



Digital Systems

3.1 Digital Product Management &
Max Lab 1a|1b

FOX
MIS

ROADMAP

START

Week 1: Introduction & Systems Analysis

- Course Description
- Systems Thinking

Week 1: Introduction to Process Mapping

- Systems & Processes
- Swim Lane Diagrams
- Assignments due::
- Course video intro
- Max Labs Pre-Flight
- Proctorio Practice Quiz

Week 2: Data Modeling & ERD

- Max Labs 1A/1B- due
- Max Labs 2A/2B due

Week 2:

Exam #1

1/29 – 1/31: Exam Availability

Week 4 :

Exam #2

2/12-2/14 Exam Availability

Week 4: Cybersecurity & AI

- Protection Protocols
- Artificial Intelligence
- Lean IT #2 due
- Cyber Security due

Week 4: Platforms & Digital Business Models

- API's
- Cloud

Week 3: Information Systems

- ERP & CRM
- Data Analytics & SCM
- Max Labs 3a/3b due
- Lean IT #1 due

Week 5: JavaScript Unit #1 & 2

- Hello World,
- Variables
- Operator types
- Strings

SoloLearn Coding due

Week 6: JavaScript Unit #3&4

- Logical Operators
- Conditional Types
- Intro to Loops
- While and Do
- Coding Challenges *3) due
- Proctorio Coding Practice due

Week 7: HTML & CSS

- Coding Assignment -due

Week 7:

Exam #3

3/5 – 3/7: Exam Availability

FINISH

Business Systems Innovation Labs

Lab 1a Pre-flight Checklist



"I did it! Check this OUT!"

Today, you'll pick up where you left off with the story of Max, the SJSU student blogger. Just follow along as she describes what she did in her new job with a startup company.

Prep: What do you need to start?

Max Labs 1

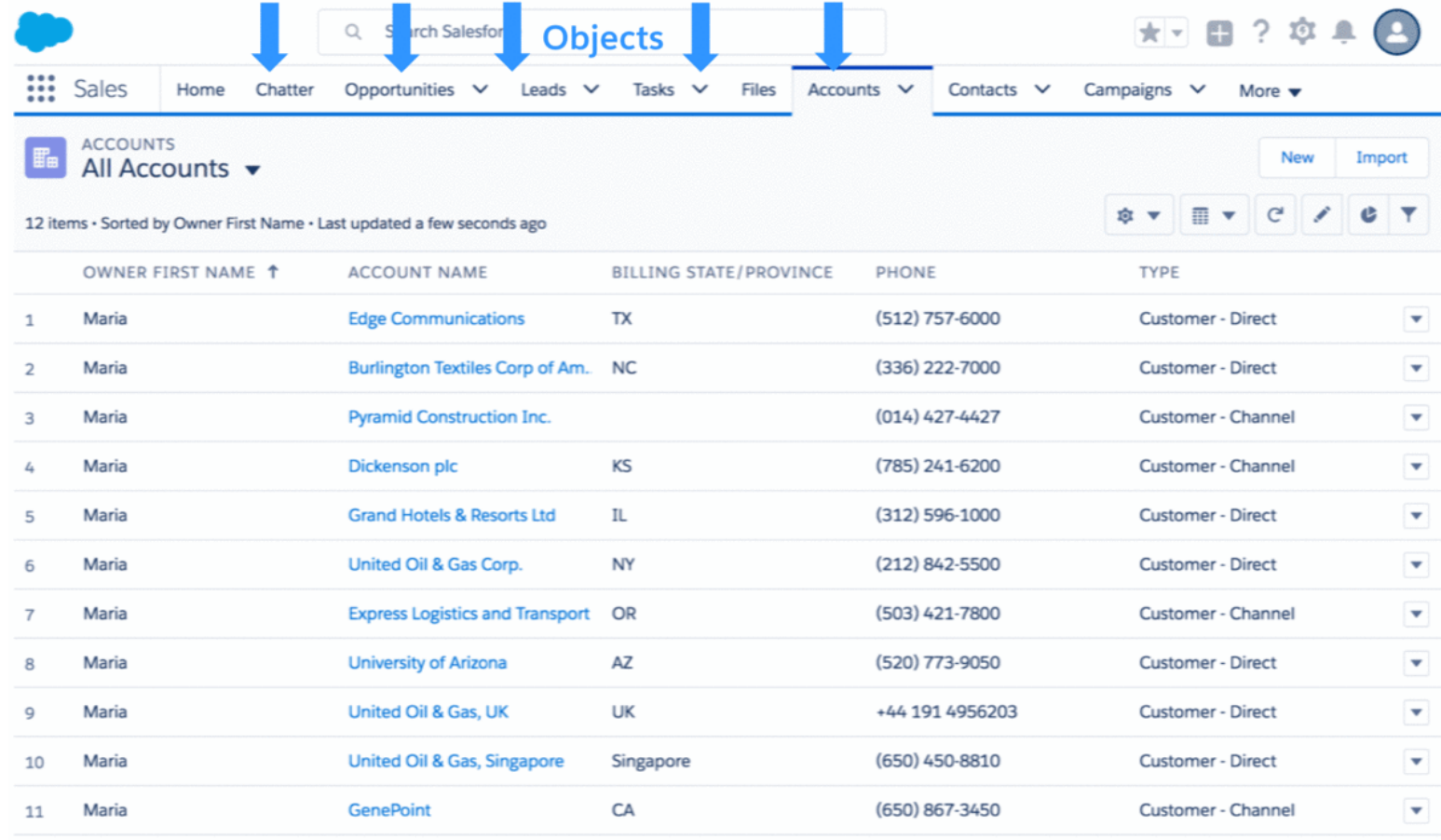
DUE by EOD Sunday

FOX
MIS

Max Labs – 1a Discussion

Creating Databases (objects)

- Why do we need these lists?
- Why not just use Excel?
- What are we tracking?
- Unique ID?



The screenshot shows the Salesforce interface. At the top, there is a search bar labeled 'Search Salesforce' and a navigation bar with tabs: Sales, Home, Chatter, Opportunities, Leads, Tasks, Files, Accounts, Contacts, Campaigns, and More. The 'Accounts' tab is selected. Below the navigation bar, the page title is 'ACCOUNTS All Accounts'. There are buttons for 'New' and 'Import'. Below the title, it says '12 items • Sorted by Owner First Name • Last updated a few seconds ago'. The main content is a table with columns: OWNER FIRST NAME, ACCOUNT NAME, BILLING STATE/PROVINCE, PHONE, and TYPE. The table contains 11 rows of account data.

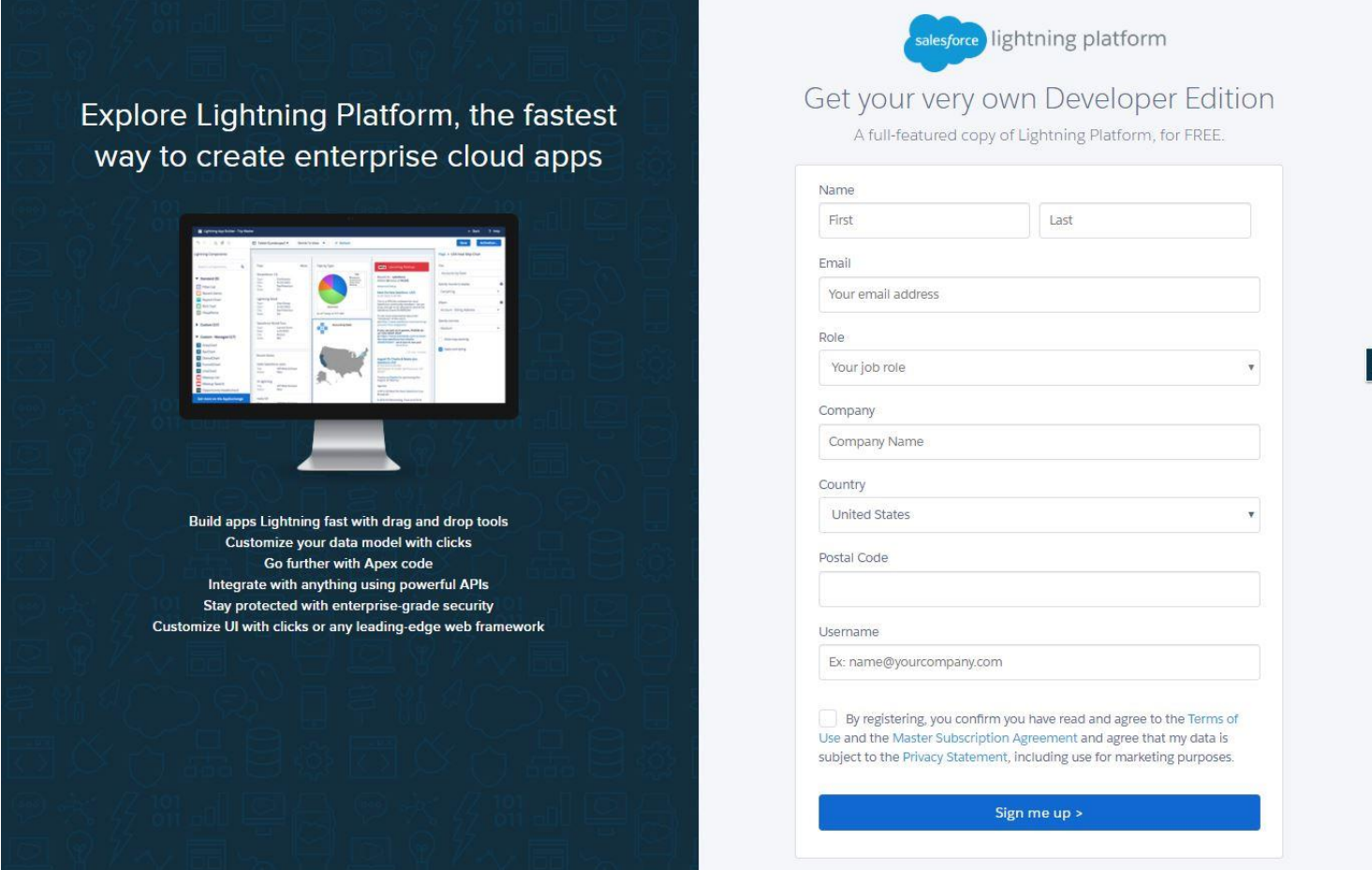
	OWNER FIRST NAME ↑	ACCOUNT NAME	BILLING STATE/PROVINCE	PHONE	TYPE
1	Maria	Edge Communications	TX	(512) 757-6000	Customer - Direct
2	Maria	Burlington Textiles Corp of Am.	NC	(336) 222-7000	Customer - Direct
3	Maria	Pyramid Construction Inc.		(014) 427-4427	Customer - Channel
4	Maria	Dickenson plc	KS	(785) 241-6200	Customer - Channel
5	Maria	Grand Hotels & Resorts Ltd	IL	(312) 596-1000	Customer - Direct
6	Maria	United Oil & Gas Corp.	NY	(212) 842-5500	Customer - Direct
7	Maria	Express Logistics and Transport	OR	(503) 421-7800	Customer - Channel
8	Maria	University of Arizona	AZ	(520) 773-9050	Customer - Direct
9	Maria	United Oil & Gas, UK	UK	+44 191 4956203	Customer - Direct
10	Maria	United Oil & Gas, Singapore	Singapore	(650) 450-8810	Customer - Direct
11	Maria	GenePoint	CA	(650) 867-3450	Customer - Channel

Source: <https://developer.salesforce.com/blogs/developer-relations/2017/04/salesforce-data-security-model-explained-visually.html>

Max Labs – 1a Discussion

Getting Started

- **Get** a Salesforce account
- **DO NOT** get the 30-Day Free Trial Account
- **DO NOT** use an AOL, Hotmail or Yahoo account
- **Do** use a new Gmail account you create for this project.



The image shows the Salesforce Lightning Platform Developer Edition sign-up page. The left side features a dark blue background with the text "Explore Lightning Platform, the fastest way to create enterprise cloud apps" and a monitor displaying the platform interface. Below the monitor, it lists features: "Build apps Lightning fast with drag and drop tools", "Customize your data model with clicks", "Go further with Apex code", "Integrate with anything using powerful APIs", "Stay protected with enterprise-grade security", and "Customize UI with clicks or any leading-edge web framework". The right side is a white sign-up form with the Salesforce logo and the text "Get your very own Developer Edition" and "A full-featured copy of Lightning Platform, for FREE." The form includes fields for Name (First and Last), Email, Role (dropdown), Company (Company Name), Country (dropdown), Postal Code, and Username (with an example "name@yourcompany.com"). There is a checkbox for terms and conditions and a blue "Sign me up >" button.

salesforce lightning platform

Get your very own Developer Edition

A full-featured copy of Lightning Platform, for FREE.

