

Internet of Things

General Purpose: To inform.

Specific purpose: To inform the audience about what is IoT, how it works, and how it's changing the world.

Introduction:

I. Gain the attention of the audience:

- + Internet is the most important and transformative technology ever invented.
- + The digital network that encourages interaction among people across the globe.

For example, you can post a picture on social media, share your favorite song to your friends, or even search for the world tinniest cat using the search bar => It is the Internet of people. => It's affecting every aspect of our lives in one way or another.

+ Innovation never stops. Dated back from a few years ago until now, a new concept has emerged: "Internet of Things".

II. Link to the audience / Motivation to listen:

+ According to Forbes, in 2015, a majority of people (87%) have never heard of this term before. (Kobie, May 6, 2015)

⇒ We can raise some questions:

- What is the Internet of Things?
- How does it work?
- How the Internet of Things is transforming the 21st century?

III. **Established credibility:** As a Software Engineering major, I'm fascinated by the change in technology. Therefore, I need to be updated with the knowledge of the latest advancement in computer science to make significant progress in my field.

IV. **Thesis statement:** Since there are a lot of complexities surrounding the Internet of Things; therefore, I'm going to provide you an overview of the basic concept of the Internet of Things, its functionality, and the sharp impact it has on our world.

Transition: Let's begin with our first question.

Body:

I. First, what is IoT?

+ Human intelligence is what makes us superior compared to other species, and since the beginning of the internet, visionary scientists have already come up with an intriguing idea:

⇒ Is there a solution to add the same intelligence of humans into objects, which allows them to communicate or follow our orders, to improve daily lives?

+ Nowadays, with the assistance of technological advancement, “how can an object able to think” is no longer an imagination. Internet of Things was born with a potential impact in shaping an ideal future, where everything is connected automatically.

+ With a simple explanation, the word “Things” in IoT represents any device that can to connect to the internet. Therefore, in general

⇒ IoT is a reference to the number of devices that can collect or exchange data automatically via an established network, using digital intelligence. (M., 2020)

+ This includes even your smartphone to an airplane, any electrical devices that have access to the wireless network.

II. **Second, how does it work?**

+ If we want the machines to work by themselves, they must be able to communicate and sense.

⇒ **One of the most important components to install in all electronic devices for IoT to work is the sensor.**

A device can have a bundle of sensors. Their function is to collect the surrounding data, even the smallest change will be recorded by the sensor.

Example:

+ Apple Watch: Using the Activity app, you can measure your heart rate, amount of calories burned during work out, or count how many steps you completed per day.

⇒ The slightest change in your body’s chemical reaction is the essential data for the sensor to collect.

Along with the sensor, **connectivity is what defines the Internet of Things**. Without connectivity, the data cannot be transmitted to the IoT platform and shared among devices.

All of you have already known what it is like to lose the Internet. Nothing showed up when you typed something into the search bar, right? This happened due to the disruption in the flows of data if connectivity is lost.

That’s not all. The outcome of IoT must meet the demand of the user. Therefore, they must be analyzed and processed. **The cloud, central storage that contains exabytes of data per day, will perform this task.**

⇒ Not only does Apple Watch will provide the result after your work out, but it also sorts out a suitable plan that fits your strength to maintain your exercising progress in the future

Example:

+ The amount of sleeping time to recover your energy, the amount of nutrients you should consume per day to reach your work out goals.

+ Even simpler, the light knows when to turn on and off.

III. Third, how IoT is changing the 21st century?

The potential benefits that IOT is bringing to our world are immeasurable. If we can summarize those benefits across all aspects, from manufacture to standard living, we may say that they have become more productive, more efficient, and more competitive.

According to Business Insider, there will be more than 41 billion IOT devices by 2027. Also, the continued growth of IOT will make the market rise over 2.4 trillion annually by the same year. (Newman, 2020)

- Industry
 - IoT is revolutionizing how companies operate and organize their data.
 - ⇒ Avoid the overwhelming of data by sharing them across devices using machine-to-machine learning.
 - ⇒ Faster in fact-based decision making with the assistance of AI in processing data.
 - ⇒ Create an open market with more involvement of different enterprises.
- Education
 - ⇒ More people have access to information.
- Healthcare
 - ⇒ Store a larger amount of patients' health status.
 - ⇒ Identify patient's health trend by analyzing the collected data; therefore, can come up with the right treatment and mitigate harmful effects.

The most recent application of IoT is the 5G network:

- Leverage the speed of data transmission.
- Application in home appliances to increase their efficiency.
- Self-driving cars.

Closing:

Restatement: Now you know the basic concept of IoT, its functions and immense effects it's creating.

I believe in the future, IoT will become irreplaceable in our society. Companies and institutions will certainly demand the use of IoT to increase the efficiency of people's work. Automation is making our life much easier compared to a decade ago.

Alongside the advantages of IoT, there exist some withdrawals. Presumably, more cybersecurity attacks will happen, managing information and preventing them from being disrupted by hackers is more difficult.

However, the future looks brighter every day with this innovation in technology. IoT will likely to woven in all aspects of life and it's truly transforming the 21st century.

Reference

Hagler, B. (2020). How The Internet Of Things Is Transforming 21st-Century Manufacturing. *Forbes*.

Kobie, N. (May 6, 2015). What is the internet of things? *The Guardian*.

M., L. (2020, July 16). *What is IOT: Understanding What is the Internet of Things*. Retrieved from BitDegree: <https://www.bitdegree.org/tutorials/what-is-iot/>

Newman, P. (2020). THE INTERNET OF THINGS 2020: Here's what over 400 IoT decision-makers say about the future of enterprise connectivity and how IoT companies can use it to grow revenue. *Business Insider*.