

Apps and Data

CSCI 3700/6070 Database Systems Class Project

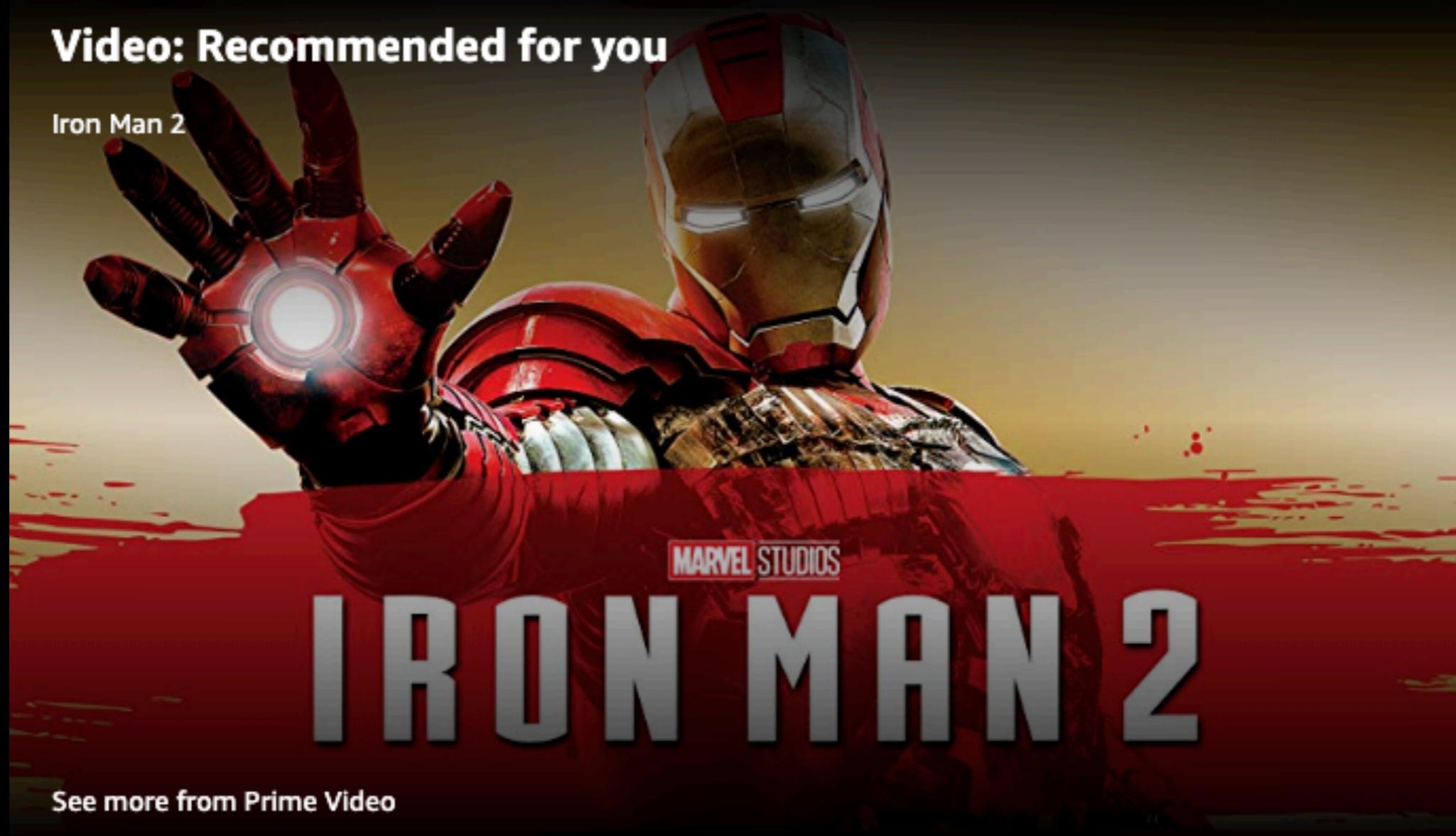
Data Driven

- This is a data driven world
- Everything you touched can be digitalized
- If we don't consider privacy (in fact, we should :)), data makes our life much easier.



