

**School of Electrical Engineering & Computing**  
**University of Newcastle**  
**COMP1010 –Computing Fundamentals**

**Workshop Week 4**

**COMPUTERS: THE MACHINES BEHIND COMPUTING**

**Some early History we need to know: Watch and listen carefully**

- [https://www.ted.com/talks/george\\_dyson\\_at\\_the\\_birth\\_of\\_the\\_computer](https://www.ted.com/talks/george_dyson_at_the_birth_of_the_computer)
- Have things really changed? When we use our own portable devices (iPads, Phones, PCs, desktops) ... who makes the mistakes and why?
- Why do you think they needed 'weirdos' to develop computers?

**How does a computer work?**

- <https://www.youtube.com/watch?v=AkFi90lZmXA>
- Sketch how your laptop or your phone works?
- What does your diagram tell you?
- Show it to the person next to you. Can they understand it? Why then are standards important in terms of the way we try to communicate with each other about computers?

**How does a computer memory work?**

- <http://ed.ted.com/lessons/how-computer-memory-works-kanawat-senanan>
- Does your brain work in the same way?
- How do you remember?

**Software**

- <https://www.youtube.com/watch?v=TVcMQjEsvZ8>
- Modern software is best seen as Apps on your smart phones.
- What are great Apps and why?
- Why do you use Apps?
- On your portable devices, what pieces of software are there and how do you use them?
- Do we as humans have our own software?

**Why what we are doing here is so important?**

- <https://www.youtube.com/watch?v=XKL4lBlmeXE>
- What in our lives doesn't use software?
- Do you agree with Susan Kish about the future?
- What will you need for your futures?
- How can you tell others what they also need to know?

**RECOMMENDED TEXT**

COMP1010 *Computing Fundamentals* compiled by Raymond Chiong, Mira Park and Mark Wallis  
1<sup>st</sup> Edition, Cengage Learning, 2017

**FURTHER READINGS**

- Hossein Bidgoli, MIS (7<sup>th</sup> Edition)
- Scott Tilley & Harry Rosenblatt, Systems Analysis & Design
- George W Reynolds, Ethics in Information Technology
- Susanna S Epp, Discrete Mathematics

