

PROJECT ON

Health Insurance

Developed by

Members:

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- ✓ **Class No.: C1911L**
- ✓ **Start Date: 26/10/2021**
- ✓ **End Date: 26/11/2021**
- ✓ **Name of the Coordinator: Mr Phan Huu Tri**
- ✓ **Date of Submission: 26/11/2021**

SYSTEM ANALYSIS

System Summary:

Introduction to the topic

Health Insurance wants to develop a website to maintain information regarding the insurance policies for our staff and also assist them to claim the bills based on the policies provided. This website will facilitate system administrators (Senior Management) to reach out to employees smoothly, grasp employees' demands about the medical examination, and give them great options for financial issues when accidents suddenly happen to them.

2.Problem Statement

Currently, the company's employees are having difficulty paying for the high costs of medical treatment and insurance can't help them fully. Therefore, our company has created installment policies for employees to help them partly reduce the burden of costs. The way to implement those policies is simply that the employees will be paid those expenses by the company and the employees will have to pay the company back with their monthly salary. Of course, their requirements must also meet the company's conditions.

3.Purpose of website

This project aims to develop a Web Insurance System. A company wants to start insuring its employees. The Medicare system will maintain all information related to employees, maintain Claims related to the Insurance company, information about all types of medical services provided by the hospital to public employees. companies, claims settlement, and adjustments to their services are authorized by the Insurers. In addition, this method can even maintain information regarding employee health. Specifically, our software is achieving:

Helping employees access insurance policies through the company's prepaid support fund. After an employee has a medical examination or treatment, the costs may be too great for a one-time payment. Employees will have an additional choice through the company's support packages.

Make it easy and fast to manage your health insurance support policies.

Make the connection between employees and the company more convenient through connections from the health insurance website.

1.Functional Requirement

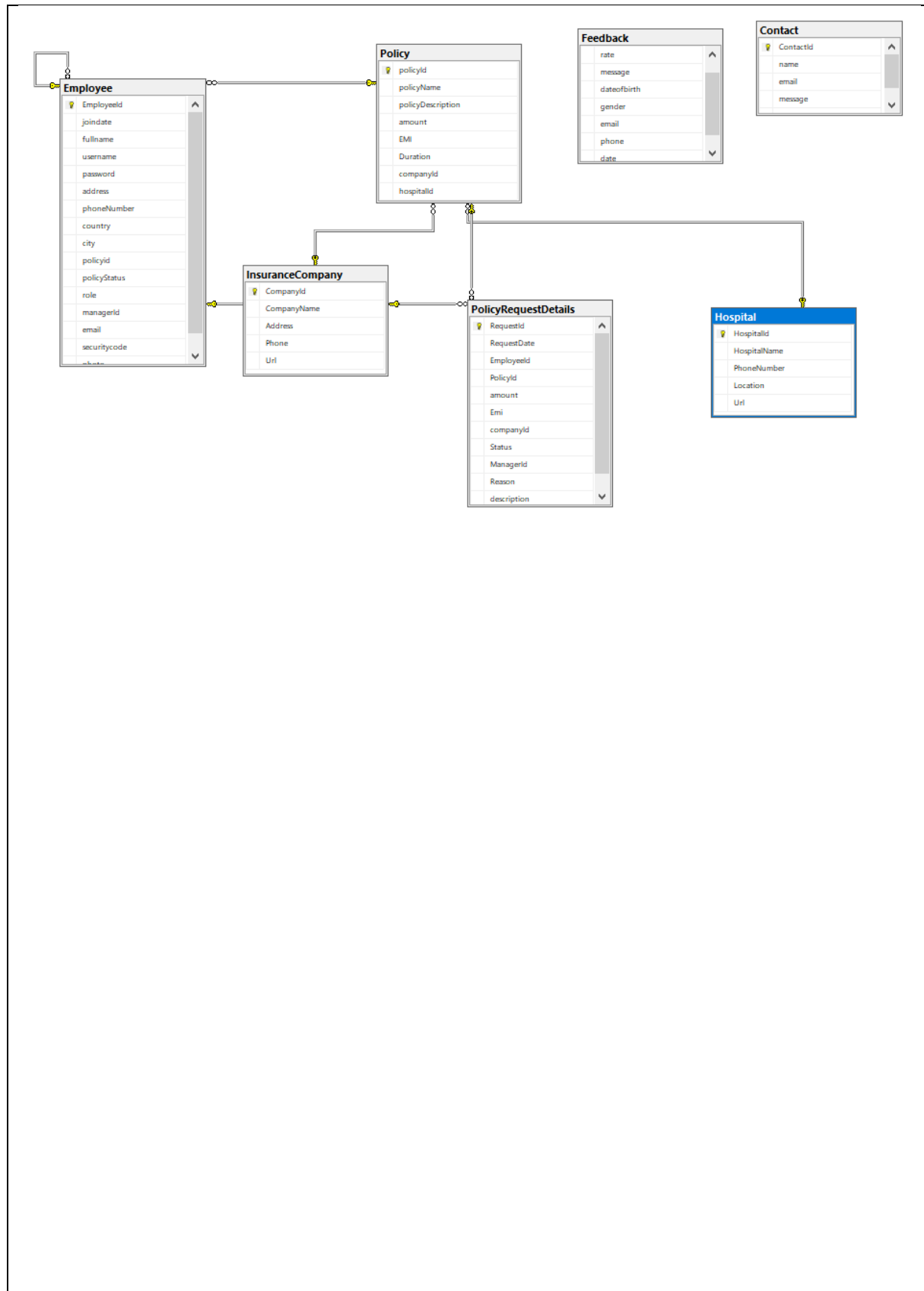
1. **Sign-Up** : This field allows user can create an account. This field also requires user must fill all the information prior to activating the account.
2. **Login** : This field allows user can access into the main page.
3. **Forgot Password** : This field can help user reset password by applying securitycode which is sent into email account.
4. **Main page accounts**: The interface will help user can monitor all the features of the website. There are totally 3 interfaces which were set up for admin, manager and employee.
5. **Edit Profile** : allow user can edit image and personal informations.