Video: Recommended for you

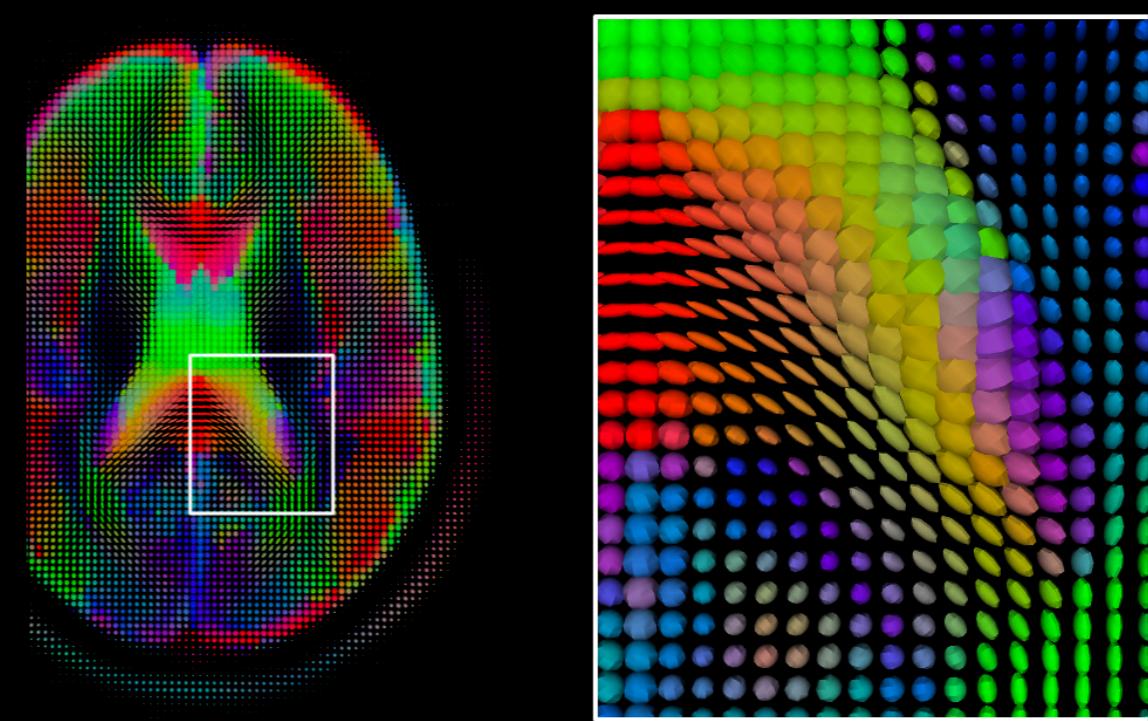
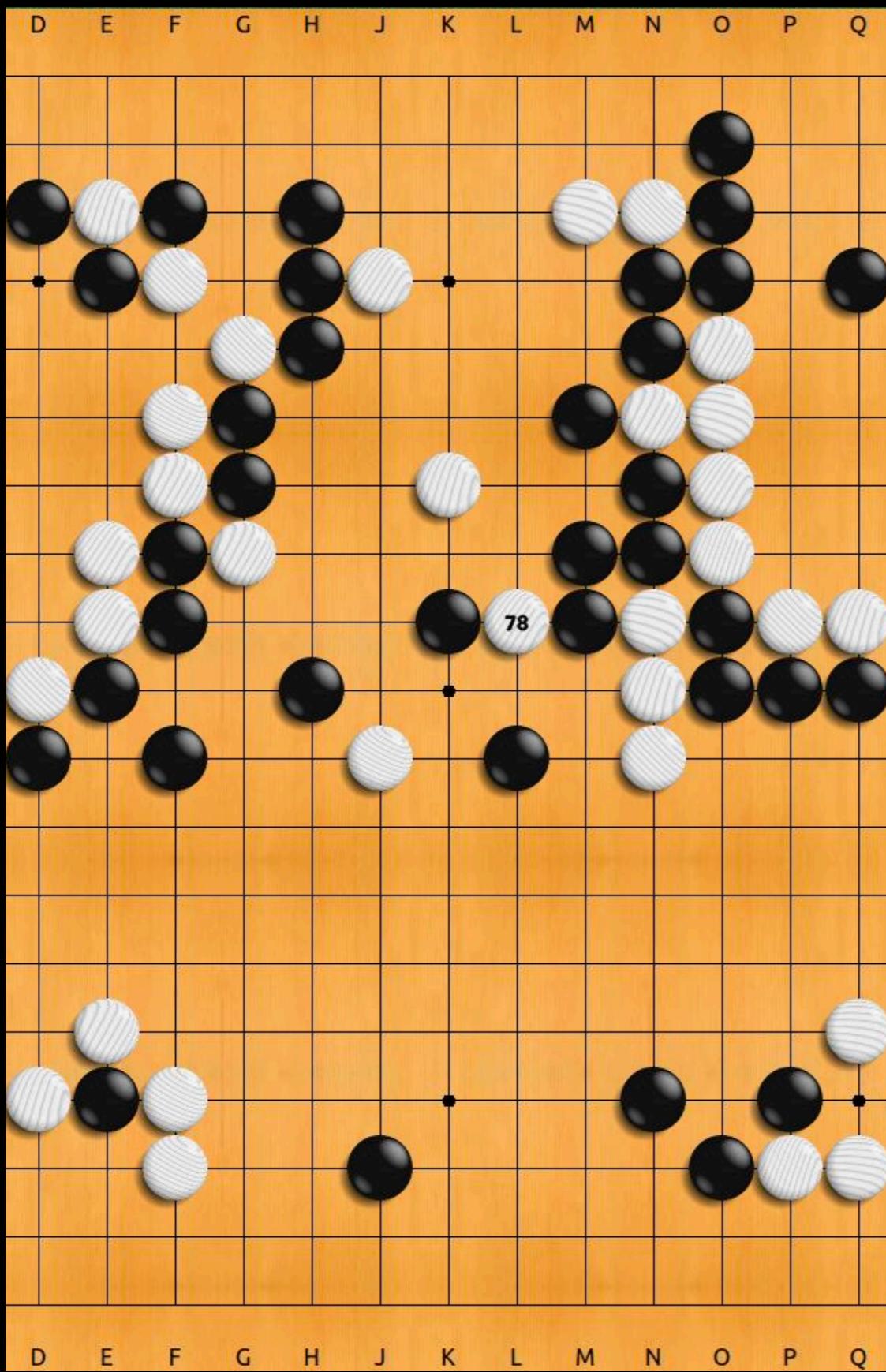
Iron Man 2



