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| **PROJECT ON**  **Health Insurance** |

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| **Developed by**  **Members:**   |  |  |  | | --- | --- | --- | | **No.** | **Student Name** | **Student ID** | | 1 | 1.TRINH DUY KHANG | Student1267715 (Leader) | | 2 | 2. NGUYEN DO TRUONG HAI | Student1191100 | | 3 | 3.NGUYEN TAN PHAT | Student1262479 | | 4 | 4.VU MINH PHAT | Student 1219696 |  * **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** |

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| **SYSTEM ANALYSIS** |

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| **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. |

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| **CLASS DIAGRAM** |

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| A screenshot of a computer  Description automatically generated with low confidence |

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| **DATABASE DESIGN** |

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| **Database Name: Health Insurance**  **Number of tables: 7**  **Tables Names:**  **Database Description: The database includes 7 tables:**  1.Empoloyee: 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 identity 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 polices 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. |

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| **TABLE DESIGN** |

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| **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 | |

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| **VALIDATIONS PERFORMED** |

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| **Database Name:**  **Name Table 1: Employee**   |  |  | | --- | --- | | Validation Required | Method Used For Validation | | Id must be unique | Primary Key contrainst | | 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 contrainst | | 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 contrainst | | 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 contrainst | | 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 | Not null,Method Used For Validation | | RequestId must be unique | Not null,Primary Key contrainst | | 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 contrainst | | 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 contrainst | | 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. | |

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| **DATA FLOW DIAGRAM** |

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| **Data Flow Diagram representing the control flow of Project Case Study.**  Employee site    Admin / Manager site. |

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| **(WEB/WINDOWS) FORMS OUTLINE** |

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| **Forms Name** | **Description** |
|  | **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”.  If user does not have account, they can click the create an account to register.  In case the user does not remember his / her password, they can click Forgot password to reset the password. |
|  | **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.  If user’s username or email were exist before, there is a notice to inform user that the username or email registering is existing. |
|  | **Forgot password :** This is a place to help user reset and create a new password.  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” |
|  | **Log out :** When user stop ussing website, they can click sign out to end the task. |
|  | **Profile :** This place allow user can chance their image profile by clicking “camera icon” or user can also change their personal information by clicking the “edit button” |
|  | **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. |
|  | **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. |
|  | **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. |
|  | **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. |
|  | **Contact List (Admin only)**  This is a place where admin can receive the contacts from users. |
|  | **Feedback List (Admin only)**  This is a place where admin can receive the feedbacks from users. |
|  | **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. |
|  | **Request (employee only)**  This is a form which allow employee can send a request for a claim for manager.  Employee should provide all the information to submit the form to manager. |
|  | **Request tracking (employee only)**  The table records the request from employee. After employee sent the request successfully. This form will proceed to record the request. Employee can track the status of the request by this table. |
|  | **Feedback (employee only)**  This form allow user can send the feedback to admin.  Once the feedback was sent, admin will receive it on their side and help user solve problem if they need an assistance. |
|  | **Contact us (Employee only)**  This form allow user to contact admin when they need to ask something. |
|  | **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 (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. |

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| **CONFIGURATION** |

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| **Software & Technology Used:** |

Software

- Visual Studio Professional 2019

- SQL Server 2019

-Visual Studio Code.

+ Technology

- .Net Core

- Angular

-Boostrap , PrimeNG

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| **PROJECT TIMELINES** |

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| **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 |

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| **INDIVIDUAL PROJECT SCHEDULE** |

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| **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** |