Intellectual Property Right

EECE401 Senior Design I
Electrical and Computer Engineering
Howard University

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Guess What?

- Source: U. S. Patent and Trademark Office
- Year 2020:   597, 175   352, 066
- Year 2019:   621, 453   343, 430
- Year 2018:   597, 141   307, 759

- Nikola Tesla: 300 patents
- Telephone (U.S. 174,465. Alexander Graham Bell)
- Integrated Circuit (U.S. 2, 981,877. Jack Kilby)
- Personal Computer (U.S. 4,136,359. Xerox)
- Page Rank Algorithm (U. S. 6, 285, 999. Google)
- E-Commerce Method (U. S. 5, 960, 411. Amazon)
- Wi-Fi Technology (U. S. 5,487,069. CSIRO [Commonwealth Scientific and Industrial Research Organization] Australia)

What is Intellectual Property ?

- ⌘ Creations of the mind
  - Inventions
  - Literary and artistic works
  - Symbols, names, and images used in commerce
- ⌘ 5 categories
  - **Patents for inventions**
  - Trademarks
  - Industrial Designs
  - Geographical Indications
  - Copyright
    - Literary works: novels, poems, and plays
    - Films or Music
    - Artistic Works: Drawings, paintings, photographs, and sculptures
    - Architectural Designs

Intellectual Property Right

⌘ Intellectual Property Right: Allows creators, or owners, of <u>patents</u>, <u>trademarks</u> , or <u>copyrighted works</u> to benefit from their <u>own works or investment in creation</u>
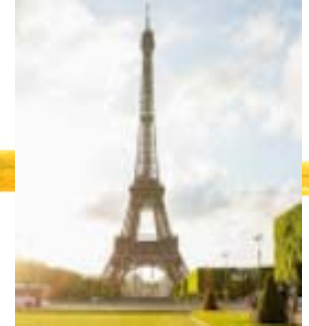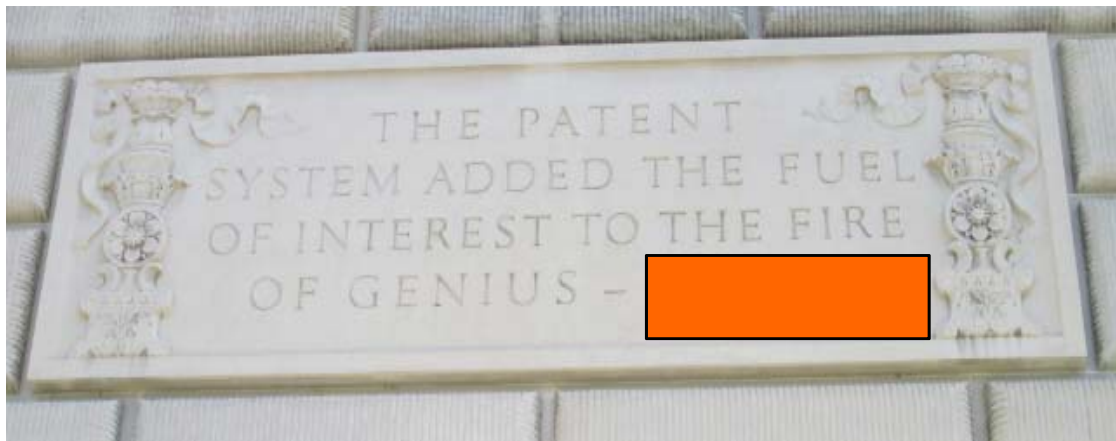
⌘ History

- 1883: (_____) Convention for the **Protection of Industrial Property**
- 1888: (_____) Convention for the **Protection of Literary and Artistic Works**
- 1948: Universal Declaration of (_____) Article 27: "Right to benefit from <u>the protection</u> of **moral and material interests** <u>resulting from authorship</u> of scientific, literary or artistic productions."
- 1976: U.S. Copyright Act (U.S. adoption of Berne Convention)

- Albert Einstein (1879–1955) – worked out his theory of relativity while living in Bern, employed as a patent examiner at the patent office

THE PATENT SYSTEM ADDED THE FUEL OF INTEREST TO THE FIRE OF GENIUS –

LET US RAISE A STANDARD TO WHICH THE WISE AND HONEST CAN REPAIR – WASHINGTON

1802

PATENT OFFICE

Relief representing the United States Patent Office at the Herbert C. Hoover Building.

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Why promote and protect intellectual property?