Name

First Last

Email

Your email address

Role

Your job role

Company

Company Name

Country

United States

Postal Code

Username

Ex: name@yourcompany.com

☐ By registering, you confirm you have read and agree to the Terms of Use and the Master Subscription Agreement and agree that my data is subject to the Privacy Statement, including use for marketing purposes.

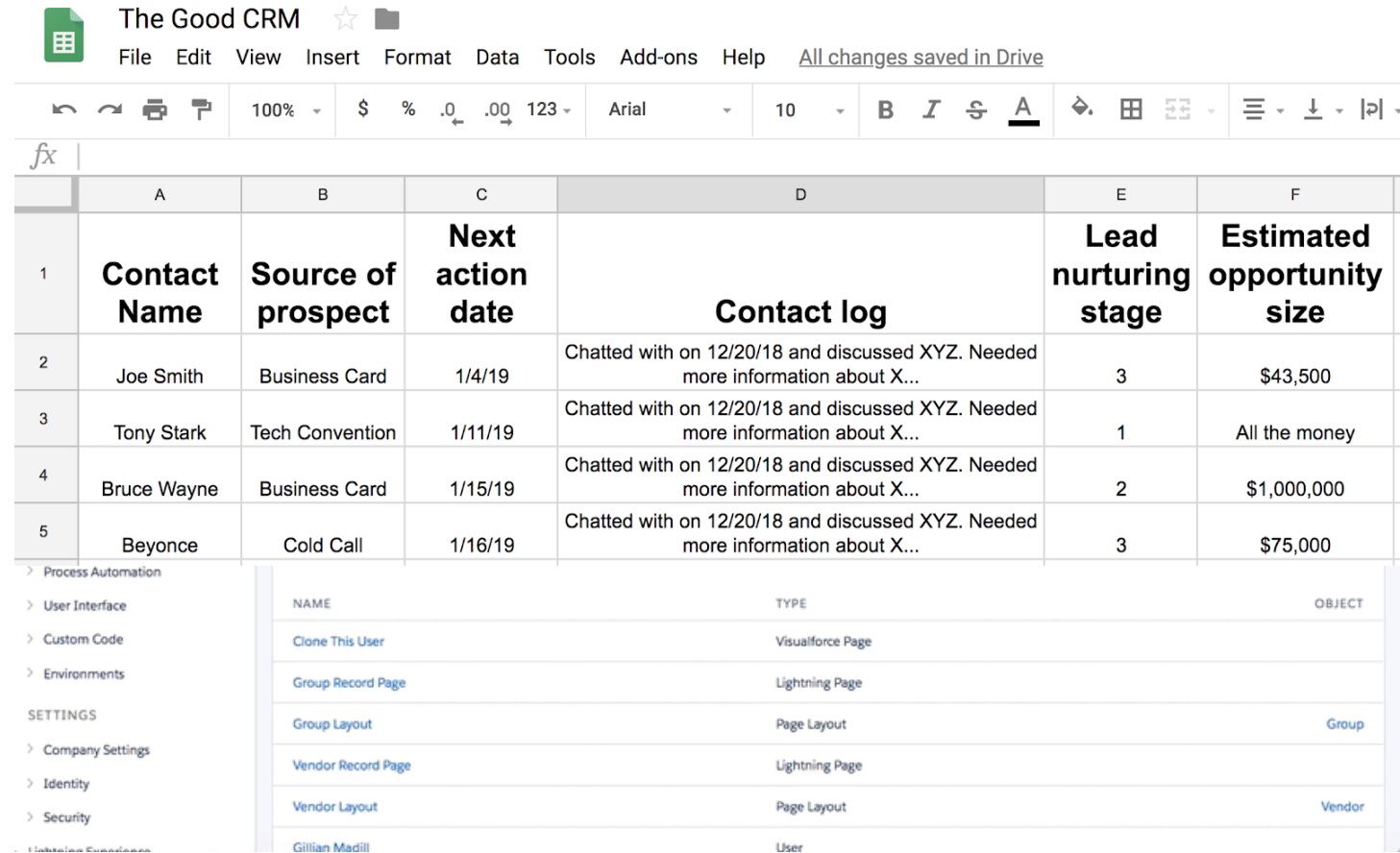
Sign me up >

Source: <https://developer.salesforce.com/signup>

Max Labs – 1a Discussion

Determining Data Needs

- What are Max's needs for creating the “Pitch”
- What data are we capturing?
- What are we tracking?
- How will this data be used?



The screenshot shows a Google Sheets document titled "The Good CRM". The main table contains CRM data with columns for Contact Name, Source of prospect, Next action date, Contact log, Lead nurturing stage, and Estimated opportunity size. A sidebar menu on the left lists various settings and automation options.

	A	B	C	D	E	F
	Contact Name	Source of prospect	Next action date	Contact log	Lead nurturing stage	Estimated opportunity size
1						
2	Joe Smith	Business Card	1/4/19	Chatted with on 12/20/18 and discussed XYZ. Needed more information about X...	3	\$43,500
3	Tony Stark	Tech Convention	1/11/19	Chatted with on 12/20/18 and discussed XYZ. Needed more information about X...	1	All the money
4	Bruce Wayne	Business Card	1/15/19	Chatted with on 12/20/18 and discussed XYZ. Needed more information about X...	2	\$1,000,000
5	Beyonce	Cold Call	1/16/19	Chatted with on 12/20/18 and discussed XYZ. Needed more information about X...	3	\$75,000

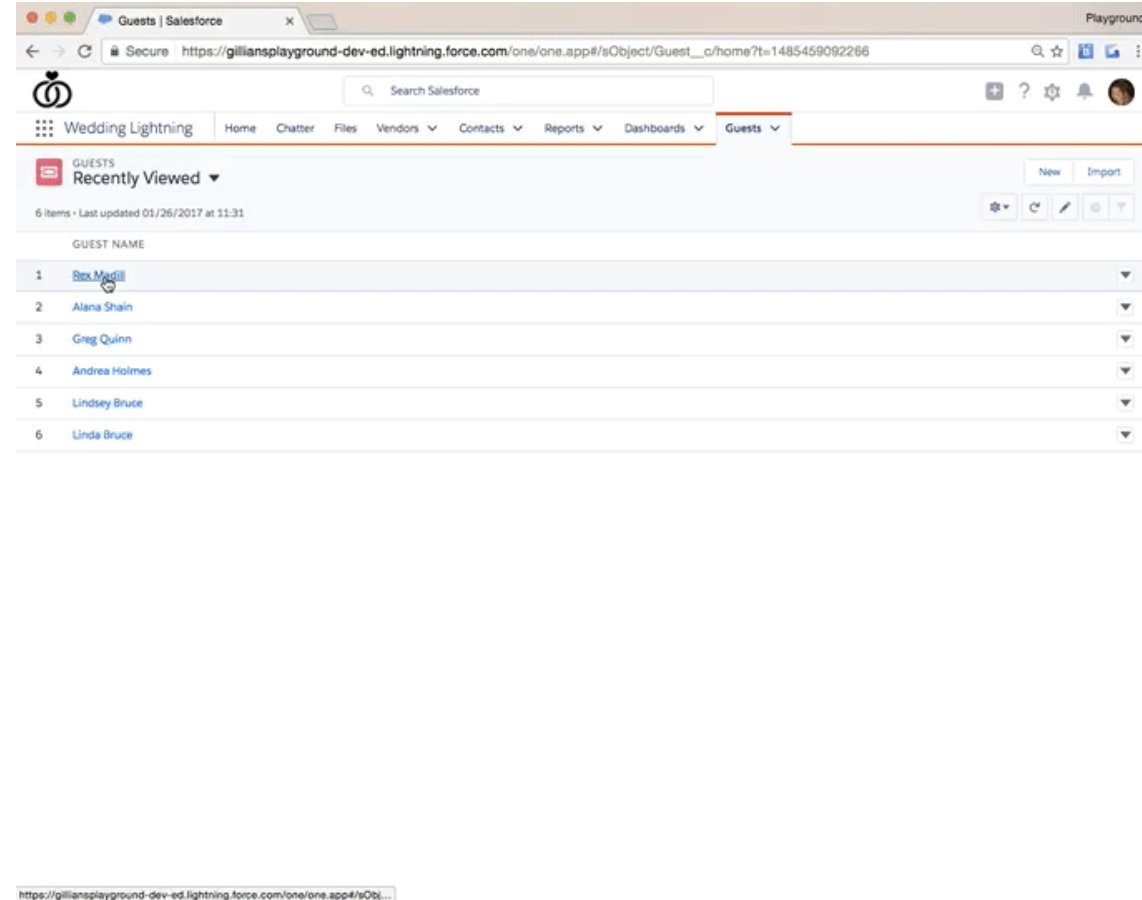
NAME	TYPE	OBJECT
Clone This User	Visualforce Page	
Group Record Page	Lightning Page	
Group Layout	Page Layout	Group
Vendor Record Page	Lightning Page	
Vendor Layout	Page Layout	Vendor
Gillian Madill	User	

Source: <https://www.softwareadvice.com/resources/updates/https://advises.google.com/learn/lightning-business-objects/>

Max Labs – 1a Discussion

Page Layouts

- What information do we want to show.
- Why are aesthetics important?
- Creating cleaner data?

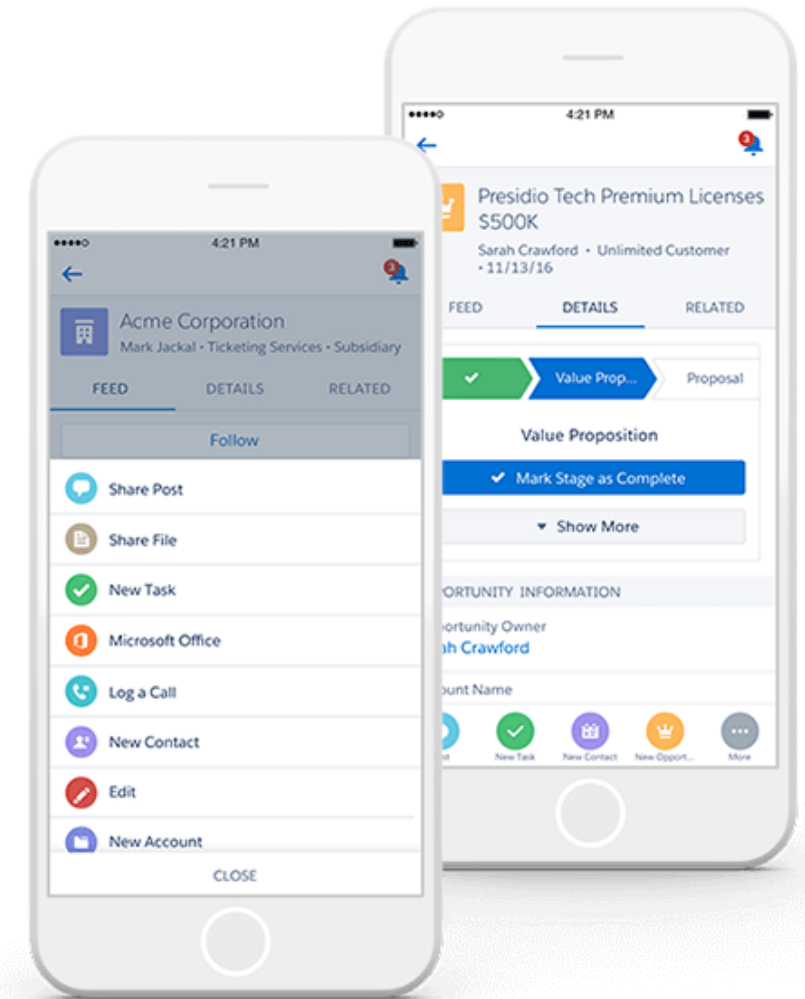


Source: <https://admin.salesforce.com/learn-lightning-compact-layouts>

Max Labs – 1a Discussion

Mobile App

- What information do we want to show.
- Why are aesthetics important?
- Is this an API, ERP, Both?
- What exactly is an API?
 - An application program interface (API) is a set of routines, protocols, and tools for building software applications. Basically, an API specifies how software components should interact.