[See more from Prime Video](#)

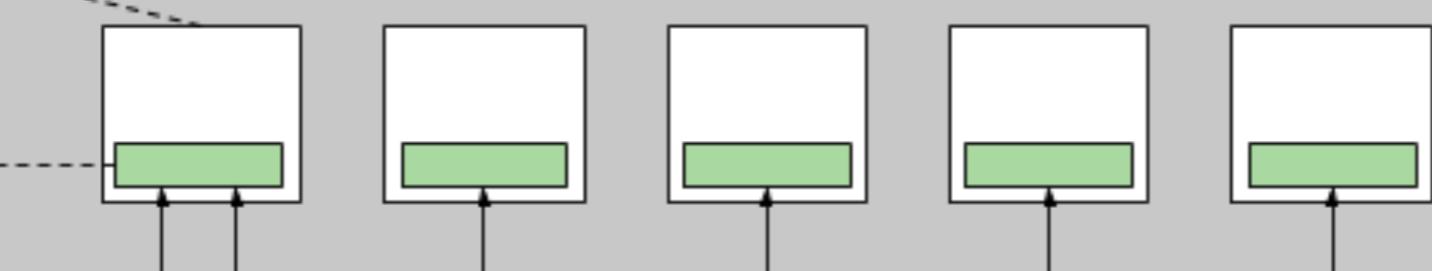
You service provider

May know more about you



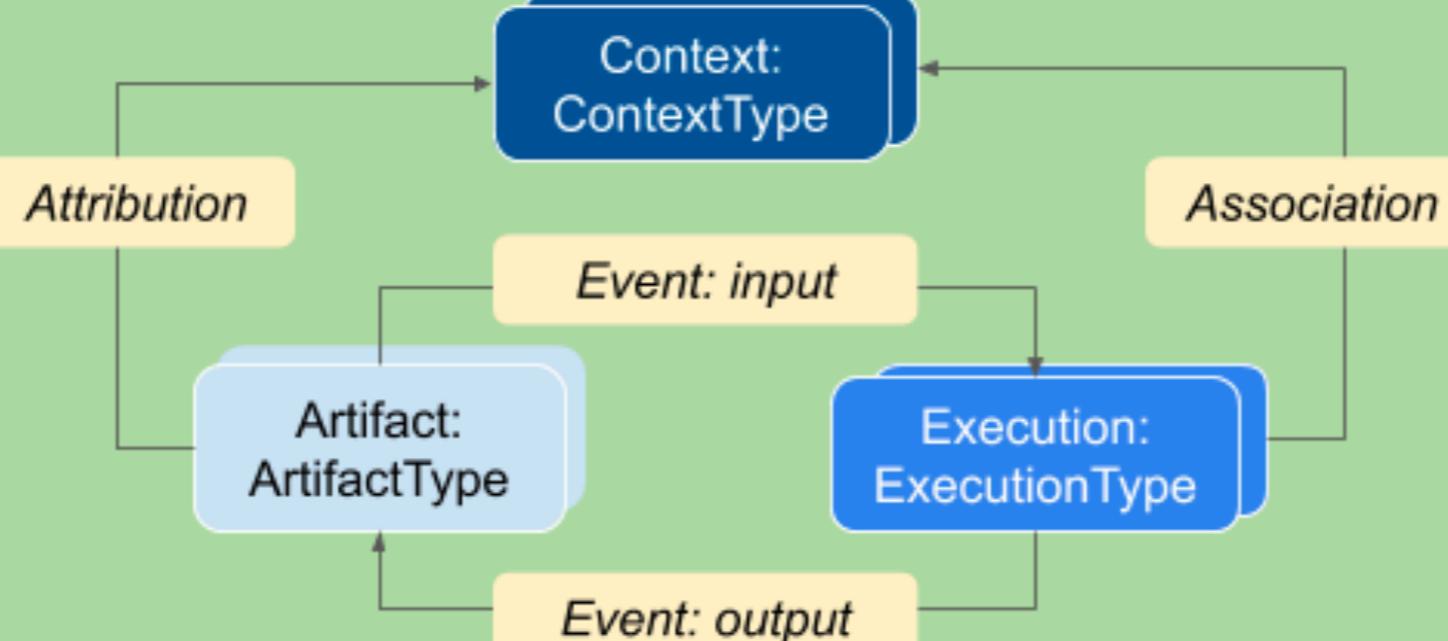
Where is database?