6. **Request Form** : allow employee can send request to manager asking for the request's approval.
7. **Approval Form** : this task allow manager to receive the request from employee then be able to review the request and decide to approve or reject the the request.
8. **Email sent** : This task is to respond to employee through email and employee can receive the result of the request.
9. **Policy Form** : this field allow admin to add/edit/delete the policy packages for employee to select.
10. **Company Form** : this field allow admin to add/edit/delete insurance company for employee to select.
11. **Employee list** : this field allow admin to add/edit/delete and view the detail of an employee.
12. **Report** : this field allow admin can search , filter the data and export the PDF files for report.
13. **Search and Filter** : this features are set up most of the fields that allow user can search information needed.
14. **Log out** : this feature allow user end of their task.

2. Non-Funtional Requirement

Contact and feedback : allow user can leave the contact or feedback to the company. This form was utilised by employee and admin is a person who will receive the information.

CLASS DIAGRAM



DATABASE DESIGN

Database Name: Health Insurance

Number of tables: 7

Tables Names:

Database Description: The database includes 7 tables:

1. Employee: This table includes the columns that identify the exact employee/ accounts in the web app. This table is also used to login, identify the policy and manager, and ensure the security level of the system. The columns are EmployeeId, JoinDate, Fullname, Username, Password, Address, PhoneNumber, City, Country, PolicyId, PolicyStatus, Role, ManagerId, Email, Photo and SecurityCode.

2. Hospital: This table is used to identify the hospitals which implement the policy for the employees. The table includes: HospitalID, HospitalName, PhoneNumber, Address and Url columns.

3. InsuranceCompany: This table is used to identify the Insurance companies that are registered by the employees. This table contains some information of the companies including: CompanyID, CompanyName, Address, PhoneNumber and URL.

4. Policy: This table is used to identify the policies, companies and hospitals which are applied for the employees in the web. The columns are: PolicyId, PolicyName, PolicyDescription, Amount, EMI, Duration, CompanyID and HospitalID,

5. PolicyRequestDetails: This table is the most important one in the database. This table is used to store all requests from the employees about their policies and the confirmations from the managers. This table includes: RequestID, RequestDate, EmployeeID, PolicyID, Amount, EMI, CompanyID, Status, ManagerID, Reason, Description.

6. Contact : this table is used for storing the contacts from the user.

7. Feedback : this table is used for storing the feedbacks from the user.

Schematic Diagram Of Database:

Schematic diagram of the database depicting the primary and foreign key relationships.

