**ABSTRACT**

Electricity has now become a part of our daily life and one can’t think of a world without it. The energy bills are growing high, and lowering them doesn’t require spending money on green power gadgets or sacrificing your sanity. With some simple tricks and minor adjustments to the way of operating the appliances, one can drive the energy costs down. This project would help in achieving this by letting the users know how much power they are consuming and how to conserve less with a few changes. We propose a cloud-based data storage and sensing model with the capability to preserve user privacy and confidentiality of electric meter data. This can be achieved by encrypting data of electric meter before storage on the cloud using a homomorphic asymmetric key cryptosystem. By using that homomorphic feature of the cryptographic technique, we propose methods to allow most of the computing works of calculating customer’s preset value based on total electricity consumption to be done directly on encrypted data. One of the main features in this model is the aggregation of encrypted electric meter data readings using fixed-point number arithmetic. The read data has to be checked with the preset data which is defined by user via android app and get notified to user as the limit is attained. This helps the owners of property, having multiple houses / offices in different locations to monitor each tenant’s consumption of electricity in different locations via the app. Hence separate tokens are assigned to each meter in a specific house / office and these tokens are maintained under single identity of the owner. Through this it would be easier to monitor the consumption. Such continuous and remote monitoring would pave the way for proper usage of electricity and avoid wastage caused by unnecessary use. The bigger gain would be the conservation of energy and deployment of scarce resources for optimal utilization.

|  |  |  |
| --- | --- | --- |
| **S.NO** | **TABLE OF CONTENTS** | **PAGE NO** |
|  | **LIST OF TABLES** |  |
|  | **LIST OF FIGURES** |  |
|  | **LIST OF SYMBOLS, ABBREVIATION** |  |
| **1** | **INTRODUCTION** | **1** |
|  | **1.1 INCREASING TECHNOLOGY GAINS**  **1.2 IOT IN REAL WORLD**  **1.3 IoT WITH ELECTRIC METER** |  |
| **2** | **LITERATURE SURVEY** | **8** |
|  | **2.1 CLOUD BASED DATA STORAGE FOR SMART METERS USING IOT**  **2.1.1 BILLING**  **2.1.2 HOMOMORPHIC KEY** |  |
|  | **2.2 METER DATA INTELLIGENCE FOR FUTURE ENERGY SYSTEMS** |  |
|  | **2.3 SECURITY ACCESS AND MONITORING SYSTEM IN THE REAL TIME ENVIRONMENT**  **2.3.1 CRYPTO-TECHNIQUE**  **2.3.2 DATA CONFIDENTIALITY**  **2.3.3 DATA PRIVACY** |  |
|  | **2.4 CLOUD COMPUTING FOR ENERGY MANAGEMENT**  **2.4.1 ON-DEMAND SELF-SERVICE** |  |
| **3**  **4** | **COMPONENTS**  **3.1 ARDUINO BOARD AND BENEFITS**  **3.2 SIM900A - GSM MODULE**  **3.3 GOOGLE FIRE BASE**  **PROBLEM DEFINITION** | **13**  **17** |
| **5** | **DESIGN OF PROPOSED SYSTEM**  **4.1 DATA FLOW DIAGRAM**  **4.1.1 LEVEL 0**  **4.1.2 LEVEL 1**  **4.1.3 LEVEL 2** | **18** |
|  | **4.2 SCHEMA OF PROPOSED SYSTEM** |  |
|  | **4.3 FLOWCHART OF IMPLEMENTED MODULE** |  |
| **6** | **IMPLEMENTATION OF PROPOSED SYSTEM** | **21** |
| **7** | **CONCLUSION** | **25** |
|  | **APPENDIX A1 - SOURCE CODE**  **APPENDIX A2 - SCREENSHOTS** | **26** |
|  | **REFERENCES** | **34** |

**LIST OF FIGURES**

|  |  |  |
| --- | --- | --- |
| **S.N0** | **FIG NAME** | **FIG.N0** |
| **1** | **IoT Increasing Usage** | **1.1** |
| **2** | **Proposed Concept** | **1.2** |
| **3** | **DFD Level 0** | **5.1** |
| **4** | **DFD Level 1** | **5.2** |
| **5** | **DFD Level 2** | **5.3** |
| **6** | **Flowchart** | **5.4** |
| **7** | **Hardware Module** | **6.1** |
| **8** | **User Interface** | **6.2** |
| **9** | **Login Page** | **a2.1** |
| **10** | **Signup Page** | **a2.2** |
| **11** | **Main Page** | **a2.3** |
|  | | |
| **LIST OF TABLES** | | |
| **S.NO** | **TABLE NAME** | **TABLE.NO** |
| **1** | **Schema** | **5.1** |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
| **LIST OF ABBREVIATION** | | |
| **1** | **IOT** | **Internet of Things** |
| **2** | **ICT** | **Information And Communication Technology** |
| **3** | **MoBEBIS** | **Mobile Based Electricity And Billing System** |
| **4** | **AMI** | **Advanced Metering Infrastructure** |
| **5** | **IaaS** | **Infrastructure as a Service** |
| **6** | **PaaS** | **Platform as a Service** |
| **7** | **SaaS** | **Software as a Service** |

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