Source: <https://www.salesforce.com/eu/learning-centre/crm/mobile-crm/>

Max Labs – 1b Discussion

Digital Business Models.

- Share & Communicate
- Revise and Redesign
- 3rd Party Products (APIs)

FEATURED SOLUTIONS [SHOW MORE >](#)

App Name	Description	Rating	Price Type
accountingseed	Accounting on Salesforce	★★★★★	PAID
Secure Data Collection	FORMASSEMBLY	★★★★★	PAID
Cloud Contact Center Software for Sales and Service	NewVoiceMedia	★★★★★	PAID
HELLOSIGN	eSignatures for Salesforce	★★★★★	PAID
InGenius	Screen pop · Click-to-dial · Call logging	★★★★★	PAID
formstack	Native Form Builder	★★★★★	PAID
Automated Document Generation	nintex Drawloop	★★★★★	PAID
D&B Optimizer for SALESFORCE	Accelerate Sales with Clean Lead, Contact & Account Data	★★★★★	PAID
Deliver first-class customer onboarding.	TASKRAY	★★★★★	PAID
SurveyMonkey	Make customer feedback actionable in Salesforce	★★★★★	PAID
conga Composer	Engaging documents, presentations, and reports	★★★★★	PAID
slalom	strategy. technology. transformation.	★★★★★	CONSULTANT

TOP CATEGORIES

- ★ Finance
- ★ Human Resources
- ★ Enterprise Resource Planning
- ★ Sales
- ★ Customer Service
- ★ IT & Admin
- ★ Marketing
- ★ Integration
- ★ Salesforce Labs
- ★ Analytics

Source: <https://appexchange.salesforce.com/>

Max Labs – 1b Discussion

Monetize Max's Blog

- Do Not Close Your Browser
- Buy Now
- Click Confirmations
- Install (Launch Process)
- Max's Pitch Package



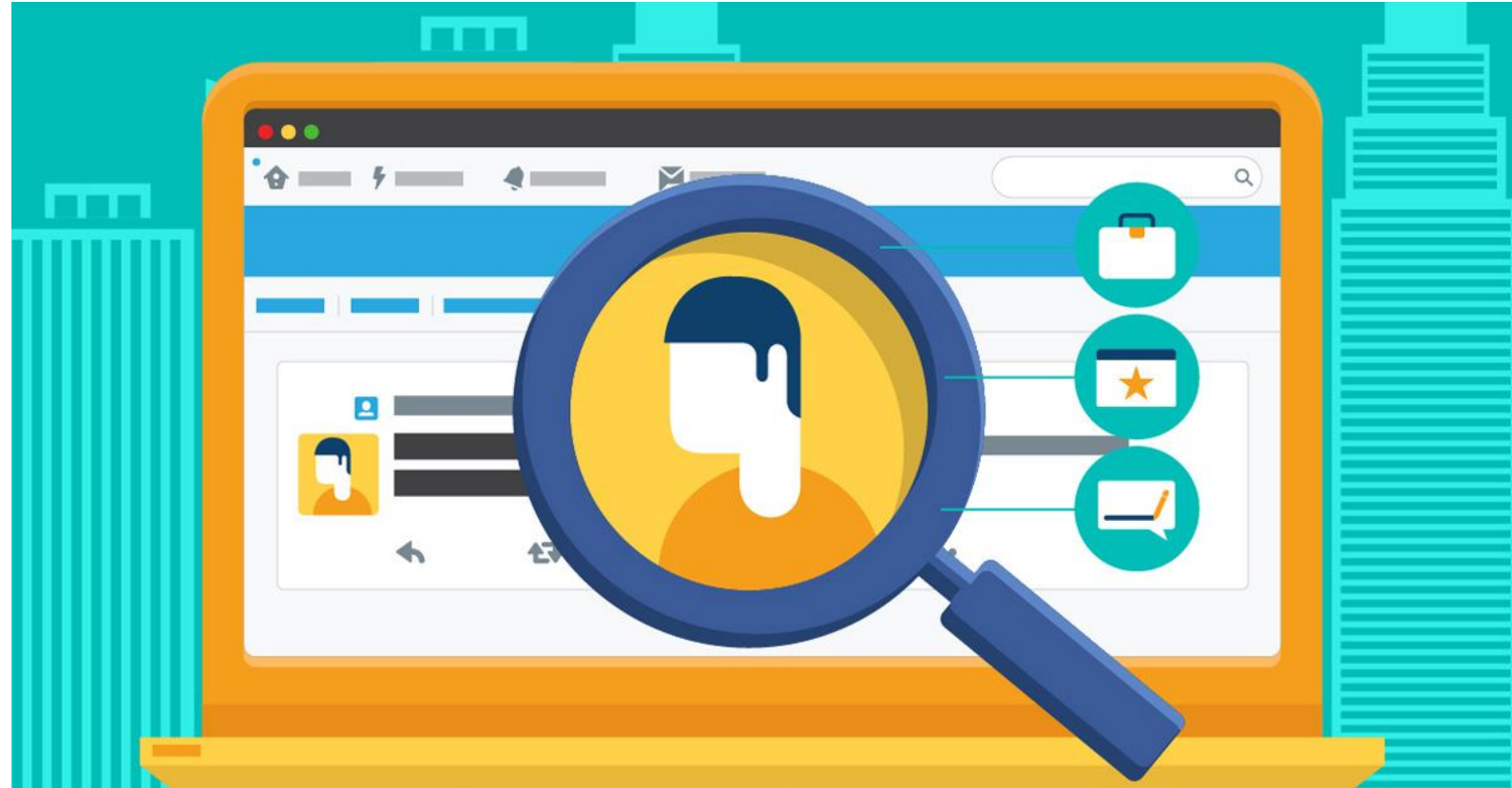
Me & Rocky!

Source: <https://www.themaxlabsprojectshop.com/>

Max Labs – 1b Discussion

Pitch Data File

- CSV files
- Organization
- Viewing the Data
 - Customization

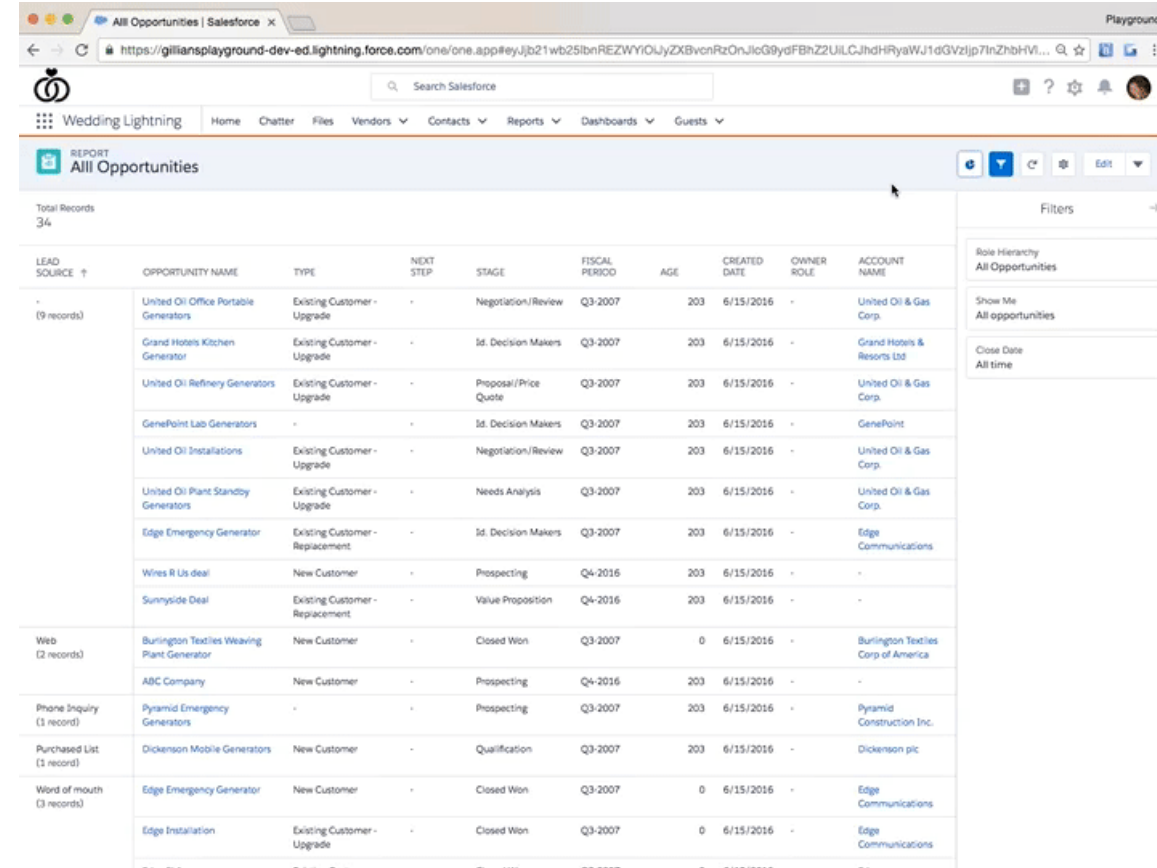


Source: <https://www.salesforce.com/ca/blog/2016/09/sales-search-cheat-sheet.html>

Max Labs – 1b Discussion

Generating Reports

- CSV files
- Organization
- Viewing the Data
 - Filtering
 - Integration



The screenshot shows a Salesforce Lightning interface for a report titled "All Opportunities". The report displays a table of 34 records, grouped by lead source. The columns include Lead Source, Opportunity Name, Type, Next Step, Stage, Fiscal Period, Age, Created Date, Owner Role, and Account Name. The table is filtered to show all opportunities, and the filters panel on the right is visible.