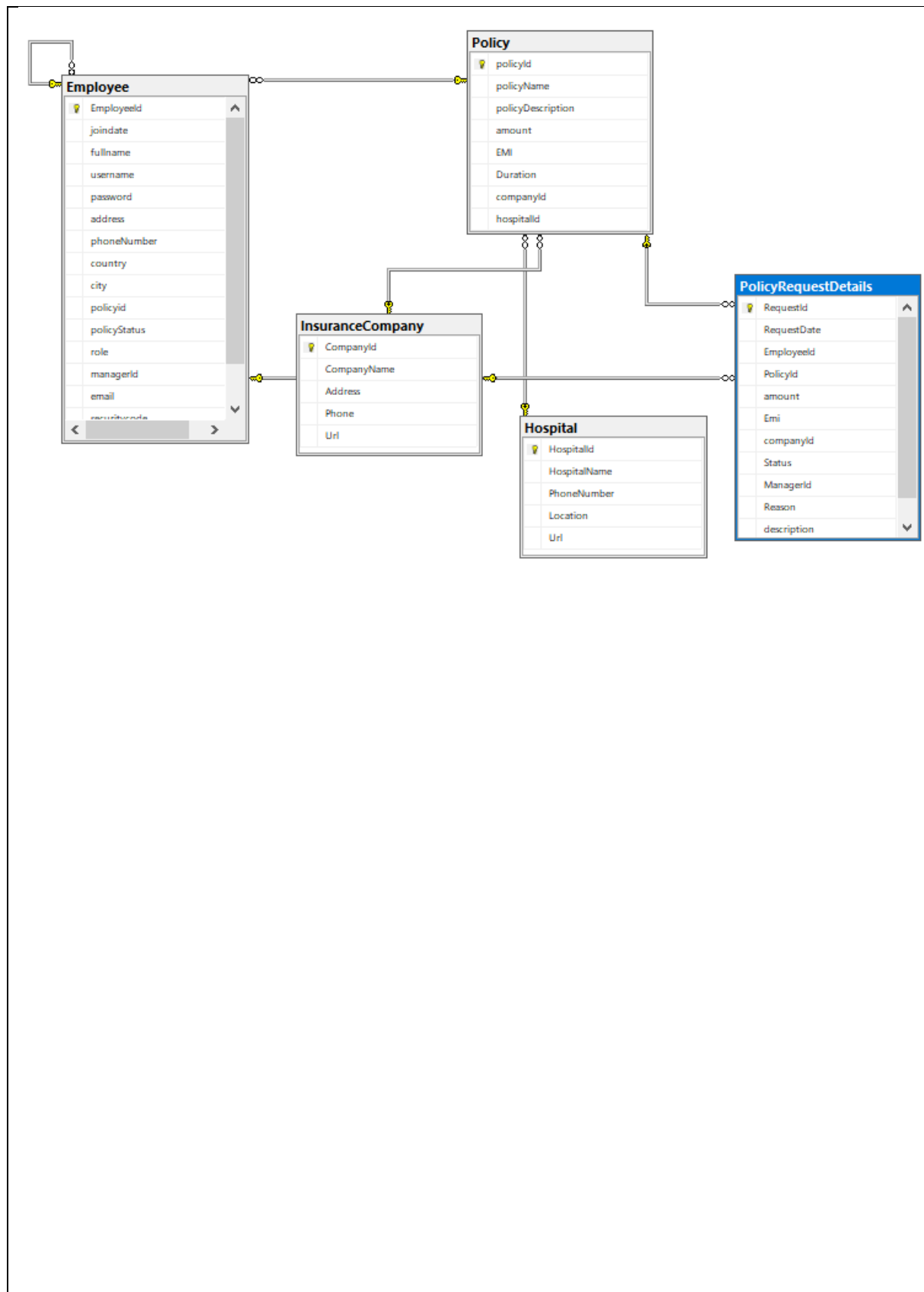


TABLE DESIGN

Database Name: HealthInsurance**Name Table 1: Employee**

Field Name	Data type	Width	Description
EmployeeId	int		Primary key
joindate	date		Date of joining website
fullname	varchar	250	Name of account
username	varchar	250	Username of account
password	varchar	250	Password of account
address	varchar	250	Address of account
phoneNumber	varchar	50	Phone of account
country	varchar	50	Country of account
city	varchar	50	City of account
policyid	int		Key number of policy
policyStatus	varchar	50	Status of policy package
role	varchar	50	Role of account
managerId	int		Key number of manager
email	varchar	250	Email of account
securitycode	varchar	250	Used for verifying account.
photo	varchar	250	Used for updating profile

Name Table 2: Policy

Field Name	Data type	Width	Description
policyId	int		Primary key
policyName	varchar	50	Name of the policy
policyDescription	varchar	250	The content of Description.
amount	money		The budget for the request
EMI	money		Money payback for company
Duration	int		Time paying monthly.
companyId	int		Key number of company
hospitalId	varchar	50	Key number of hospital

Name Table 3:PolicyRequestDetail

Field Name	Data type	Width	Description
RequestId	int		Primary key
RequestDate	date		Date of request

EmployeeId	int		Who sent request
PolicyId	int		Which policy is chosen.
amount	money		Budget is requested
Emi	money		Money payback monthly.
companyId	int		Which company is chosen.
Status	varchar	50	The request is approved/rejected.
ManagerId	int		Who is the person approved.
Reason	varchar	250	Reason for rejecting/approving.
description	varchar	250	Explain

Name Table 4:InsuranceCompany

Field Name	Data type	Width	Description
CompanyId	int		Primary key
CompanyName	Varchar	50	Name of insurance company
Address	Varchar	250	Location of the company
Phone	Varchar	50	Phone of the company
Url	Varchar	50	www.https

Name Table 5:Hospital

Field Name	Data type	Width	Description
HospitalId	int		Primary key
HospitalName	Varchar	50	Name of hospital
PhoneNumber	Varchar	250	phone of the hospital
Location	Varchar	50	location of the hospital
Url	Varchar	50	www.https

Name Table 6:Contact

Field Name	Data type	Width	Description
ContactId	int		Primary key
name	Varchar	250	Name of user

email	Varchar	250	phone of user
message	Varchar	250	Content of the message
date	date		Date of contact

Name Table 7:Feedback

Field Name	Data type	Width	Description
FeedbackId	int		Primary key
rate	Varchar	250	Assess the quality of service
message	Varchar	250	Content of feedback
dateofbirth	date		Birthday of user
gender	Varchar	250	Gender of user
email	Varchar	250	Email of user
phone	Varchar	250	Phone of user
date	date		Feedback date

