

Currents: Coding with Cinder

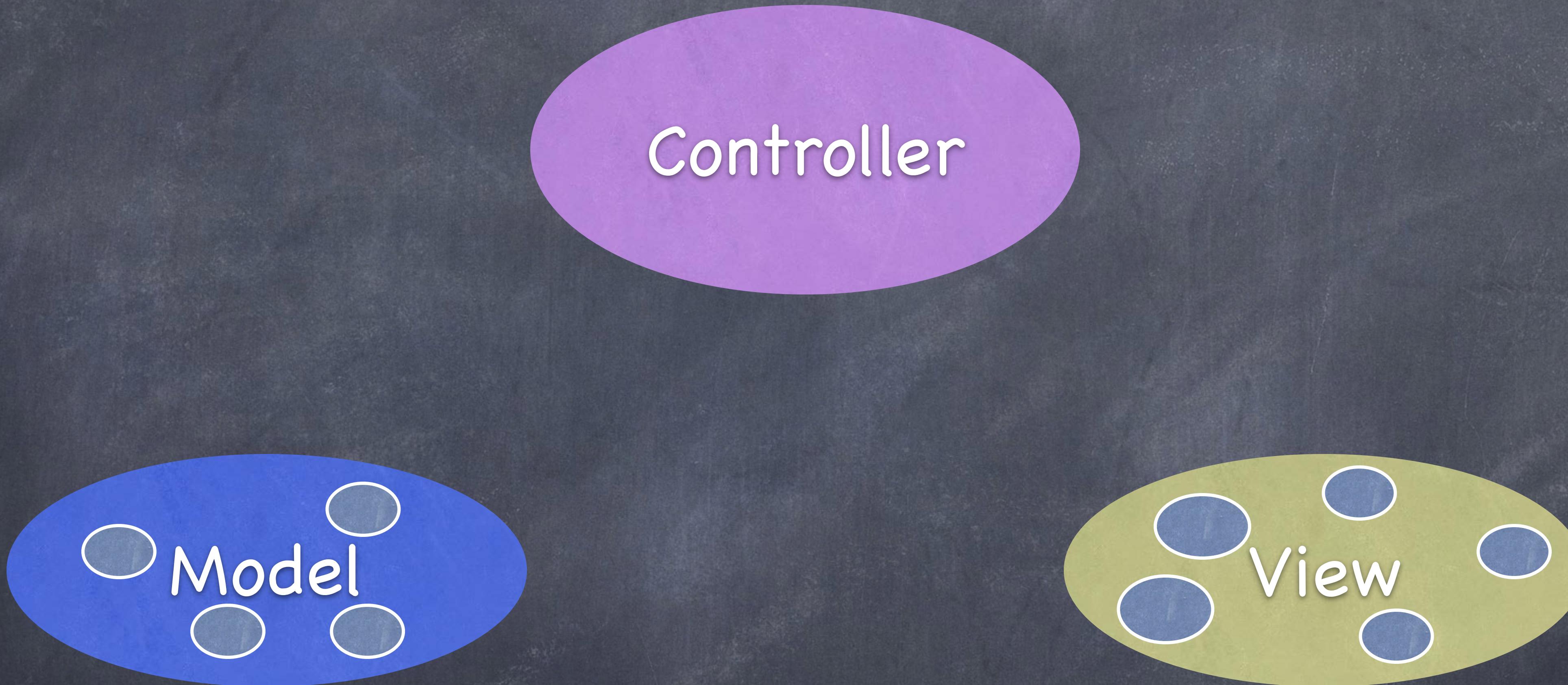
Week 10: MVC Design Pattern / poScene Scene Graph

Instructors

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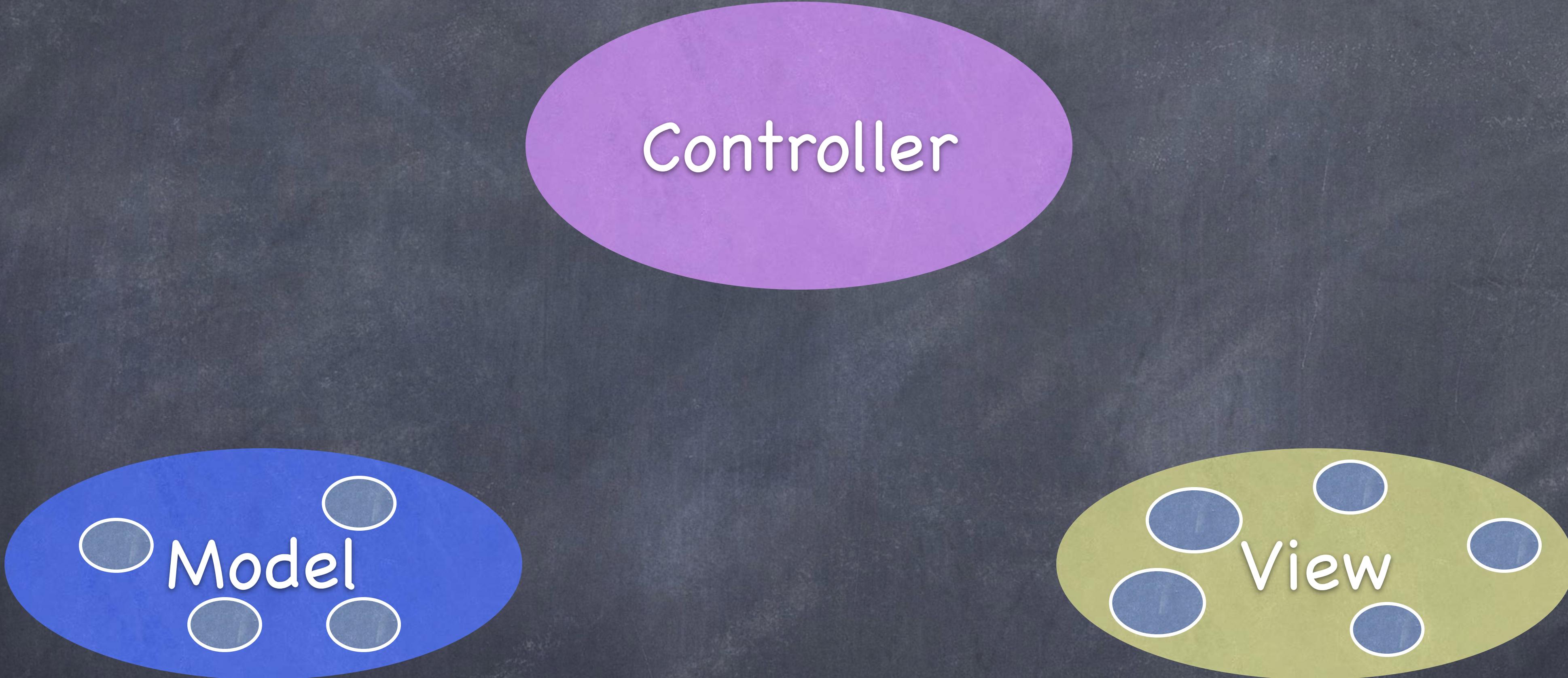
MVC



Divide objects in your program into 3 “camps.”



