The Internet of Things

The Internet of Things, also called The Internet of Objects, refers to a wireless network between objects usually the network will be wireless and self-configuring, such as household appliances. The term "Internet of Things" has come to describe a number of technologies and research disciplines that enable the Internet to reach out into the real world of physical objects. [IoT 2008] Extending the current Internet and providing connection, communication, and inter-networking between devices and physical objects, or Things, is a growing trend that is often referred to as the Internet of Things. The Internet of Things (IoT), sometimes referred to as the Internet of Objects, will change everything including ourselves. IoT represents the next evolution of the Internet, taking a huge leap in its ability to gather, analyze, and distribute data that we can turn into information, knowledge and ultimately, wisdom [3]. The Internet of Things (IoT) can be described as connecting everyday objects like smart-phones, Internet TVs, sensors and actuators to the Internet where the devices are intelligently linked together enabling new forms of communication between things and people, and between things themselves [1]. Now anyone, from anytime and anywhere can have connectivity for anything and it is expected that these connections will extend and create an entirely advanced dynamic network. IoT technology can also be applied to create a new concept and wide development space for smart homes to provide intelligence, comfort and to improve the quality of life. Modern advances in electronics and communications Technologies have lead to the miniaturization and improvement of the performance of computers, sensors and networking. These changes have given rise to the development of several home automation technologies and systems. According to, home automation can be useful to those who need to Access home appliances while away from their home and can incredibly improve the lives of the disabled.

Home Automation is automation of the home, housework or household activity. Home automation may include centralized control of lighting, HVAC (heating, ventilation and air conditioning), appliances, security locks of gates and doors and other systems, to provide improved convenience, comfort, energy efficiency and security. Home automation for the elderly and disabled can provide increased quality of life for persons who might otherwise require caregivers or institutional care. The popularity of home automation has been increasing greatly in recent years due to much higher affordability and simplicity through smartphone and tablet connectivity. The concept of the "Internet of Things" has tied in closely with the popularization of home automation. A home automation system integrates electrical devices in a house with each other. Through the integration of information technologies with the home environment, systems and appliances are able to communicate in an integrated manner which results in convenience, energy efficiency, and safety benefits. However, problems with complexity, competition between vendors, multiple incompatible standards and the resulting expense have limited the penetration of home automation to homes of the wealthy, or ambitious hobbyists. Home automation or smart homes can be described as introduction of technology within the home environment to provide convenience, comfort, security and energy efficiency to its occupants [3]. With the introduction of the Internet of Things, the research and implementation of home automation are getting more popular. Various wireless technologies that can support some form of remote data transfer, sensing and control such as Bluetooth, Wi-Fi, RFID, and cellular networks have been utilized to embed various levels of intelligence in the home [3]. Many of the home automation systems that are commercially available can be separated into two categories: locally controlled systems and remotely controlled systems. Locally controlled systems use an in-home controller to achieve home automation. This allows users complete use of their automation system from within their home via a stationary or wireless interface. Remotely controlled systems use an Internet connection or integration with an existing home security system to allow the user complete control of their system from their mobile device, personal computer, or via telephone from their home security provider. [2] There are a number of issues involved when designing a home automation system. It should provide a user- friendly interface on the host side, so that the devices can be easily setup, monitored, and controlled. Furthermore, the overall system should be swift enough to realize the true power of wireless technology.

## RESULTS

The system allows the user to control appliances and lights in their home from a smart phones and PC from anywhere in the world through an internet connection. It also allows the user to control their units within their home from a wireless remote. In these papers we proposed a Novel technique that will give us best result. Which include prediction by providing Notifications to the user if problem occurs in any device. First of all, we collect different sensor values and analyse it with the help of microcontroller. We can monitor and control it with pc or any android device connected to it. If problem, found in any device we notify owner and the related technician about the problem. We use Naive Bayes classifier algorithm for data mining which is a simple probabilistic classifier based on applying Bayes’ theorem with strong (naive) independence assumptions. VI. SCOPE AND FUTURE WORK in our system we have SMS and e-mail notifications to the user but in future we can add also some voice alerts. This system can be expanded to include various other options which could include home security feature such as open-door and motion detection, energy monitoring.

## CONCLUSION

A Smart Home system integrates electrical devices in a house with each other. The techniques which are going to use in home automation include those in building automation as well as the control of domestic activities, such as TV, fan, electric tubes, refrigerator and washing machine. After studying and understanding literature survey and other existing works, we proposed a Novel technique that will gives us better understanding of the Environmental conditions in home. Our system not only just monitors environmental conditions but it acts according to inhabitant requirement. We also provide notification to the user about any error occurs in the devices and send mail or SMS to the service provider about the problem. In this paper we are planning to eliminate most of the human interaction by providing intelligent system. Development of such Smart Home achieve by using Internet of Things technologies. By using these system, we can actually manage to make low cost, flexible smart homes to adjust its environmental conditions and resolve its errors with energy saving.