VALIDATIONS PERFORMED

Database Name:**Name Table 1: Employee**

Validation Required	Method Used For Validation
Id must be unique	Primary Key constraint
joindate	Not null, Must be date type
fullname	Not null, It is required to fill by the user
username	Not null, It is required to fill by the user
password	Not null, It is required to fill by the user
address	Not null, It is required to fill by the user
phoneNumber	Not null, It is required to fill by the user, this verify for limit 10 digit only in the value entered by user.
country	Not null, It is required to fill by the user
city	Not null, It is required to fill by the user
policyid	Not null, It is required to fill by the user
policyStatus	Not null, It is required to fill by the user
role	Not null, It is required to fill by the user
managerId	Not null, It is required to fill by the user
email	Not null, It is required to fill by the user, this verify for @ keyword in the value entered by user.
securitycode	Not null, It is required to fill by the user
photo	Not null, It is set by default.

Name Table 2: Hospital

Validation Required	Method Used For Validation
HospitalId must be unique	Not null, Primary Key constraint
HospitalName	Not null, It is required to fill by the user
PhoneNumber	Not null, It is required to fill by the user, this verify for limit 10 digit only in the value entered by user.
Location	Not null, It is required to fill by the user
Url	Not null, It is required to fill by the user

Name Table 3: InsuranceCompany

Validation Required	Method Used For Validation
CompanyId must be unique	Not null, Primary Key constraint
CompanyName	Not null, It is required to fill by the user
Phone	Not null, It is required to fill by the user, this verify for limit 10 digit only in the value entered by user.
Address	Not null, It is required to fill by the user
Url	Not null, It is required to fill by the user

Name Table 4: Policy

Validation Required	Method Used For Validation
policyId must be unique	Primary Key constraint
policyName	Not null, It is required to fill by the user
policyDescription	Not null, It is required to fill by the user, this verify for number only in the value entered by user.
amount	Not null, It is required to fill by the user
EMI	Not null, It is required to fill by the user
Duration	Not null, Must be number
companyId	Not null, It is required to fill by the user
hospitalId	Not null, It is required to fill by the user

Name Table 5: PolicyRequestDetails

Validation Required	Method Used For Validation
RequestId must be unique	Not null, Primary Key constraint
RequestDate	Must be date type
EmployeeId	Not null, This will be taken from employee table resource.
PolicyId	Not null, It is required to fill by the user
amount	Not null, Must be number
Emi	Not null, Must be number
companyId	Not null, It is required to fill by the user
Status	Not null, It is required to fill by the user
ManagerId	Not null, It is required to fill by the user
Reason	Not null, It is required to fill by the user
description	Not null, It is required to fill by the user

Name Table 6: Contact

Validation Required	Method Used For Validation
ContactId must be unique	Not null, Primary Key constraint
name	Not null, It is required to fill by the user
email	Not null, It is required to fill by the user, this verify for @ keyword in the value entered by user.
message	Not null, It is required to fill by the user
date	Not null, Must be date type.

Name Table 7: Feedback

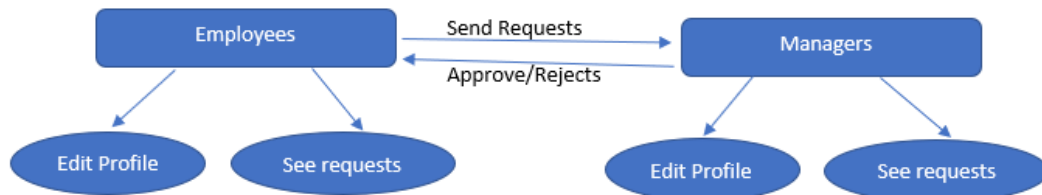
Validation Required	Method Used For Validation
FeedbackId must be unique	Primary Key constraint
rate	Not null, It is required to fill by the user
message	Not null, It is required to fill by the user
gender	Not null, It is required to fill by the user
dateofbirth	Not null, Must be date type.
email	Not null, It is required to fill by the user, this verify for @ keyword in the value entered by user.

phone	Not null,,It is required to fill by the user, this verify for limit 10 digit only in the value entered by user.
date	Not null,Must be date type.