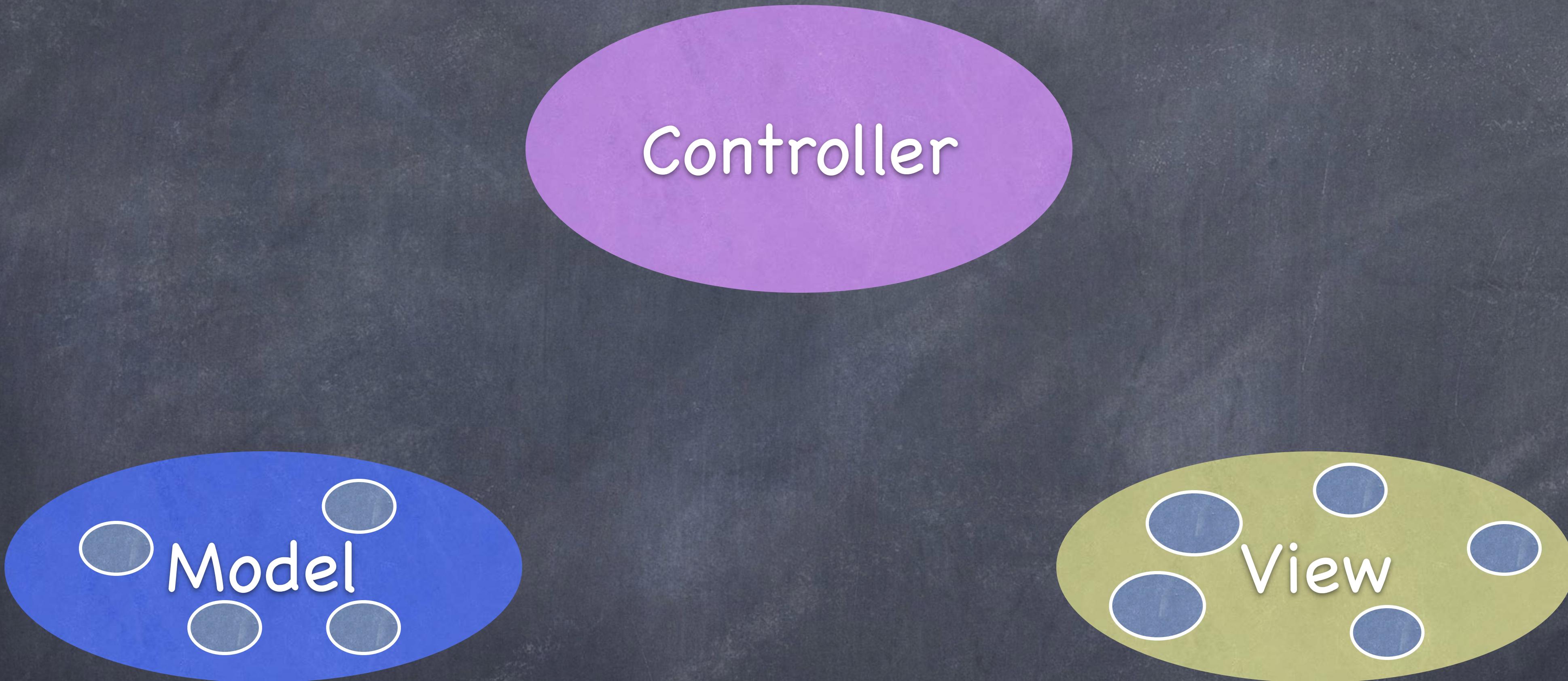
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Model = What your application is (but not how it is displayed)



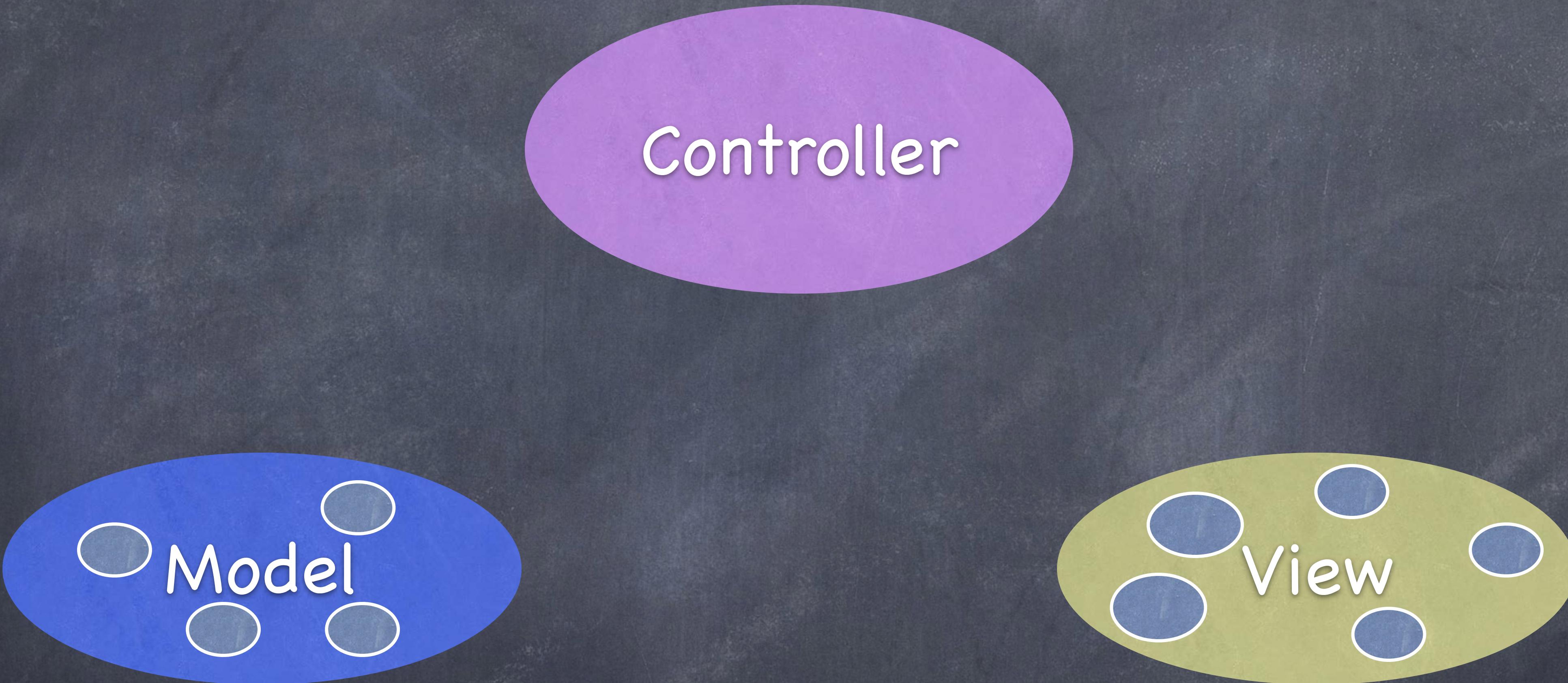
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Controller = How your Model is presented to the user (UI logic)