1. The progress and <u>well-being</u> of humanity rest on its capacity to

   - create and invent new works in the areas of technology and culture.

2. The legal protection of new creations

   - encourages the commitment of <u>additional resources</u> for further innovation.

3. The promotion and protection of intellectual property

   - spurs <u>economic</u> growth,
   - creates <u>new jobs and industries</u>, and
   - enhances the <u>quality</u> and <u>enjoyment</u> of life.

What is a Patent?

⌘ A **patent**

  ⌃ an **exclusive** **right** granted for an invention – a **product** or **process** that provides a **new** way of doing something, or that offers a **new** technical solution to a problem.

  ⌃ provides patent owners with **protection** for their inventions, granted for a **limited period**, **generally** **20** **years.**

⌘ **Patent Types**

  ⌃ **Utility** **Patents –** new and useful product/process

  ⌃ **Design** **Patents –** new design for an article of manufacture

  ⌃ **Plant** **Patents –** production of any distinct and new variety of plant
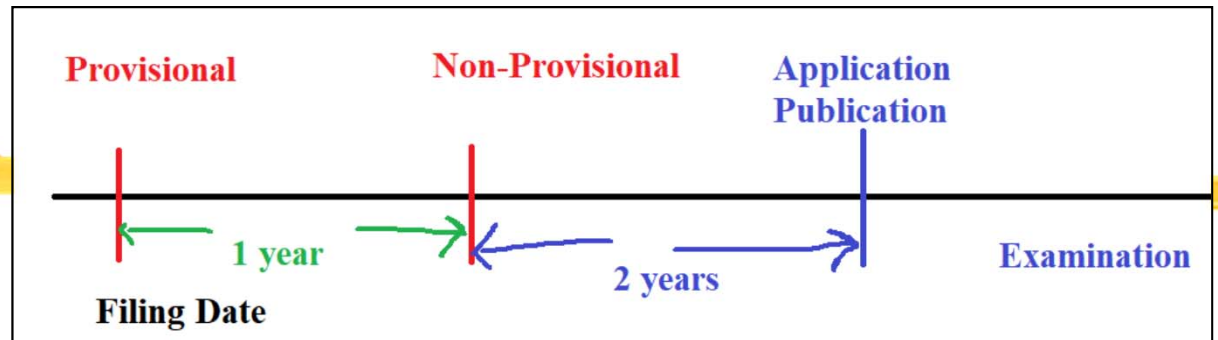
⌘ What kind of protection?

  ⌃ Patent cannot be **commercially made, used, distributed or sold** without the patent owner's consent.

  ⌃ Patent rights, **enforced in courts** that hold the authority to stop **patent** **infringement**.

What is a Patent?

⌘ Patent Filing

⌃ Provisional

⌃ Non-Provisional

⌘ How is a patent granted?

⌃ **1** File a patent application.

⌃ Content of the application

☒ Title of the invention, as well as an indication of its Technical Field.

☒ Background and a description of the invention, in clear language and enough detail that "an individual with an average understanding of the field could use or reproduce the invention."

☒ Visual materials –drawings, plans or diagrams – that describe the invention in greater detail.

☒ "claims", that is, information to help determine the extent of protection to be granted by the patent.

⌃ **2** Application Publication by USPTO

⌃ **3** Examination by Patent Examiners

⌘ What can/cannot be Patented

⌃ **Usefulness**

⊠ The subject matter has a **useful purpose** and also includes **operative-ness**. (a machine which will not operate to perform the intended purpose would not be called useful, and therefore would not be granted a patent)

⊠ **The laws of nature, physical phenomena, and abstract ideas are not patentable subject matter**.

⊠ A patent **cannot be obtained upon a mere idea or suggestion**. A complete **description of the actual machine** or other subject matter is required.

⌃ **Non-Obviousness** ("If someone of ordinary skill in a relevant field could easily make the invention, then it is considered obvious and would be an invention based on **prior art.**")

⌃ **Novelty** – **next page**

⌘ **Novelty** conditions for Obtaining a Patent

⌃ Must be **new**.

⌄ **An invention cannot be patented if**:

  ☒ (1)" the claimed invention was <u>patented</u>, <u>described in a printed publication</u>, or <u>in public use or on sale</u>,

  ☒ (2) the claimed invention was described in a <u>patent issued</u> [by the U.S.] <u>or in an application for patent published or deemed published</u> [by the U.S.]"