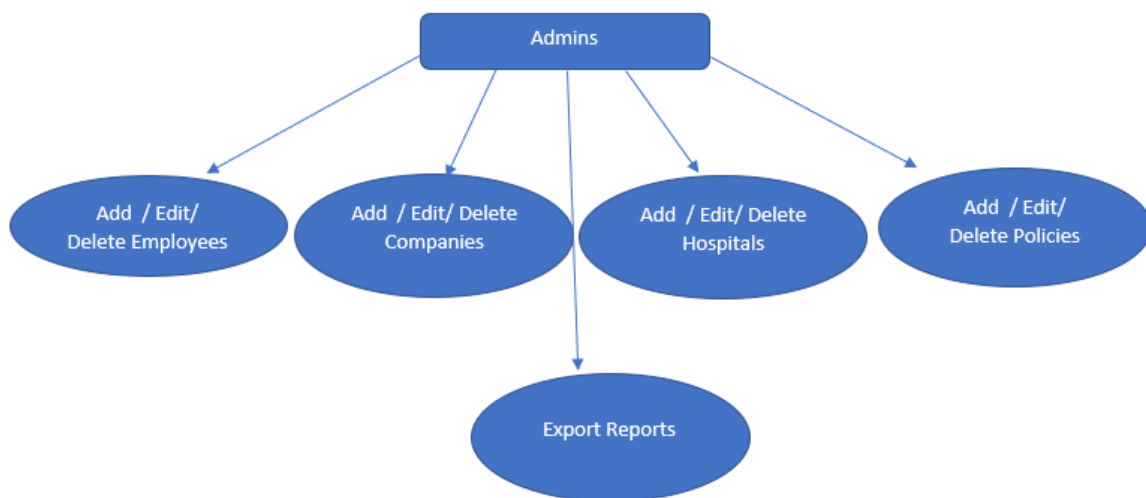
DATA FLOW DIAGRAM

Data Flow Diagram representing the control flow of Project Case Study.

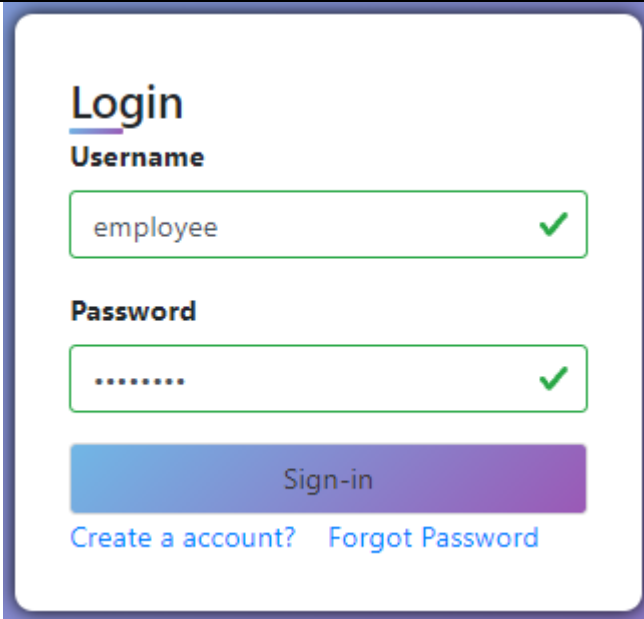
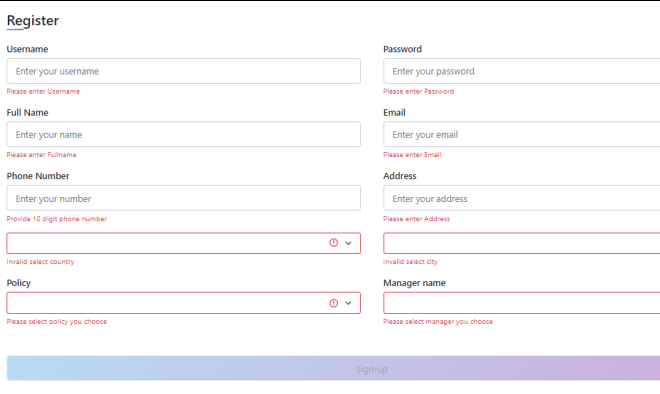
Employee site

