[34] Haotian Chi, Qiang Zeng, Xiaojiang Du, and Jiaping Zhang, and Patrick Tague. Do you feel what i hear? Yu. Cross-app interference threats in smart homes: enabling autonomous iot device pairing using different Categorization, detection and handling. In 50th Ansensor types. In 2018 IEEE Symposium on Security and nual IEEE/IFIP International Conference on Dependable Privacy (S&P), pages 836-852, 2018.

Systems and Networks (DSN), pages 411-423, 2020.

[46] Timothy W Hnat, Vijay Srinivasan, Jiakang Lu, Tamim I [35] Jiwon Choi, Hayoung Jeoung, Jihun Kim, Youngjoo Ko, Sookoor, Raymond Dawson, John Stankovic, and Kamin Wonup Jung, Hanjun Kim, and Jong Kim. Detecting and Whitehouse. The hitchhiker's guide to successful residentifying faulty iot devices in smart home with condential sensing deployments. In Proceedings of the 9th text extraction. In 48th IEEE/IFIP International Confer-ACM Conference on Embedded Networked Sensor Systems ence on Dependable Systems and Networks (DSN), 2018. (SenSys), pages 232-245, 2011.

[36] Diane J Cook, Aaron S Crandall, Brian L Thomas, and [47] Apple Homekit. Homekit-apple developer, 2019.

Narayanan C Krishnan. Casas: A smart home in a box.

https://www.apple.com/ios/home/.

Computer, 46(7):62-69, 2013.

[48] Jun Inoue, Yoriyuki Yamagata, Yuqi Chen, Christo-

[37] Diane J Cook, Michael Youngblood, Edwin o Heierpher M Poskitt, and Jun Sun. Anomaly detection for a man, Karthik Gopalratnam, Sira Rao, Andrey Litvin, water treatment system using unsupervised machine and Farhan Khawaja. Mavhome: An agent-based smart learning. In 2017 IEEE International Conference on Data home. In Proceedings of the First IEEE International Con-Mining Workshops (ICDMW), pages 1058-1065, 2017. ference on Pervasive Computing and Communications (PerCom), pages 521-524, 2003.

[49] George F Jenks. The data model concept in statistical mapping. International yearbook of cartography, 7:186-[38] Borden Dent. Cartography-thematic map design. 1999.190, 1967.

pages 147-149.

[50] Yunhan Jack Jia, Qi Alfred Chen, Shiqi Wang, Amir Rah[39] Wenbo Ding and Hongxin Hu. On the safety of iot
mati, Earlence Fernandes, Z Morley Mao, Atul Prakash,
device physical interaction control. In Proceedings of
and Shanghai JiaoTong Unviersity. Contexiot: Towards
the 2018 ACM SIGSAC Conference on Computer & Comproviding contextual integrity to appified iot platforms.
munications Security (CCS), pages 832-846, 2018.
In Proceedings of The Network and Distributed System
[40] Nancy ElHady and Julien Provost. A systematic surSecurity Symposium (NDSS), 2017.

vey on sensor failure detection and fault-tolerance in [51] Krasimira Kapitanova, Enamul Hoque, John A ambient assisted living. Sensors, 18(7):1991, 2018.

Stankovic, Kamin Whitehouse, and Sang H Son.

[41] Earlence Fernandes, Jaeyeon Jung, and Atul Prakash.

Being smart about failures: assessing repairs in smart

Security analysis of emerging smart home applications.

homes. In Proceedings of the 2012 ACM Conference on

In IEEE Symposium on Security and Privacy (S&P), pages

Ubiquitous Computing (UbiComp), pages 51-60, 2012.

636-654, 2016.

[52] Stylianos P Kavalaris and Emmanouil Serrelis. Security

[42] Ronald Aylmer Fisher. Statistical methods for research

issues of contemporary multimedia implementations:

workers. In Breakthroughs in statistics, pages 66-70.

The case of sonos and sonosnet. In The International

Springer, 1992.

Conference in Information Security and Digital Forensics

(ISDF), pages 63-74, 2014.

[43] Milan Fránik and Milos Cermák.

Seri-

ous flaws found in multiple smart home

[53] Shehroz S Khan and Michael G Madden. One-class clas-

hubs: Is your device among them?, 2020.

sification: taxonomy of study and review of techniques.

https://www.welivesecurity.com/2020/04/22/serious-

The Knowledge Engineering Review, 29(3):345-374, 2014. flaws-smart-home-hubs-is-your-device-among-them/.

[54] Palanivel A Kodeswaran, Ravi Kokku, Sayandeep Sen, and Mudhakar Srivatsa. Idea: A system for efficient
[44] Chenglong Fu, Qiang Zeng, and Xiaojiang Du.
failure management in smart iot environments. In ProHawatcher: Semantics-aware anomaly detection
ceedings of the 14th Annual International Conference
for appified smart homes (technical report), 2020.
on Mobile Systems, Applications, and Services (MobiSys),
https://github.com/infinitywings/HAWatcher.git.
pages 43-56, 2016.

[45] Jun Han, Albert Jin Chung, Manal Kumar Sinha, Mad-[55] K Kreuzer. Openhab-empowering the smart home,humitha Harishankar, Shijia Pan, Hae Young Noh, Pei2013.

4238 30th USENIX Security Symposium USENIX Association