**4.Database Design:**

Bu sistemde , Users,Devices, Sensor Values, Error Codes ve Notifications gibi bir çok veri türü tutulacaktır. Veritabanı sistemin güvenilirliği ve hızlı çalışması için dikkatle tasarlanmıştır.

Avantajlar:

+ Veri bütünlüğünü korur.

+ karmaşık yapılara kolay adapte olabilir.

+ Çoklu kontrol yapısı sayesinde cihaz-kullanıcı-sensör arasında kolayca bağlantı kurabilir.

Tablolar ve Açıklamalar:nu

1. Users:

|  |  |  |
| --- | --- | --- |
| **Field** | **Data Type** | **Description** |
| userID | INTEGER | User’s ID |
| name | TEXT | User’s name |
| email | TEXT | Email address |
| password | TEXT | password |
| language | TEXT | Preferred language |

2. Devices:

|  |  |  |
| --- | --- | --- |
| **Field** | **Data Type** | **Description** |
| deviceID | INTEGER | Device’s ID |
| serialNumber | TEXT | Device’s serial number |
| type | TEXT | Device type |
| ownerUserID | INTEGER | Device’s owner ID |
| lastMaintananceDate | DATE | Device’s maintanance date |

3. Sensor Values:

|  |  |  |
| --- | --- | --- |
| **Field** | **Data Type** | **Description** |
| readingID | INTEGER | Value’s ID |
| deviceID | INTEGER | Which device the data comes from |
| sensorType | TEXT | sensor type |
| value | FLOAT | Measurement value |

**Note: This data is collected by sensors and microcontrollers already inside the device and no special hardware is connected from outside.**

4. Error Codes:

|  |  |  |
| --- | --- | --- |
| **Field** | **Data Type** | **Description** |
| errorID | INTEGER | ID of the error record |
| deviceID | INTEGER | ID of the which device |
| code | TEXT | Error code |
| description | TEXT | Error’s description |

5. Notifications:

|  |  |  |
| --- | --- | --- |
| **Field** | **Data Type** | **Description** |
| notificationID | INTEGER | ID of notification |
| userID | INTEGER | User to whom the notification belongs |
| deviceID | INTEGER | Which device it belongs to |
| message | TEXT | Notification message |