  ☒ The claimed invention was available to the public via, for example,

  • an <u>oral presentation</u> at a scientific meeting,

  • a <u>demonstration</u> at a trade show,

  • a <u>lecture or speech</u>,

  • a <u>statement</u> made on a radio talk show,

  • a <u>YouTube™ video</u>, or

  • a <u>website</u> or other <u>on-line material</u>.

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U.S. Patent Litigation cases filed
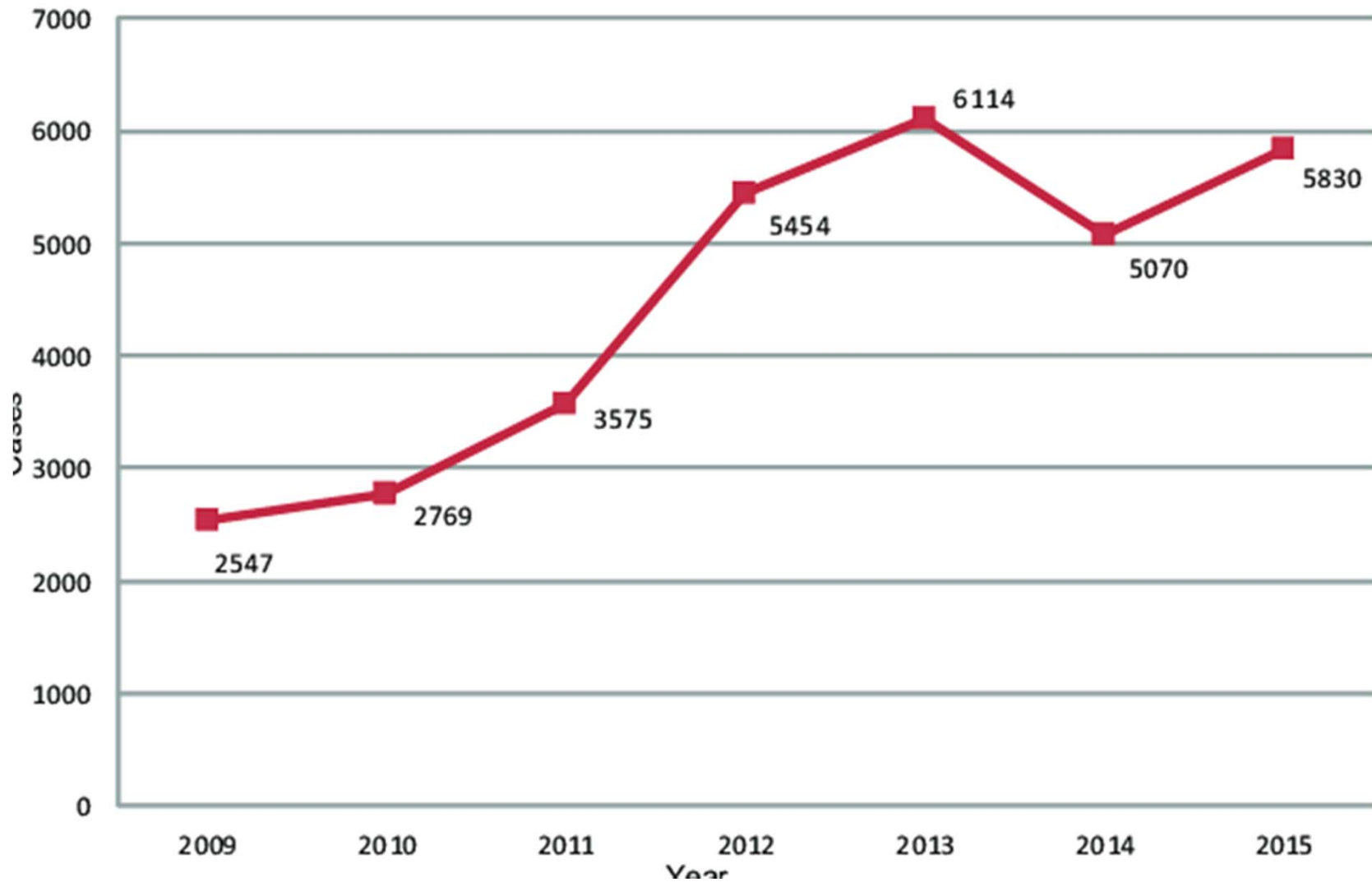
U.S. Patent Litigation case example

