

Skill Gap Assessment



In 5th Year of (M.C.A. Integrated)

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L.J. INSTITUTE OF COMPUTER APPLICATIONS

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CERTIFICATE

Enrollment No: _____

This is to certify that Mr./Ms. _____
studying in 5 years Integrated - Master of Computer Applications, Semester X,
Roll No _____ has satisfactorily completed his/her Project Titled
_____ under the supervision
of

Internal Guide Name

Signature

Date of Submission:

Director

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1. Introduction

- With a rapid growth in the field of Information Technology it is becoming necessary for an organization to cope up with the upcoming technologies in the market.
- Many multinational companies and organizations are looking for an employees who can cope with the upcoming technology.
- Day by day the employees are getting hired by an organization or companies. Every employee have some good skills in their particular subject or field.
- But according to the current situation in many organizations or multinational companies the major problem which is being faced is the skill gap.
- So to avoid such problem we have developed a system which will help the organizations and companies to find an employee according to their need.
- We have developed a system **“Skill Gap Assessment”**.
- **“Skill Gap Assessment”** provides the organization and multinational companies to evaluate employees according to their need.
- With the help of this tool it will be helpful to the organizations to manage their employee skills.

1.1 Existing System

- There is no such existing system which gives skill gap analysis from various perspectives.

1.2 Need for the New System

- The main purpose of this system is to assess and measure an individual's skill in an organizations.
- When used by an organizations, it can support employee's performance improvement plan to identify the gaps and define action plans for resolution.
- The system is developed keeping in mind to do end to end skill management for an organization.
- The **“Skill Gap Assessment”** can be used in conjunction with an Organizational Assessment to help assess the current state of Organizational Project Management Maturity.
- A **“Skill Gap Assessment”** is a tool that can provide insight on how and where an employee can improve their knowledge and skills.

1.3 Objective of the New System

- The main objective of the system to manage skills of an employee in an organization or a multinational company.
- The system helps the organization to refine and define the skills now and in the future.
- The system also helps the employees know what critical skills they will need to grow.
- It also helps the organization in reducing efforts for recruiting employees for a specific skills.
- System generates different variety of reports so that the organizations can easily manage employee skills.

1.4 Problem Definition

- The Skill Gap Assessment is used to provide a brief overview of employee's skills to promote shared understanding of it before a more detailed plan.
- The purpose of this system is to do end to end skill management for the organization.
- The goal of this project is to use latest open source technologies and develop following modules.
 1. Skill Assessment
 2. Executive Dashboard

1.5 Scope of the Project and Core Components

➤ Scope

The main scope of “**Skill Gap Assessment**” is to manage employee's skill in an organization. The system has an admin login who can add question or a set of questions for a particular skill. Each skill can be categorized into different sub categories. Each skill can have multiple questions. Each question may have a single answer or a multiple answer. Admin can assign rating (in simple term marks) for each question and each group of questions. Further there will be a manager login in which he can assess employee on a particular skill. Manager can also approve the assessment done by the employee. Further there will be an employee login who can assess himself on a particular questionnaire.

➤ **Core Components**

1. Admin Panel

- Login
- Manage Category
- Manage Sub Category
- Manage Skills
- Manage Forms
- Generate Report
- View Response

2. Manager Panel

- Login
- Add Assessment
- Approve Employee Assessment

3. Employee Panel

- Login
- Self-Assessment

4. Client Panel

- Login
- Employee Assessment

1.6 Project Profile

Project Name		Skill Gap Assessment	
Organization		Prazo Solutions	
Project Type		Web Application	
Team Member		Abhinav Shah(135170686032)	
Front End		Angular 5, Bootstrap 4.0, Php 7.0.10, Node JS(npm) 8.9.4	
Back End		MySQL 5.7.14	
Other Tools/Technology		Visual Studio Code, Postman, Dia, SmartGit	

1.7 Advantages of the Proposed System

- Employee's skill can be easily figured out.
- Employees can be evaluated differently for different project parameters.
- As employees are assessed from different parameters the organization can easily figure out skill gap of each employee or a group of employees.
- Reports can be generated from different perspectives.
- Brief overview of employee's skills to promote shared understanding of it before a more detailed plan.

2. Requirement Determination & Analysis

2.1 Requirement Determination

- Requirement of this system is collected from the head of the company and other superior executives.

2.2 Targeted Users

➤ Admin

- Admin can manage category, manage sub category, manage skills and can manage questions.
- Admin can generate different questionnaire.
- Admin can view reports and responses.

➤ Employee

- Employee can assess himself on the questionnaire generated by admin.

➤ Manager

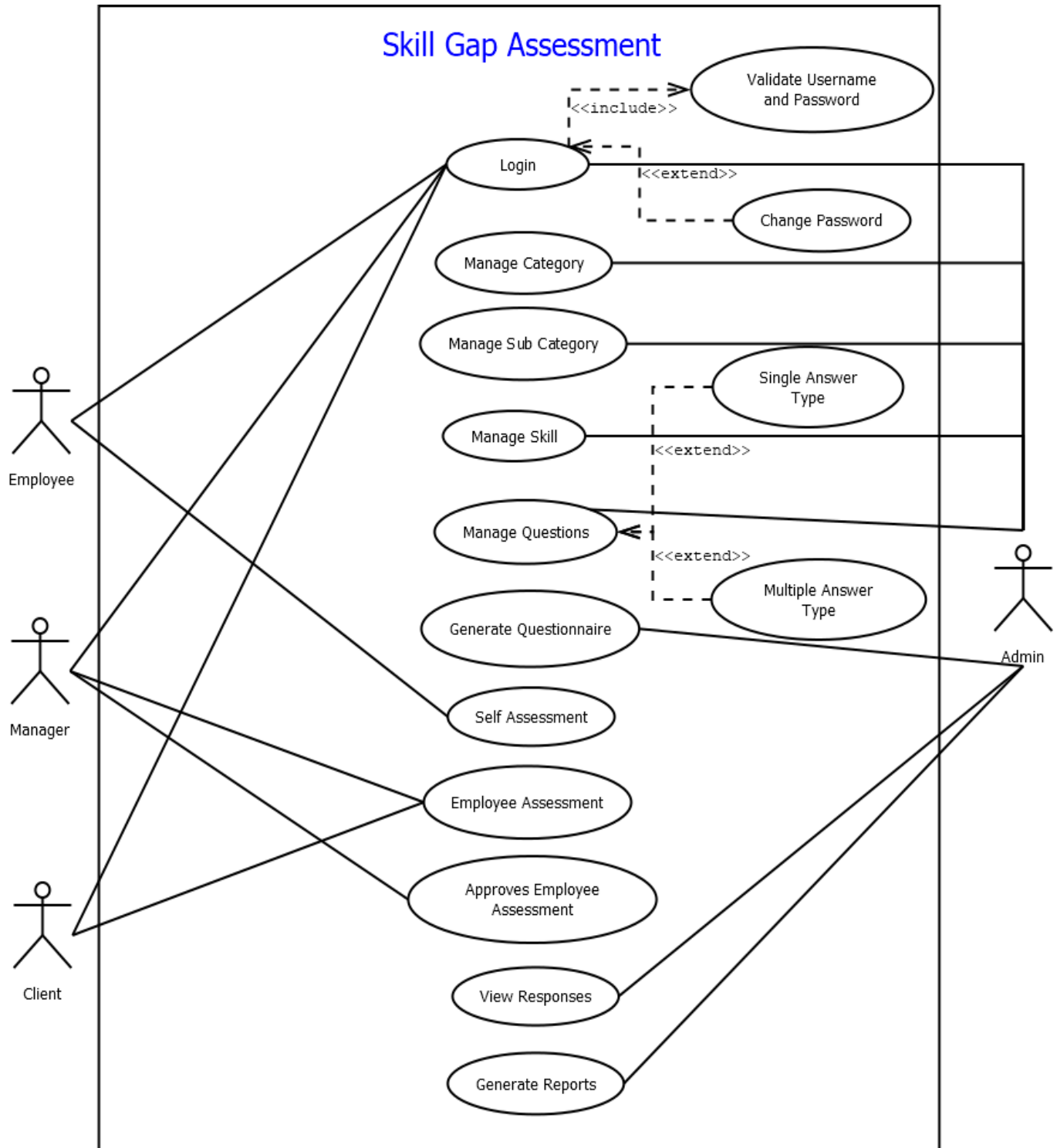
- Manager can approve or disapprove employee's assessment.
- Manager can also update employee's assessment.