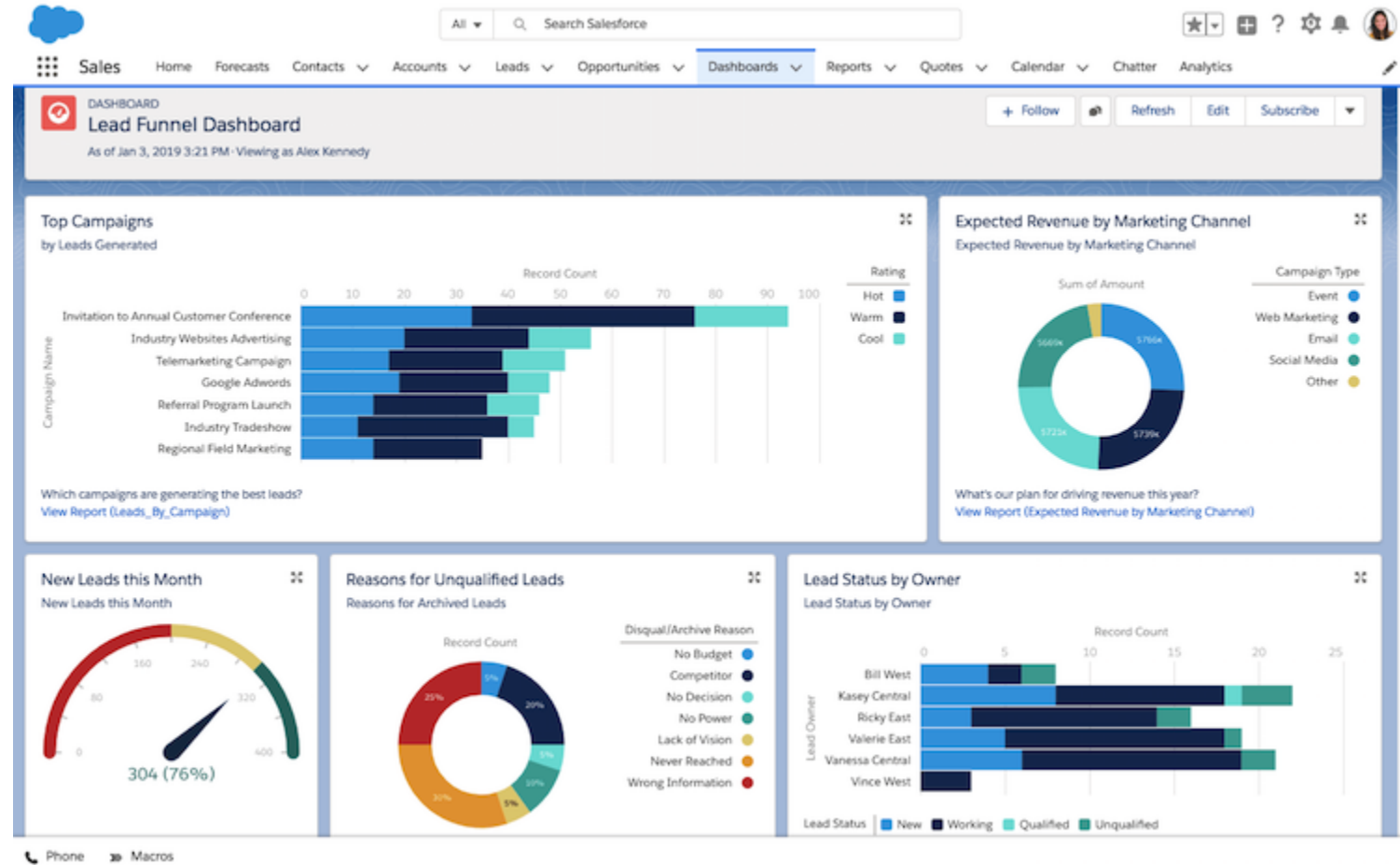
LEAD SOURCE	OPPORTUNITY NAME	TYPE	NEXT STEP	STAGE	FISCAL PERIOD	AGE	CREATED DATE	OWNER ROLE	ACCOUNT NAME
-	United Oil Office Portable Generators	Existing Customer - Upgrade	-	Negotiation/Review	Q3-2007	203	6/15/2016	-	United Oil & Gas Corp.
	Grand Hotels Kitchen Generator	Existing Customer - Upgrade	-	Id. Decision Makers	Q3-2007	203	6/15/2016	-	Grand Hotels & Resorts Ltd
	United Oil Refinery Generators	Existing Customer - Upgrade	-	Proposal/Price Quote	Q3-2007	203	6/15/2016	-	United Oil & Gas Corp.
	GenePoint Lab Generators	-	-	Id. Decision Makers	Q3-2007	203	6/15/2016	-	GenePoint
	United Oil Installations	Existing Customer - Upgrade	-	Negotiation/Review	Q3-2007	203	6/15/2016	-	United Oil & Gas Corp.
	United Oil Plant Standby Generators	Existing Customer - Upgrade	-	Needs Analysis	Q3-2007	203	6/15/2016	-	United Oil & Gas Corp.
	Edge Emergency Generator	Existing Customer - Replacement	-	Id. Decision Makers	Q3-2007	203	6/15/2016	-	Edge Communications
	Wines R Us deal	New Customer	-	Prospecting	Q4-2016	203	6/15/2016	-	-
	Sunnyside Deal	Existing Customer - Replacement	-	Value Proposition	Q4-2016	203	6/15/2016	-	-
Web	Burlington Textiles Weaving Plant Generator	New Customer	-	Closed Won	Q3-2007	0	6/15/2016	-	Burlington Textiles Corp of America
	ABC Company	New Customer	-	Prospecting	Q4-2016	203	6/15/2016	-	-
Phone Inquiry	Pyramid Emergency Generators	-	-	Prospecting	Q3-2007	203	6/15/2016	-	Pyramid Construction Inc.
Purchased List	Dickenson Mobile Generators	New Customer	-	Qualification	Q3-2007	203	6/15/2016	-	Dickenson plc
Word of mouth	Edge Emergency Generator	New Customer	-	Closed Won	Q3-2007	0	6/15/2016	-	Edge Communications
	Edge Installation	Existing Customer - Upgrade	-	Closed Won	Q3-2007	0	6/15/2016	-	Edge Communications

Source: <https://admin.salesforce.com/learn-lightning-create-reports>

Max Labs – 1b Discussion

Dynamic Dashboards

- Database
- Monitoring
- Collaboration
- Customization



Source: <https://admin.salesforce.com/learn-lightning-create-reports>

Business Systems Innovation Labs

Lab 2a Pre-flight Checklist



"No Sh, Sherlock - The Case of the Lost Integrity"**

Halloween's approaching & Max is back with another episode and a mystery to solve.

Prep: What do you need to start?

- ✓ If you didn't do Lab 1a and 1b, that's ok. Just do **Steps 6-33 & 102-114** of Lab 1b and you're good for this one.
- ✓ If you didn't get the **Average Amount & Equity by Type** report created successfully in Lab 1b, that's ok. When you hit Step 57 in this one, just refer to the screen cap of that report embedded after that step. No worries.

Max Labs 2

DUE by EOD Sunday

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Max Labs – 2a Discussion

Managing Data Corruption

- What's the Issue?
 - Error Messages?
- Mitigation
 - Best Practices?
 - Validation Rules?

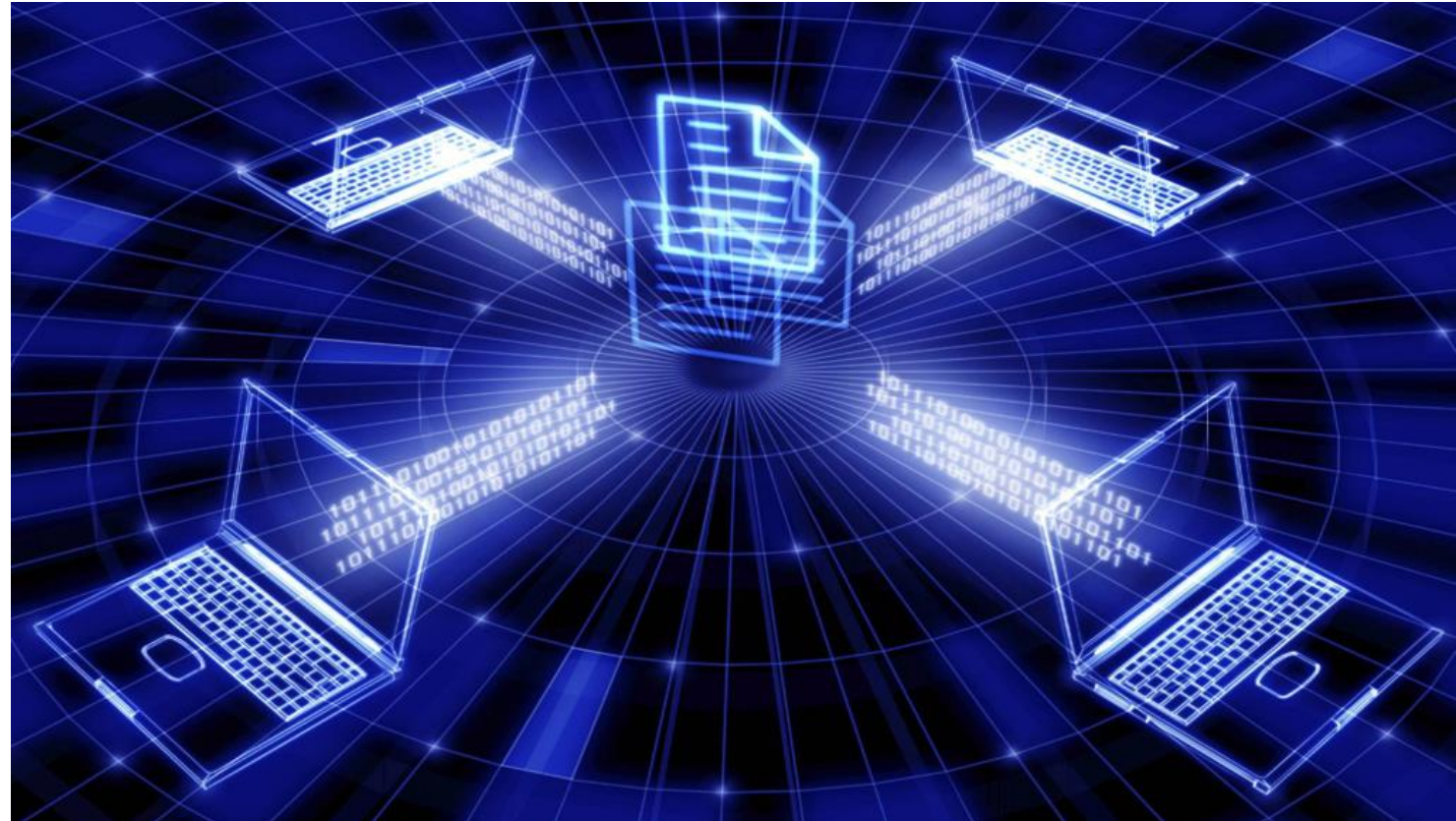


Source: <http://techgenix.com/tgwordpress/wp-content/uploads/2018/06/data-corruption-Shutterstock.jpg>

Max Labs – 2a Discussion

Data Redundancy

- Root Causes?
- Misrepresentation of Facts:
 - Corrupted Reports & Dashboard
- Solutions
 - Creating a Plan



Source: <https://news.bitcoin.com/wp-content/uploads/2016/02/fl00.jpg>

Max Labs – 2a Discussion

Data Integrity

- Velocity & Veracity
- Principles

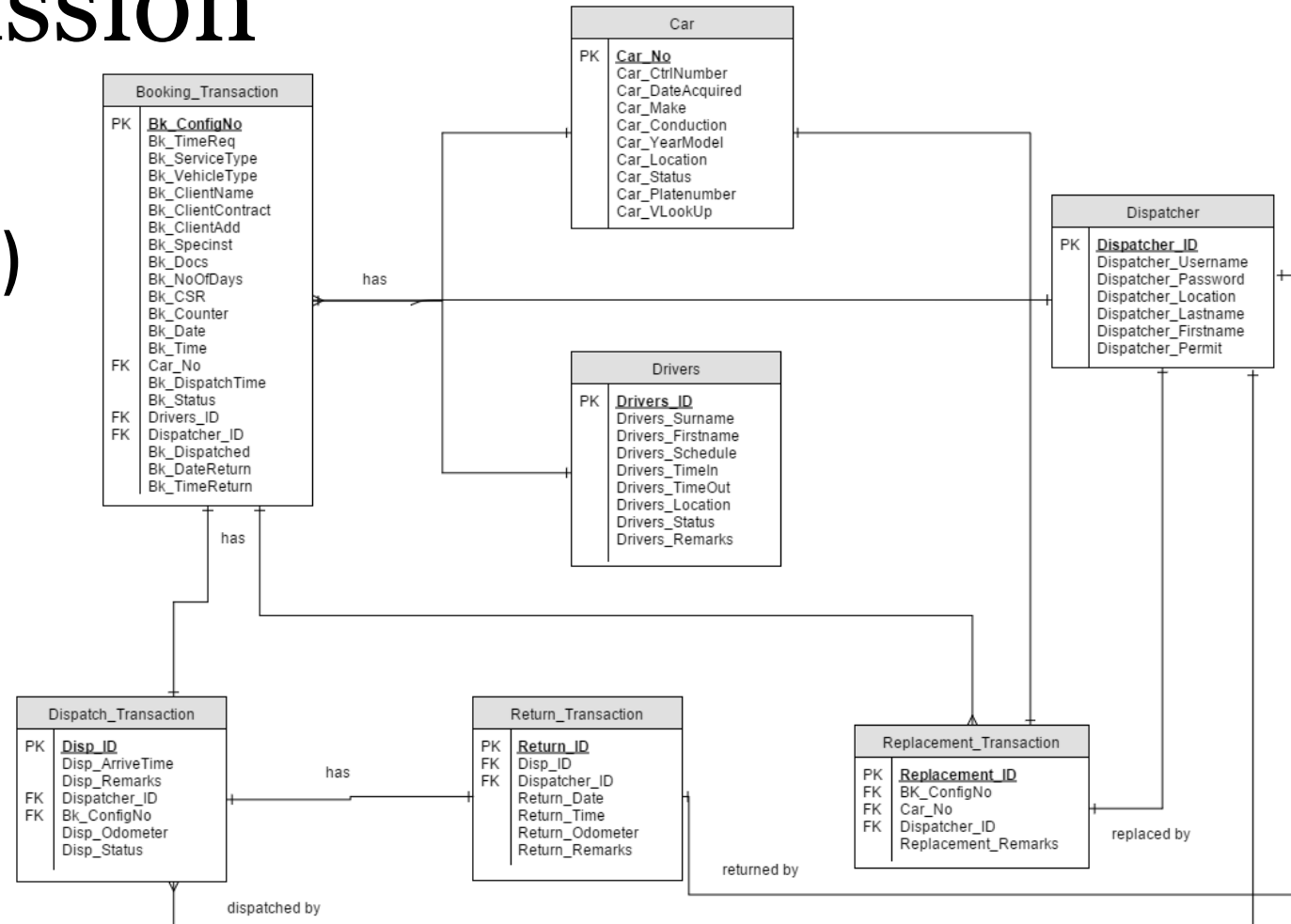


Source: <http://www.rightpatient.com/wp-content/uploads/2015/05/Data-Integrity-2.jpg>