ML Platform / Workflow (e.g. TFX)



Graphic
User Inter

MetadataStore

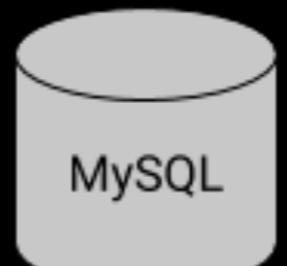


SQLite Source

MySQL Source

...

SQLite
(in memory)





However

Before a master, you should...



First: learn
How to walk

Back to reality

So far, we have learned

- How to create a table
- How to query
- How to update/change data

You really know
How to query?



MySQL Workbench

My remote VPS database x

MANAGEMENT

- Server Status
- Client Connections
- Users and Privileges
- Status and System Variables
- Data Export
- Data Import/Restore

PERFORMANCE

- Startup / Shutdown
- Server Logs
- Options File

DATABASES

- wordpress
- Tables
 - wp_commentmeta
 - wp_comments
 - wp_links
 - wp_options

Result Grid

| # | ID | post_author | post_date | post_date_gmt | post_content |
|---|------|-------------|---------------------|---------------------|---|
| 1 | 1 | 1 | 2015-04-11 01:07:43 | 2015-04-11 01:07:43 | Welcome to WordPress. This is your first post. Edit |
| 2 | 2 | 1 | 2015-04-11 01:07:43 | 2015-04-11 01:07:43 | This is an example page. It's different from a blog |
| * | NULL | NULL | NULL | NULL | NULL |



I AM
YOUR
BOSS



Back to reality
AGAIN

“Usually, we use apps to present and interact with data.”

-Kelvin Gao

Home

Donald J. Trump @realDonaldTrump · 2h
I have just instructed the Secretary of the Treasury to substantially increase Sanctions on the country of Iran!
6.2K 10.8K 42.4K

t LeagueCityTX Retweeted
Clear Creek ISD @ClearCreekISD · 6h
! CCISD CLOSED ON WEDNESDAY, SEPTEMBER 18 !
Due to ongoing forecasts for inclement weather and flooding, Clear Creek ISD has decided to cancel school for Wednesday, September 18. All activities are cancelled as well.

ABC13 Houston and 9 others

Pluralsight @pluralsight
By the time you've finished your next cup of coffee, you'll forget half of what you just learned.

Search Twitter

20.8K tweets

Trending in Canada
#AFirstDateBecomesTheLastWhen
2,768 Tweets

Trending in Canada
Sirfetch'd
42.7K Tweets

Gaming
Sirfetch'd and its giant leek are joining the Pokémon Sword ...

