

## UTILIZATION OF THE INTERNET OF THINGS IN CREATING SMART LIBRARIES AND INCREASING STUDENTS' INTEREST IN READING

Herni Ramayanti<sup>1</sup> Yetnimar,<sup>2</sup> Peni Astuti,<sup>3</sup> Septian Simatupang,<sup>4</sup> Aloysius Eka Wenats<sup>5</sup>

Universitas Baturaja, Indonesia<sup>1</sup>

Politeknik Lembaga Pendidikan dan Pengembangan Profesi Indonesia<sup>2</sup>

Universitas Faletahan, Indonesia<sup>3</sup>

Politeknik Wilmar Bisnis Indonesia<sup>4</sup>

UMN Jakarta Serpong, Indonesia<sup>5</sup>

Email : [herniramayanti70@gmail.com](mailto:herniramayanti70@gmail.com)

### **Abstract**

*This study is a qualitative study with a descriptive approach, namely approaching the description of the main parts used in this article. In this case, the main parts in question are the Internet of Things and Smart Library. The data used in this article is secondary data that researchers obtain from sources indirectly obtained or it can be said that researchers obtain from credible quotations such as Books, Journals, and Websites. After the data is collected, the existing data is reduced, selected, and conclusions are drawn. The result in this article show that Internet of Things in creating a smart library that has four concepts and has been proposed by researchers above can be achieved easily. With a good Internet of Things, the internet network will be stronger and wider. The references owned are also increasing and in accordance with the needs and desires of students. This can make students happy and increase their interest in reading.*

**Keywords:** *Internet of Things, Smart Library, Students*

### **1. INTRODUCTION**

Internet of Things (IoT) is a new trend in the world of technology that will be one of the big things in the future. IoT is a concept that expands the benefits of always-on internet connectivity, (Budiyanto 2021). Internet of Things or what we often call IOT is a concept that aims to expand the benefits of continuously connected internet connectivity. Through the internet we can exchange information, remote control and various things, (Danny 2018). According to Professor of the Faculty of Engineering, University of Indonesia, Prof. Widjojo Adi Prakoso in (Budiyanto 2021) that things in IoT are items that can be connected to the internet and other items via cable or wireless connections such as satellites, cellular networks, WiFi, or Bluetooth.

IoT (Internet of Things) is a giant network that connects things and people, all of which collect and share data about how they are used and about the environment around them, Afriliana et al., in (Budihartono 2021). The Internet of Things is a technological revolution that represents the future of computers and communications, where its development depends on the dynamics of each element integrated with some kind of intelligent system to harness the power of the network with the necessary information processing. The entire system is then scaled down to use nanotechnology, which allows various types of objects in the world to be intelligently connected to various types of objects and devices every day into a large network and database. Each object and device is identified with technology such as RFID (Radio-frequency identification), then changes in its physical status are detected using sensor technology. Not only that, each element is integrated with some kind of intelligent system to harness the power of the network with the

necessary information processing. The entire system is then scaled down to use nanotechnology, which allows various types of objects in the world to be intelligently connected (Bakri 2016).

Internet of Things (IoT) is a network of physical devices, vehicles, household appliances, and other items embedded with electronics, software, sensors, actuators, and network connectivity that enable these objects to collect and exchange data, Priyono et al., in (Budihartono 2021). Internet of Things (IoT) is one of the technological paradigms developed in the industrial revolution 4.0. The concept of IoT is that an object can transfer data over a network without human-to-human or human-to-computer interaction, Ciptadi & Hardyanto in (Budihartono 2021). Internet of Things (IoT) is a concept where an object is able to transmit data over a network without requiring human-to-human or human-to-computer interaction. IoT evolved from the convergence of wireless technology, microelectromechanical systems (MEMS) and the Internet, (Abur 2019).

Internet of Things or also known by the abbreviation IoT, is a form of internet technology development that allows every item (thing) owned to be connected to the internet so that it can be controlled remotely using a smartphone or even with voice commands (Budiman, D. F., Rahman, A. S., Misbahuddin, M. S. I., & Wiriasto 2021). IoT is all activities that agents interact with each other and are carried out by the Internet using the Internet of Things which is often found in various activities, for example in online transportation, e-commerce, online ticket booking, live streaming, online learning, and other tools and even supporting tools in several areas such as remote temperature sensing, GPS tracking, and so on that use the internet or network as a medium to do it (Apriyani 2018).