Max Labs – 2a Discussion

Entity Relationship Diagrams (ERD's)

- Cardinality & Crow's Feet
- Data Modeling Requirements
 - Understanding Users Needs
 - Preventing Redundancy



Source: <https://sites.google.com/site/dracvbms/entity-relationship-diagram>

Max Labs – 2b Discussion

Importing Data

- Creating Tables
- Avoiding Redundancy



Source: <https://nebulaconsulting.co.uk/wp-content/uploads/2014/04/pexels-photo-1179800.jpeg>

Max Labs – 2b Discussion

Avoiding Redundancy

- Data Normalization
- Understanding Relationships
- ERD's

Use Cases



Source: <https://www.salesforce.com/blog/2015/11/3-steps-to-the-proper-care-and-handling-of-your-data.html>

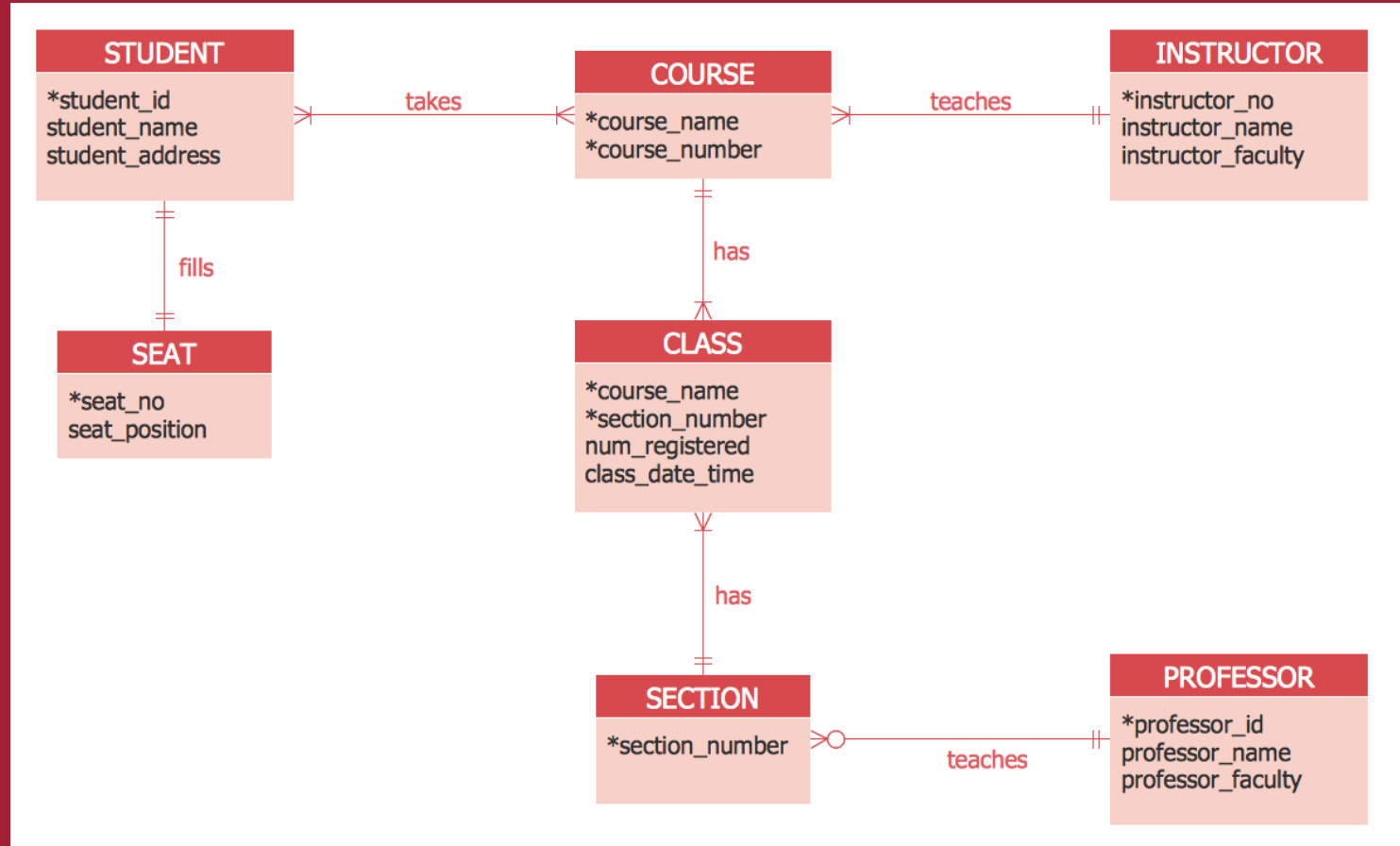


Digital Systems

3.2 Data Modeling with
Entity Relationship Diagrams (ERD)

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What is an “Entity Relationship Diagram”?

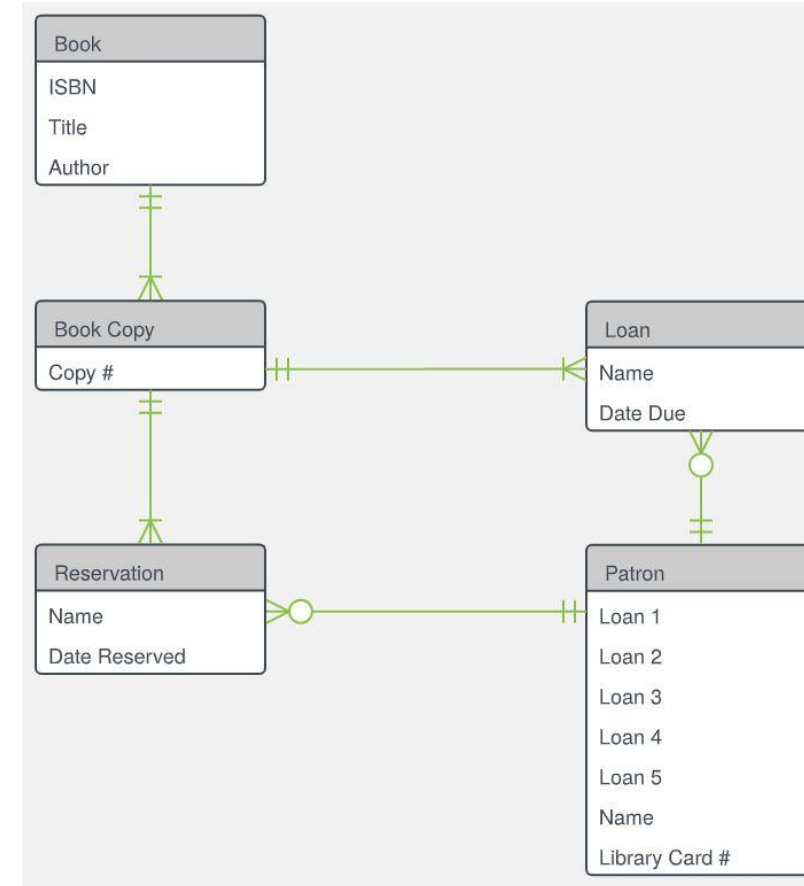


Data Model

Entity = Noun | Attribute = Adjective | Relationship = Verb

What is an Entity Relationship Diagram?

An Entity Relationship Diagram (ERD) is a visual representation of different data using conventions that describe how these data are related to each other.

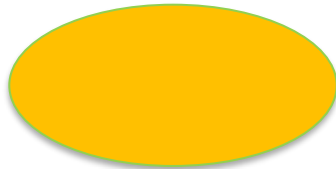


Source: <https://d2slcw3kip6qmk.cloudfront.net/marketing/pages/chart/examples/libraryerdiagram.svg>

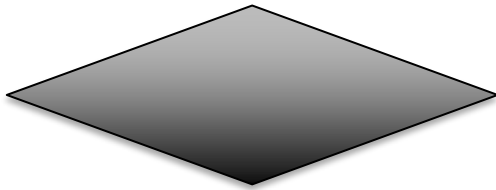
Primary ERD Symbols: Chen's Database Notation



- Entity = noun
ex: shopper, item



- Attribute = adjective/characteristic
ex: item price



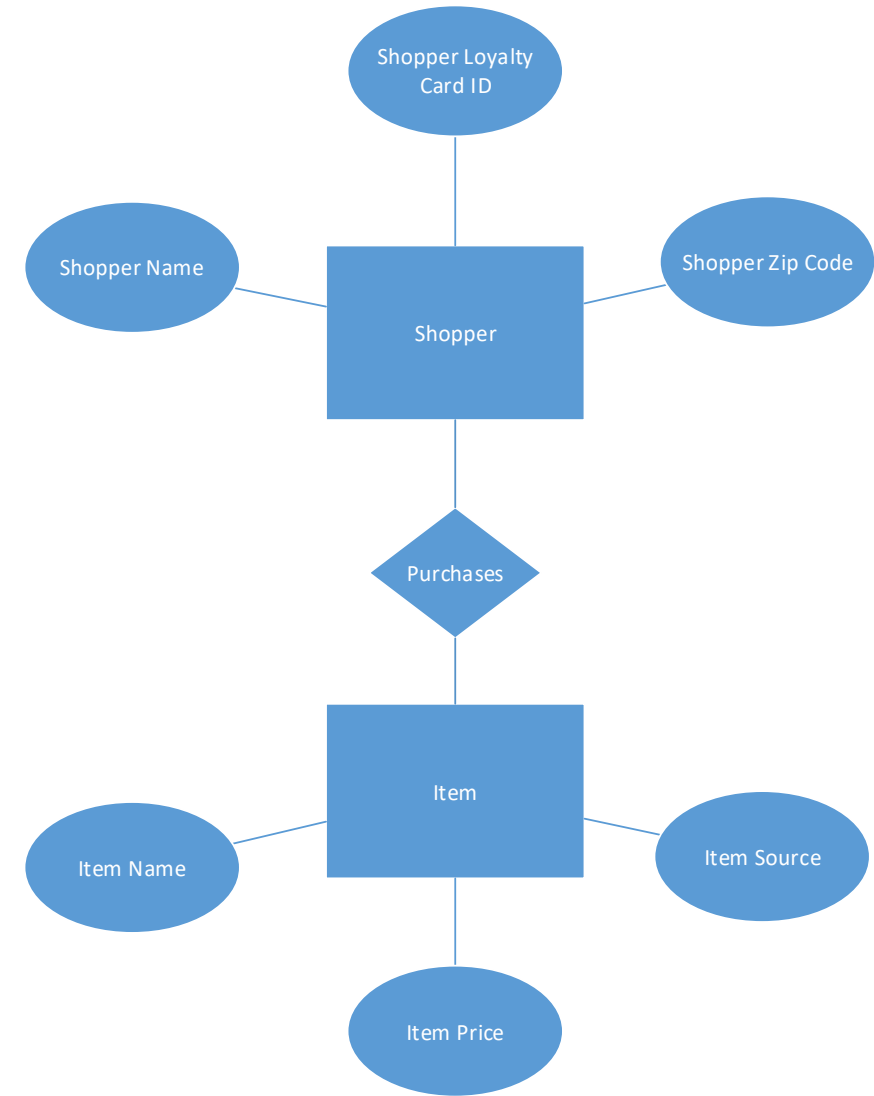
- Relationship = verb
ex: buys

Translating

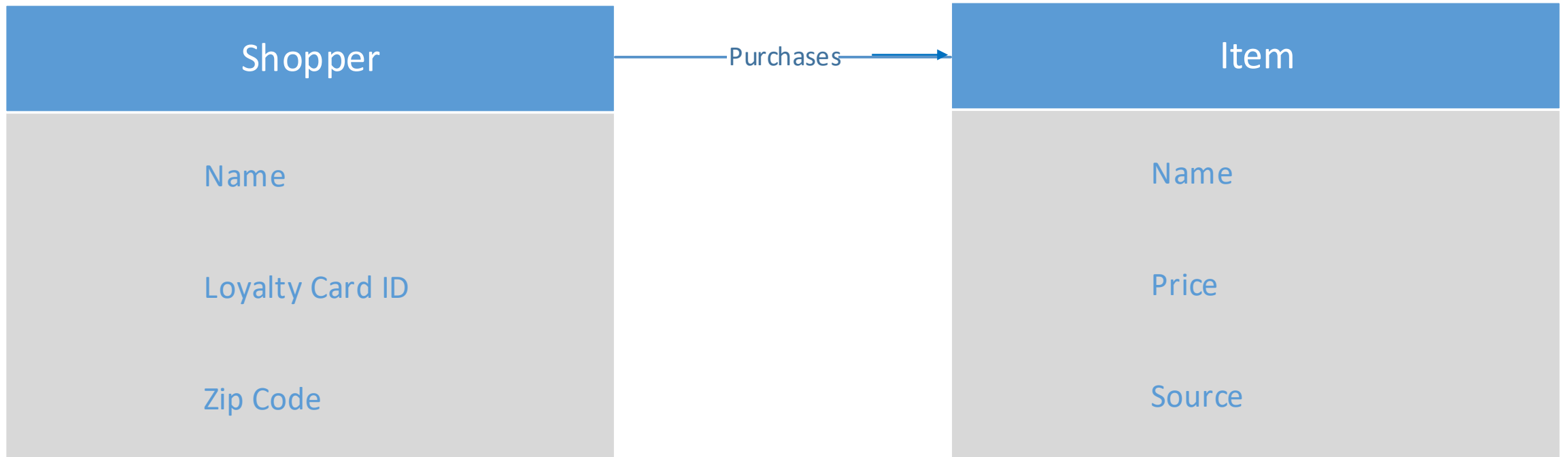
A shopper walks into a store to buy an item. When the shopper makes a purchase, the system is updated with information about the person, including their name, loyalty card id and zip code. The store also records which items were purchased, including details like item name, price and item source.