Show more

Who to follow

eToro US @eToroUS Follow
Promoted

Elon Musk @elonmusk Follow

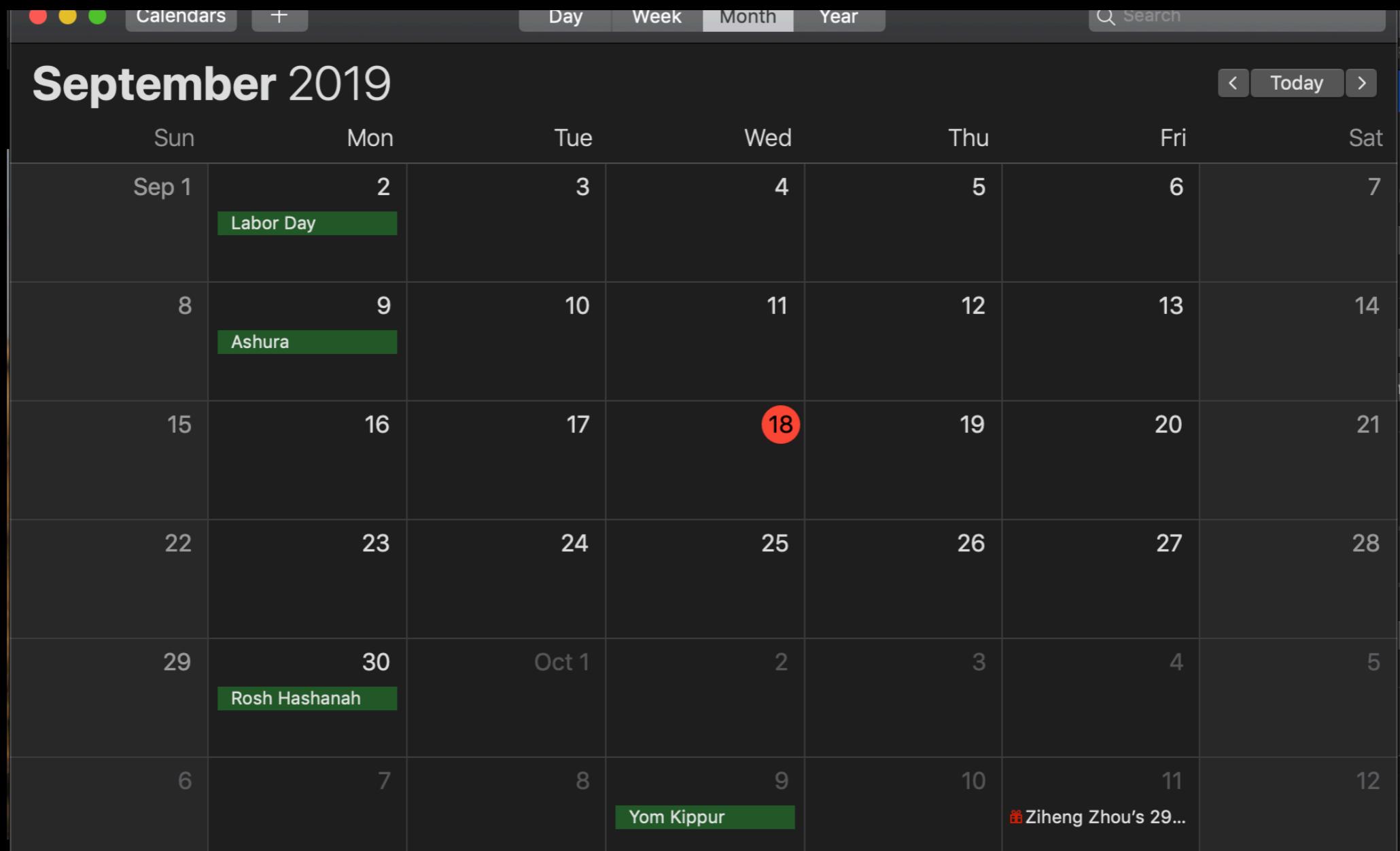
Taylor Swift @taylorswift13 Follow

Show more

Terms Privacy policy Cookies Ads info
More © 2019 Twitter, Inc.

