

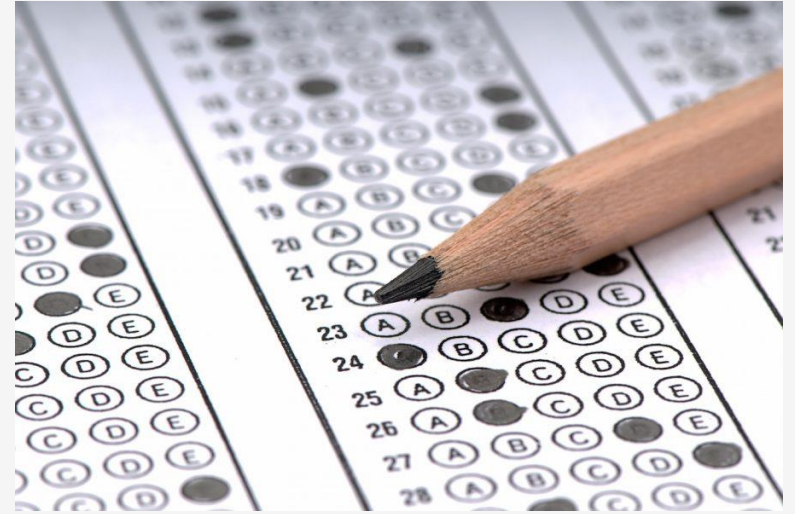


MIS 2101
Exam 2 Review

Exam Will Cover Discussions: week 5 through 8

- **Readings, Videos and Lectures (60% - 15 questions)**
 - ERP & CRM
 - Data Analytics
 - Supply Chain/RFID
 - API/Digital Platform & Cloud
 - Cyber Security & AI
- **Mini-Case – Demonstrate your ability to apply (40% - 10 questions)**
 - Swim Lane Diagram
 - ERD

Note: The same narrative/Swim Lane and ERD is used for **ALL questions from 16-25**



Source: <https://ccesnews.org/opinion/2018/04/23/10-tips-for-exam-preparation/#photo>

Advice

How to prepare...



Review the slide
decks



Review assigned
readings



Review assigned
videos



Review / Add your
notes

Information Systems - Part 1

- **Topics and Required Reading**

[What is ERP?](#)

[5 ERP Trends](#)

[What is CRM?](#)

[CRM vs. ERP: What's the Difference?](#)

[3 CRM Use Cases](#)

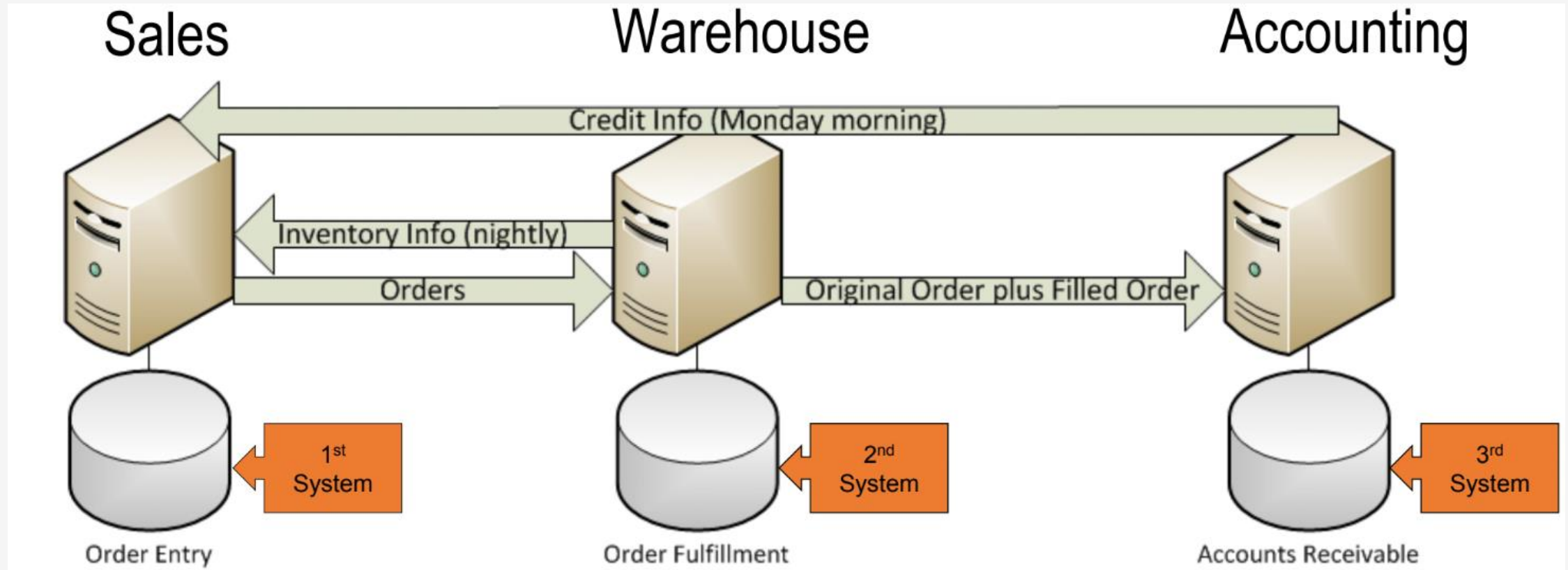
What is ERP?