TECHNOLOGY

Apple stops selling latest Apple Watch after losing patent case

DECEMBER 18, 2023 · 7:10 PM ET

Bobby Allyn

Apple plans to suspend sales of the Series 9 and Ultra 2 versions of its popular Apple Watch for online U.S. customers beginning Dec. 21, 2023.
Matthias Schrader/AP

- Apple lost a patent against **Masimo** in blood oxygen sensor for pulse reading.
- US ITC (International Trade Commission) ruled that some Apple Watches infringed Masimo's patents for the blood oxygen feature.
- Apple stops selling Series 9 and Ultra 2 versions of Apple Watch.
- Masimo Patent: U.S. Patent No. 8,457,703 Low Power Pulse Oximeter

Writing a Layman Report/Summary on "Why at one time the Apple Watch could not be sold?"

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- Layman's Report/Summary
  - short accounts
  - targeted at a general audience for the benefit of public engagement
  - outlines for non-specialists in the field and non-technical public in a way they can easily understand
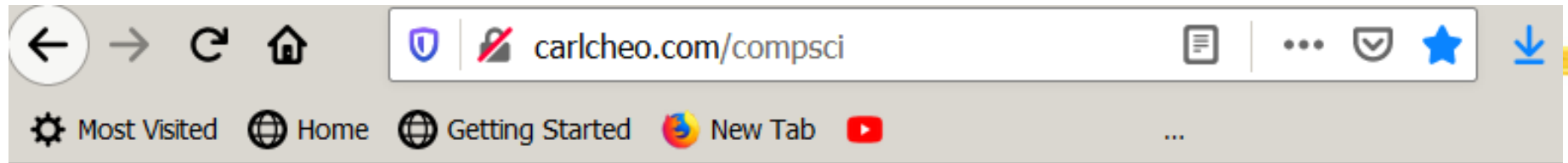- How to write a layman Summary
  - Imagine you're talking to your distant family member who works in retail/fashion/hospitality
  - Use short sentences
  - Write in plain English

How to write a Lay Summary

⌘ Example

carlcheo.com/compsci

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40 Key Computer Science Concepts Explained In Layman's Terms

Carl Cheo   Follow me on Twitter here.

Q9 – What is an application program interface (API)?

At restaurants, you order food (call API) from the menu (APIs). Once your food is ready (API response is ready), the waiter will serve you the food.

The basic idea is: you ask for what you want and the system returns you a response, without exposing what's happening behind the scene.

Technical Summary

Python (programming language)

From Wikipedia, the free encyclopedia

Python is an interpreted, high-level and general-purpose programming language. Created by Guido van Rossum and first released in 1991, Python's design philosophy emphasizes code readability with its notable use of significant whitespace. Its language constructs and object-oriented approach aim to help programmers write clear, logical code for small and large-scale projects.[28]

Python is dynamically typed and garbage-collected. It supports multiple programming paradigms, including structured (particularly, procedural), object-oriented, and functional programming. Python is often described as a "batteries included" language due to its comprehensive standard library.[29]

a Layman Summary

⌘ **What is Python?**

⌘ Python is a totally free language to download, use and play with, that's because a bunch of crazy volunteers who devote their time to improving the language (much like Wikipedia). The commands (that's the code you write) are mostly in normal English, so if you want to tell the computer to write something you type print "something" and run the program. In fact Python is one of Google's preferred languages, and they build a lot of their products with Python. A Google employee who turned me onto Python said I could become "reasonably proficient in it in less than two months", you wouldn't say that about learning French. Python can be used for small, large, online and offline projects. It's versatile, get it?

www.theopenalgorithm.com/learning-python

Most Visited   Home   Getting Started   New Tab
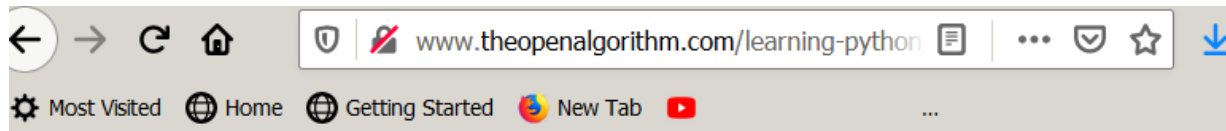
10 Non Techie Reasons Why I Learned Python And You Should Too

Writing a Layman Report/Summary

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- **Class Activity:**
- **"Why at one time the Apple Watch could not be sold?" – a layman report**
- Team Assignment – but only the participants get credit
- Submission required
- Length: No limit (as far as the contents are enough)