Web Apps

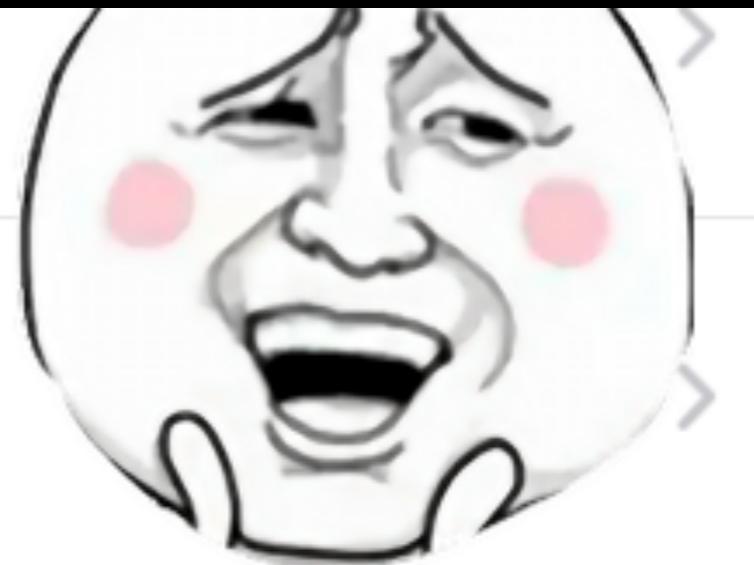
E.g. Twitter



Desktop Apps

E.g. Calendar

Adv Plus Banking - 6188



Advantage Savings - 6191

Open a New Account

+

You're preselected for a credit card offer



\$200 bonus offer

Mobile Apps

E.g., Bank of America

```
Enter command: help
Help
  help          :show this help menu
List
  list shows    :list all show titles
  list viewers   :list names of all viewers
  list countries :list names of all countries between shows/viewers
Data
  show          :go to menu for show data
  viewer         :go to menu for viewer data
Quit
  quit          :quit the program
  exit           :alias for quit

Type 'help' to see the list of available commands. Type 'quit' to exit.
Enter command: q

invalid command, type 'help' to see a list of available commands

Type 'help' to see the list of available commands. Type 'quit' to exit.
Enter command: list shows
1.  La Chica de Ayer
2.  BlackJack
3.  City Homicide
4.  My Giant Life
5.  Regular Show
6.  Wizards of Waverly Place
7.  Final Score
8.  Kimora: House of Fab
9.  Black Ink Crew: Chicago
10. Catastrophe

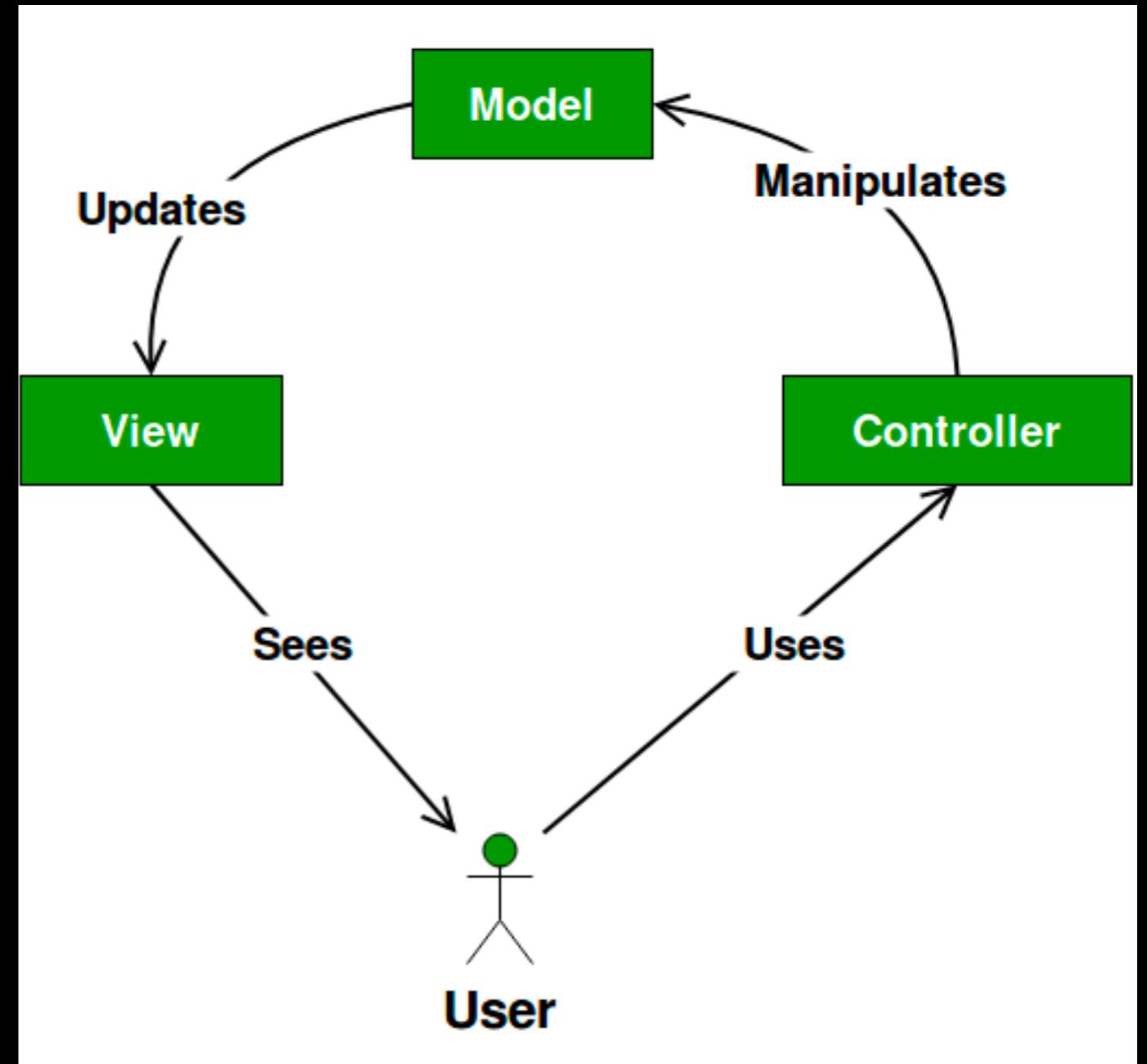
Type 'help' to see the list of available commands. Type 'quit' to exit.
Enter command: exit
spikeburton@barracuda module-one-final-project-guidelines-atlanta-web-career-012819 (master) $
```

