**A Review of Smart Homes – Past, Present, and Future**

**The Context:**

Smart home is a room makes use of internet connected electronic devices which can provide humanized services to improve users’ living qualities. This paper provides an overview of the technologies used in previous smart home. Aspects of both hardware and software are discussed in detail. Based on that, the paper analyses which of those technologies are more useful and provides a guideline for future smart home realization.

**Paraphrasing:**

By analyzing the evolution of remote monitoring technology, researchers noted that this healthcare service can be applied to monitor patients remotely to provide timely medical support [1]. The development of remote monitoring has undergone three different stages to become more affordable, more user-friendly, and more efficient. The first-generation device remote monitoring uses a temperature sensor to detect the abnormal situation and call the telecare control center automatically [1]. CarerNet, the second-generation product is composed of more delicate monitors to collect the patients’ physiological data [1]. Supported by powerful network and software, CarerNet can provide accurate diagnoses and therapy to patients [1]. The third-generation device is installed on a wheelchair, the phycological sensors record the status of the elderly or disabled users and the software delivers those data to the doctor instantaneously [1]. The well cooperated software and hardware ensure a better healthcare service. However, doctor’s interaction is still involved which might be upgraded using AI in future.

**Direct Quotation:**

Remote access and control system play an important role in smart home which establish a home network to bond the user and the home appliances together, enabling the user to make full use of them. Perumal *et al.* has designed a control module which featured “fifteen web-based feedback control channels” [1]. According to the designer, “it offers a complete, bi-directional real-time start home control and monitoring system” [1]. In addition to establishing control channels, some other designers have developed a control equipment which has embedded web server. According to the developer Yongping *et al.*, they added “a S3C2410 microprocessor which was programmed with Linux 2.6 kernel” [1] and use “a small web server (only 60KB) named Boa” [1] to provide online access and communicate in a new protocol. We can see that remote access and control system is not the key that makes smart home “smart”, rather, it only builds a platform shares the common protocol which connects those appliances.

Works Cited

[1] Alam, M. R., Reaz, M. B. I., & Ali, M. A. M. (2012). A review of smart homes—Past, present, and future. *IEEE transactions on systems, man, and cybernetics, part C (applications and reviews)*, *42*(6), 1190-1203.