## **Performance Requirements**

*<If there are performance requirements for the product under various circumstances, state them here and explain their rationale, to help the developers understand the intent and make suitable design choices. Specify the timing relationships for real time systems. Make such requirements as specific as possible. You may need to state performance requirements for individual functional requirements or features.>*

1. The system must be able to run with little downtime and no crash.
2. The system must return result for any interaction within 3 seconds.

## **Usability Requirements**

1. 90% of the users must be able to generate a report of their total electricity consumption within 30 seconds.
2. The notification messages must be clear, precise and helpful for user clarity.

## **Security Requirements**

*<Specify any requirements regarding security or privacy issues surrounding use of the product or protection of the data used or created by the product. Define any user identity authentication requirements. Refer to any external policies or regulations containing security issues that affect the product. Define any security or privacy certifications that must be satisfied.>*

1. Each account cannot access, or manipulate the private data of another account.
   1. Private data include:
      1. Monitor list
      2. Bill
2. The system must adopt two-factor authentication during user registration and user login.
3. The system must mask the password field to preserve user privacy.
4. The account password for each user stored in the database must be encrypted.

## **Reliability Requirements**

*<Specify any additional quality characteristics for the product that will be important to either the customers or the developers. Some to consider are: adaptability, availability, correctness, flexibility, interoperability, maintainability, portability, reliability, reusability, robustness, testability, and usability. Write these to be specific, quantitative, and verifiable when possible. At the least, clarify the relative preferences for various attributes, such as ease of use over ease of learning.>*

1. The recommendations for reducing electrical consumption must be sound and accurate.
2. The estimated total cost and total electrical consumption must have at least 95% accuracy.
3. During application downtime, it must not interfere with user processes and allow users to continue to perform application functions.

## **Business Rules**

*<List any operating principles about the product, such as which individuals or roles can perform which functions under specific circumstances. These are not functional requirements in themselves, but they may imply certain functional requirements to enforce the rules.>*

1. The system must store the information in a database for scalability
   1. The information include:
      1. Private data of each account
      2. Average power usage of each device
      3. Electrical Price
2. The system must maintain the data integrity