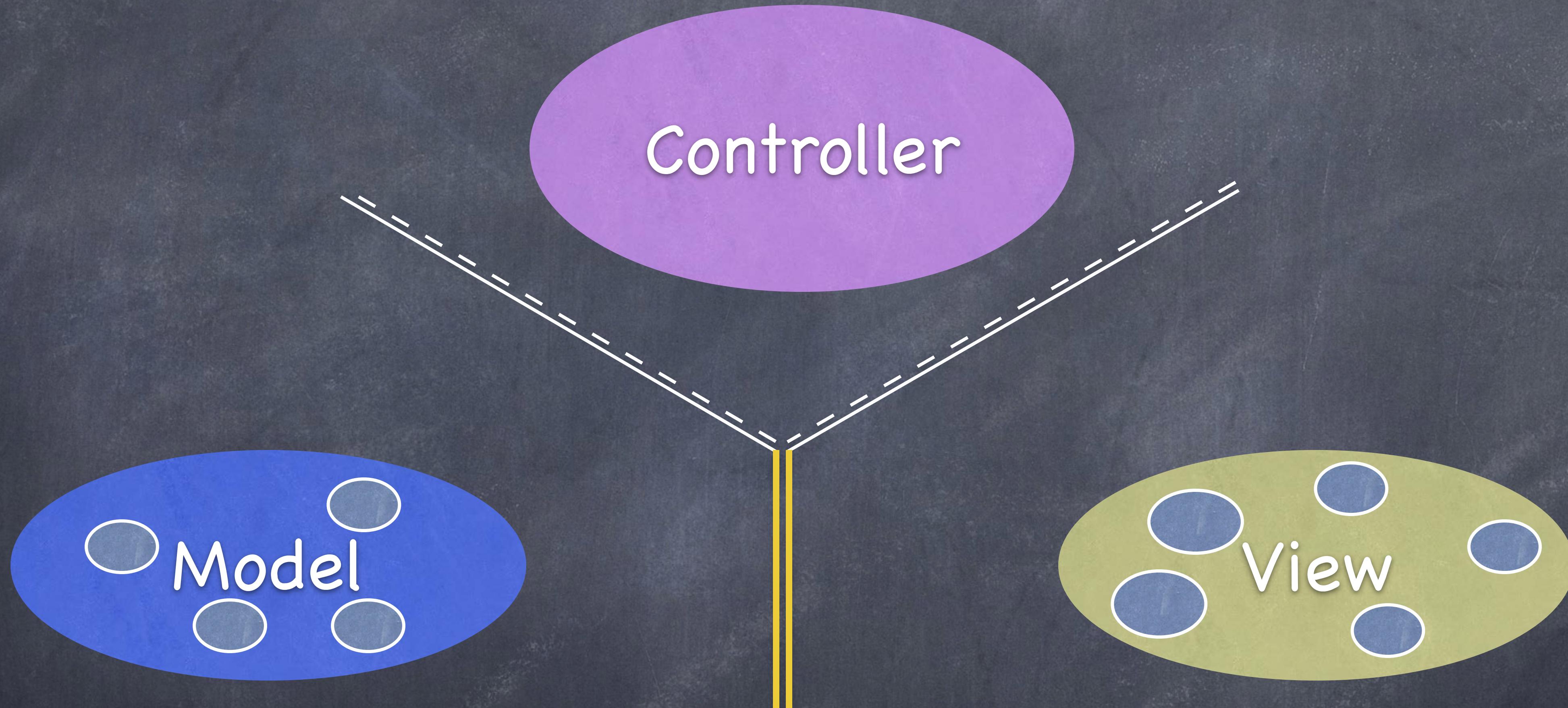
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View = Your **Controller's** minions



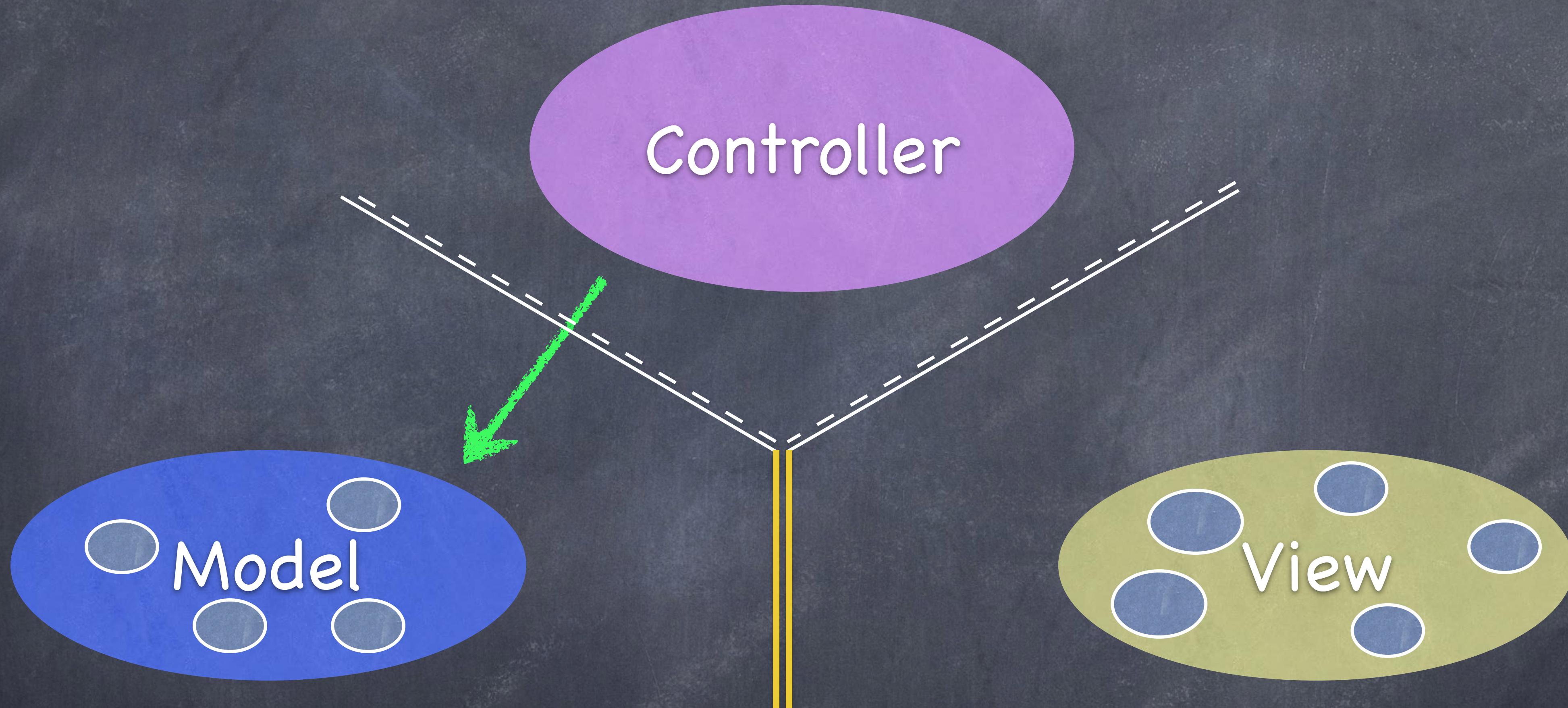
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It's all about managing communication between camps