Entity Relationship Diagram

Chen's Database Notation

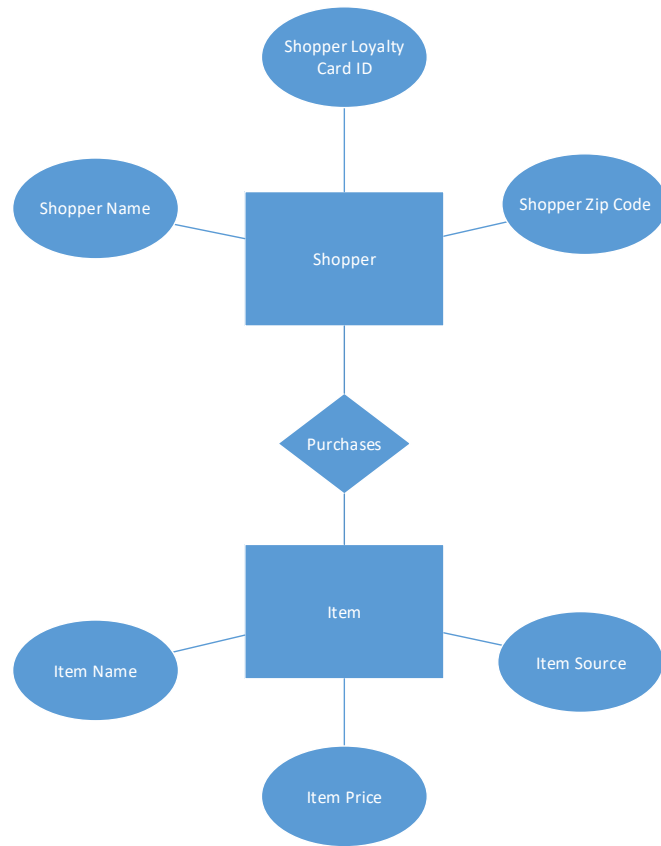


Entity Relationship Diagram: ERD tables



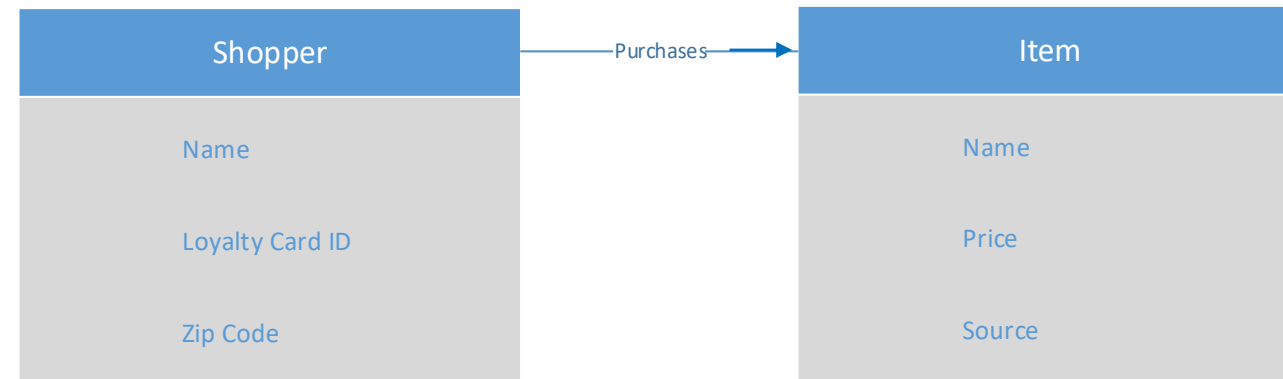
Crow's Foot Database Notation

Entity Relationship Diagram: recap



Chen's Database Notation

A shopper walks into a store to buy an item. When the shopper makes a purchase, the system is updated with information about the person, including their name, loyalty card id and zip code. The store also records which items were purchased, including details like item name, price and item source.

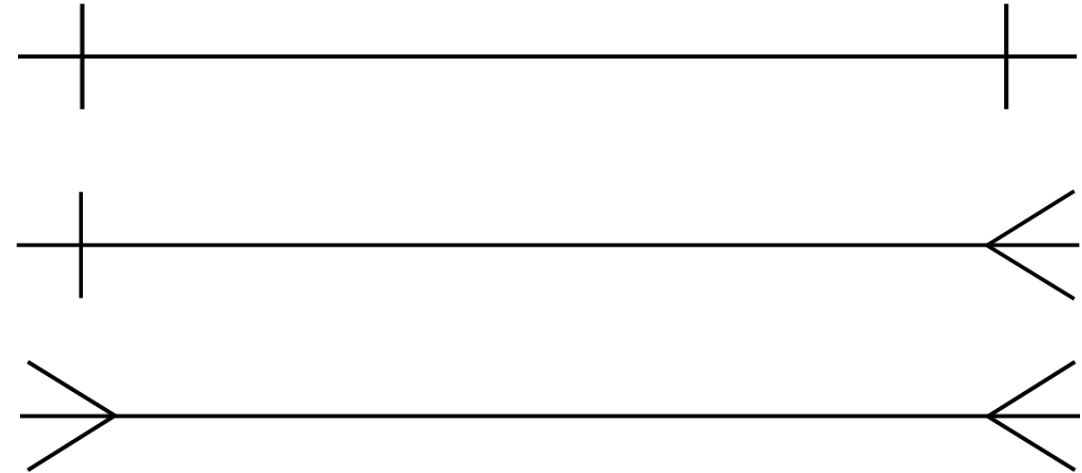


Crow's Foot Database Notation

Cardinality in Data Modeling: Relationships

Cardinality describes a fundamental characteristic of the relationship between two entities.

- 1:1 = a one to one relationship
- 1:m = a one to many relationship
- m:m = a many to many relationship



Cardinality in Data Modeling: Relationships

Below is an example of a 1:m relationship between *customer* and *transaction*.

These entities have a 1:m relationship because a customer can book multiple transactions but a transaction belongs to one and only one customer.



Cardinality in Data Modeling: Relationships

Crow's foot notation can include a little circle, indicating a null value. This means that the related entity is not mandatory.

- 1:1 = a one to zero or one relationship
- 1:m = a one to zero or many relationship
- m:m = a many to zero or many relationship



Cardinality in Data Modeling: Relationships

Let's review our example of the relationship between *customer* and *transaction*.

These entities now have a 1:0m relationship because a customer can book one, many, or zero transactions, but a transaction still belongs to one and only one customer.



Cardinality in Data Modeling: Recap

1:m

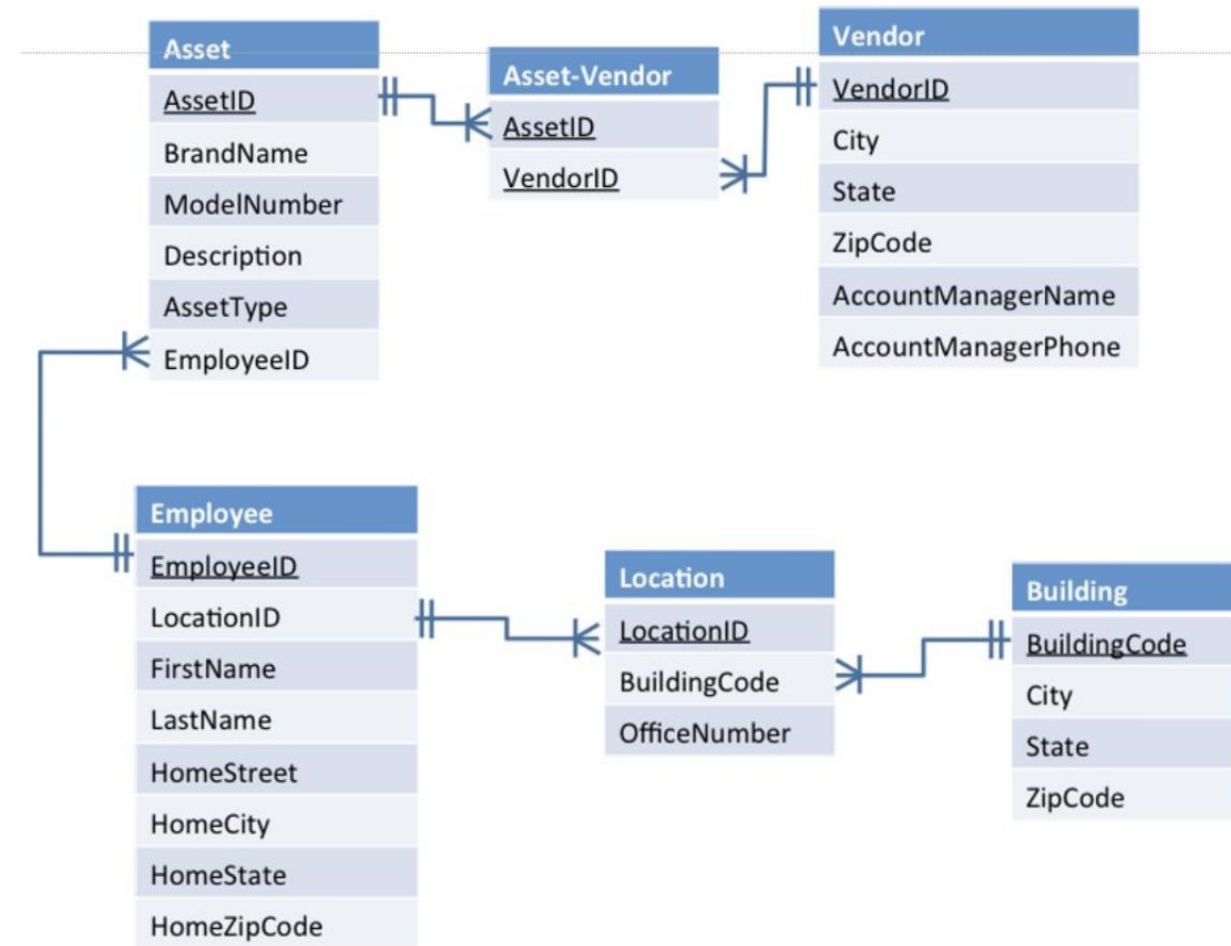


1:0m



Cardinality in Data Modeling: Example

Assets are purchased from Vendors and assigned to Employees.



