

# User Experiences of Security in Connected Homes

**Name:** Arpit Kaur

**SFU Faculty/Major:** Bachelor of Science, Computing Science

## Presentation Description:

My research mainly focuses on the user experiences of security while using home Internet of Things (IoT) devices. I discuss that security must be taken seriously to prevent the failures with disastrous outcomes, and how can the security breaches be prevented, both from the user and manufacturer point of view.

## Abstract:

It is certainly no secret that connected IoT (Internet of Things) devices are rapidly making their way into our homes. They offer the promise of security and transparency for our connected homes, but they are not as secure as people think them to be.

A recent ZDNet research suggests that a typical device is a target of a mean of five attacks per day. Symantec shows that 75% of infected devices in IoT attacks are routers. A router helps you connect multiple devices. Therefore, compromised security of a router means the attacker is in the network and may access everything else including more sensitive devices that contain personal information, like PCs, phones, and laptops. However, users have little or no information about such attacks. They are not usually aware of the trade-offs between the price of devices and their security, and hence prefer low-cost devices.

According to my research, the competitiveness of manufacturers and lack of awareness in users, both contribute to the security problems in such devices. To further understand and address these concerns, I examine the security experiences of Home IoT users, review vulnerabilities and root causes (like lack of secure update mechanisms, insecure data transfer and storage, weak or default password and insufficient privacy protection), and argue the approach for usable security practices for Home IoT Devices. My research focuses on the kind of attacks that have breached security in some of the most used Home IoT devices, how dangerous the data leaks can be and how to prevent such breaches. The methodology that I intend to use is researching through experimenting, collecting data, forum questions, surveying and mapping to advice.