➤ Client

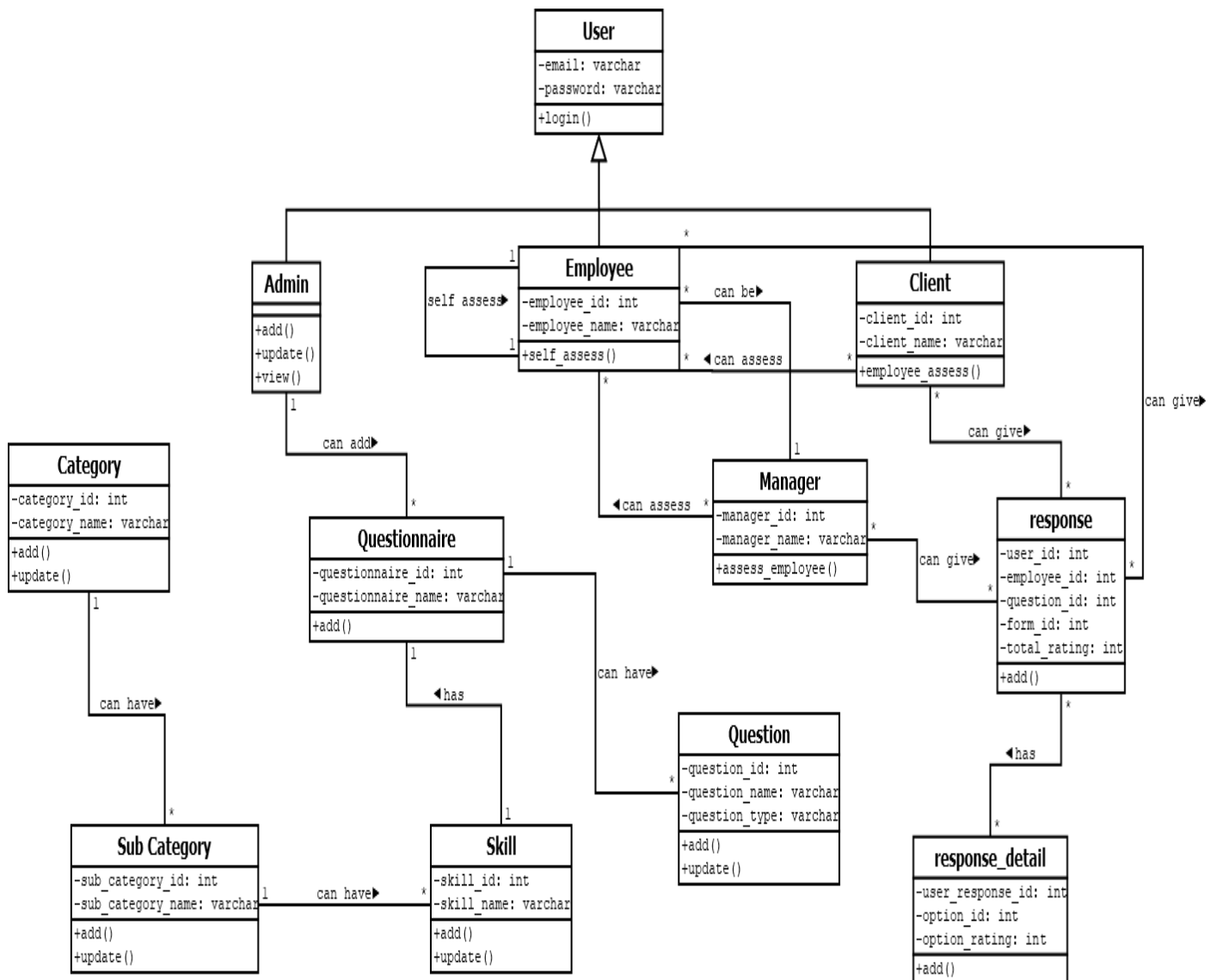
- Client can assess the project team.