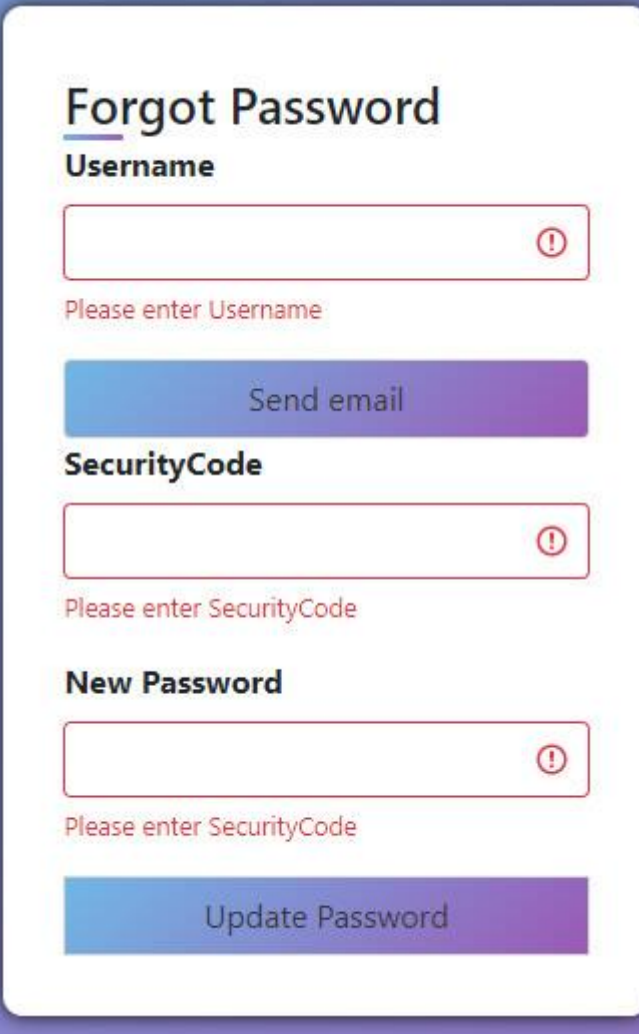

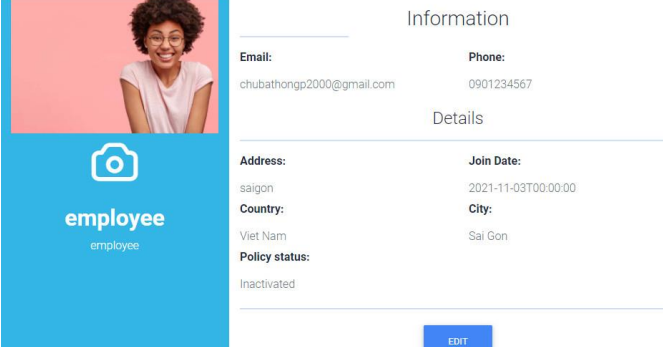


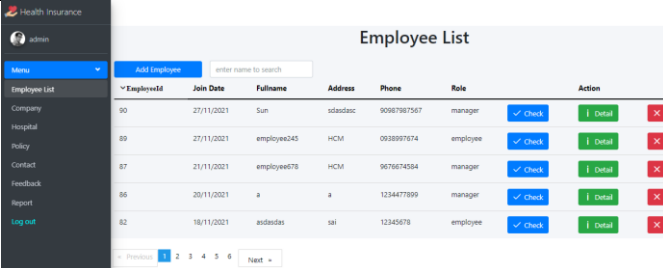
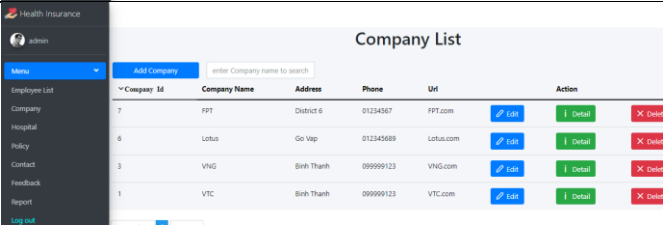
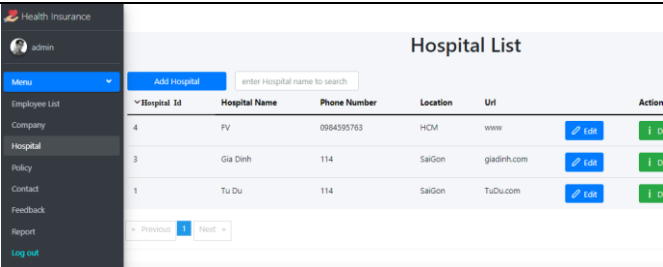
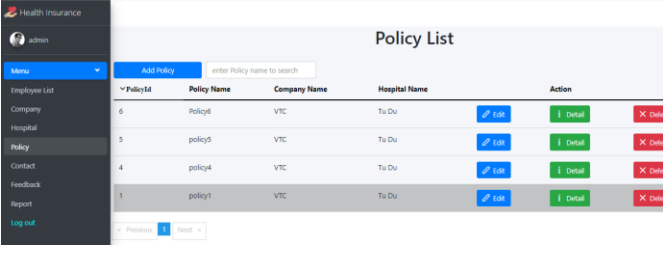
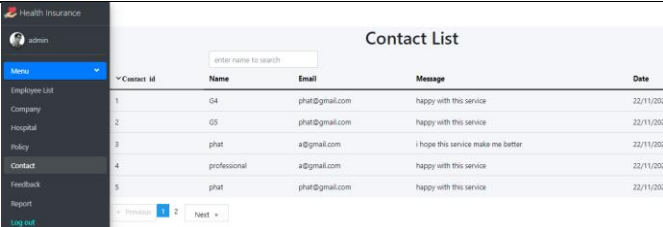
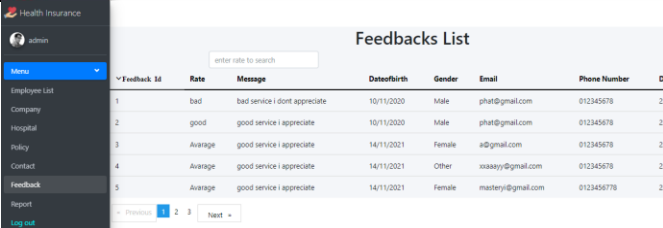
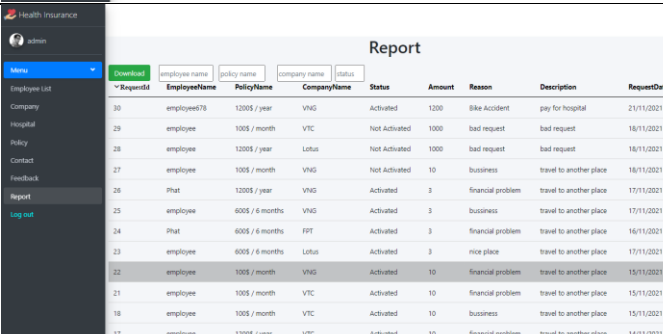
Admin / Manager site.