Enterprise Resource Planning

- Software or a System that
 - Integrates functions
 - Streamlines processes
 - Manage core business



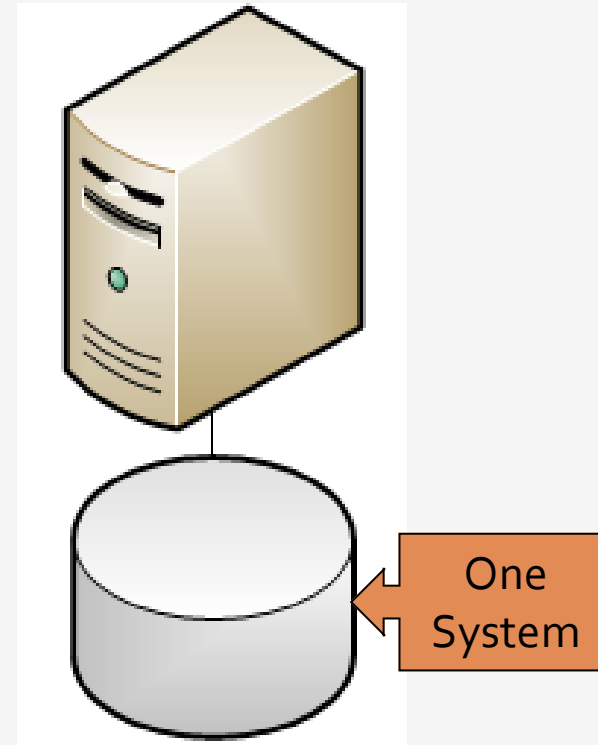
Legacy Systems



ERP – Key Takeaways

How does ERP create value?

- Integrated Database
 - **One copy of data**
- Collaboration
 - **Improves decision making**
- Flexibility & Mobility
 - **Access anywhere/anytime**
- Lower costs



What is CRM?

