DELETE

CSS3

EDIT

DELETE

Bootstrap

EDIT

DELETE

Javascript

EDIT

DELETE

jQuery

EDIT

DELETE

Angular 1

EDIT

DELETE

Angular 2

EDIT

DELETE

Add New Skill Screen (Skill filter)

SKILLS TRACKER

Add Skill

Search

boo

Skill Name

Enter skill name

SUBMIT

CANCEL

Bootstrap

EDIT

DELETE

**Add New Skill Screen (Skill Name validation)**

Search

Skill Name  SUBMIT CANCEL

Please enter a Category

**Add New Skill Screen (Update skill via “contenteditable” attribute. Delete skill)**

Java UPDATE DELETE

**Update Employee Skill Screen****SKILLS TRACKER****Update Employee Skill**

Name

Associate ID

Email

Mobile

Gender MALE FEMALE

Remarks



STATUS GREEN	L1
STATUS BLUE	L2
STATUS RED	L3

**Skills (Rating 0 - 20)**   ADD

HTML5: 0	CSS3: 0	Bootstrap: 0	Javascript: 0
jQuery: 0	Angular 1: 0	Angular 2: 14	Angular 4: 12
Restful: 0	React: 0	Spring: 0	Spring MVC: 0
Java: 0	C#: 0	Spring Restful: 4	JAX-RS: 0
JSON: 0	XML: 17	Hibernate: 0	Spring Caching: 0

Strength  Weakness

DELETE CANCEL UPDATE

## Update Employee Skill Screen (with Skill filter)

Skills (Rating 0 - 20)

Javascript: 0  Java: 0

Strength  Weakness

## Update Employee Skill Screen (adding new Skill)


Skills (Rating 0 - 20)

HTML5: 0  CSS3: 0  Bootstrap: 0  Javascript: 0

Skills (Rating 0 - 20)

Business Management: 0  HTML5: 0  CSS3: 0  Bootstrap: 0

## Skills Tracker - Progress Bar (for each HTTP request made)

SKILLS TRACKER 

Update Employee Skill

Name

Associate ID


Email

Mobile

Gender 

MALE FEMALE

Remarks



STATUS GREEN L1

STATUS BLUE L2

STATUS RED L3