## Databases and Data Management



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# Agenda

- Managing and Organizing Research
  - Zotero
  - Tropy
- Principles of Data Modeling
- Creating a Database
- Practice

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#### Storyline

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8.00

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Lde

Plot Keywords: father son relationship : male male kies : gay romance : gay sex : american abroad : See All (156) +

Taglines: Is it better to speak or die?

Gennes: Drama Romance

Motion Picture Rating (MPAA) Rated R for sexual content, hustry and some language . See all certifications + Parents Guide: View content advisory +

Details

Official Rese: Official Facebook : Official Site [Japan] : See more + Country: Tarly ( France: Ibrain) (USA Language: English): Tatan : (France): Comman: Hotowe Release Date: 13 January 2018 (USA) See more + Alas Known As. Ultimame por to monthe See more + Filming Lecations: Cremon, Lonbardy, Tally See more +

Box Office

Budget: C4,000,000 (estimated) Opening Weekend USA: \$412,932, 26 November 2017, Limited Release Gress USA: \$15,240,910, 22 February 2018 See more on IMDBYo +

Company Credits Production Co: Prenety Film Company, La Cinéfecture, RT Features See more » Show more on IMDEPro »

Technical Specs Runtimes: 132 min Sound Mix: Doiby Digital Color: Color Aspect Ratio: 1.85:1 See full technical specs +

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	# Symphony No.2 in C major 3 Andante			Fischer: Austro-Hunger	and the second se	Contract of the second s	Haydn, Franz J
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	in Symphony No.3 in C major / Allegra			Fischer Autor Hunser			Haydh, Franz J

Sicily			
Other Authors	: Macadar	n, Alta.	
Language: English Published: London : New York : A & C Black ; W.W. Norton,			
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#### Similar Items

Sicily by: Hare, Augustus J. C. (Augustus John Cuthbert), 1834-1903. Published: (1905)

Sidily by: Sébilleau, Pierre. Published: (1968)

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Sicily by: Agati, Stebestiano. Published: (1912)



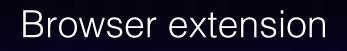
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- Microsoft Word plugin

### Adding References







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Standard numbers (ISBN, DOI, PubMedID)

Import



Manually





#### PDF

• Linking vs. Storing?



#### Notes

### Inserting Citations and Bibliographies



Copy & Paste



Microsoft Word plugin



- Group photos into documents or items
- Annotate your photos
- Add custom tags
- Search your collections

### Databases: Key Concepts



- Database: an organized collection of data
- Table: a collection of related data in a database
- **Record**: an individual entry in a table
- Fields: attributes describing each record

### Database Models

- Flat File
  - Columns and rows organized in a tabular format
  - Each line represents a record
  - No relationship between records
- Relational
  - Recognizes relationships between multiple tables