3. System Design

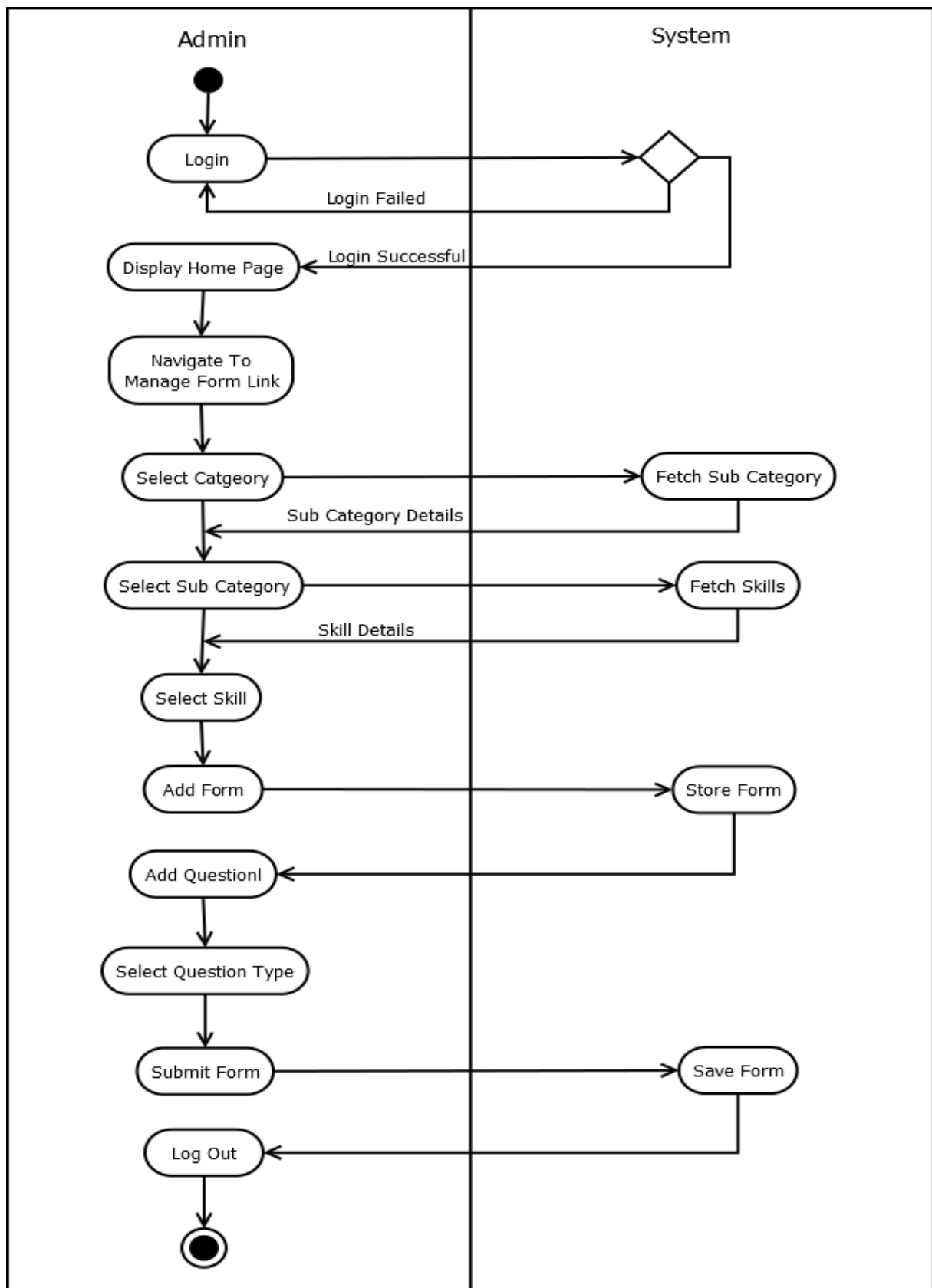
3.1 Use Case Diagram



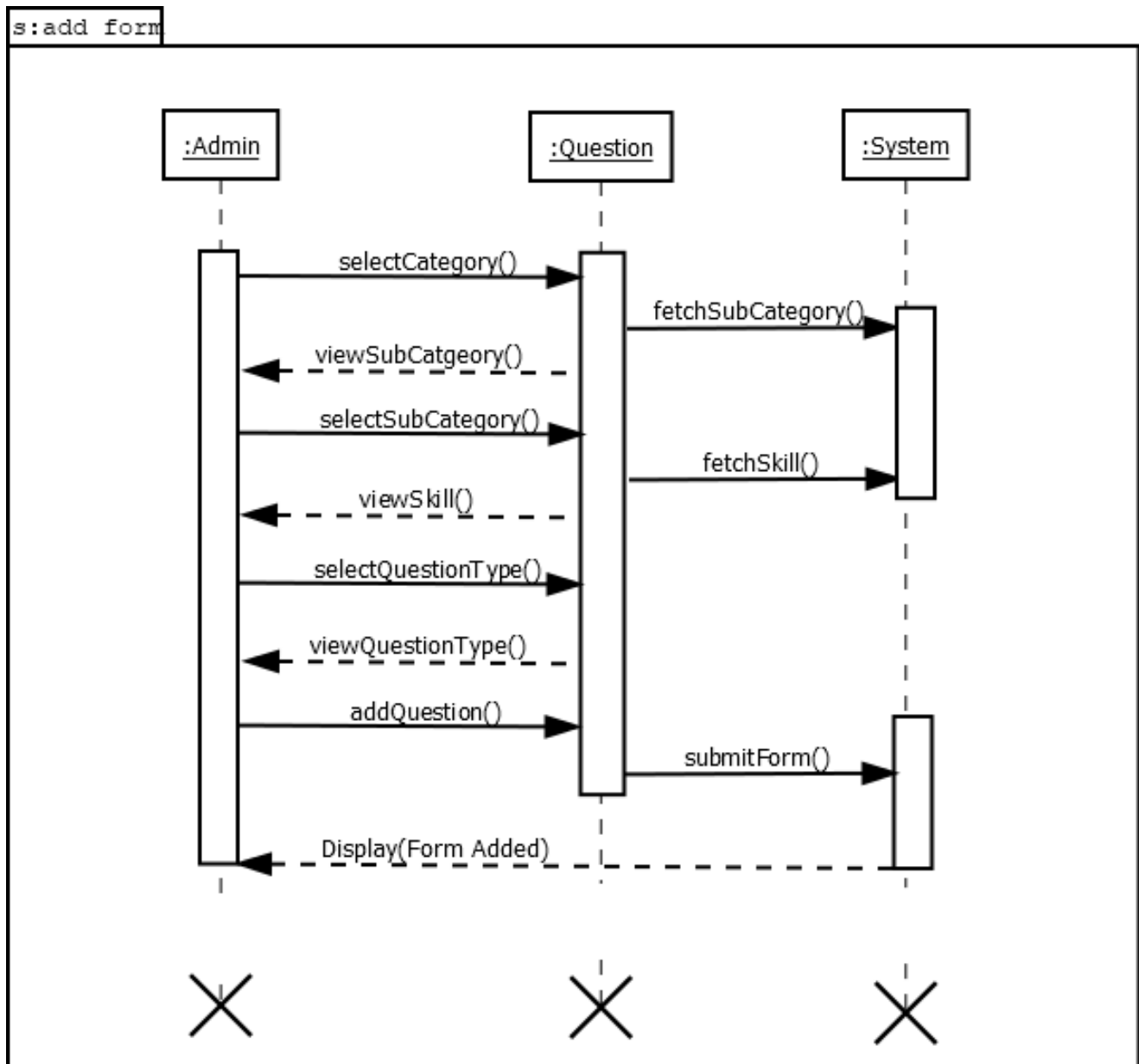
3.2 Class Diagram



3.3 Activity Diagram



3.4 Sequence Diagram



3.5 Data Dictionary

Table Name: user_master

Table Description: Includes the details of the user.

