New functionalities that we considered to be added to a smart home are:

**Smart Lock System:** Enhancing the lock system by connecting to the internet, making them robust and productive. [1]

**Smart Oven:** Automatic detection of an amount of heating that has been applied to an object of heating such as a frozen pizza or a piece of toast [2]

**Smart Vacuum Cleaner:** To perform its task with no external support, the system is equipped with a radio-frequency identification (RFID) reading device and provided with an additional power source. [3]

**Smart Garden:** The watering requirement for a plant using hydroponics growing systems can be adjusted by monitoring the soil moisture , measuring the soil moisture of a plant gives information if the plant is ideally watered , over watered , or under watered.[4]

**Smart Lawn Mower:** Lawn Mower will be smart enough to mow the lawn on its own with an IOT (Internet of Things) to achieve interconnectivity between machines.[5]

**Self Cleaning Toilet:** It has a hollow rim with openings in the top surface of the rim whereby urine and other residues accumulating thereon are rinsed during flushing of the toilet. The water drains into a trough along the periphery of the. bowl and into the toilet bowl.[6]

Challenges of the new functionalities of a Smart Home

Smart home is a connected home that connects all types of digital devices to communicate with each other through the internet. These devices form a home area network where communications are enabled by different standards and technologies there is problem exists in their connectivity.[7]

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