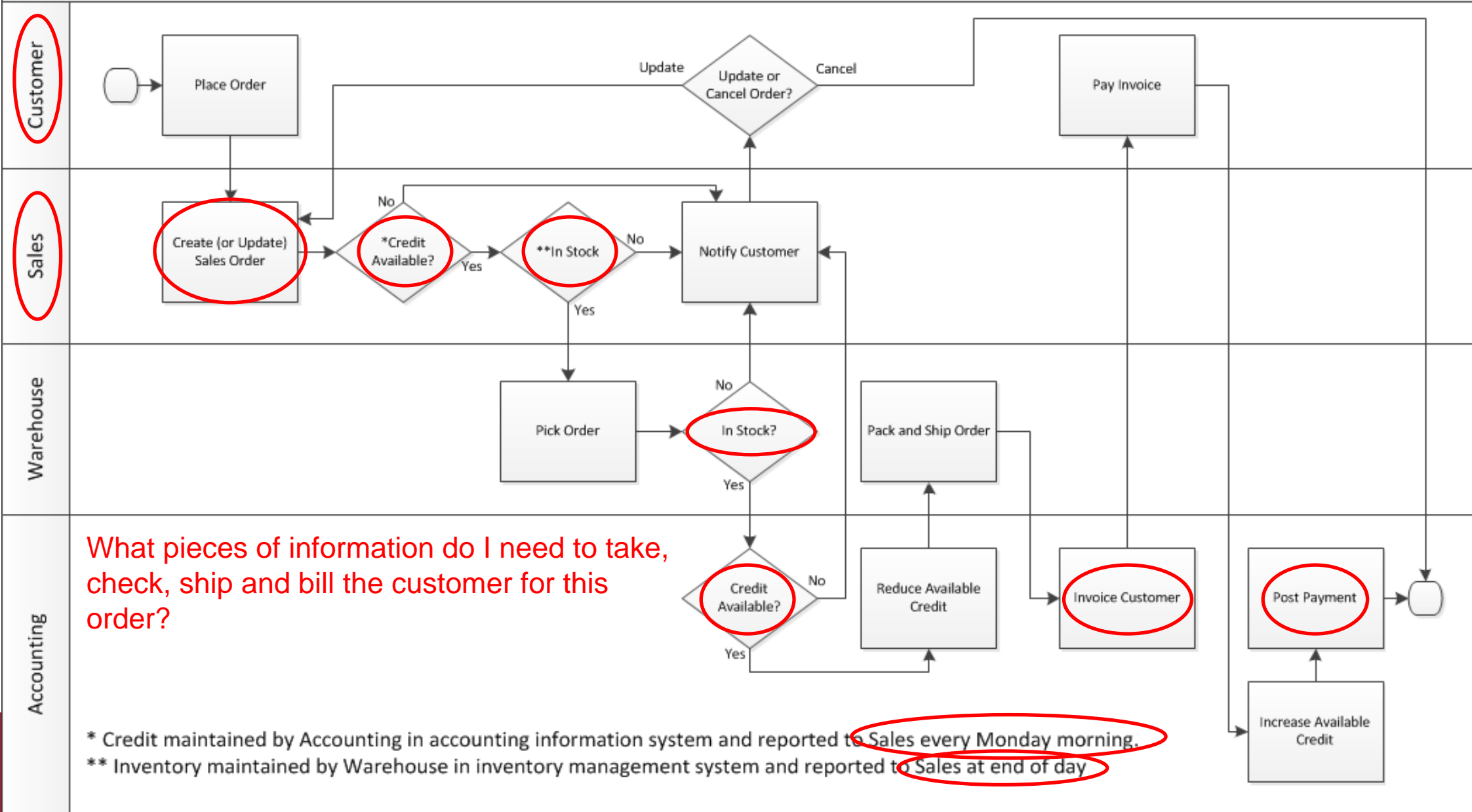
Swim Lane Diagrams – Order to Cash (O2C)

The process starts when the customer contacts Sales to place an order. The person in Sales creates the sales order. As part of doing this, the person in sales first checks to see if the customer has enough available credit to cover the order. They do this by looking up the customer's credit on a report that is generated by Accounting and sent to Sales every Monday morning. If the customer doesn't have enough available credit then the person in sales notifies the customer who can then either update or cancel their order. Next the person in sales checks to see if the items being ordered are in stock. They do this by checking a report on inventory that the Warehouse created at the end of each day. If the items being ordered are not in stock then the person in Sales notifies the customer who can then update or cancel their order. If the report indicates the items are in stock then the order goes to the Warehouse where the workers there will pick the order. Since Sales is looking at a report that is only updated at the end of each day, there is a chance that they accepted an order for an item that is not really in stock. If that is the case the Warehouse notifies Sales who then notifies the customer who can update or cancel their order...

Swim Lane Diagrams – Order to Cash (O2C)

...Once the people in the warehouse pick the order, the people in Accounting have to make sure that the customer actually has enough credit to cover the order. Since the people in Sales use a credit report that is generated on Monday morning, there is a chance that the information on the credit report is old. If the customer doesn't have enough available credit then Accounting notifies Sales who then notifies the customer who can then choose to update or cancel their order. If the customer has enough available credit then their available credit is reduced by the total cost of the order and the warehouse is notified and they pack and ship the order. As soon as the order is shipped the people in the warehouse notify accounting and accounting generates and sends the invoice to the customer. When the customer pays the invoice the people in Accounting increase the customer's available credit by the amount of the payment, they post the payment and we're done.

Order to Cash (Legacy Systems Low-Level)

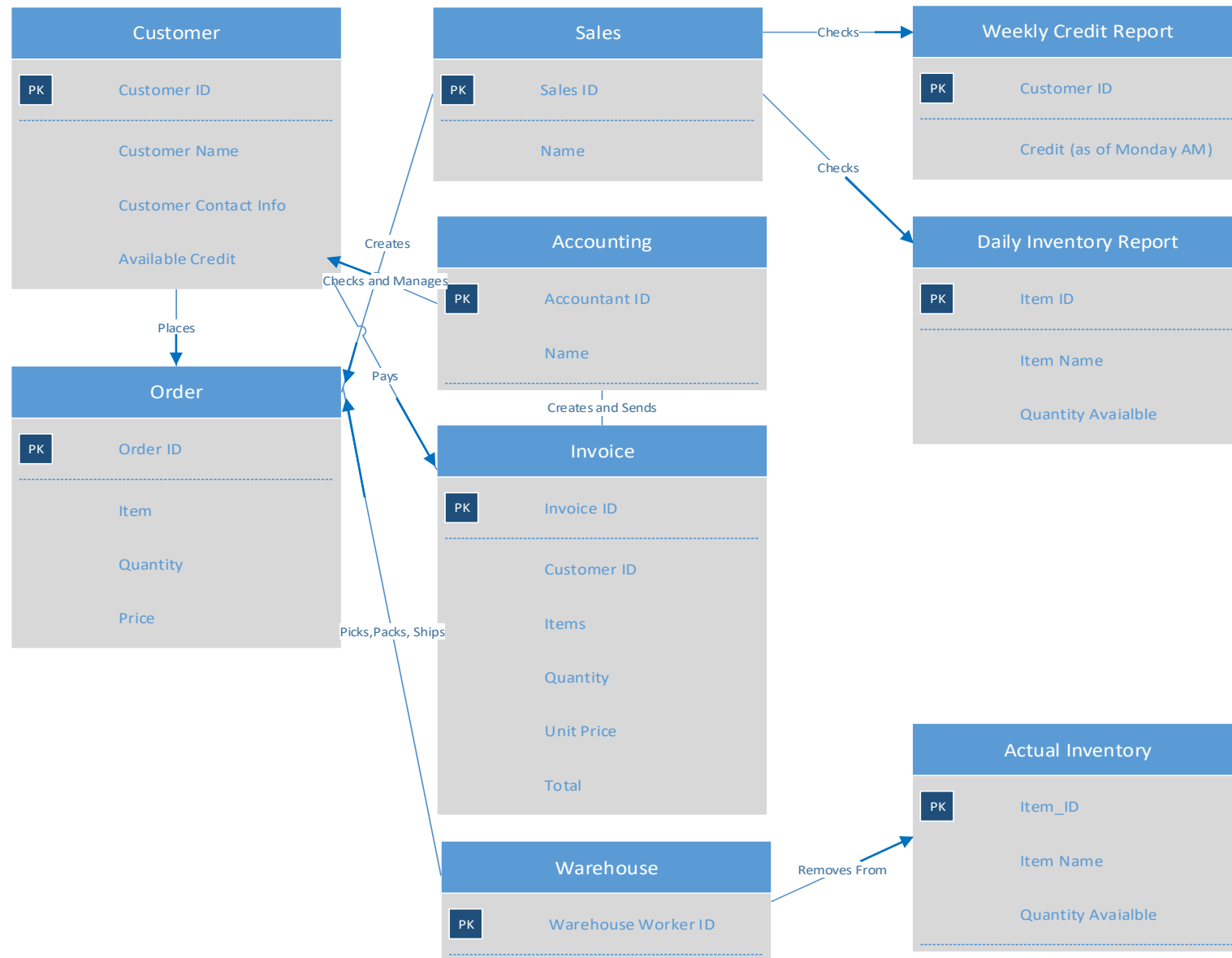


ERD: tables

- Relationship, i.e. verb is written on the arrow
- Entity listed at the top of the table
- Attributes are listed under the entity

Legend :

- PK : Primary Key





Digital Systems

Entity Relationship Diagrams - 1
In-Class Activity

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Entity Relationship Diagrams - 1

What:

- Interpret an entity relationship diagram
- Construct a simple entity relationship diagram from provided story
- Add the attributes you would expect to be needed for each entity

Why:

- ERDs model the *information* required for a process
- ERDs supplement swim lane diagrams and complete a bigger picture
- ERDs are in the first 2 exams!

Step #1

- **Reference the entity relationship diagram shown on screen.**
- **Prepare 3 questions that can be answered with the diagram:**

After completing this activity you will be able to:

- Interpret an entity relationship diagram
- Construct a simple entity relationship diagram

Step 1: Individually

Reference the entity relationship diagram shown on screen.

Question 1 0 pts

Prepare 3 questions that can be answered with the diagram:

HTML Editor

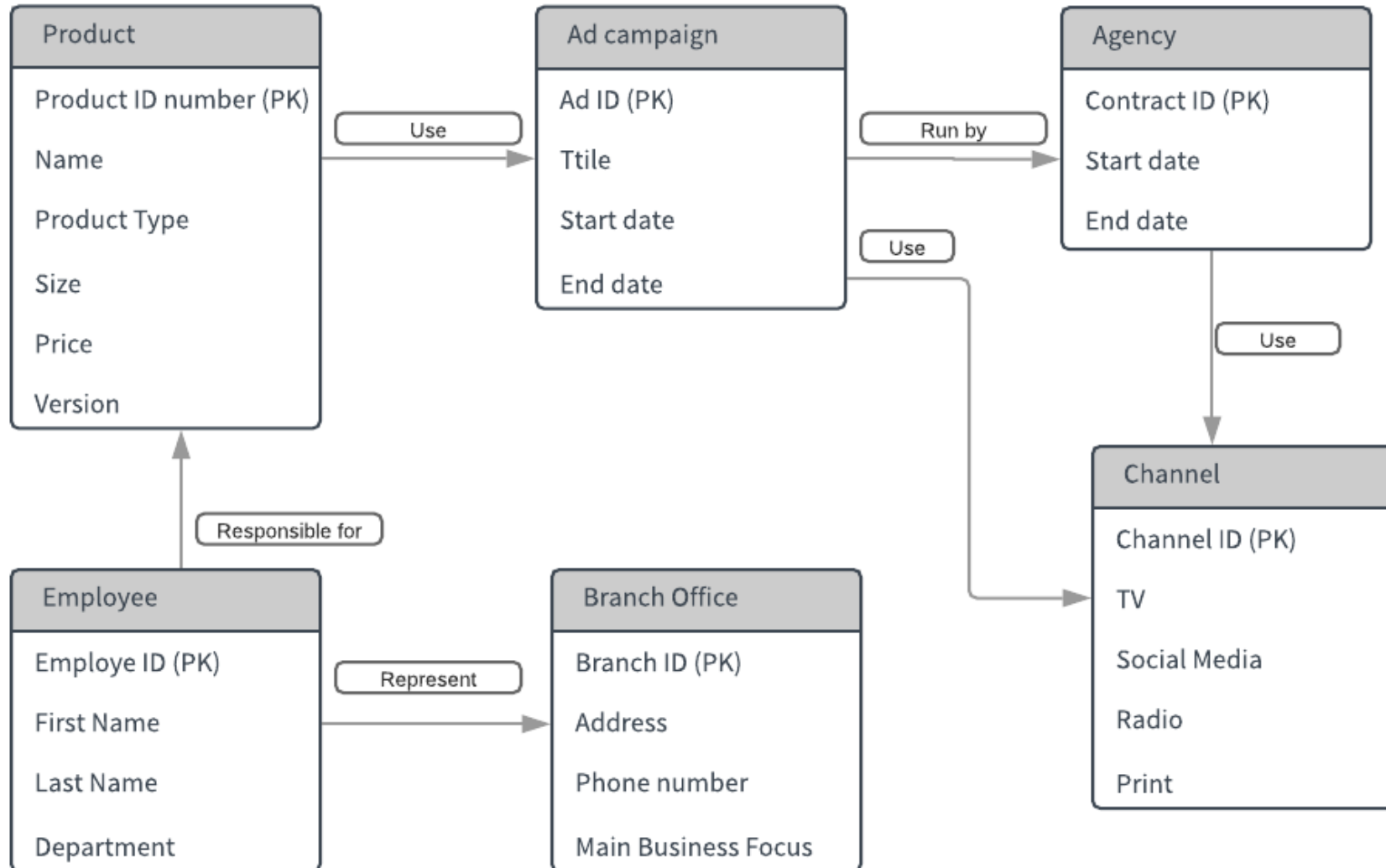
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Table Grid Link Unlink Image √x YouTube Arrow Video Full Screen 12pt Paragraph X

|

p 0 words

ERD: Advertising Campaigns



Step #2

- **Construct an ERD diagram by identifying the entities, attributes and relationships in the following scenario**