Customer Relationship Management

- Who uses CRM?
 - Sales
 - Marketing
 - HR
 - Accounting
 - Strategy



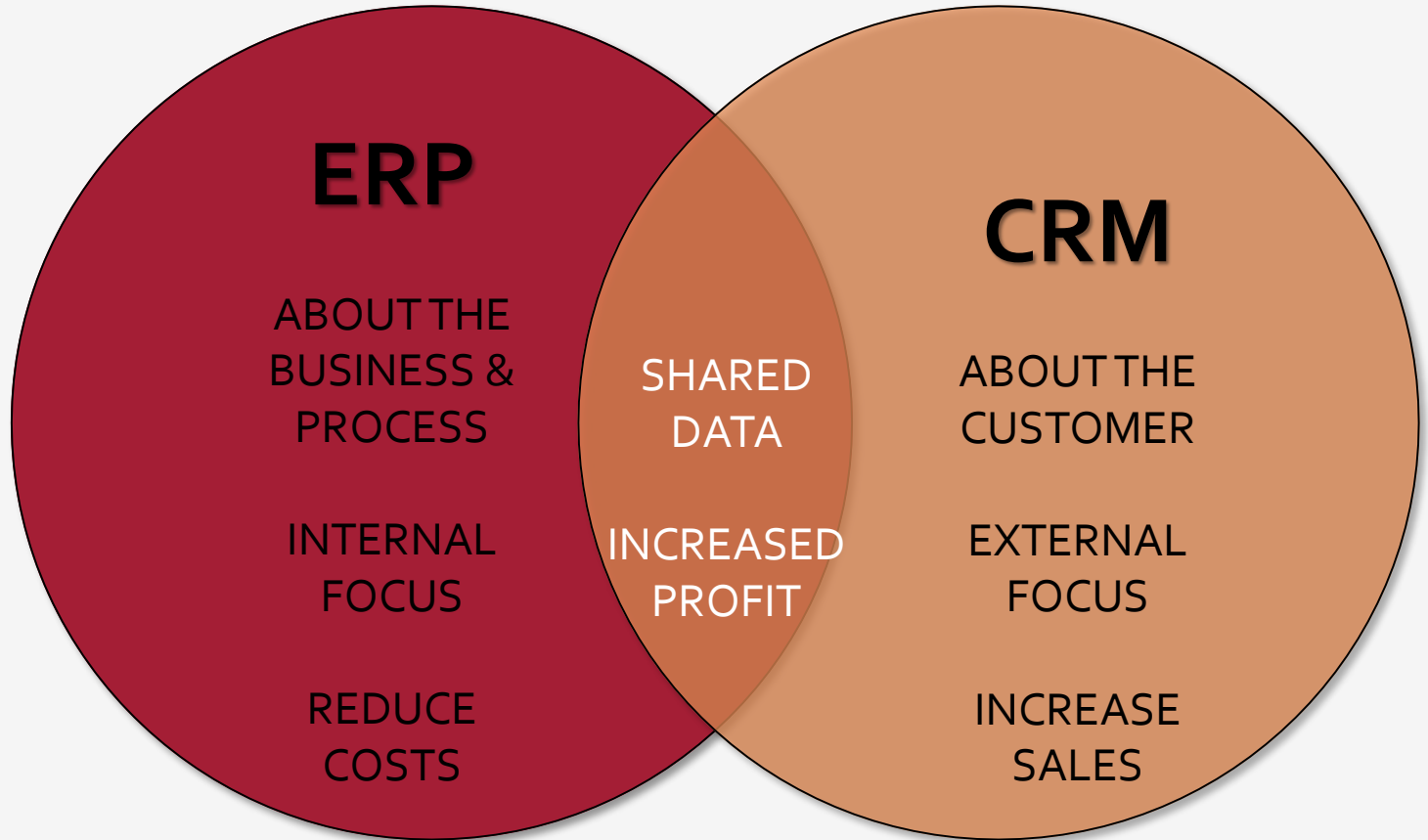
CRM Benefits

- Maximize Profits
- Understand Your Customer (data)
 - Analyze buying patterns
 - Problem solve
- Accountability
- Customer Communication
- What else?
 - Improve efficiency of business processes
 - Share information with team and organization



ERP & CRM

- What's the difference?
- What is similar?



Information Systems – Part II

- **Topics and Required Reading**

[What Is The Difference Between Data Analysis And Data Visualization?](#)

[What is BI?](#)

[Companies Are Failing in Their Efforts to Become Data-Driven](#)

[Disney's \\$1 Billion Bet on a Magical Wristband](#)

[McDonald's Bites on Big Data With \\$300 Million Acquisition](#)

What is Data Analytics?

“The use of tools & people to uncover hidden patterns in the data that might not be readily available to the naked eye”

– Professor Lavin



3 types of analytics

- Descriptive – Dashboards (BI)
- Predictive – use past data to model future
- Prescriptive – Optimization – advise on how best to do your job.



Data Investments... Why Care?

Top Reasons Why:

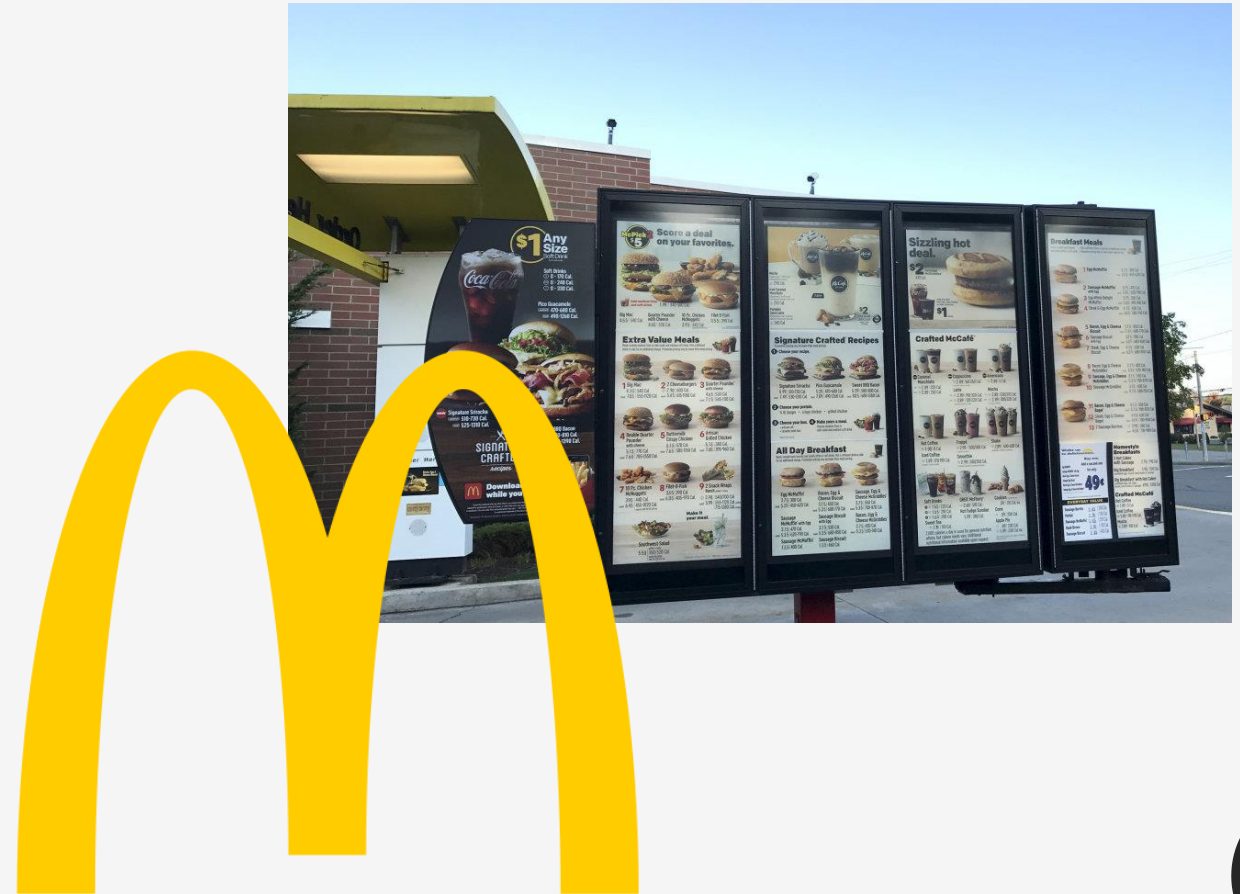
- Increase Revenue
- Find New Innovations
- Launch New Products/Services
- Increase Efficiency
- Transform Business
- Establish Data-Driven Culture



McDonald's & Big Data

300 Million Acquisition

- Customer experience
 - Mass personalization
- Infrastructure
- Technology Transformation
 - Algorithms crunch data
 - Machine Learning
- Replacing stagnant signs
 - **Digital displays**



Supply Chain Management

“Supply Chain includes many components...from Procurement to Manufacturing to Distribution. It’s about getting the right product on the right shelf at the right time!”
– Professor Doyle

Two critical functions: **Planning backwards and project execution**

Cross Functional Approach:

- Improves trust & collaboration
- Improves inventory visibility & velocity
- Improves company long-term performance



RFID

What is RFID?

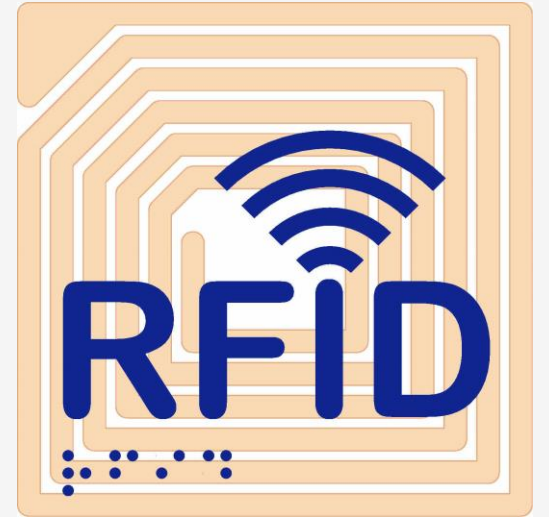
- Radio Frequency Identification
- Wireless technology that lets you identify objects that have been fitted with special RF identification tags

What is RFID good for?