Field Name	Data Type	Constraint	Description	Sample Data
User_id	Int	Primary Key	User Id	1
First_name	Varchar(30)	Not null	First name	Abhinav
Middle_name	Varchar(30)	Null	Middle name	Kiran
Last_name	Varchar(30)	Not null	Last name	Shah
Gender	Enum('Male','Female')	Null	Gender	Male
Email	Varchar(100)	Unique Not Null	Email id	abhi@gmail.com
Passwd	Varchar(255)	Not null	Password	Encrypted
Contact	Varchar(15)	Uunique Not null	Contact no	9427021031
User_type	Enum('Admin', 'Employee', 'Manager', 'Client')	Not null	User type	Admin

Table Name: employee_master

Table Description: Includes the details of different employees.

Field Name	Data Type	Constraint	Description	Sample Data
Employee_id	Int	Primary key	Employee id	1
User_id	Int	Foreign key	User id	1

Table Name: manager_master

Table Description: Includes the details of different managers.

Field Name	Data Type	Constraint	Description	Sample Data
Manager_id	Int	Primary key	Manager id	1
User_id	Int	Foreign key	User id	1

Table Name: category_master

Table Description: Includes the details of different categories.

Field Name	Data Type	Constraint	Description	Sample Data
Category_id	Int	Primary key	Category id	1
Category_description	Varchar(50)	Unique Not null	Category description	Technical Skills

Table Name: sub_category_master

Table Description: Includes the details of different sub category.

Field Name	Data Type	Constraint	Description	Sample Data
Sub_category_id	Int	Primary key	Sub category id	1
Category_id	Int	Foreign key	Category id	1
Sub_category_description	Varchar(50)	Unique Not null	Sub category description	Web Technologies

Table Name: skill_master

Table Description: Includes the details of different skills of each sub category.

Field Name	Data Type	Constraint	Description	Sample Data
Skill_id	Int	Primary key	Skill id	1
Sub_category_id	Int	Foreign key	Sub category id	1
Skill_description	Varchar(50)	Unique Not null	Skill description	Php

Table Name: form_master

Table Description: Includes the details of different forms.

Field Name	Data Type	Constraint	Description	Sample Data
Form_id	Int	Primary key	Form id	1
Skill_id	Int	Foreign key	Skill id	1
Form_name	Varchar(30)	Unique Not Null	Form Name	Php Form

Table Name: question_master

Table Description: Includes the details of different questions of each skill.

Field Name	Data Type	Constraint	Description	Sample Data
Question_id	Int	Primary key	Question id	1
Form_id	Int	Foreign key	Form id	1
Question_type	Enum('Single Option', 'Multiple Option')	Null	Question type	Multiple Choice

Question_description	Varchar(255)	Not null	Question description	What is php?
Total_rating	Int	Not null	Rating	10

Table Name: question_option_master

Table Description: Includes the details of different options of each question.

Field Name	Data Type	Constraint	Description	Sample Data
Question_id	Int	Primary key	Question id	1
Option_id	Int	Primary Key	Option id	1
Option_description	Varchar(50)	Not null	Option description	Option1
Correct_option	Enum('True','False')	Null	Correct answer	True

Table Name: user_response

Table Description: Includes the details of reponse given by user.

Field Name	Data Type	Constraint	Description	Sample Data
User_id	Int	Primary key	User id	1
Employee_id	Int	Primary Key	Employee id	1
Question_id	Int	Primary Key	Question id	1
Form_id	Int	Foreign Key	Form id	1
Question_total_rating	Varchar(100)	Not null	Question Total Rating	10

Table Name: user_response_option

Table Description: Includes the details of detailed reponse given by user.

Field Name	Data Type	Constraint	Description	Sample Data
User_response_id	Int	Primary key	User response id	1
Option_id	Int	Primary Key	Option id	1
Option_rating	Int	Not null	Option rating	5

4. Development


4.1 Coding Standards

4.2 Screenshots


Skill Gap Assessment → Login


Login


Email

 Enter email

Password

 Password

Sign In 

Clear 

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Skill Gap Assessment Home Logout Welcome Admin