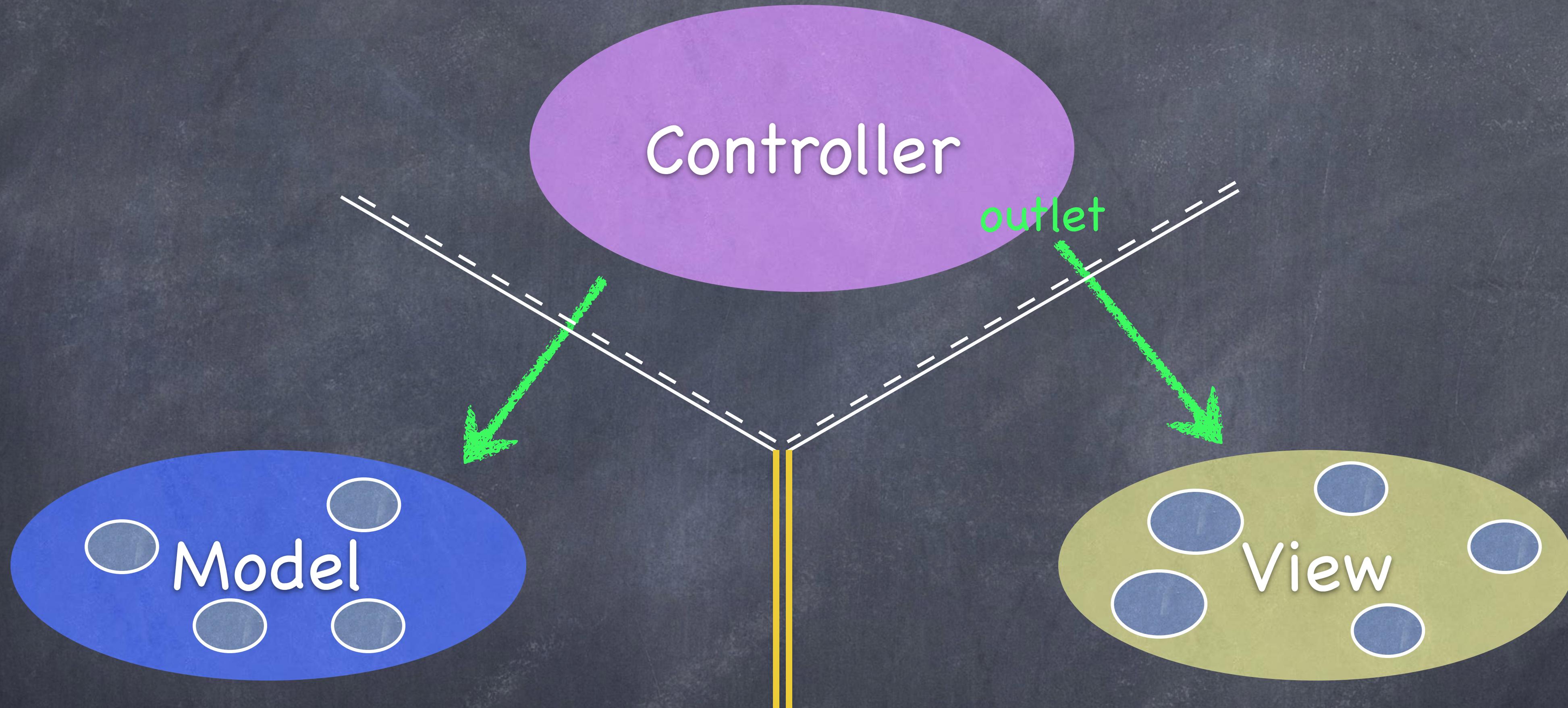
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Controllers can always talk directly to their **Model**.



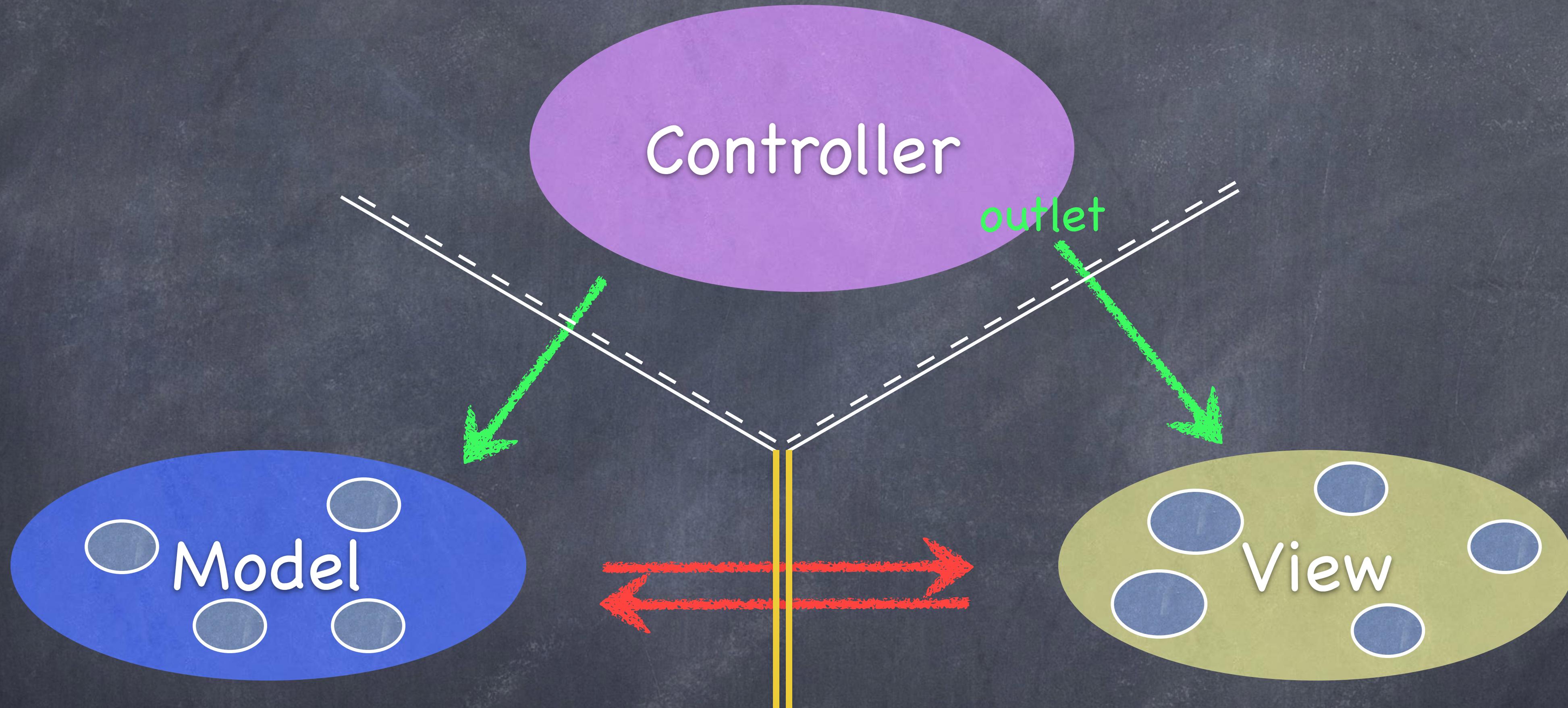
MVC



Controllers can also talk directly to their **View**.



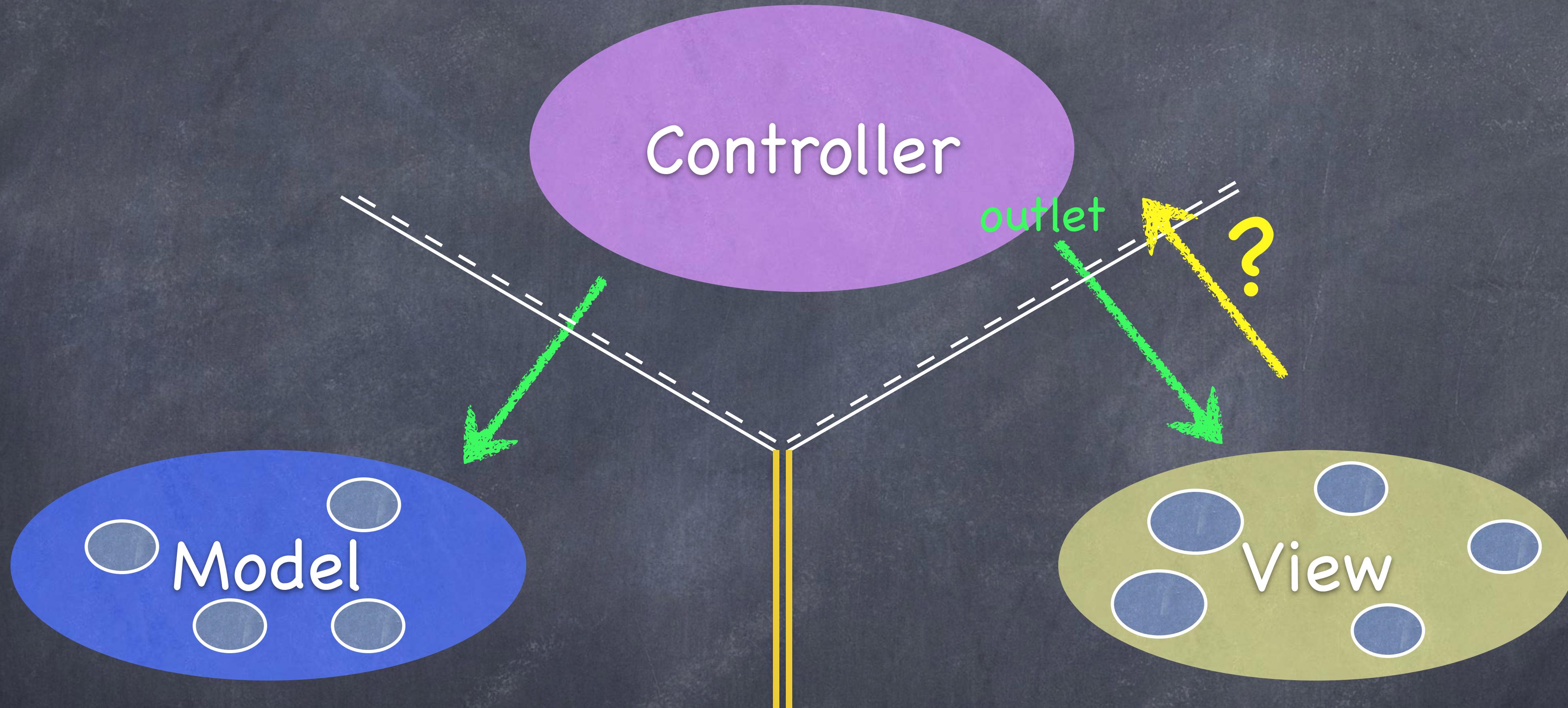
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The Model and View should never speak to each other.