- Inventory control, access control...

How it works

- Antenna reads electromagnetic energy
 - Can penetrate non-metallic solid objects
-



RFID example: Disney Magic Band

\$1 Billion Investment

- Design the Customer's experience
- Customer Tracking
 - Parks & Hotels
- Everything is linked together
 - Removes the customer's need for:
 - Credit Cards
 - Tickets
 - Trip Itinerary



Platforms & Digital Business Models

- **Topics and Required Reading**

[API Imperative](#)

[How the API economy is igniting a cultural shift in businesses](#)

[What are digital platforms?](#)

[What's the difference between IaaS, SaaS & PaaS?](#)

[What is the Network Effect?](#)

Digital Platform Benefits



- Easier to find customers
- Monetize underutilized assets
- Reduce transaction costs
- Reduce barriers to entry
- Reduce Search costs

Network Effects

The indirect value goods and services gain as more people use them.

Benefit:

The incremental expense associated with adding each new user is much smaller than the value they create.



Cloud Computing

3 Basic Service types to Consider

1. Infrastructure as a Service (IaaS)
 - Amazon Web Service
2. Platform as a Service (PaaS)
 - Google App Engine
 - Microsoft Azure
3. Software as a Service (SaaS)
 - DropBox
 - G-Suite (gmail, google doc...)



Cloud Computing

Pros

- Collaboration
- Environment
- Cost
- Ease of use

Cons

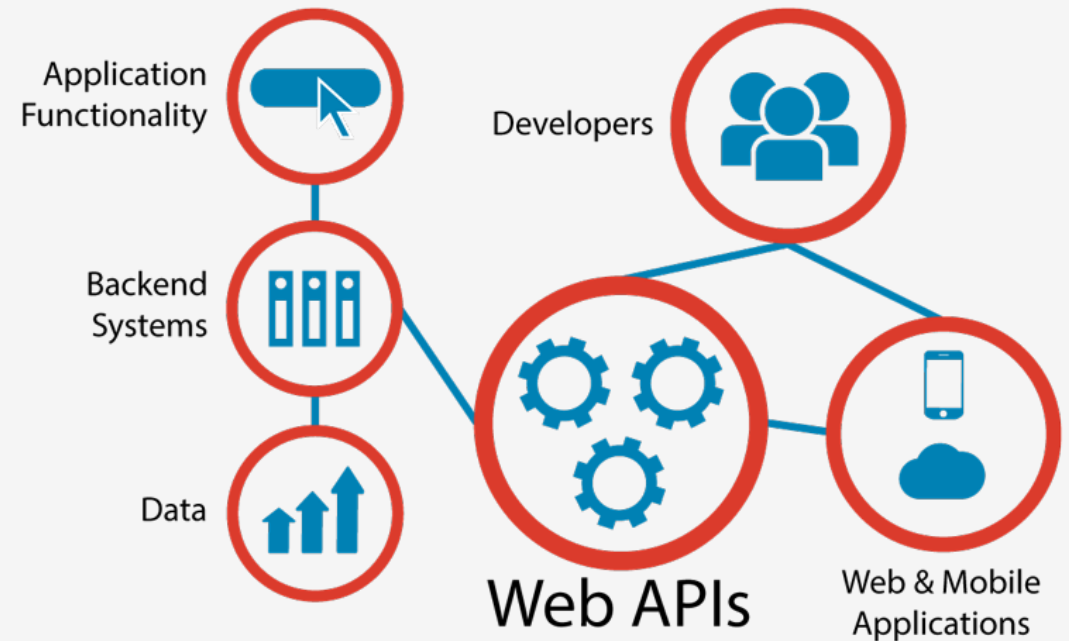
- Security?
- Data Integrity
- Availability/Downtime
- Privacy



API's: Application Programming Interface

What is an API?