Category

Sub Category

Skill

Manage Form

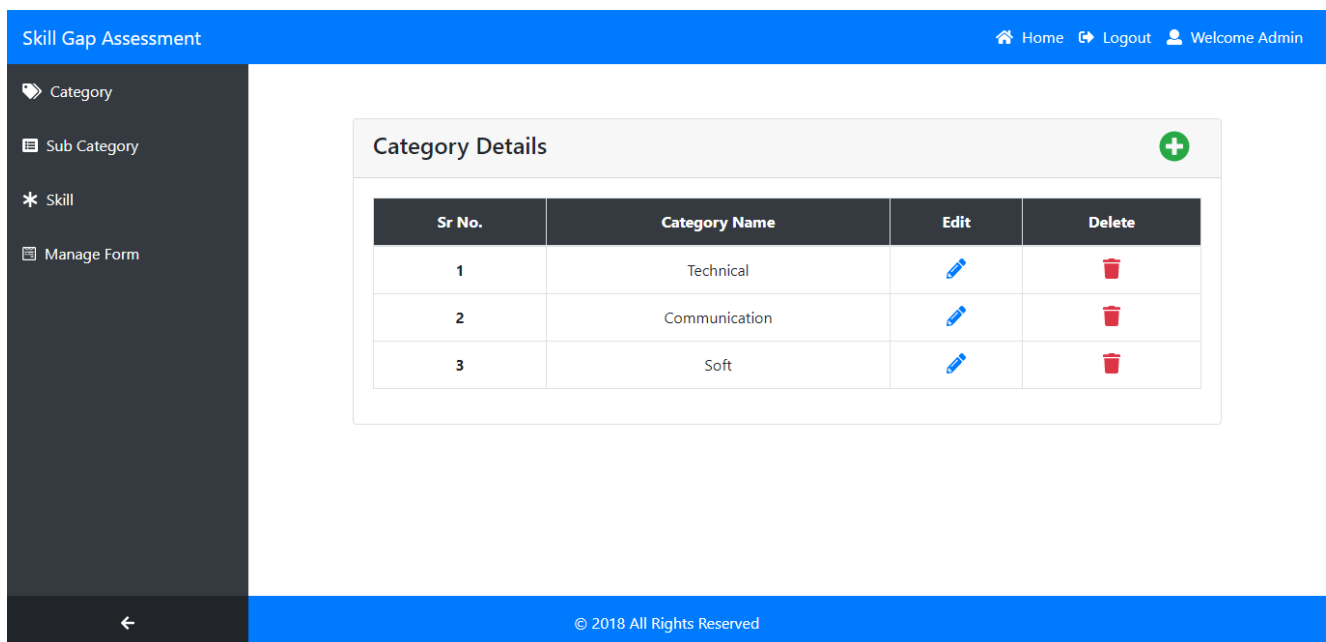
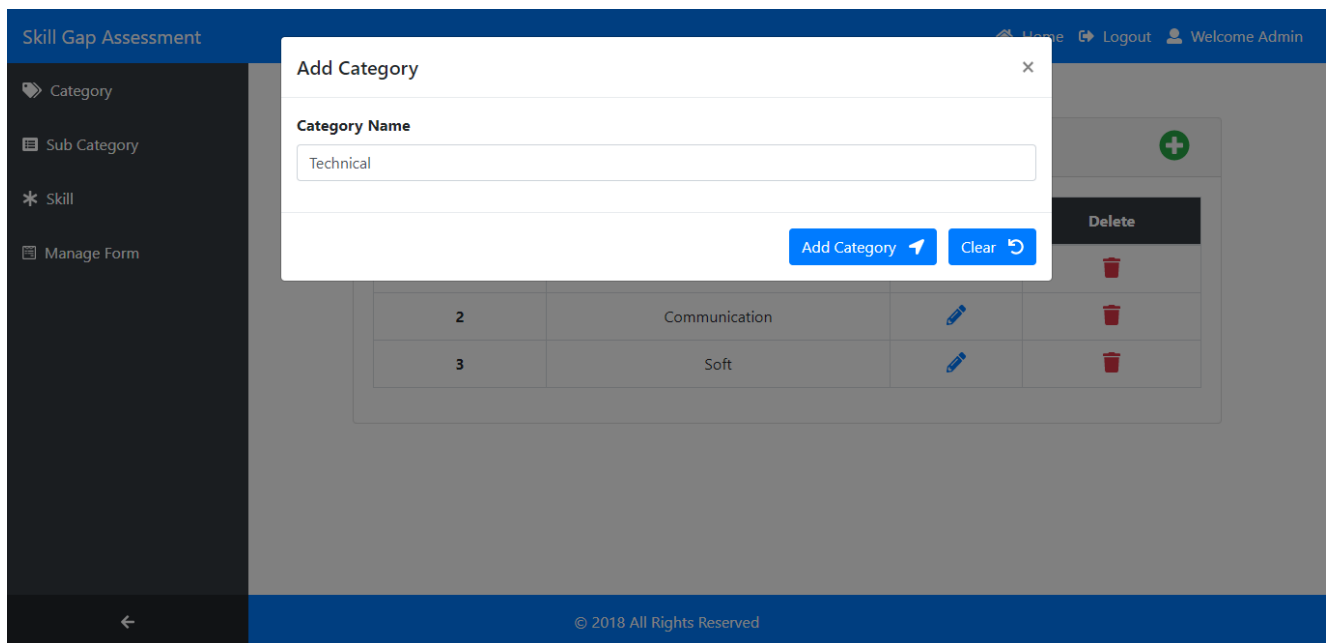
Dashboard / Blank Page

Admin Home

This is an Admin Home Page.

←

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Skill Gap Assessment

[Home](#)
[Logout](#)
Welcome Admin

Category

Sub Category

Skill

Manage Form

Add Sub Category

Select Category

Technical

Sub Category Name

Java

Add Sub Category

Clear

Sr No.	Category	Sub Category	Edit	Delete
3	Technical	Big Data		
4	Communication	Speaking		
5	Communication	Listening		
6	Soft	Learning		

←

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Skill Gap Assessment

[Home](#)
[Logout](#)
Welcome Admin

Category

Sub Category

Skill

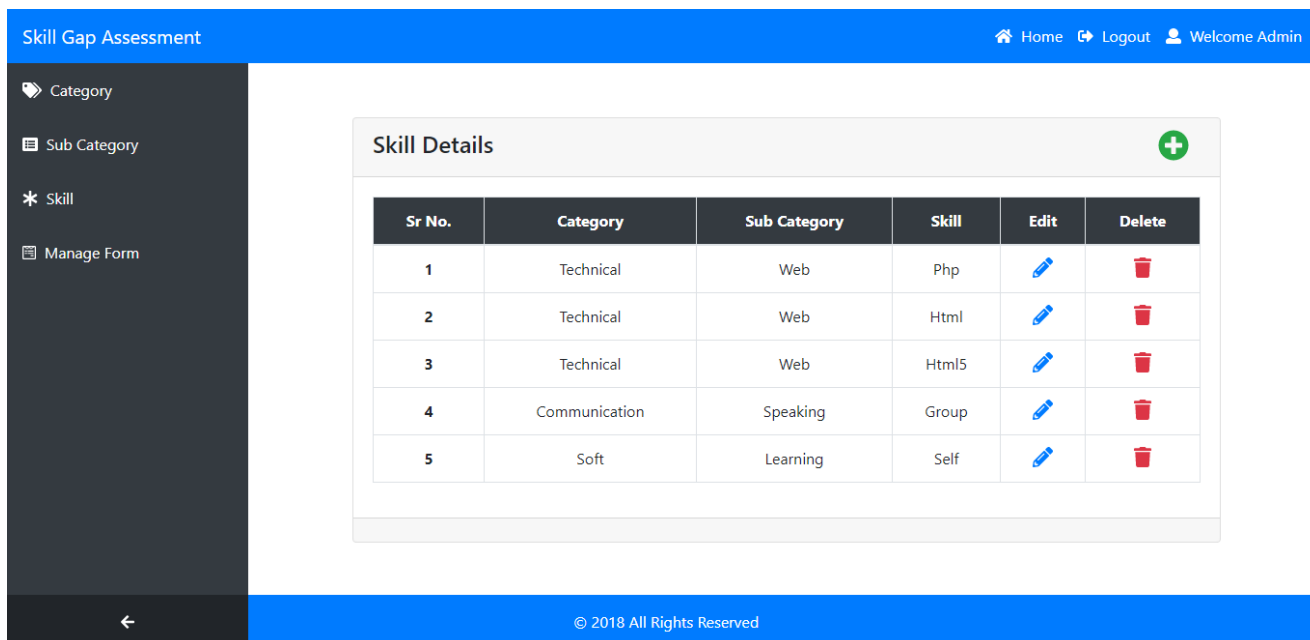
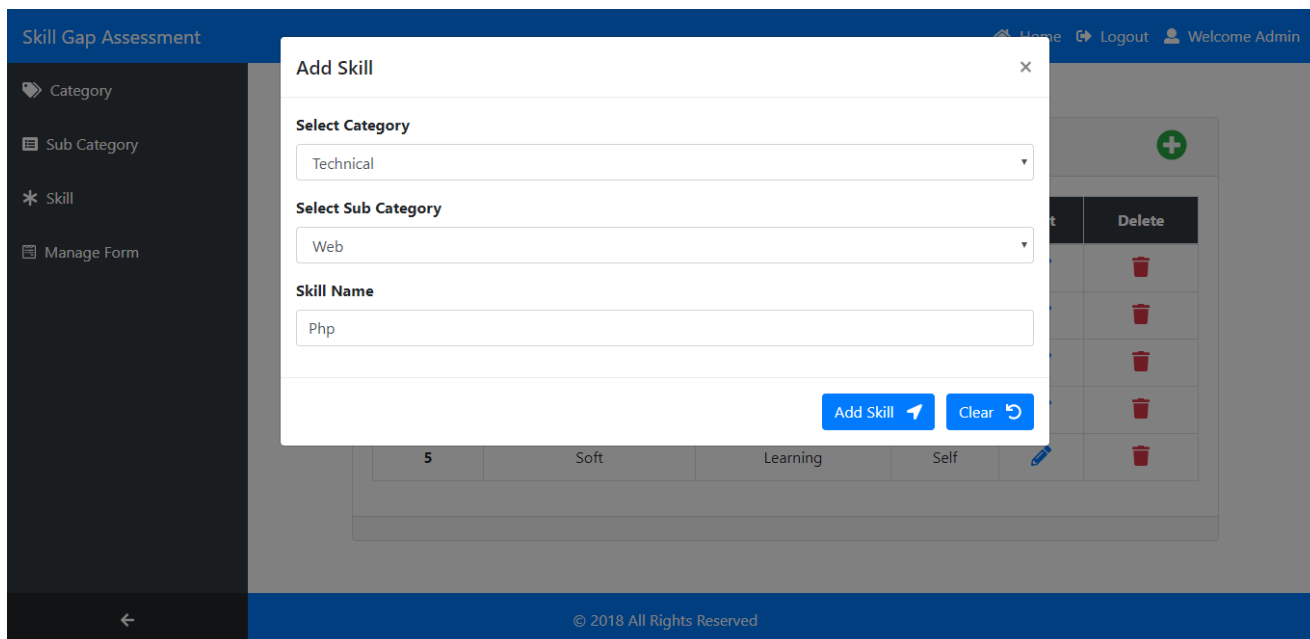
Manage Form