In this study, the IoT in question functions to create a Smart Library in a number of high schools in Indonesia. With the IoT, the internet reach will be greater and book references will be wider. The planning and concepts of smart libraries that emerge are the result of the inability of traditional libraries to meet various changes related to the information needs of the community today. The physical buildings that are still present today do not match the current demands and conditions. Therefore, a smart library that is promoted as a modern library must at least organize four concepts that are in accordance with current needs, namely: The four basic concepts of a smart library can be described as follows (Mohapatra 2018): a. The library must be a comfortable place/zone for users b. Libraries that promote "smart libraries" must open data repositories for users, so that users can utilize the data in the repository for various purposes c. The library must be a technological/electronic playground, which means that the library must design itself to be in harmony with the progress of the times d. The library must be in harmony with the surrounding natural environment and the urban area where the library stands.

Smart library means a library that will be projected not only for the current generation, but also for future generations. Smart library combines the functions of library systems and knowledge-based e-learning (Enlevi and Masruri 2023), which will ultimately create creative resources. With some advances in the interface in the library, users can utilize it collectively while being able to increase their independence and logical (Mohapatra 2018).

Based on the above explanation, it can be concluded that this study aims to analyze the Utilization of IoT in strengthening the creation of Smart Libraries in a number of Senior High Schools/Equivalents throughout Indonesia. The four concepts presented above will be easily achieved if IoT can be utilized optimally.

## **2. RESEARCH METHODS**

Based on the long explanation in the introduction above, it can be concluded that this study aims to analyze the best use of the Internet of Things in supporting the creation of Smart Libraries throughout Indonesia (Imam Gunawan 2014). Looking at the color of the words used in the introduction above, it can be concluded that this study is a qualitative study with a descriptive

approach, namely approaching the description of the main parts used in this article. In this case, the main parts in question are the Internet of Things and Smart Library (Abdurahman 2016). The data used in this article is secondary data that researchers obtain from sources indirectly obtained or it can be said that researchers obtain from credible quotations such as Books, Journals, and Websites (Lexy J. Moleong 2014). After the data is collected, the existing data is reduced, selected, and conclusions are drawn (Jonathan Sarwono 2016).

### **3. RESULT AND DISCUSSION**

#### **Internet of Things and Smart Library**

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Smart library means a library that will be projected not only for the current generation, but also for future generations. Smart library combines the functions of library systems and knowledge-based e-learning (Enlevi and Masruri 2023), which will ultimately create creative resources. With some advances in the interface in the library, users can utilize it collectively while being able to increase their independence and logical (Mohapatra 2018).

Based on the above explanation, it can be concluded that this study aims to analyze the Utilization of IoT in strengthening the creation of Smart Libraries in a number of Senior High Schools/Equivalents throughout Indonesia. The four concepts presented above will be easily achieved if IoT can be utilized optimally.

#### **Utilization Of The Internet Of Things In Creating Smart Libraries And Increasing Students' Interest In Reading**

The presence of the Internet of Things in strengthening and perfecting the Smart Library concept that researchers have explained to be implemented in a number of high schools in Indonesia in order to increase students' interest in reading is very effective. In the previous explanation, the researcher revealed that there are four concepts of Smart Library, namely: a. The library must be a comfortable place/zone for users b. Libraries that promote "smart libraries" must open data repositories for users, so that users can utilize the data in the repository for various purposes c. The library must be a technological/electronic playground, which means that the library must design itself to be in harmony with the progress of the times d. The library must be in harmony with the surrounding natural environment and the urban area where the library stands.

By involving the Internet of Things in creating a smart library that has four concepts and has been proposed by researchers above can be achieved easily. With a good Internet of Things, the internet network will be stronger and wider. The references owned are also increasing and in accordance with the needs and desires of students. This can make students happy and increase their interest in reading.

