

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

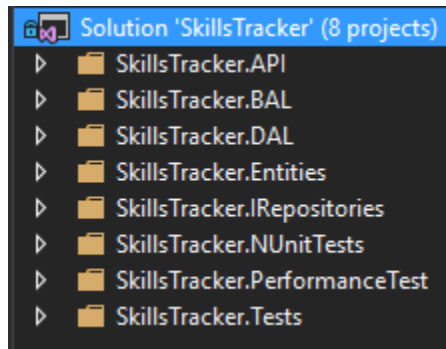
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Contents

| | |
|--|---|
| Project Structure:..... | 3 |
| Skills Tracker – SPA: | 6 |
| Working Screenshots of Skills Tracker: | 7 |

Project Structure:

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:

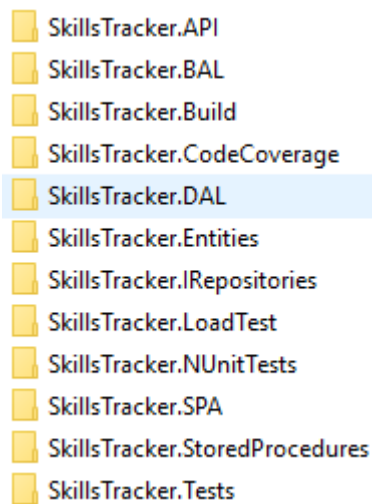
This is a class library containing unit tests implemented using the NUnit Framework.

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:

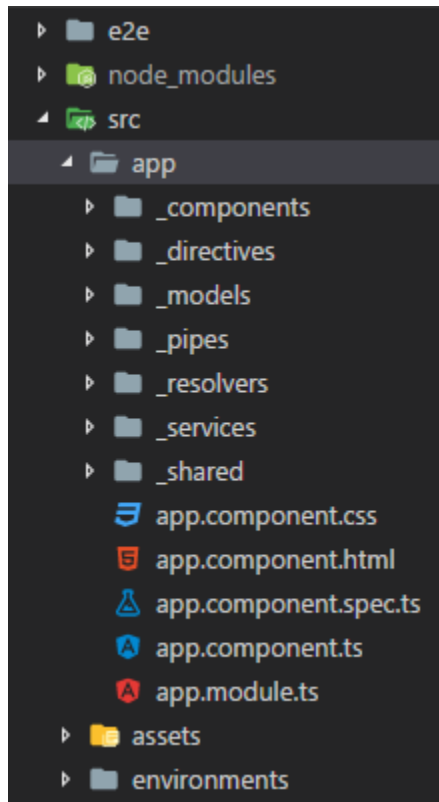
This contains the script for running Code Coverage. The Code Coverage report for Skills Tracker has been copied in the folder. The folder also contains a Readme.txt file containing the guidelines.

13. SkillsTracker.LoadTest:


















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

Skills Tracker – SPA:





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.



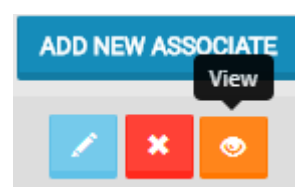
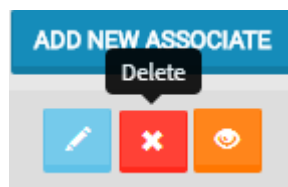
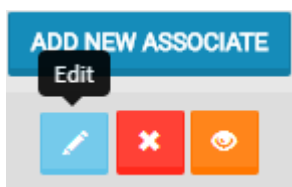
Candidates Data Table: (Scrollable table with Picture and Status)

| 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 |    |

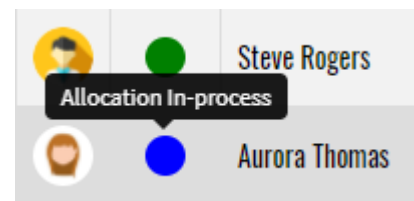
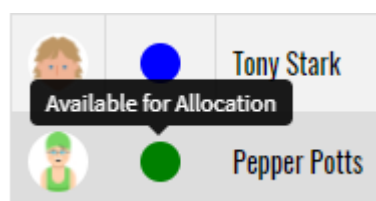
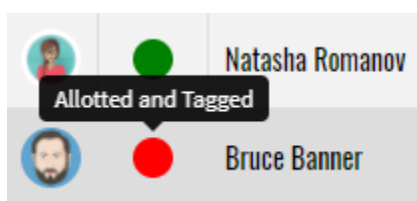
Candidates Data Table: (Filter by each column)

| 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)