Sub Category Details

Sr No.	Category	Sub Category	Edit	Delete
1	Technical	Web		
2	Technical	Java		
3	Technical	Big Data		
4	Communication	Speaking		
5	Communication	Listening		
6	Soft	Learning		

←

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Skill Gap Assessment
Home Logout Welcome Admin

Category
Sub Category
Skill
Manage Form

Create Form

Select Category

Select Sub-Category

Select Skills

Technical

Web Technologies

Php

Form Name

Technical 1

+ Add Question

Add Form

Reset

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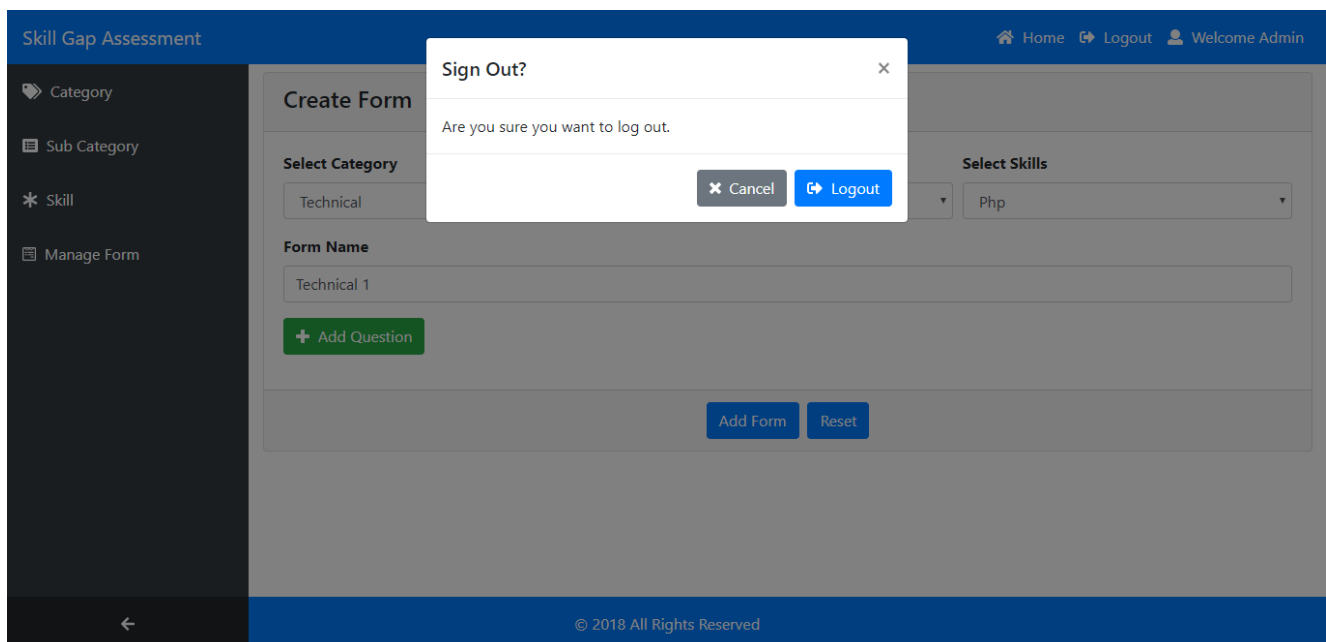
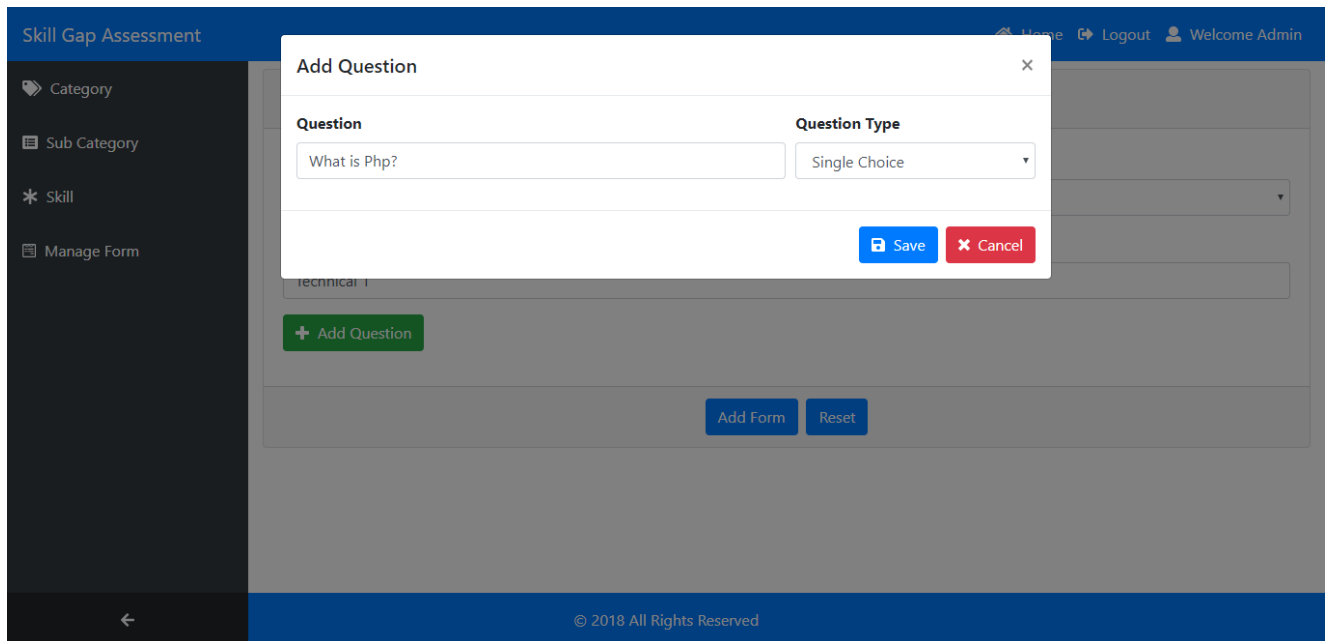
Skill Gap Assessment
Home Logout Welcome Admin