- Connect computer software components
 - API enable organization to open their back-end data for use
- Contract for Data Interaction
 - Facilitates interactions between front & backend IT systems (Web API's)
- Facilitate development of applications: Web, Mobile, Cloud
- API's are Products – “building blocks”
 - “live beyond any one project”
 - “reusable assets”



Cybersecurity & the Enterprise

- **Topics and Required Reading**

[What is threat modeling?](#)

[Data Breaches](#)

[What is AI](#)

[US Data Privacy Laws in 2022](#)

[Healthcare Cyber Attack Statistics 2022](#)

[Why educational institutions are an easy target for ransomware attacks](#)

[Google engineer put on leave after saying AI chatbot has become sentient](#)

Cybersecurity – Core Fundamentals

Five Questions for treat modeling:

1. What do you want to protect?
 2. Who do you want to protect it from?
 3. How likely is it that you will need to protect it?
 4. How bad are the consequences if you fail?
 5. How much trouble are you willing to go through in order to try to prevent those consequences?
-

Regulations

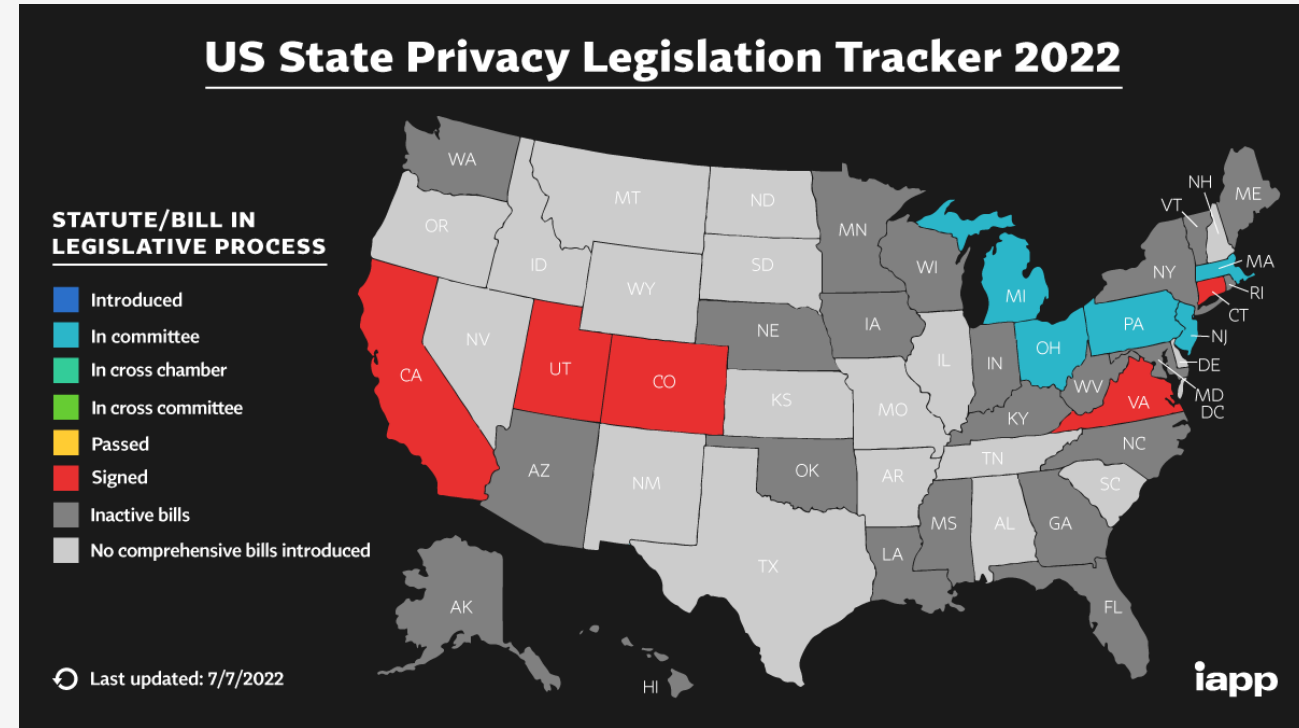
Privacy and Personal Data Protection

- California Consumer Privacy Act (CCPA)
- General Data Protection Regulation (GDPR).

Few Federal cybersecurity regulations

- 1996-Health Insurance Portability and Accountability Act (HIPAA)
- 1999-Gramm-Leach-Bliley Act
- 2002 Homeland Security Act, includes
 - Federal Information Security Management Act
- State-level momentum for comprehensive privacy bills

IT Professional need to consider regulatory acts when developing systems (example: ERP)!



Source: https://iapp.org/media/images/resource_center/State_Comp_Privacy_Law_Map.png

US vs European Data Privacy Laws

EU's General Data Protection Regulation (GDPR). If a company wants to operate in Europe or serve European citizens, it must comply with the strict code of the GDPR, which we hold today as the gold standard for data protection.