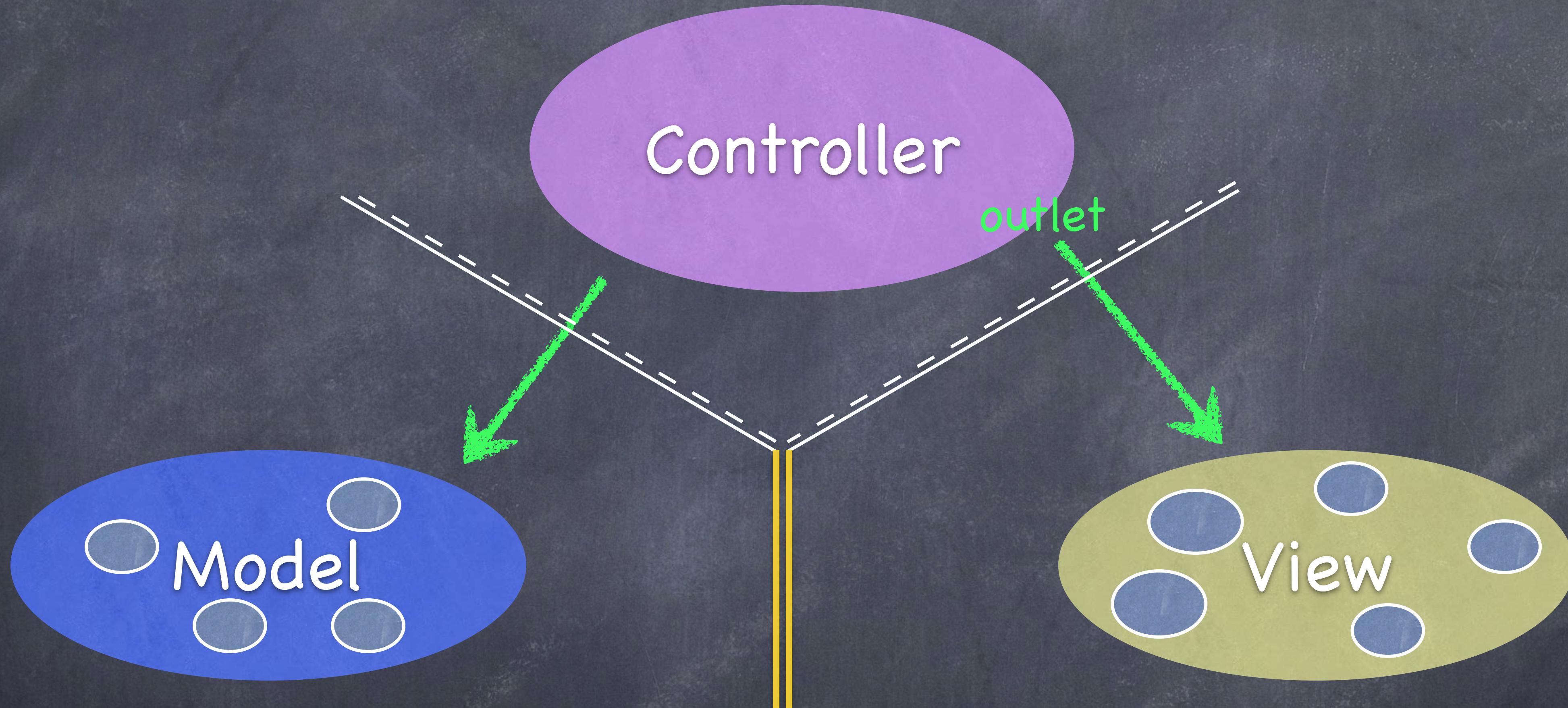
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Can the **View** speak to its **Controller**?



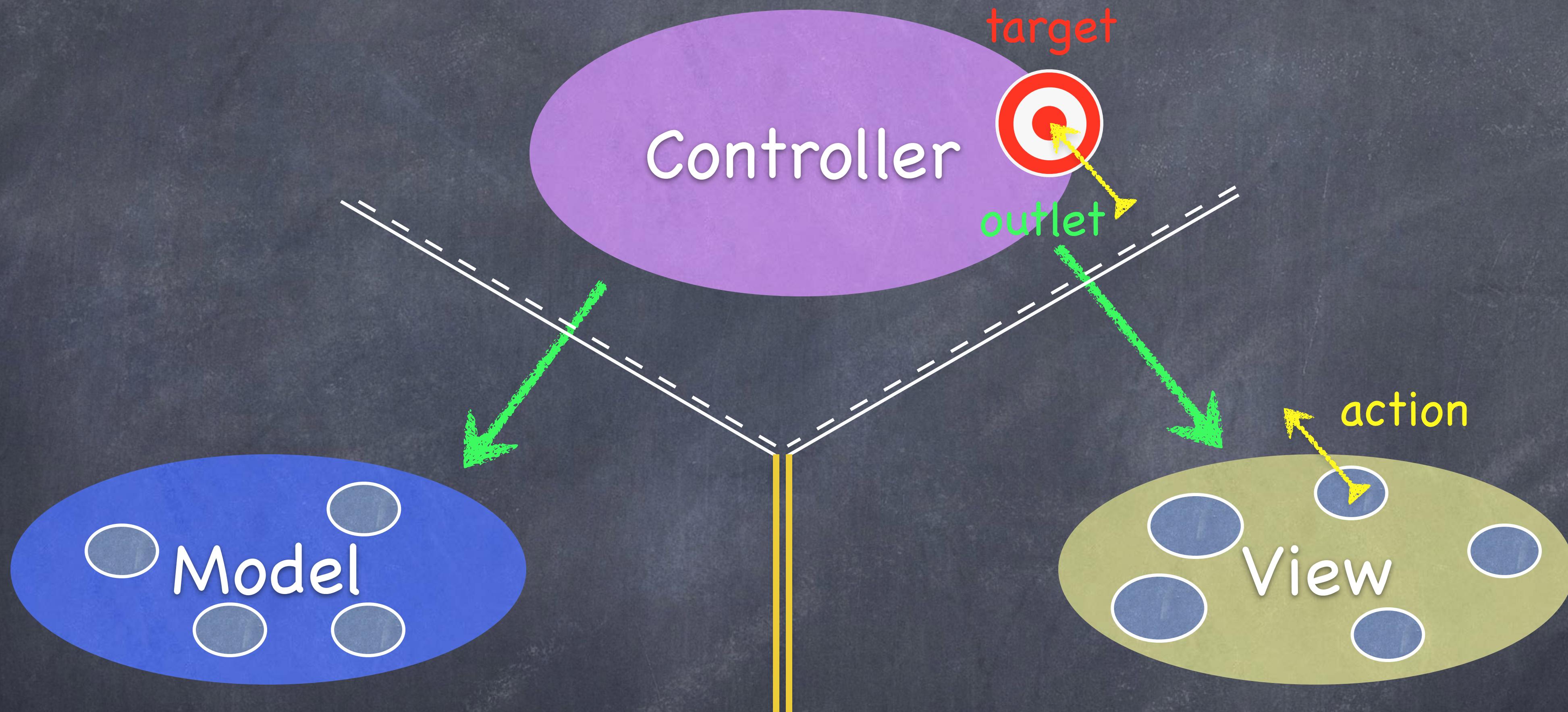
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Sort of. Communication is “blind” and structured.