Command Line Apps

Model View Controller

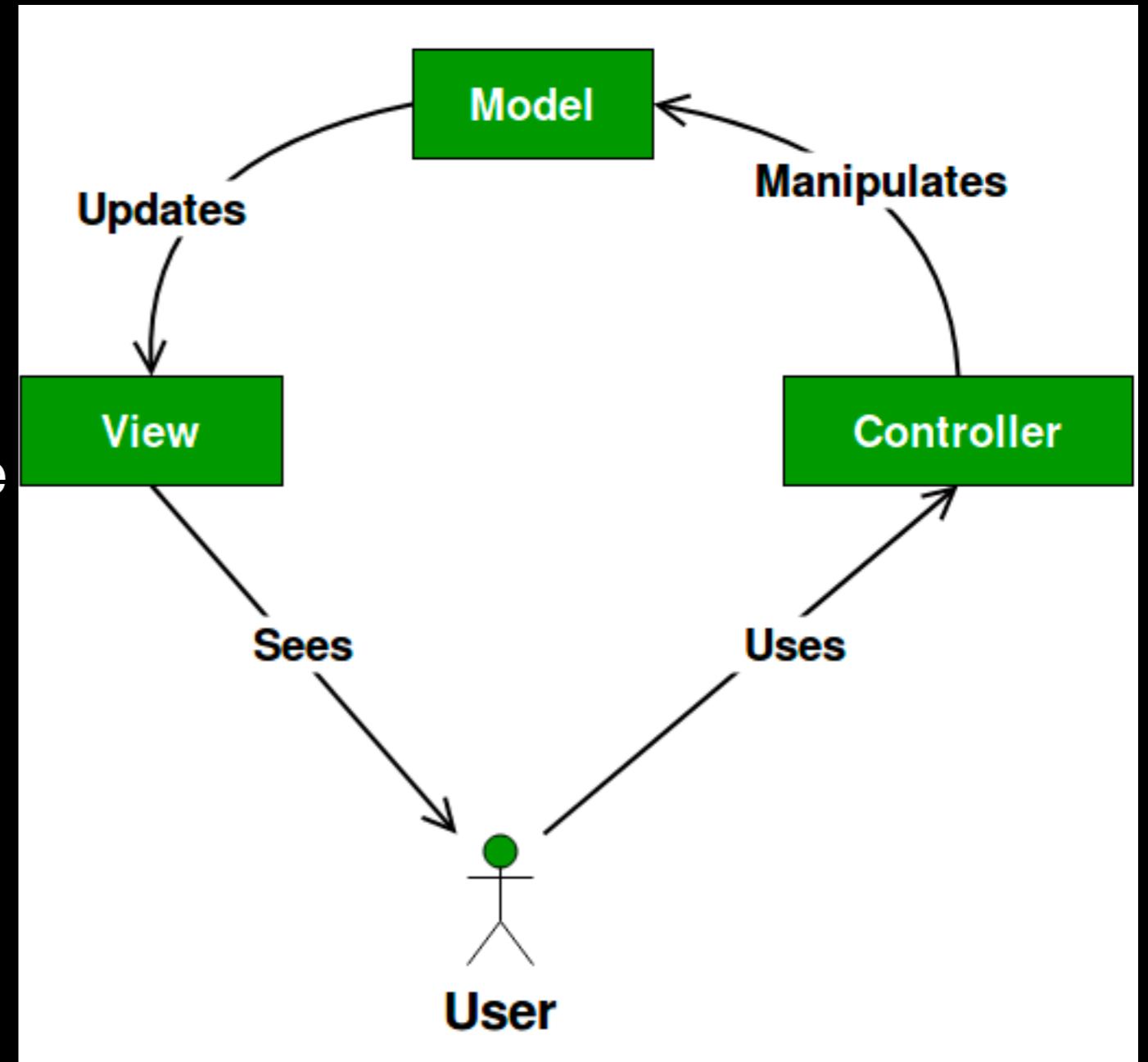
MVC

- The **Model** contains only the pure application data, it contains no logic describing how to present the data to a user.



