



Computer Programming

MODE4201-05

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Lab 1

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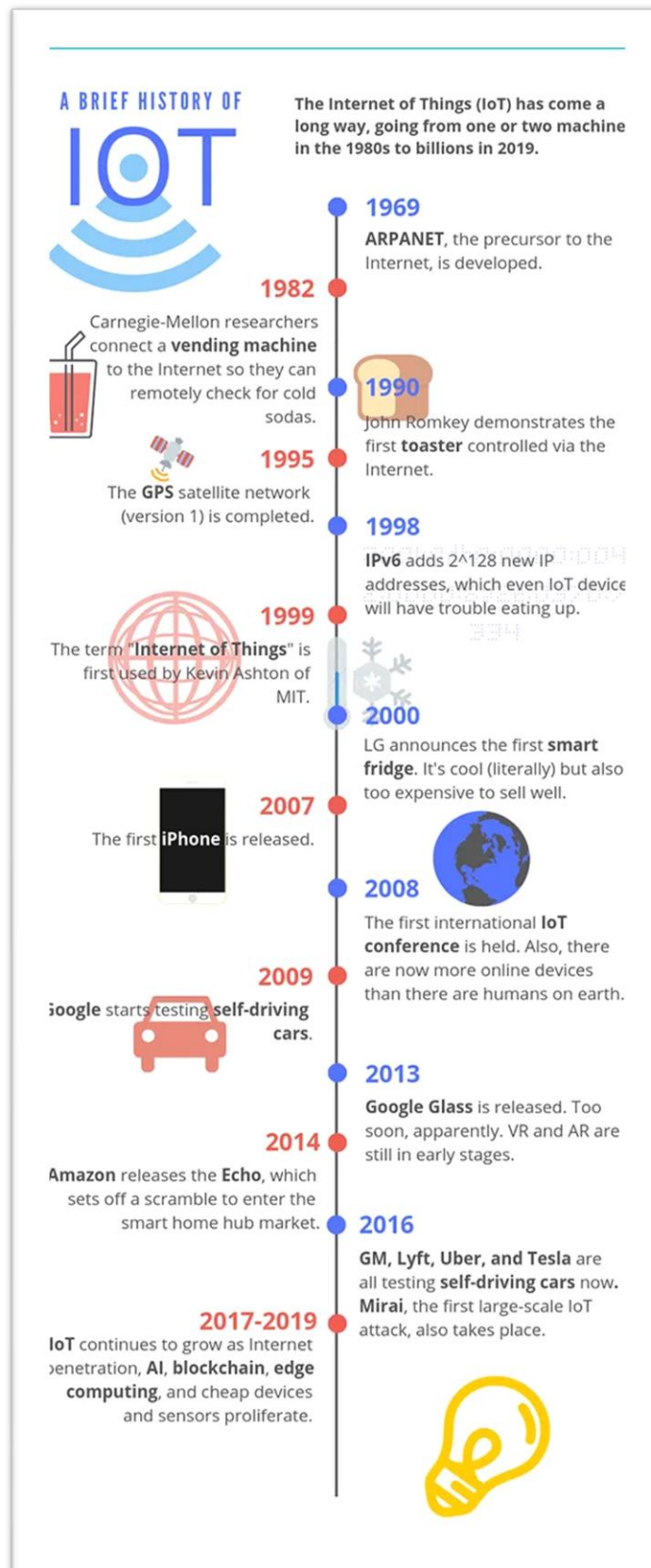
Mobile Development: Internet of Things

The Internet of things (IoT) is the interconnection of devices embedded in everyday objects so that they may send and receive data (oxfordlearnersdictionary.com).

One of (if not) the first these ‘smart devices’ was explored was a Coke Machine at the Carnegie-Mellon Computer Science Department. In 1982, a program was written to keep tabs on the machine; providing you information whether *cold* Coke was available that could be observed remotely (cs.cmu.edu). The IoT has evolved with technology and is enabled by fields such as, “embedded systems, wireless sensor networks, control systems [and] automation” (wikipedia.org). Commercially, IoT is available in many household products ranging from lightbulbs to appliances. If you purchase a product from a department store that includes instructions to download a “companion app” – it’s an IoT device; however, sometimes there is no companion/mobile application and the product itself connects to the network independently.

On the next page an image (**Image 1**) is included that provides a visual and informative display about the timeline of the Internet of things.

Image 1
(Techtrends.com)



So, what exactly are these uses from Internet of things technologies? Taken from the website [spiceworks.com](https://www.spiceworks.com), the following is a list is comprised of some of the most explored areas in IoT applications in 2022:

- | | |
|---|------------------------------------|
| 1. Creating better enterprise solutions | 6. Transforming healthcare |
| 2. Integrating smarter homes | 7. Installing smart grids |
| 3. Innovating agriculture | 8. Revolutionizing wearables |
| 4. Building smarter cities | 9. Integrating connected factories |
| 5. Upgrading supply chain management | 10. Reshaping hospitality |



All these uses are fuelled by the collection and processing of data to improve each experience.