The screenshot displays the 'SKILLS TRACKER' application interface. A modal pop-up is open, showing the profile of Steve Rogers. The modal contains the following information:

- 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

The background shows a table of candidates with columns for Name, Employee ID, Email, Phone, Skills, and a set of action buttons (edit, delete, view). The table lists several candidates, including Natasha Romanov, Bruce Banner, Jean Grey, Scott Summers, Steve Rogers, and Aurora Thomas.

Candidates Data Table: Delete with confirmation

The screenshot displays the 'SKILLS TRACKER' application interface. A confirmation dialog is open, asking: "Are you sure you want to delete the candidate?". The dialog has two buttons: "YES" and "NO".

The background shows a dashboard with various skill categories (HTML5, CSS3, Java, C#, Restful, Angular1, Angular2, React) and their respective candidate counts and percentages. Below the dashboard is a table of candidates with columns for Name, Employee ID, Email, Phone, Skills, and a set of action buttons (edit, delete, view). The table lists several candidates, including Natasha Romanov, Bruce Banner, Jean Grey, Scott Summers, Steve Rogers, and Aurora Thomas.

Add New Employee Screen

SKILLS TRACKER

Add New Employee Skill

| | |
|--------------|---|
| Name | <input type="text" value="Enter Full Name"/> |
| Associate ID | <input type="text" value="Enter Associate ID"/> |
| Email | <input type="text" value="Enter email"/> |
| Mobile | <input type="text" value="Enter mobile number"/> |
| Gender | <input type="button" value="MALE"/> <input type="button" value="FEMALE"/> |
| Remarks | <input type="text" value="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 Weakness

RESET

CANCEL

SAVE

Add New Employee Screen (Validation)

SKILLS TRACKER

| | |
|--------------|--|
| Name | <input type="text" value="Enter Full Name"/> Please enter Candidate's full name |
| Associate ID | <input type="text" value="Enter Associate ID"/> Please enter Candidate's Employee ID |
| Email | <input type="text" value="Enter email"/> Please enter Candidate's Email ID |
| Mobile | <input type="text" value="Enter mobile number"/> Please enter Candidate's Mobile number |
| Gender | <input type="button" value="MALE"/> <input type="button" value="FEMALE"/> |
| Remarks | <input type="text" value="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

Associate ID

Email

Mobile

Gender

Remarks

Skills (Rating 0 - 20)

DevOps:

Bit Bucket:

SCRUM:

Aptitude:

Spoken:

Confidence:

Communication:

Other:

SVN:

PM:

Logic:

Strength

Weakness

ADD OR UPDATE SKILL

STATUS GREEN L1

STATUS BLUE L2

STATUS RED L3

RESET **CANCEL** **SAVE**

Open

File name:

Open **Cancel**

The screenshot shows a web application interface for adding a new employee skill. At the top, there's a header 'SKILLS TRACKER'. Below it, a form titled 'Add New Employee Skill' contains fields for Name, Associate ID, Email, Mobile, Gender (set to MALE), and Remarks. A file upload dialog is open in the center, showing a grid of image thumbnails. To the right of the form, there are three status buttons: 'STATUS GREEN' (L1), 'STATUS BLUE' (L2), and 'STATUS RED' (L3). Below these are several skill categories with rating inputs: DevOps, Bit Bucket, SCRUM, Aptitude, Spoken, Confidence, Communication, Other, SVN, PM, and Logic. At the bottom, there are fields for Strength and Weakness, and three buttons: RESET, CANCEL, and SAVE.

Add New Employee Screen (Choose status and level)

STATUS GREEN L1

STATUS BLUE L2

STATUS RED L3

The screenshot shows a vertical stack of three buttons. The top button is green and labeled 'STATUS GREEN' with 'L1' to its right. The middle button is blue and labeled 'STATUS BLUE' with 'L2' to its right. The bottom button is red and labeled 'STATUS RED' with 'L3' to its right.

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