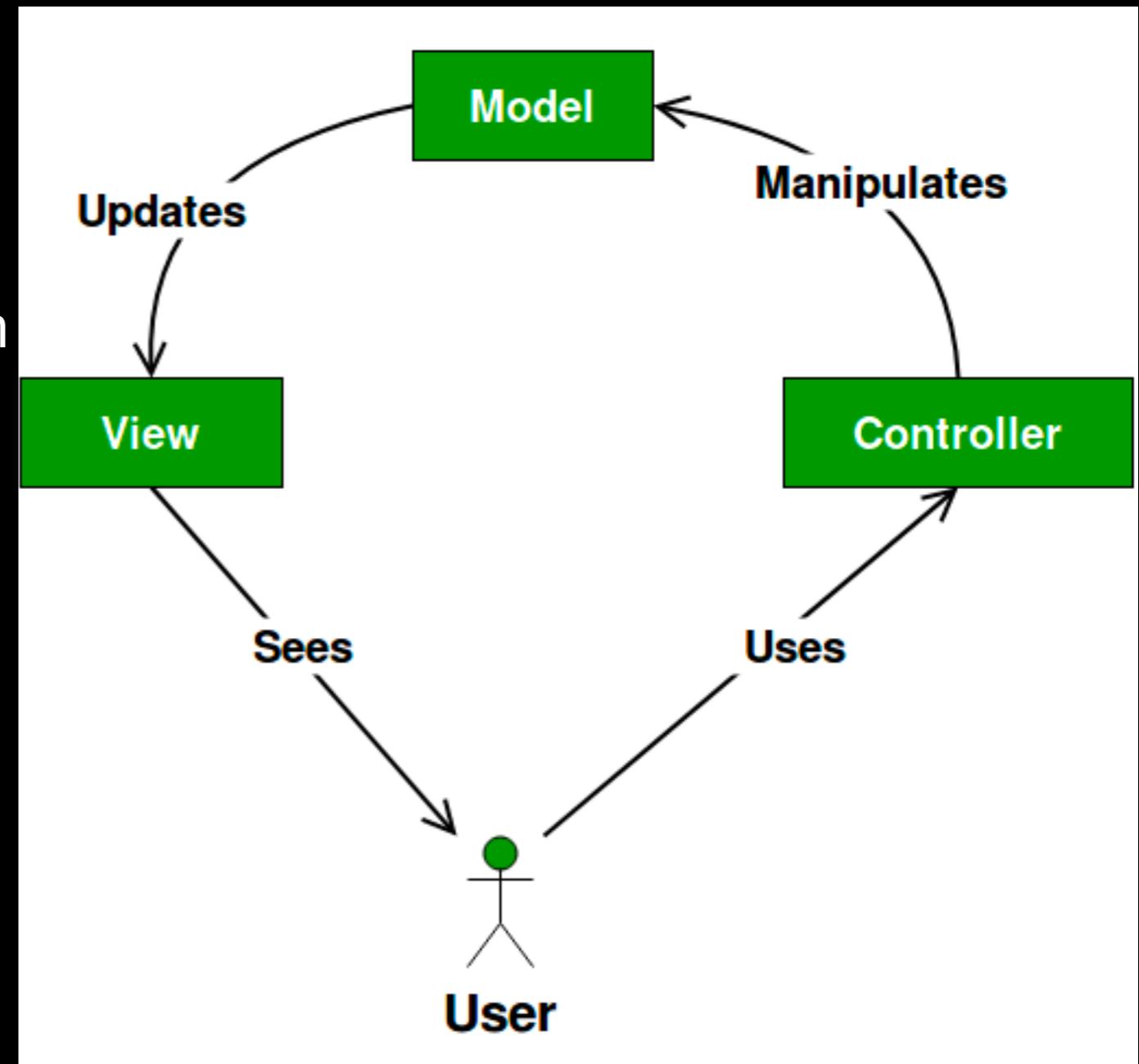
MVC

- The **View** presents the model's data to the user. The view knows how to access the model's data, but it does not know what this data means or what the user can do to manipulate it.



MVC

- The **Controller** exists between the view and the model. It listens to events triggered by the view (or another external source) and executes the appropriate reaction to these events.



Example

Model

```
class Instructor {  
private:  
    int id;  
    string name;  
    string dept_name;  
    double salary;  
  
public:  
    void setID(int ID);  
    void setName(string name);  
    void setDeptName(string dept_name);  
    void setSalary(double salary);  
    int getID();  
    string getName();  
    string getDeptName();  
    double getSalary();  
};
```

Example

View

```
class InstructorView {  
public:  
    void printInstructorDetails(Instructor model);  
};  
  
void InstructorView::printInstructorDetails(Instructor model) {  
    cout << "ID " << model.getID();  
    cout << "Name" << model.getName();  
    cout << "Department" << model.getDeptName();  
    cout << "Salary" << model.getSalary();  
}
```

Example Controller

```
class InstructorController {  
private:  
    Instructor model;  
    InstructorView view;  
public:  
    InstructorController() {  
        //Init MySQL  
    }  
  
    void selectInstructorWithID(int ID);  
  
};  
  
void InstructorController::selectInstructorWithID(int ID) {  
    string statement = "SELECT * FROM instructor WHERE ID=?";  
    //Mysql Bind Params (ID)  
    //Mysql Execute Statement  
    //Mysql return result set  
    //Set model  
    view.printInstructorDetails(model);  
}
```

Class Project

- Team members: 3-4 members, including at least two programmers.
- Submit your team info by Sep 29 to (zgao1@aum.edu)
- Ask for help if you can't find team members.
- You can choose from Web, Desktop, Mobile, Command Line apps. Any language is welcome.
- Details will be posted on this weekend or next week.

Questions?