Step 3: In small groups, construct an ERD diagram by identifying the entities, attributes and relationships in the following scenario

Mike is the HR manager at Playwicki Financial Services. They need to hire a new systems analyst. The job has been posted on the company's web site and a few people have applied for the position. The hiring process starts when Mike reviews the applications and matches them up with the job requirements to identify the best candidate. Once the best candidate has been identified, their resume is sent to the hiring manager to review. If the hiring manager is not interested they ask Mike for another candidate and Mike starts looking for another candidate. If the hiring manager is interested in interviewing the candidate, they let Mike know and Mike schedules a phone interview with the hiring manager. The hiring manager conducts the phone interview with the candidate. If the hiring manager is not happy with the candidate, they ask Mike for another candidate and the process starts over again. If the hiring manager is happy with the candidate, then they let Mike know and Mike schedules a face-to-face interview for the candidate with the hiring manager. The hiring manager conducts the interview. If the hiring manager is not happy with the candidate, they let Mike know and the process starts over again. If the hiring manager is happy with the candidate, they notify Mike that they'd like to hire the candidate. Mike calls the candidate to offer them the position over the phone. If the candidate is interested, Mike assembles the formal offer and mails it to the candidate. The candidate signs the offer, returns it to Mike and the new employee is officially hired.



Question 2

0 pts

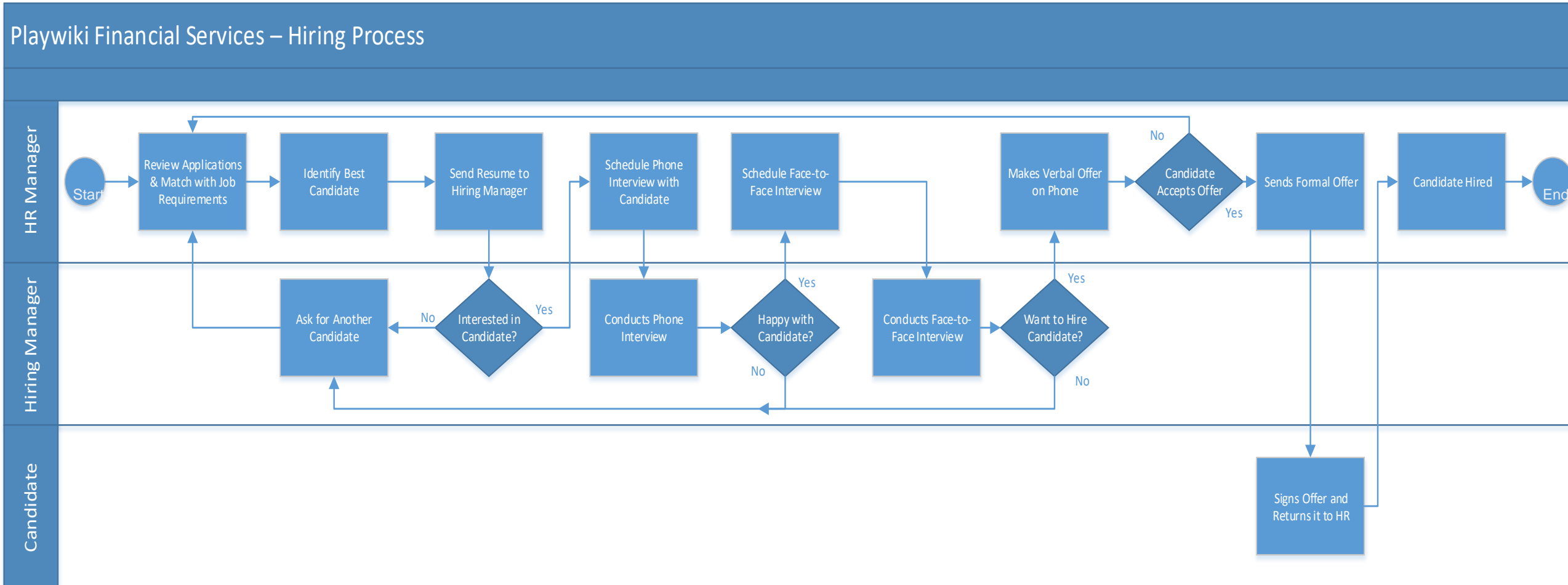
Step 4: Upload your ERD here

Upload

Choose a File

Mike is the HR manager at Playwicki Financial Services. They need to hire a new systems analyst. The job has been posted on the company's web site and a few people have applied for the position. The hiring process starts when Mike reviews the applications and matches them up with the job requirements to identify the best candidate. Once the best candidate has been identified, their resume is sent to the hiring manager to review. If the hiring manager is not interested they ask Mike for another candidate and Mike starts looking for another candidate. If the hiring manager is interested in interviewing the candidate, they let Mike know and Mike schedules a phone interview with the hiring manager. The hiring manager conducts the phone interview with the candidate. If the hiring manager is not happy with the candidate, they ask Mike for another candidate and the process starts over again. If the hiring manager is happy with the candidate, then they let Mike know and Mike schedules a face-to-face interview for the candidate with the hiring manager. The hiring manager conducts the interview. If the hiring manager is not happy with the candidate, they let Mike know and the process starts over again. If the hiring manager is happy with the candidate, they notify Mike that they'd like to hire the candidate. Mike calls the candidate to offer them the position over the phone. If the candidate is interested, Mike assembles the formal offer and mails it to the candidate. The candidate signs the offer, returns it to Mike and the new employee is officially hired.

From last week...



Tips

- **How many entities do we have? (start with actors)**
- **What is the document being created? i.e. we capture information to create it....**
- **What do we need to know about each entity? (ie attributes)**
- **How do each entity relate to each other? (ie interaction between entities)**

Steps #3-4

- **Draw diagram and discuss as a class**
- **Upload your diagram to Canvas**
- **Students called upon at random to help draw the diagram on the board and discuss**



Source: <https://i1.wp.com/www.nationalreview.com/wp-content/uploads/2016/12/school-bans-students-raising-their-hands-answer-questions-2.jpg?fit=788%2C460&ssl=1>

Step #5

- **Individually rate this activity**

Question 3

0 pts

Rate this activity from 1 (completely disagree) to 5 (completely agree)...

1. This is an engaging activity [Select] ▾

2. I learned a lot completing this activity [Select] ▾

3. This activity should be used again in future semesters [Select] ▾

Question 4

0 pts

Is there anything you would like the professor to know?

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Digital Systems

Entity Relationship Diagrams - 2
In-Class Activity



Entity Relationship Diagrams - 2

What:

- **Construct a more complex entity relationship diagram from provided story**

Why:

- **ERDs model the information required for a process**
- **ERDs supplement swim lane diagrams and complete a bigger picture**
- **ERDs are in the first 2 exams!**

Step #1

- **Identify the entities, attributes and relationship**
- **Construct an ERD based on the provided narrative**

Students Registered for Courses

Students at Temple University register for courses each semester. Temple needs to track information on the students, including name, TUID number, major and year of study. When students register for courses, Temple tracks the course information including the course name, number of credits, school which offers the course and the course ID number.

Temple also needs to track the faculty member who teaches the course, including their employee ID number, name, email address and office location. Faculty members can have multiple office locations on the various campuses that Temple owns. The offices are noted by a building, room number and key number.

Step #2: Discussion

- How many entities do we have?
- Are we updating a system? Creating a document?
- What do we need to know about each entity? (ie attributes)
- How do each entity relate to each other? (ie interaction between entities)



Source: <https://i1.wp.com/www.nationalreview.com/wp-content/uploads/2016/12/school-bans-students-raising-their-hands-answer-questions-2.jpg?fit=788%2C460&ssl=1>

Step #3

- Upload your ERD

Question 1

0 pts

Step 2: Draw and Upload your ERD here:

Upload

Step 3: Students called upon at random to help draw the diagram on board and discuss

Step #4

- **Individually rate this activity**

Question 2

0 pts

Rate this activity from 1 (completely disagree) to 5 (completely agree)...

1. This is an engaging activity
2. I learned a lot completing this activity
3. This activity should be used again in future semesters

Question 3

0 pts

Is there anything you would like the professor to know?

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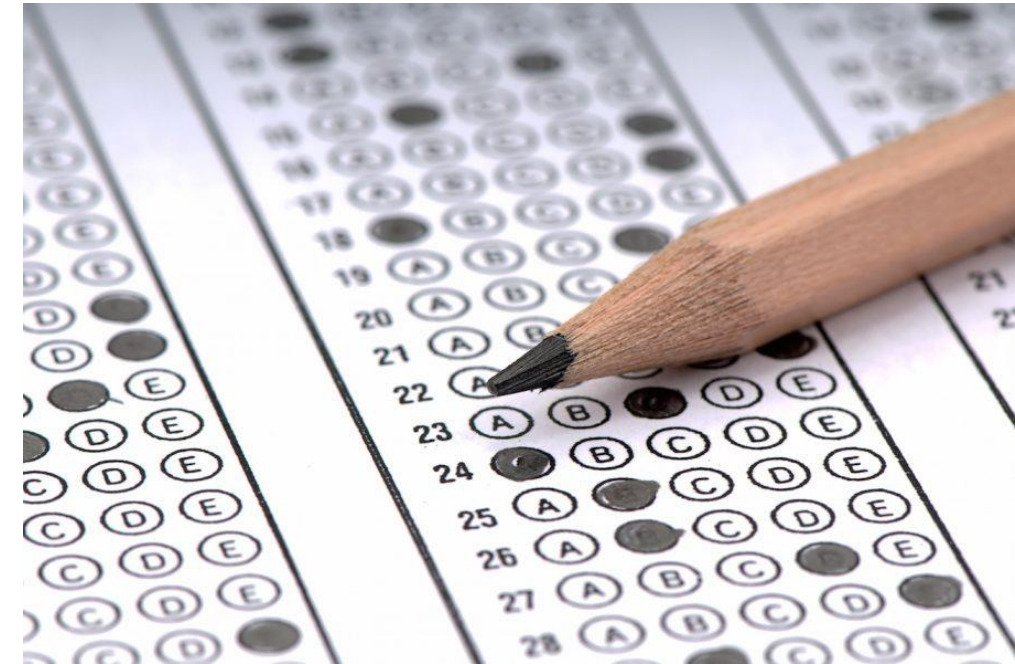
Exam 1 using Proctorio

Opens Friday (1/29) at 6PM

Close Sunday (1/31) at 11:59PM

Exam Will Cover Discussions: week 1 & 2

- **Readings, Videos and Lectures (35%)**
 - What is MIS?
 - Systems Analysis & Systems Architecture
 - Swim Lane Diagrams
 - ERD
- **Max Labs 1a/1b & 2a/2b (25%)**
 - Digital Product Management
 - Concepts of Max Labs
- **Mini-Case – Demonstrate your ability to apply (40%)**
 - Swim Lane Diagram
 - ERD



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

To do: Exam Prep

- **Practice Swim Lane (let's review answers!)**
- **Review slide deck “MIS 2101 Exam 1 prep”**
- **Practice ERD (will send email)**

More to Come

Prepare with Readings & Videos before our next class!!!