Category
Sub Category
Skill
Manage Form

Form Details

Sr No.	Form Name	Edit	Delete
1	Technical Form 1		
2	Communication Form 1		
3	Technical Form 2		
4	Communication Form 2		
5	Communication Form 3		

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5. Agile Documentation

5.1 Agile Project Charter

General Project Information	
Project Name	Skill Gap Assessment
Project Champion	Mr. Nitin Shah
Project Sponsor	Prazo Solutions
Project Manager	Mr. Nitin Shah
Stakeholders	Prazo Solutions
Expected Start Date	05-02-2018
Expected Completion Date*	05-06-2018
Project Details	
Mission	To build an application to do end to end skill management for the organization.
Vision	To provide a brief overview of Skill Gap Assessment to promote a shared understanding of it before a more detailed plan.
Scope	The main scope of “ Skill Gap Assessment ” is to manage employee’s skill in an organization. The system has an admin login who can add question or a set of questions for a particular skill. Each skill can be categorize into different sub categories. Each skill can have multiple questions. Each question may have a single answer or a multiple answer. Admin can assign rating (in simple term marks) for each question and each group of questions. Further there will be a manager login in which he can assess employee on a particular skill. Manager can also approve the assessment done by the employee. Further there will be an employee login who can assess himself on a particular questionnaire.
Date:	05-06-2018

5.2 Agile Roadmap

Skill Gap Assessment	February				March				April				May				June
	Week1	Week2	Week3	Week4	Week1	Week2	Week3	Week4	Week1	Week2	Week3	Week4	Week1	Week2	Week3	Week4	Week1
Analysis																	
Design																	
Coding																	
Testing																	
Implementation																	
Documentation																	

5.3 Agile Project Plan

Project Name	Skill Gap Assessment
Project Manager	Mr. Nitin Shah
Project Deliverable	Yes
Scope Statement	Refer Introduction Section
Start Date	05-02-2018
End Date*	05-06-2018

Task Name	Responsible	Start Date	End Date	Days	Status
Sprint 1	Abhinav Shah	15-02-2018	25-02-2018	10	Completed
Login	Abhinav Shah	15-02-2018	25-02-2018	10	Completed
Sprint 2	Abhinav Shah	28-02-2018	16-03-2018	16	Completed
Manage Category	Abhinav Shah	28-02-2018	04-03-2018	5	Completed
Manage Sub Category	Abhinav Shah	05-03-2018	09-03-2018	5	Completed
Manage Skill	Abhinav Shah	10-03-2018	16-03-2018	6	Completed
Sprint 3	Abhinav Shah	18-03-2018	30-03-2018	12	Completed
Add Form	Abhinav Shah	18-03-2018	25-03-2018	7	Completed
View/Update Form	Abhinav Shah	26-03-2018	30-03-2018	4	Completed
Sprint 4	Abhinav Shah	02-04-2018	12-04-2018	10	Completed
Add Question	Abhinav Shah	02-04-2018	04-04-2018	3	Completed
View Question	Abhinav Shah	05-04-2018	08-04-2018	4	Completed
Update Question	Abhinav Shah	09-04-2018	12-04-2018	3	Completed
Sprint 5	Abhinav Shah	14-04-2018	24-04-2018	10	Pending
Manager Assessment	Abhinav Shah	14-04-2018	20-04-2018	6	Pending
Approve Employee Assessment	Abhinav Shah	21-04-2018	24-04-2018	4	Pending
Sprint 6	Abhinav Shah	26-04-2018	05-05-2018	10	Not Started

Employee Add Assessment	Abhinav Shah	26-04-2018	30-04-2018	5	Not Started
View Assessment	Abhinav Shah	01-05-2018	05-05-2018	5	Not Started
Sprint 7	Abhinav Shah	08-05-2018	15-05-2018	8	Not Started
Customer Assessment	Abhinav Shah	08-05-2018	15-05-2018	8	Not Started
Sprint 8	Abhinav Shah	18-05-2018	28-05-2018	10	Not Started
Admin View Response	Abhinav Shah	18-05-2018	23-05-2018	6	Not Started
Generate Report	Abhinav Shah	24-05-2018	28-05-2018	4	Not Started
Sprint 9	Abhinav Shah	29-05-2018	05-06-2018	8	Not Started
Manage Dashboard	Abhinav Shah	29-05-2018	05-06-2018	8	Not Started

5.4 Agile User Story

User Story ID	As a <type of user>	I want to <perform some task>	So that I can <achieve some goal>	Priority
1	Admin	Enter email and password	Admin logs into the system.	High
2	Admin	Adds category	All the classes are added.	Medium
3	Admin	Adds sub category	All the sub category are added for each category.	Medium
4	Admin	Adds skill	All the skill are added for each sub category.	Medium
5	Admin	Add form	Form is created for each specific skill	High
6	Admin	Add question	Questions are added for a specific form	High
7	Admin	Manage dashboard	Admin manages dashboard	High
8	Admin	View responses	Admin views responses	Medium
9	Manager	Approve assessment	Manager approves employee's assessment	High
10	Manager	Update employee assessment	Manager can update employee's assessment	Medium
11	Manager	Assess employee	Manager can assess employee	medium
12	Employee	Self-assessment	Employee can assess himself	Medium
13	Employee	View response	Employee can view his response	low
14	Customer	Asses project team	Customer can assess project team	medium