Some advantages with the Internet of Things include improved productivity of staff and reduced human labour (i.e., digital menu at McDonalds), efficient operation management (i.e., tracking shipping), thorough marketing and business development, and improved customer service and retention. A few of the disadvantages include security flaws, associated costs, power supply dependence, and network dependence (light-it.net).

With continued advancements in, “network agility, integrated artificial intelligence (AI) and the capacity to deploy, automate, orchestrate and secure diverse use cases at hyperscale” the potential for IoT could be limitless (ericsson.com).

Mobile Manufacturers

The following table compares the latest phone models from two different manufacturers (in this case, **Apple** and **Samsung**).

Spec	Apple	Samsung
Phone Model	iPhone Pro 14	Galaxy 22 Ultra
Photo	 <p>https://www.apple.com/newsroom/images/product/iphone/standard/Apple-iPhone-14-Pro-iPhone-14-Pro-Max-silver-220907_inline.jpg.large.jpg</p>	 <p>https://images.samsung.com/sg/smartphones/galaxy-s22-ultra/buy/S22_Ultra_Exclusive_Carousel_Graphite_ProductKV_MO_w_oCopy.jpg</p>
Price	\$1399.00	\$1,649.99
Release Date	September 16, 2022	February 9, 2022
Operating System	iOS 16	Android 12, One UI 4.1.1
Chipset	Apple A16 Bionic (4 nm)	Qualcomm SM8450 Snapdragon 8 Gen 1 (4 nm) - ROW

Processor (CPU)	Hexa-core (2x3.46 GHz Everest + 4x2.02 GHz Sawtooth)	Octa-core (1x3.00 GHz Cortex-X2 & 3x2.50 GHz Cortex-A710 & 4x1.80 GHz Cortex-A510) - ROW
Memory (RAM)	6GB	8GB, 12GB
Memory (Internal)	128GB, 256GB, 512GB, 1TB	128GB, 258GB, 512GB, 1TB
Memory (External)	No card slot	No card slot
Display	6.7 inches, 2,796 by 1,290 pixels	6.8 inches, 1440 x 3088 pixels
Camera	Rear (triple): <ul style="list-style-type: none"> - 48MP, 12MP, 12MP Selfie: <ul style="list-style-type: none"> - 12MP 	Rear (quad): <ul style="list-style-type: none"> - 108MP, 10MP, 10MP, 12MP Selfie: <ul style="list-style-type: none"> - 40MP
Battery	Li-Ion 3200 mAh, non-removable (12.38 Wh)	Li-Ion 5000 mAh, non-removable
Battery (life)	Endurance rating 86h	Endurance rating 108h
Network	GSM / CDMA / HSPA / EVDO / LTE / 5G	GSM / CDMA / HSPA / EVDO / LTE / 5G
Additional features (two)	<ul style="list-style-type: none"> - Face ID - Emergency SOS via satellite 	<ul style="list-style-type: none"> - Samsung Pay (Visa, MasterCard certified) - Samsung DeX (desktop experience)
Reference	https://www.gsmarena.com/apple_iphone_14_pro-11860.php	https://www.gsmarena.com/samsung_galaxy_s22_ultra_5g-11251.php

Mobile Plan

The following table details my mobile service plan.

Service Provider	Virgin Mobile
Plan	BYOP – 5GB
Calls	Canada-Wide Calling
Data	5 GB
Messaging	Unlimited Incoming Text, Unlimited Picture & Video Messaging, Canada-US/International Text
Global Texting	Pay-per-message / rates may vary
Voice mail	Voicemail 3
Call features	Call Waiting, 3-Way Calling, Call Display
Service credits	N/A
Fees	Additional minutes 65c/min, Additional Data - \$10/100MB up to 800MB, \$0.15/MB thereafter
Additional features	N/A

References:

© 2022 Oxford University Press. (n.d.). *Internet of things*. Retrieved September 22, 2022, from <https://www.oxfordlearnersdictionaries.com/us/definition/english/internet-of-things?q=internet+of+things+>

The "Only" Coke Machine on the Internet. CMU School of Computer Science. (n.d.). Retrieved September 22, 2022, from https://www.cs.cmu.edu/~coke/history_long.txt

Wikimedia Foundation. (2022, September 22). *Internet of things*. Wikipedia. Retrieved September 22, 2022, from https://en.wikipedia.org/wiki/Internet_of_things

Braun, Andrew. *History of IoT: A Timeline of Development*. techtrends. Retrieved September 22, 2022, from <https://www.iottechtrends.com/history-of-iot/>

Image 1 from <https://www.iottechtrends.com/assets/uploads/2019/01/iot-history-infographic-small.png.webp>

Roznovsky, A. (2020, June 26). *9 benefits of internet of things (IOT) for businesses: Light it..* Retrieved September 23, 2022, from <https://light-it.net/blog/9-prominent-benefits-of-iot-for-business/>

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