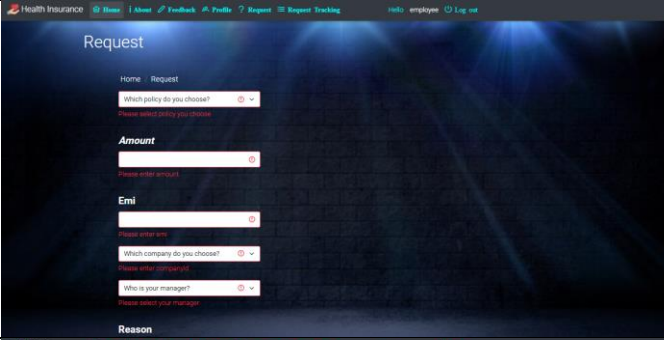
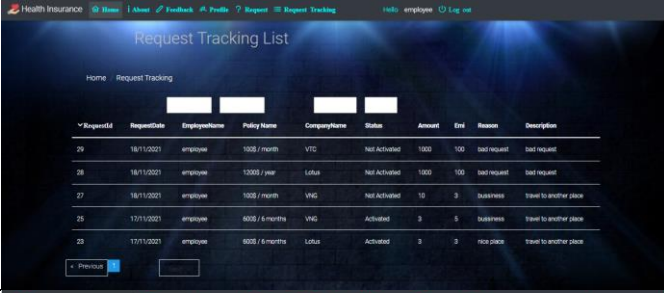
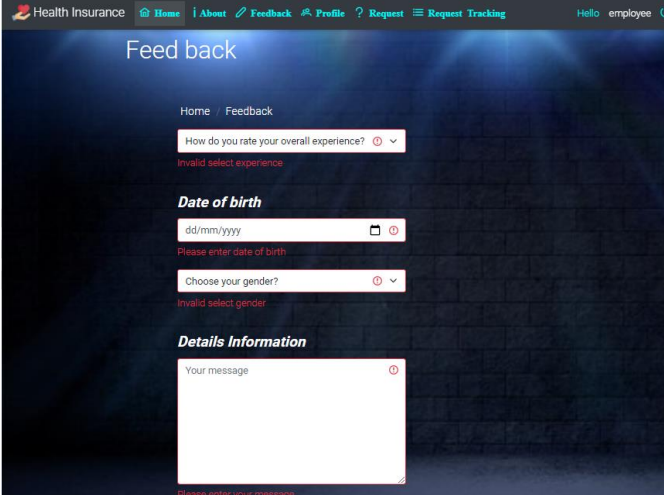
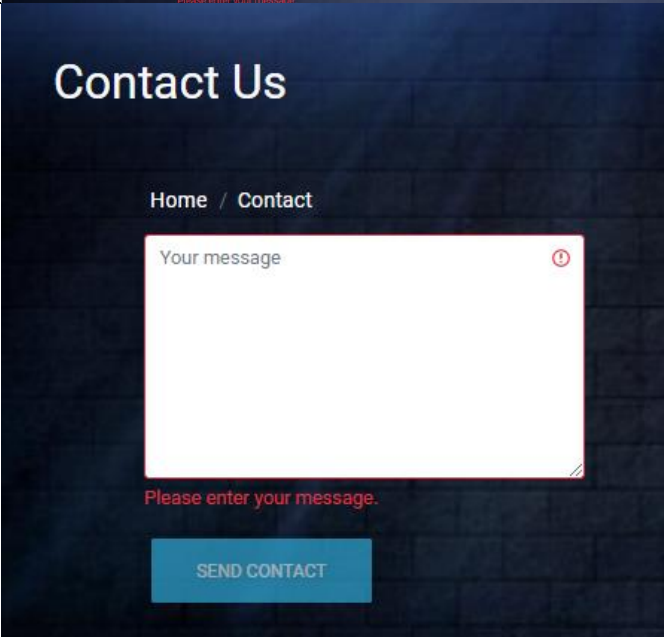


(WEB/WINDOWS) FORMS OUTLINE

Forms Name	Description
 <p>The screenshot shows a login form with the title 'Login'. It has two input fields: 'Username' with the value 'employee' and 'Password' with masked characters. Both fields have green checkmarks indicating successful validation. Below the fields is a blue 'Sign-in' button. At the bottom, there are two links: 'Create a account?' and 'Forgot Password'.</p>	<p>Login : This form appears when user approach the website. The user is required to fill username and password correctly prior to accessing the main page, if the information provided incorrectly there will have a noticeboard “ wrong username or password”.</p> <p>If user does not have account, they can click the create an account to register.</p> <p>In case the user does not remember his / her password, they can click Forgot password to reset the password.</p>
 <p>The screenshot shows a registration form titled 'Register'. It contains several input fields with red error messages: 'Username' (Please enter Username), 'Full Name' (Please enter Fullname), 'Phone Number' (Provide 10 digit phone number), 'Password' (Please enter Password), 'Email' (Please enter Email), 'Address' (Please enter Address), 'City' (Invalid select city), 'Policy' (Please select policy you choose), and 'Manager name' (Please select manager you choose). There is a blue 'Sign-up' button at the bottom.</p>	<p>Register : This form allows user can create an account on the website. All the textboxes were set with validation, so user must provide all the information before they can sign up an account.</p> <p>If user’s username or email were exist before, there is a notice to inform user that the username or email registering is existing.</p>