#### **4. CONCLUSION**

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## REFERENCES

- Abdurahman, Soejana. 2016. *Metodologi Penelitian*. Jakarta: Sinar Grafika.
- Abur, F. 2019. *Perancangan Dan Implementasi Iot (Internet Of Thing) Dalam Sistem Kontrol Tanaman Sayur Hidroponik*. Malang.
- Agustin, Kurnia. 2022. Skripsi: Fakultas Ilmu Sosial Dan Ilmu Politik Universitas Sriwijaya “Pengaruh Kredit Usaha Rakyat (Kur) Bank Rakyat Indonesia Dan Modal Sosial Terhadap Peningkatan Pendapatan Usaha Mikro Kecil Menengah (Umk) Di Masa Pandemic Covid-19 Kota Palembang.”
- Apriyani, H. 2018. “Penggunaan Internet Of Things Dalam Pemasaran Produk.” *Jusikom : Jurnal Sistem Komputer Musirawas* 3(2): 82.
- Bakri, M. A. 2016. “Studi Awal Implementasi Internet Of Things Pada Bidang Pendidikan.” *Journal Of Electrical And Electronics* 4(1): 19.
- Budihartono, E. 2021. “Peningkatan Softskill Siswa Melalui Implementasi Iot Berbasis Arduino Bagi Smk Muhammadiyah 1 Kota Tegal.” *Jmm (Jurnal Masyarakat Mandiri)* 5(5): 2259.
- Budiman, D. F., Rahman, A. S., Misbahuddin, M. S. I., & Wiriasto, G. W. 2021. “Pengenalan Dan Pemanfaatan Teknologi Internet Of Things ( Iot) Menggunakan Modul Peraga Bagi Siswa Dan Guru Smk.” In *Prosiding Pepadu 2021 Seminar Nasional Pengabdian Kepada Masyarakat Tahun 2021 Lppm Universitas Mataram*, Mataram: Lppm Universitas Mataram, 23.
- Budiyanto, U. 2021. “Introduction Of The Internet Of Things (Iot) To Improve The Quality Of Civil Servant Of The Ministry Of Education And Culture.” *Kresna: Jurnal Riset Dan Pengabdian Masyarakat* 1(1): 82–86.
- Danny, M. 2018. “Pemanfaatan Internet Of Things (Iot) Pada Kendali Lampu.” *Jurnal Teknologi Pelita Bangsa* 9(2): 85–90.
- Enlevi, Silva, And Anis Masruri. 2023. “Jurnal Ilmu Perpustakaan (Jiper) Penerbit Prodi D3 Perpustakaan Fisip Ummat Smart Library: Antara Kontestasi Atau Kolaborasi Dengan Google Dalam Menghadapi Digital Native.” *Jiper) Fisip Ummat* | 5(1): 97–110. [Http://Journal.Ummat.Ac.Id/Index.Php/Jiper/Index](http://Journal.Ummat.Ac.Id/Index.Php/Jiper/Index).
- Ghozali, I. 2016. *Aplikasi Analisis Multivariete Dengan Program (Ibm. Spss)*. Diponergoro: Univrsitas Dipenogoro.
- Hair. 2010. *Multivariate Data Analysis, Seventh Editions*. Prentice Hall: New Jersey.

- Imam Gunawan. 2014. *Metode Penelitian Kualitatif*. Jakarta: Bumi Aksara.
- Jonathan Sarwono. 2016. *Meode Penelitian Kualitatif Dan Kuantitatif*. Bandung: Graha Ilmu.
- Lexy J. Moleong. 2014. *Metode Penelitian Kualitatif*. Bandung: Remaja Rosdakarya.
- Mohapatra, Niranjan. 2018. “Modern & Smart Library In The Information Age.” *Infolib: Jharkhand Information And Library Association* 3(2): 10.
- Nur Fauziah. 2019. 53 Jurnal Sains Dan Seni Its “Pengaruh Penggunaan Kredit Usaha Rakyat (Kur) Terhadap Pendapatan Usaha Kecil Menengah(Ukm) Masyarakat Kota Banda Aceh.”  
<https://www.infodesign.org.br/infodesign/article/view/355%0ahttp://www.abergo.org.br/revista/index.php/ae/article/view/731%0ahttp://www.abergo.org.br/revista/index.php/ae/article/view/269%0ahttp://www.abergo.org.br/revista/index.php/ae/article/view/106%0a>.
- Nurul Reski Islamiah. 2022. Institut Agama Islam (Iai) Muhammadiyah Sinjai “Pengaruh Pemberian Kredit Usaha Rakyat (Kur) Terhadap Pengembangan Umkm Pada Pt. Bni Kcp. Sinjai.” Institut Agama Islam (Iai) Muhammadiyah Sinjai.  
<https://www.who.int/news-room/fact-sheets/detail/autism-spectrum-disorders>.
- Sarstedt, Marko Et Al. 2014. “Partial Least Squares Structural Equation Modeling (Pls-Sem): A Useful Tool For Family Business Researchers.” *Journal Of Family Business Strategy* 5(1): 105–15.
- Suginam, Suginam, Sri Rahayu, And Elvitrianim Purba. 2021. “Efektivitas Penyaluran Kur (Kredit Usaha Rakyat) Untuk Pengembangan Umkm.” *Ekonomi, Keuangan, Investasi Dan Syariah (Ekuitas)* 3(1): 21–28.