**4.5 Database Design**

The database was a very important in developing the solution of TBMVCS. Since we are giving a lot of assurance of data and sorting and calculation of data the database should also have a good foolproof design. As the database technologies, SQL server 2012 was used because it is easy and quick to respond for the solution and provide easy interfaces for creating tables and testing purposes. Stored procedure were used for querying in order to make the code reusable.

Database Relationship diagram

Given bellows are some of the tables

|  |  |  |
| --- | --- | --- |
| Customer Table | | |
| Attribute | **Data Type** | **Length** |
| CustomerId | Int | - |
| Salutation | nvarchar | 10 |
| Initials | nvarchar | 20 |
| Firstname | nvarchar | 50 |
| Lastname | nvarchar | 50 |
| AddressNo | nvarchar | 10 |
| Street | nvarchar | 50 |
| City | nvarchar | 50 |
| NIC | nvarchar | 25 |
| Home | nvarchar | 20 |
| Office | nvarchar | 20 |
| Mobile | nvarchar | 20 |
| Email | nvarchar | 100 |
| Bank | nvarchar | 50 |
| Branch | nvarchar | 50 |
| AccountNo | nvarchar | 25 |

It is important that the customer is identified by the database and that the agent does not have to depend on the third party at the scene to give the necessary customer details. The customer information is entered in this relation. The attributes can be the customer ID, the customer name, his personal details, his contact information etc. the data type and the length of such data will also be entered in the customer relation

|  |  |  |
| --- | --- | --- |
| Claim Table | | |
| Attribute | **Data Type** | **Length** |
| Claimid | Int | - |
| Location | nvarchar | 50 |
| Reason | nvarchar | 50 |
| Knockedon | nvarchar | 50 |
| Thirdpartydeatilid | Int | - |
| Driverid | Int | - |
| Paymentid | Int | - |
| Isdriverowner | nvarchar | 10 |
| Vehicleusage | nvarchar | 50 |
| Rentcompany | nvarchar | 50 |
| Images | varbinary | Max |
| Rentamount | Float | - |
| Createdtime | DateTime | - |
| Empid | Int | - |

|  |  |  |
| --- | --- | --- |
| Claim Payment Table | | |
| Attribute | **Data Type** | **Length** |
| Paymentid | Int | - |
| Garagecost | Float | - |
| Othercosts | Float | - |

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| --- | --- | --- |
| Claim Request Table | | |
| Attribute | **Data Type** | **Length** |
| Id | Int | - |
| Policyid | Int | - |
| Gps | nvarchar | 50 |
| State | nvarchar | 50 |
| Submittime | DateTime | - |
| Respondtime | DateTime | - |

|  |  |  |
| --- | --- | --- |
| Customer Vehicle Table | | |
| Attribute | **Data Type** | **Length** |
| Vehicleid | Int | - |
| Customerid | Int | - |
| Registrationno | nvarchar | 15 |
| Color | nvarchar | 20 |
| Engineno | nvarchar | 50 |
| Chassisno | nvarchar | 50 |
| Currentdamages | nvarchar | Max |
| Absoluteowner | nvarchar | 10 |
| Financialrights | nvarchar | 50 |
| Extrafittins | nvarchar | Max |
| Usage | nvarchar | Max |

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| --- | --- | --- |
| Customer Vehicle Policy Table | | |
| Attribute | **Data Type** | **Length** |
| Policy\_ID | Int | - |
| Vehicle\_ID | Int | - |
| Type | nvarchar | 20 |
| Commenceon | nvarchar | 15 |
| Natural\_disaster | nvarchar | 20 |
| Vandalism | nvarchar | 50 |
| Tercover | nvarchar | 50 |
| Currentdamages | nvarchar | Max |
| Driver\_compensation | nvarchar | 10 |
| Passenger\_compensation | nvarchar | 50 |
| Towing\_charges | nvarchar | 10 |
| Air\_bag\_cover | nvarchar | 10 |
| Strikes\_riots\_cover | nvarchar | 10 |