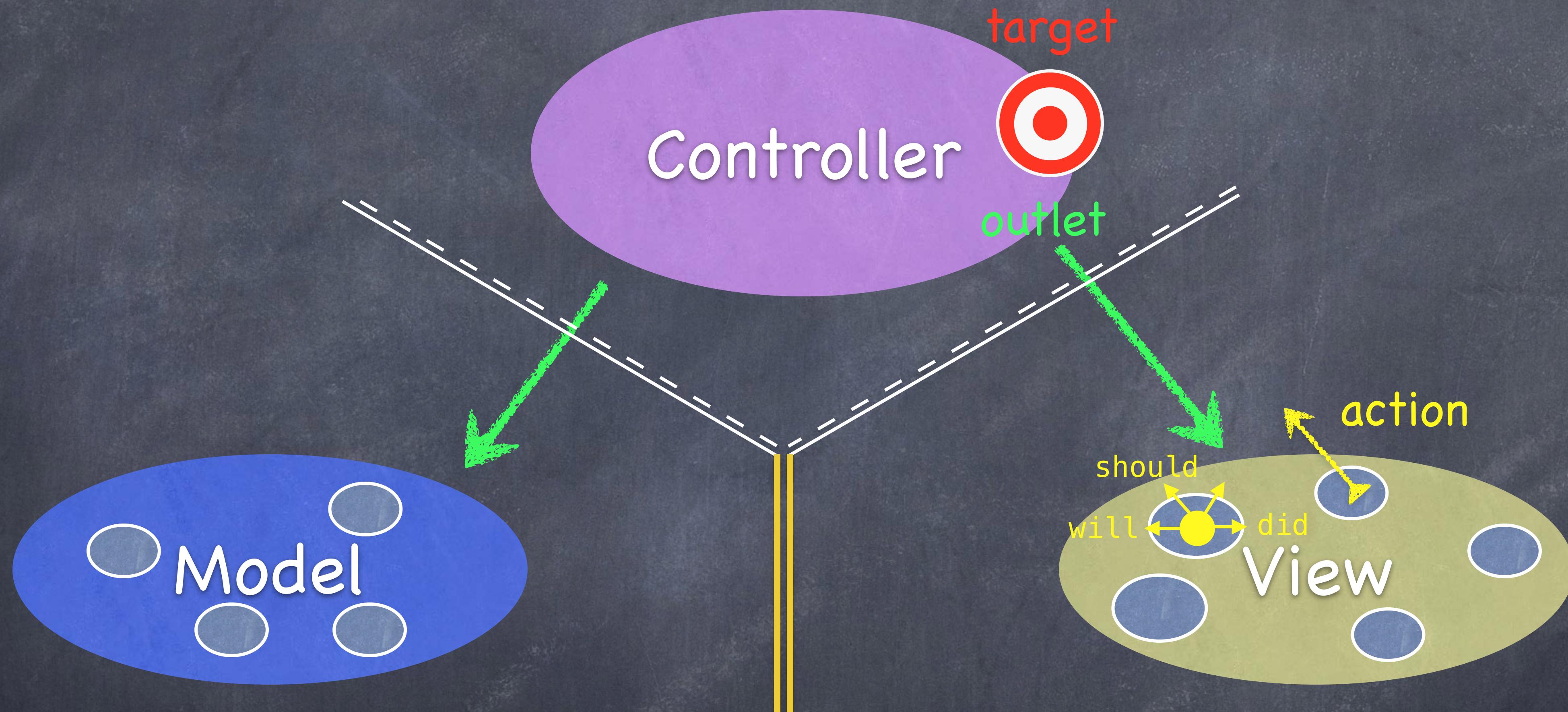
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The View sends the **action** when things happen in the UI.



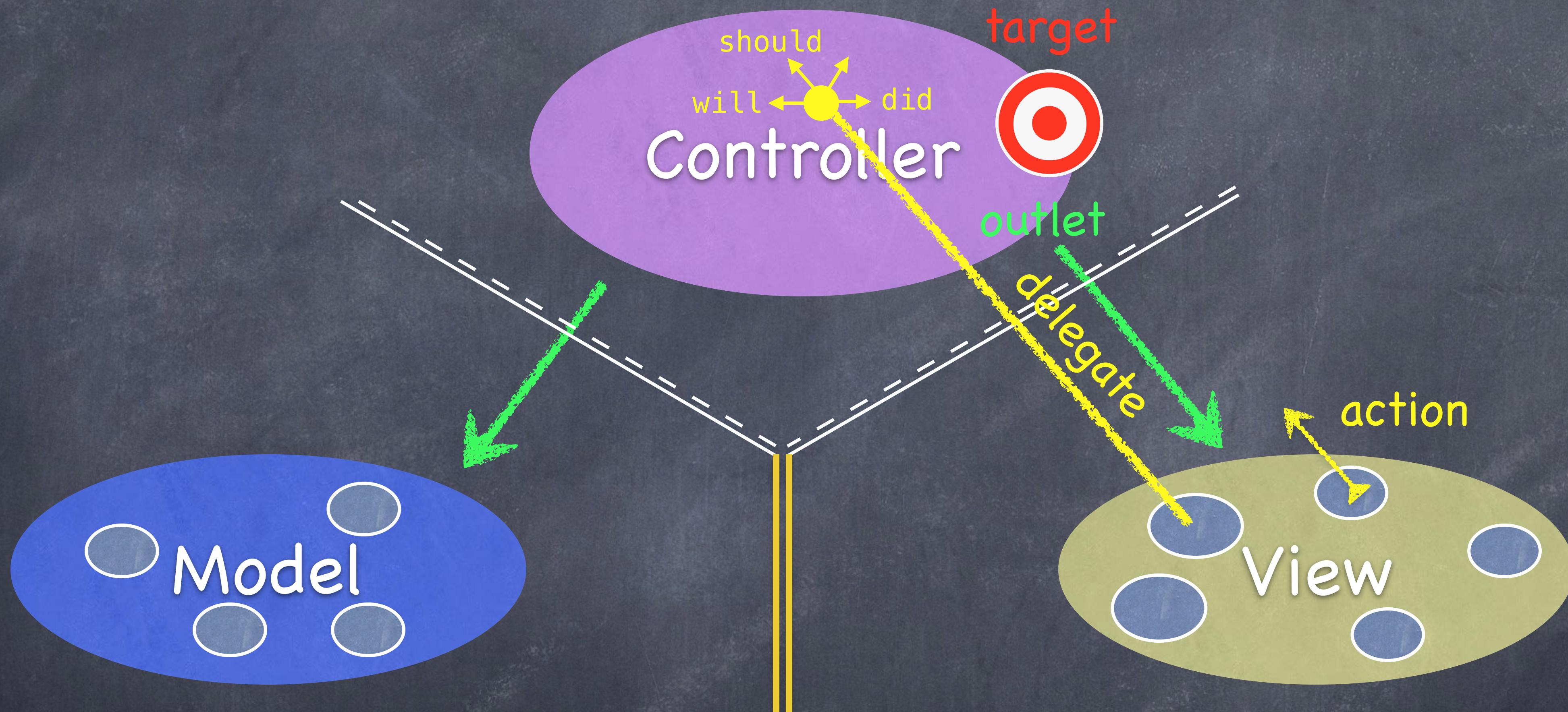
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Sometimes the **View** needs to synchronize with the **Controller**.



