

3. Requirements

M	Must have
S	Should have
C	Could have
W	Won't have this time

3.1 User Requirements

Registration

F-UR1	Register as home manager Users shall be able to register as home managers and register their home.	M
F-UR2	Register as home dweller Users shall be able to register as home dwellers.	M
F-UR3	Login Users shall be able to sign in using their email and password.	M
F-UR4	Logout Users shall be able to logout of their account	M

Home Dweller Specific Functionalities

F-UR5	Control IoT Devices The user shall be able to switch on/off IoT devices	M
F-UR6	IoT devices feedback The user shall be able to get a comprehensive feedback on the various IoT devices in the home, such as battery level and energy consumption.	S

F-UR7	Recommendations The user shall get recommendations based on his usage to improve energy efficiency	S
F-UR8	Sharing Statistics Home dwellers shall be able to share statistics to social media.	C

Home Manager Specific Functionalities

F-UR9	Detailed Data usage Home managers shall be able to get a more detailed information on energy usage	M
F-UR10	Register multiple homes Home managers shall be able to register more than one home to their account.	S
F-UR11	Compare data usage Home managers shall be able to compare data usage of the different homes registered to their account.	C

Account

F-UR12	Change login credentials The user shall be able to change his email and password	M
F-UR13	Delete account The user shall be able to delete his account and all the data associated to that account.	M

3.2 System Requirements

Backend Software

NF-SR1	Server OS The backend server will be hosted on a Linux server.	S
NF-SR2	Environment The backend server will be running Python 3.6	S
NF-SR3	Database The backend database will be running PostgreSQL.	S
NF-SR4	MVC Architecture The system shall use a Model-View-Controller framework.	S

Frontend Software

NF-SR5	Support multiple mobile platforms The Mobile App shall support Android and iOS	M
NF-SR6	Browser Support The Web App shall be able to run across all widely supported web browsers.	M
NF-SR7	Desktop App support There shall be Windows, MacOS and Linux desktop apps for the system.	W

Security

NF-SR8	Hashing passwords The system shall hash passwords, such that no raw passwords are stored on the database.	M
NF-SR9	Auth Token The system shall issue an Authentication token related to a particular user when a user successfully logs in and invalidate that token when the user logs out.	M
NF-SR10	Password criteria The system shall require passwords to be at least 6 characters long	S

Performance

NF-SR11	Uptime The system shall have an uptime of 99%	S
NF-SR12	Transaction capacity The system shall be able to handle a minimum of 1000 IOPS.	S
NF-SR13	Responsiveness The backend server shall have a latency of less than 300ms.	S
NF-SR14	Multiple backend servers The system shall have multiple backend servers around the world to provide the most optimum latency for every user based on his location.	W