## Relationships



- One-to-One
- One-to-Many
- Many-to-Many

### **One-to-One Relationships**

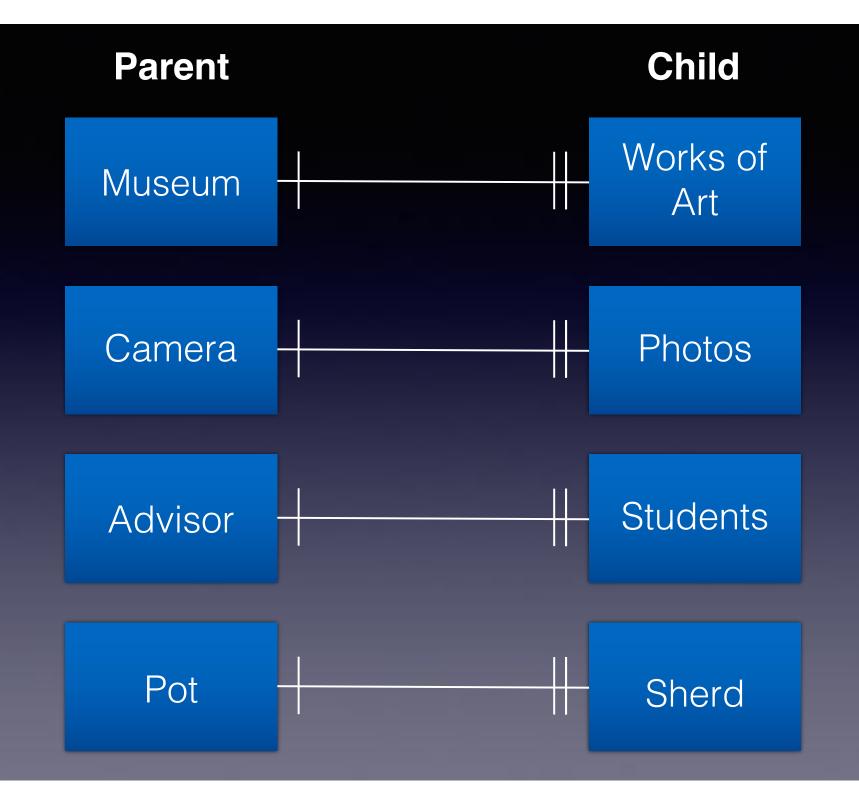


### **One-to-Many Relationships**



Parent: Table on <u>one</u> side of relationship

**Child:** Table on the *many* side of the relationship



#### Parent Table: Museum

#### Child Table: Work of Art

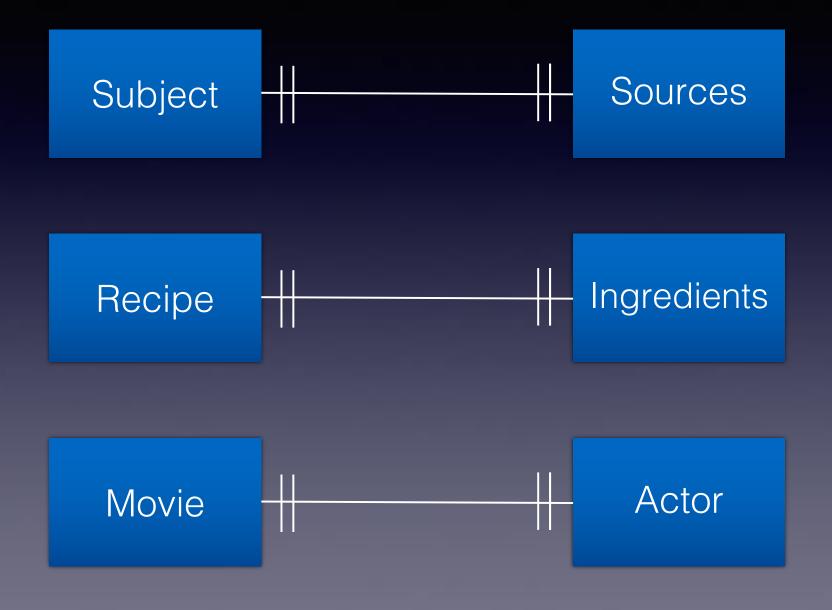








### Many-to-Many Relationships



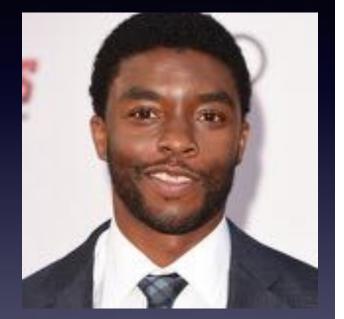
#### **Movie Table**

#### **Actor Table**









## Relationships



### One-to-One

• One-to-Many

Many-to-Many

# Creating a Database

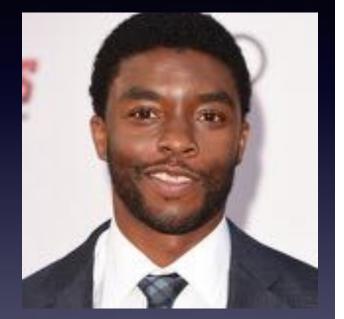
#### **Movie Table**

#### **Actor Table**









## Join Tables



# Data Modeling Practice

1.Create Tables

2. Define the Relationship

3.List fields for each table and identify Primary and Foreign Keys

4. Determine the appropriate input type for each field

- Text Box
- Drop-down Menu
- Pop-up Menu
- Checkbox Set
- Radio Button Set
- Drop-down Calendar