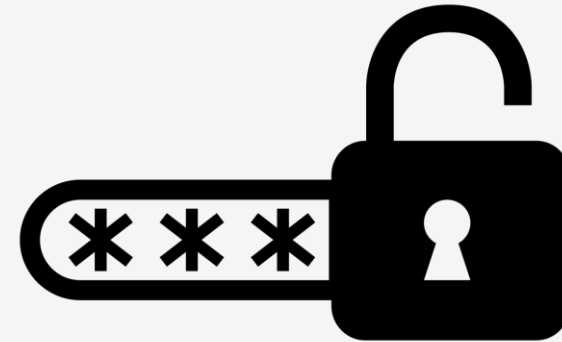
Password Management

Password Basics

- Keep them in you head?
- Don't change them?
- Reuse them?

Password Management

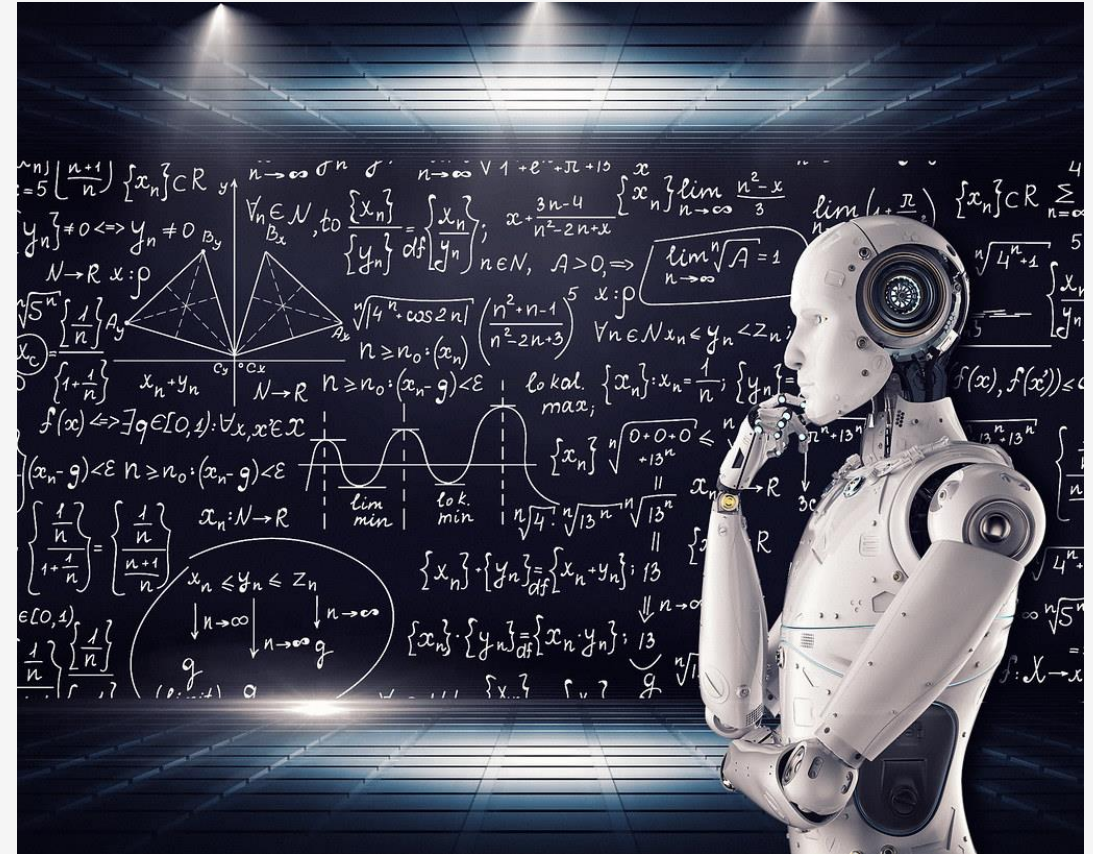
- Consider a passphrase
 - Access a vault of your passwords
- Two-Factor Authentication



Artificial Intelligence

Three Types

- Narrow (ANI)
- General (AGI)
- Superintelligence (ASI)



AGI Tests

- The Turing Test
- The Coffee Test
- The College Student Test
- The Employment Test