	<p>Forgot password : This is a place to help user reset and create a new password.</p> <p>Input username then click “get securitycode” to receive the securitycode in the email. Check the email to get securitycode. : Input the “securitycode” and “ new password” then click “ update password”</p>
	<p>Log out : When user stop using website, they can click sign out to end the task.</p>
	<p>Profile : This place allow user can change their image profile by clicking “camera icon” or user can also change their personal information by clicking the “edit button”</p>

 <p>Employee List (admin only) : This place will help admin to add/modify/delete and also view detail of employee. Admin can also search by name or filter data by filter tool.</p>	
 <p>Company List (admin only) This place will help admin to add/modify/delete and also view detail of Insurance companies. Admin can also search by name or filter data by filter tool.</p>	
 <p>Hospital List (admin only) This place will help admin to add/modify/delete and also view detail of Hospital's information. Admin can also search by name or filter data by filter tool.</p>	
 <p>Hospital List (admin only) This place will help admin to add/modify/delete and also view detail of Policy packages providing for employee. Admin can also search by name or filter data by filter tool.</p>	
 <p>Contact List (Admin only) This is a place where admin can receive the contacts from users.</p>	
 <p>Feedback List (Admin only) This is a place where admin can receive the feedbacks from users.</p>	
 <p>Report (Admin only) This is a place where admin can search or filter the data list of the request lists, can sumerize This feature allow admin to search, filter and export data based on the field name available.</p>	

	<p>Request (employee only)</p> <p>This is a form which allow employee can send a request for a claim for manager.</p> <p>Employee should provide all the information to submit the form to manager.</p>
	<p>Request tracking (employee only)</p> <p>The table records the request from employee. After employee sent the request successfully. This form will proceed to record the request.</p> <p>Employee can track the status of the request by this table.</p>
	<p>Feedback (employee only)</p> <p>This form allow user can send the feedback to admin.</p> <p>Once the feedback was sent, admin will receive it on their side and help user solve problem if they need an assistance.</p>
	<p>Contact us (Employee only)</p> <p>This form allow user to contact admin when they need to ask something.</p>

Request id	Request Date	Employee Name	Policy Name	Company Name	Status	Action
30	21/11/2021	employee79	13008 / year	VNG	Approved	CHECK DETAIL
29	18/11/2021	employee	1003 / month	VTC	Not Activated	CHECK DETAIL
28	18/11/2021	employee	13008 / year	Latus	Not Activated	CHECK DETAIL
27	18/11/2021	employee	1003 / month	VNG	Not Activated	CHECK DETAIL
26	17/11/2021	Phat	13008 / year	VNG	Activated	CHECK DETAIL

Request Employee (Manager only)

This place allow managers can manage the request from employee. They can allow managers to view the detail of request then decide to approve or reject the request. The result of the request will be immediately sent to employee's email once manager check and submit the form.

The form also set up the search and filter feature for manager to monitor the request.

Check Request Employee

Request id: 30

Request date: 2021-11-21 10:00:00

Fullname: employee79

Reason: 13008 / year

Buttons: [CHECK](#) [DETAIL](#) [APPROVE](#) [REJECT](#)

Check Request Employee (Manager Only)

This form allows manager can check and approve or reject a request from employee. The result will be sent to employee's email.

CONFIGURATION

Software & Technology Used:

Software

- Visual Studio Professional 2019

- SQL Server 2019

- Visual Studio Code.

+ Technology

- .Net Core

- Angular

- Bootstrap , PrimeNG

PROJECT TIMELINES

S.No.	Task to be performed	Time
1	Analyse case study	3 days
2	Database design	2 days
3	Website design	3 days
4	Design the UI of the application to make it easier friendly.	5 days
5	Implement business funtionalies of systems in the application.	10 days
6	Test and debug the website	5 days
7	Document the project	2 days
Total		30 days

INDIVIDUAL PROJECT SCHEDULE

S.No.	Activity Description	Responsibility
1	Database Design Admin/Manager Coding – Back-end. Support the connection between API with Angular	Trinh Duy Khang
2	Design Admin Layout, Some Features of admin sites with validation – Front End Support the connection between API with Angular.	Nguyen Do Truong Hai
3	Design Manager and User Layout, Design register/signin form with validation and Some Features of these sites – Front End. Support the connection between API with Angular. Support Coding Manager & employee Back-end.	Nguyen Tan Phat
4	Employee Coding – Back-end. Support the connection between API with Angular.	Vu Minh Phat