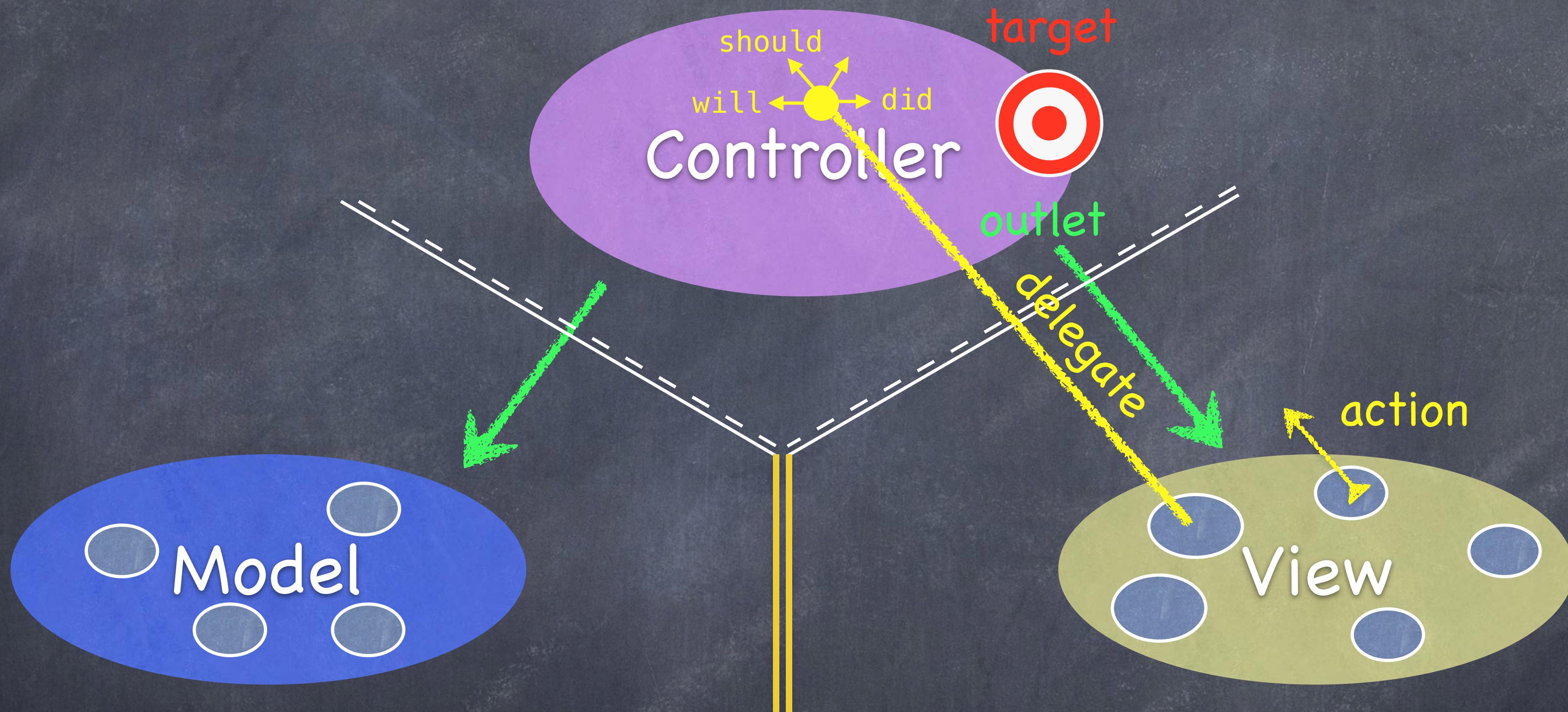
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The Controller sets itself as the View's delegate.



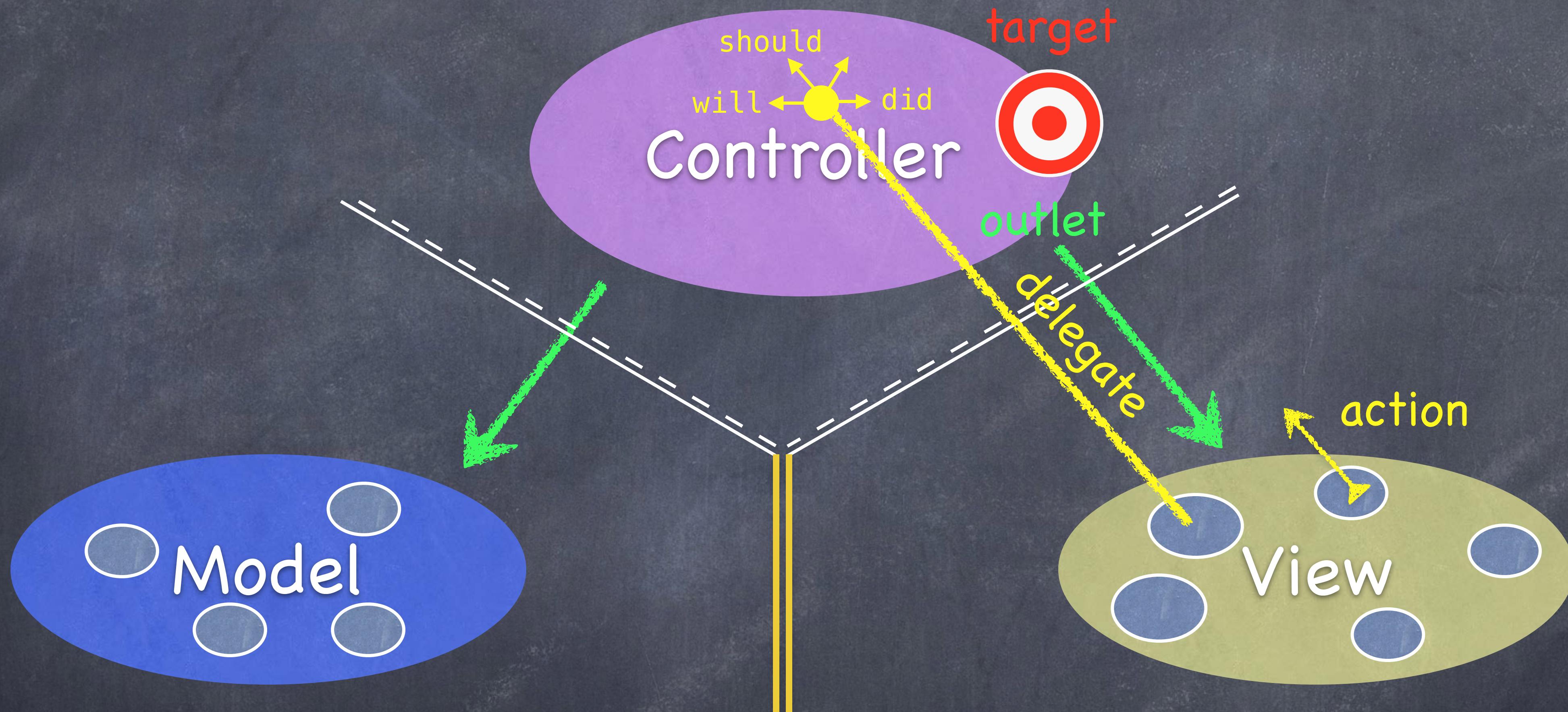
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The **delegate** is set via a protocol (i.e. it's “blind” to class).



