# Manual

# **Ensuring Data Integrity in Autonomous Vehicles using Block-chain**

## **EDIAVB:**

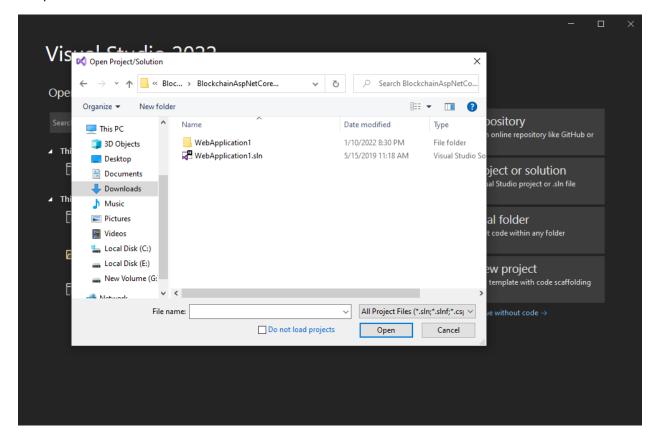
We have proposed a block chain based solution to ensure data integrity in autonomous vehicles.

## Implementation:

We have used visual studio as a coding platform and .netcore 2.1 framework to implement this solution.

## **Steps**

- 1- Download the .rar file from <a href="https://github.com/danishni/Ensuring-Data-Integrity-using-block-chain">https://github.com/danishni/Ensuring-Data-Integrity-using-block-chain</a>
- 2- Unzip it
- 3- Open it in Visual Studio



4- Run Update-Database command in project manager console

```
Package Manager Console

Package source: All

Package is licensed to you by its owner. NuGet is not responsible for, nor does it grant any licenses to, third-party packages. Some packages may include dependencies which are governed by additional licenses. Follow the package source (feed) URL to determine any dependencies.

Package Manager Console Host Version 6.0.1.1

Type 'get-help NuGet' to see all available NuGet commands.

PM> update-database|

100%

All

Package Manager Console

Output
```

## 5-Run the project

```
🙀 File Edit View Git Project Build Debug Test Analyze Tools Extensions Window Help Search (Ctrl+Q)
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Server Explorer
   BlockChainHelper.cs + X dbo.latlongs [Data]
                                                                                                                            → 🌣
                                                                                                                            - ÷
             □using System.Collections.Generic;
               using System.Linq;
              using WebApplication1.Models;
             □namespace WebApplication1.BlockChain
                      public static void VerifyBlockChain(IList<CarSalesEntry> carSalesEntries)
                          string previousHash = null;
                           foreach (var entry in carSalesEntries.OrderBy(c => c.Id))
                              var previousBlock = carSalesEntries.SingleOrDefault(c => c.Id == entry.PreviousId);
                              var blockText = BlockHelper.ConcatData(
                                   Package Manager Console
                                                                                                                          → Д X
```

#### 6- Use this API to enter Data

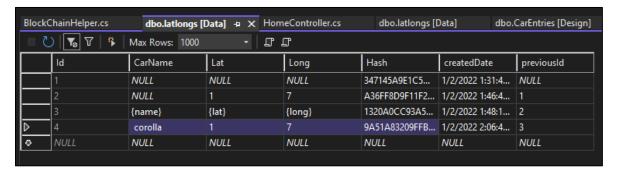
https://blockchainpoc.azurewebsites.net/bchain/EnterData?carname=Corolla&lat=700&longg=800&Bforce=22.0&Distance=20.0&Speed=25.0



#### 7- Use this API to retrieve Data

https://blockchainpoc.azurewebsites.net/bchain/GetData/[ID]

### 8- Changing Data



## 9- Use this API to retrieve Data/ Validity false

https://blockchainpoc.azurewebsites.net/bchain/GetData/[ID]



#### 10- API for UI

https://blockchainpoc.azurewebsites.net/bchain/GetLatLongDataUi?idd=16