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| --- | --- | --- |
| Driver Table | | |
| Attribute | **Data Type** | **Length** |
| Driverid | Int | - |
| Drivername | nvarchar | 50 |
| Licenceno | nvarchar | 20 |
| Expirationdate | DateTime | 15 |
| Drivernic | nvarchar | 20 |

|  |  |  |
| --- | --- | --- |
| Employee Table | | |
| Attribute | **Data Type** | **Length** |
| EmpId | Int | - |
| EmpName | nvarchar | 50 |
| EmpPhone | nvarchar | 20 |
| EmpEmail | nvarchar | 100 |
| EmpBranch | nvarchar | 20 |

|  |  |  |
| --- | --- | --- |
| Garage Table | | |
| Attribute | **Data Type** | **Length** |
| GarageID | Int | - |
| GarageName | nvarchar | 50 |
| GarageLocation | nvarchar | 50 |
| GarageTP | nvarchar | 20 |
| Email | nvarchar | 100 |

|  |  |  |
| --- | --- | --- |
| Manufacturer Table | | |
| Attribute | **Data Type** | **Length** |
| ManufactureId | Int | - |
| ManufactureName | nvarchar | 50 |

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| --- | --- | --- |
| Spare part Category Table | | |
| Attribute | **Data Type** | **Length** |
| Sparecategoryid | Int | - |
| Sparecategoryname | nvarchar | 50 |

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| --- | --- | --- |
| Spare part Payment Table | | |
| Attribute | **Data Type** | **Length** |
| Paymentid | Int | - |
| Sparepartid | Int | - |
| Sparepartqty | Float | - |
| Sparepartcost | Float | - |

|  |  |  |
| --- | --- | --- |
| Spare part Table | | |
| Attribute | **Data Type** | **Length** |
| Sparepartid | Int | - |
| Sparepartname | nvarchar | 50 |
| Sparepartcategory | Int | - |
| Sparepartmanufacturer | Int | - |
| Spareparmanufacyear | nvarchar | 10 |
| Sparepartunitcost | Float | - |

|  |  |  |
| --- | --- | --- |
| Third Party Details Table | | |
| Attribute | **Data Type** | **Length** |
| Thirdpartydetailid | Int | - |
| Vehicleregistrationno | nvarchar | 50 |
| Ownername | nvarchar | 50 |
| Owneraddress | nvarchar | 100 |
| Reneweldate | DateTime | 10 |
| Specialnotes | nvarchar | Max |
| Victimname | nvarchar | 50 |
| Victimaddress | nvarchar | 100 |
| Damagenature | nvarchar | 100 |
| Thirdpartyclaimant | nvarchar | 50 |
| Claimamount | Float | - |

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| --- | --- | --- |
| Tow Truck Table | | |
| Attribute | **Data Type** | **Length** |
| Id | Int | - |
| Name | nvarchar | 50 |
| Location | nvarchar | 50 |
| Telephone | nvarchar | 20 |
| Email | nvarchar | 100 |

|  |  |  |
| --- | --- | --- |
| Vehicle Table | | |
| Attribute | **Data Type** | **Length** |
| Vehicleid | Int | - |
| Vehicletypeid | Int | - |
| Manufactureid | Int | - |
| Model | nvarchar | 25 |
| Makeyear | DateTime | 10 |
| Fueltype | nvarchar | 10 |
| Enginecpacity | nvarchar | 20 |
| Seatingcapacity | nvarchar | 10 |
| Carryingcapacity | nvarchar | 10 |
| Presentvalue | Float | - |
| Dutyfreevalue | Float | - |

|  |  |  |
| --- | --- | --- |
| Vehicle Type Table | | |
| Attribute | **Data Type** | **Length** |
| VehicleTypeID | Int | - |
| VehicleTypeName | nvarchar | 50 |

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| --- | --- | --- |
| User Accounts Table | | |
| Attribute | **Data Type** | **Length** |
| Account\_Id | Int | - |
| Employee\_id | Int | - |
| Username | nvarchar | 50 |
| Password | nvarchar | 50 |
| Type | nvarchar | 20 |