Integrating Computing and Society

1. Meaning and Issues
   1. What does it mean to you?
      1. Put into real world usage
      2. Benefits of computing
      3. Dangers of computing
   2. Why study?
      1. Make life easier
      2. Lots of potential (Good and bad)
      3. To not fall behind other countries
   3. Integration
      1. Applying
      2. Calculus
      3. Merging of ideas
      4. Definition
         1. Incorporation as equals into society or an organization 🡪 Webster
         2. To form coordinate or blend into a functioning or unified whole
         3. To unite with something else
         4. To incorporate into a larger unit
      5. Implications
         1. They play nicely together
         2. As equals 🡪 which is in charge
         3. To blend into one unit
         4. Unite
         5. Small into a larger 🡪 Small one losing it’s identity to the larger
   4. Not integrating
      1. Not unified
      2. Not reach the full potential
      3. Equals?
         1. If not equal “partners”
            1. Computing servant to society
            2. Society servant to computing
   5. To integrate
      1. Find common ground
      2. Build on each other’s strengths
      3. Common grounds
         1. Communication
         2. Use data to get knowledge
         3. Lazy?
         4. Business, etc.
      4. Strengths of Society
         1. Emotions
         2. Independent Thought / New Ideas
         3. Leaps of Judgement
         4. Common Sense
         5. Integration
         6. Moral / Ethical Judgements
         7. Designing
      5. Strengths of Computing
         1. Stupid machine that doesn’t get bored.
         2. Doesn’t make mistakes when repeating things over and over again.
         3. Track lots of information and can access it much easier.
         4. Analyze a lot of information at once.
      6. How to integrate
         1. Know limits of computing (Otherwise it is in control)
         2. Do what it is programmed to do.
         3. Security Risk
         4. Privacy
         5. Processing Power
      7. Authentication
         1. Username / Password
            1. Encrypted / Plain Text
            2. Problems

Brute Force Hacking

Rotten Passwords

* + - 1. Fingerprint
      2. Card
      3. Optical print
      4. Voice print
      5. faceID
      6. Authenticated password manager
      7. 2, 4, 5, 6 are encrypted into a bit pattern 🡪 you can change what is stored as your ID to get in
    1. Trusting Computers
       1. Individual Trust
          1. Identify risks and possible damage
          2. Identify benefits
          3. Decide what is worth it
       2. Individual Risks
          1. Internet of things 🡪 having everything easily accessible to you

Banking, thermostat, social media accounts, music.

* + - * 1. Network access
        2. Health care
        3. Shopping habits
        4. Navigation, iPass, etc.
        5. Communications