5.5 Agile Release Plan

Sprint	Task	Start	End	Days	Status	Release Date	Goal
1	Login	15-02-2018	25-02-2018	10	Released	26-02-2018	Create Login Module
2	Manage Category	28-02-2018	04-03-2018	5	Released	04-03-2018	Manage Category Details
	Manage Sub Category	05-03-2018	09-03-2018	5	Released	09-03-2018	Manage Sub Category Details
	Manage Skill	10-03-2018	16-03-2018	6	Released	17-03-2018	Manage Skill Details
3	Add Form	18-03-2018	25-03-2018	7	Released	25-03-2018	Add Form Details
	View/Update Form	26-03-2018	30-03-2018	4	Released	01-04-2018	View/Update Form Details
4	Add Question	02-04-2018	04-04-2018	3	Released	04-04-2018	Add Question Detail
	View Question	05-04-2018	08-04-2018	4	Released	08-04-2018	View Questions
	Update Question	09-04-2018	12-04-2018	3	Released	13-04-2018	Update Question Details
5	Manager Assessment	14-04-2018	20-04-2018	6	Not Released	20-04-2018	Manager Assess Employee
	Approve Employee Assessment	21-04-2018	24-04-2018	4	Not Released	25-04-2018	Manager Approve Employee Assessment
6	Employee Add Assessment	26-04-2018	30-04-2018	5	Not Released	30-04-2018	Employee Assessment
	View Assessment	01-05-2018	05-05-2018	5	Not Released	05-05-2018	Employee Can View His Assessment
7	Customer Assessment	08-05-2018	15-05-2018	8	Not Released	15-05-2018	Customer Can Assess Team

8	Admin View Response	18-05-2018	23-05-2018	6	Not Released	23-05-2018	Admin Can View All Response
	Generate Report	24-05-2018	28-05-2018	4	Not Released	28-05-2018	Admin Can Generate Report
9	Manage Dashboard	29-05-2018	05-06-2018	8	Not Released	05-06-2018	Admin Can Manage Dashboard

5.6 Agile Sprint Backlog

Task Name	Story	Sprint Ready	Priority	Status	Story Points	Assigned to Sprint
Sprint 1	Yes	Yes	High	Complete	8	Yes
Login	Yes	Yes	High	Complete	8	Yes
Sprint 2	Yes	Yes	Medium	Complete	24	Yes
Manage Category	Yes	Yes	Medium	Complete	8	Yes
Manage Sub Category	Yes	Yes	Medium	Complete	8	Yes
Manage Skill	Yes	Yes	Medium	Complete	8	Yes
Sprint 3	Yes	Yes	High	Complete	32	Yes
Add Form	Yes	Yes	High	Complete	16	Yes
View/Update Form	Yes	Yes	High	Complete	16	Yes
Sprint 4	Yes	Yes	High	Complete	48	Yes
Add Question	Yes	Yes	High	Complete	16	Yes
View Question	Yes	Yes	High	Complete	16	Yes
Update Question	Yes	Yes	High	Complete	16	Yes
Sprint 5	Yes	Yes	High	Pending	16	Yes
Manager Assessment	Yes	Yes	Medium	Pending	8	Yes
Approve Employee Assessment	Yes	Yes	High	Pending	8	Yes
Sprint 6	Yes	Yes	High	Not Started	8	Yes
Employee Add Assessment	Yes	Yes	Medium	Not Started	4	Yes

View Assessment	Yes	Yes	Low	Not Started	4	Yes
Sprint 7	Yes	Yes	High	Not Started	4	Yes
Customer Assessment	Yes	Yes	Medium	Not Started	4	Yes
Sprint 8	Yes	Yes	High	Not Started	20	Yes
Admin View Response	Yes	Yes	Low	Not Started	4	Yes
Generate Report	Yes	Yes	High	Not Started	16	Yes
Sprint 9	Yes	Yes	High	Not Started	20	Yes
Manage Dashboard	Yes	Yes	High	Not Started	20	Yes

5.7 Agile Test Plan

Project Name: Skill Gap Assessment	
Test Case ID: T1	Test Designed by: Abhinav Shah
Test Priority (Low/Medium/High): Med	Test Designed date: 04/03/2018
Module Name: Admin Add Category	Test Executed by: Abhinav Shah
Test Title: Add Category Details	Test Execution date: 04/03/2018
Description: Admin Adds The Category	
Pre-conditions: Admin Should Be Logged In	
Dependencies:	

Step	Test Steps	Test Data	Expected Result	Actual Result	Status
1	Navigate To Add Category Page	Click On Add	Allow	Pass	Pass
2	Enter Category Details	Add Category Details	Allow	Pass	Pass
3	Add Button	Click On Add Button	Allow	Pass	Pass

Project Name: Skill Gap Assessment

Test Case ID: T2	Test Designed by: Abhinav Shah
Test Priority (Low/Medium/High): Med	Test Designed date: 09/03/2018
Module Name: Admin Add Sub Category	Test Executed by: Abhinav Shah
Test Title: Add Sub Category Details	Test Execution date: 09/03/2018
Description: Admin Adds The Sub Category	
Pre-conditions: Admin Should Be Logged In	
Dependencies:	

Step	Test Steps	Test Data	Expected Result	Actual Result	Status
1	Navigate To Add Sub Category Page	Click On Add	Allow	Pass	Pass
2	Enter Sub Category Details	Add Sub Category Details	Allow	Pass	Pass
3	Add Button	Click On Add Button	Allow	Pass	Pass

Project Name: Skill Gap Assessment

Test Case ID: T3	Test Designed by: Abhinav Shah
Test Priority (Low/Medium/High): Med	Test Designed date: 16/03/2018
Module Name: Admin Add Skill	Test Executed by: Abhinav Shah
Test Title: Add Skill Details	Test Execution date: 16/03/2018
Description: Admin Adds The Skill	
Pre-conditions: Admin Should Be Logged In	
Dependencies:	

Step	Test Steps	Test Data	Expected Result	Actual Result	Status
1	Navigate To Add Skill Page	Click On Add	Allow	Pass	Pass
2	Enter Skill Details	Add Skill Details	Allow	Pass	Pass
3	Add Button	Click On Add Button	Allow	Pass	Pass

6. Proposed Enhancement

- There are some point features that we will do in future as proposed enhancement.
- Planned to make use of this system in other organizations.
- Priority based approved system.
- Tracking of complaints schedule.

7. Conclusion

- We have made “**Skill Gap Assessment**” application where admin is able to manage category, sub category, skills, forms, questions and all the activities based on their roles and permissions.
- Use of Angular 5 and Bootstrap 4 technology would make the application more interactive.
- This application is simple for our organization to use. The whole data will be containing in the database so that user get the data easily without more effort.

8. Bibliography

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