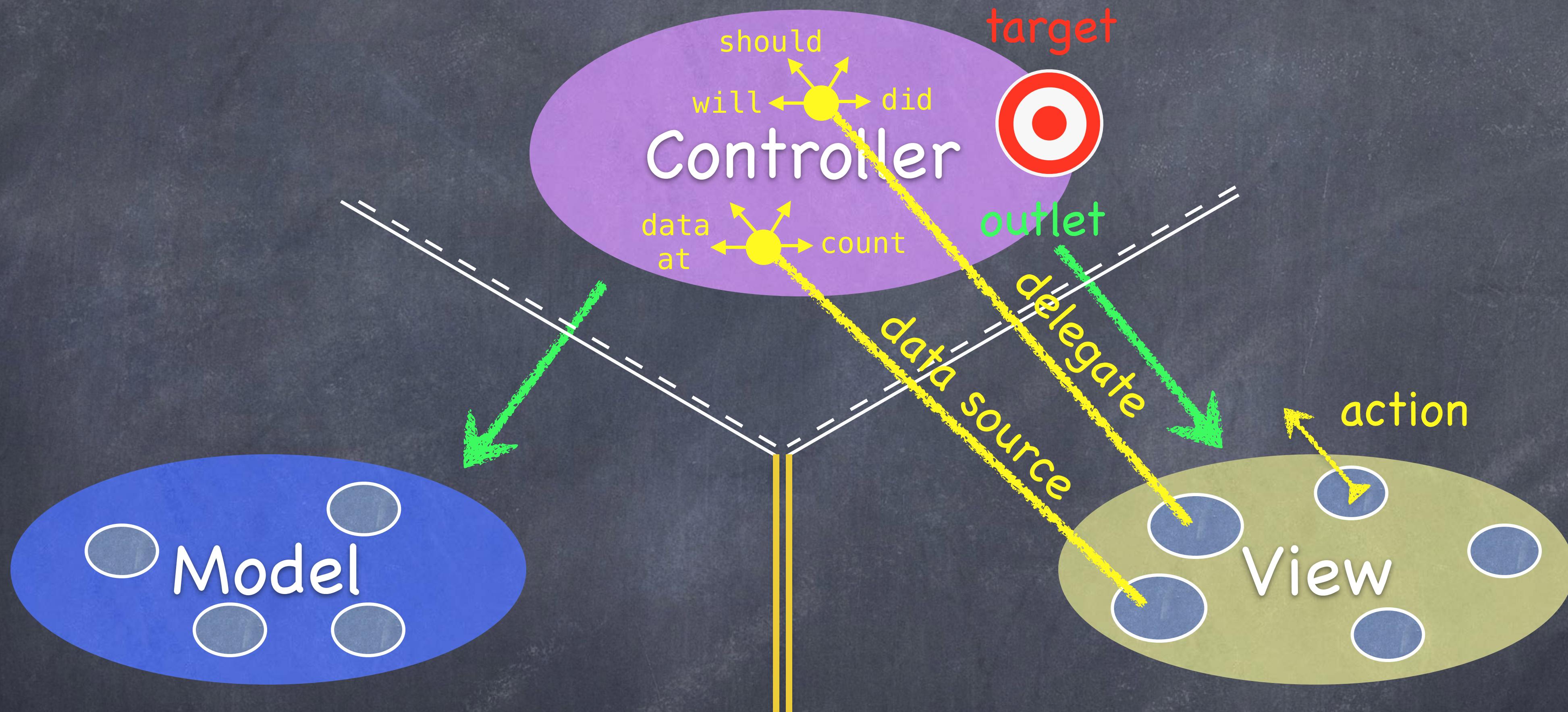
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Views do not own the data they display.



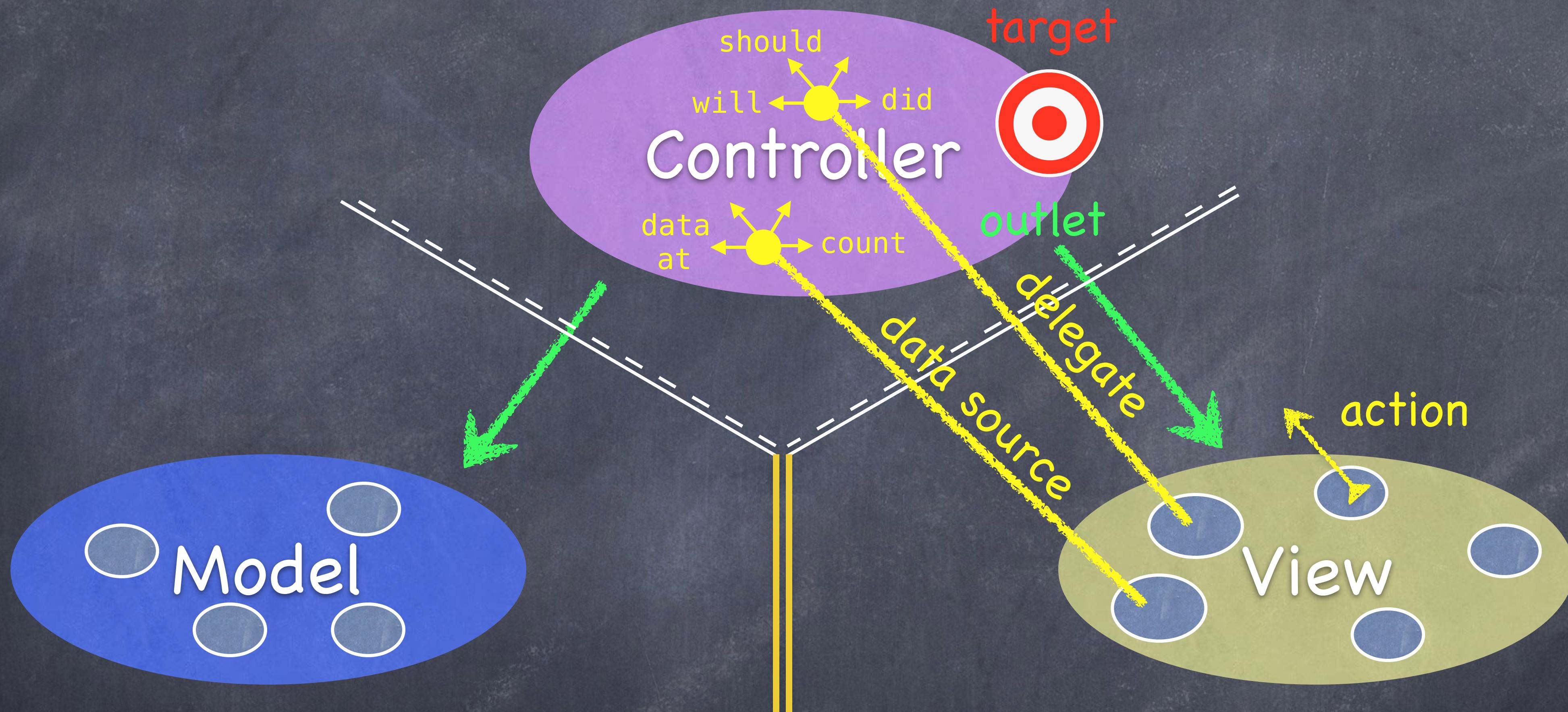
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Controllers are almost always that data source (not Model!).



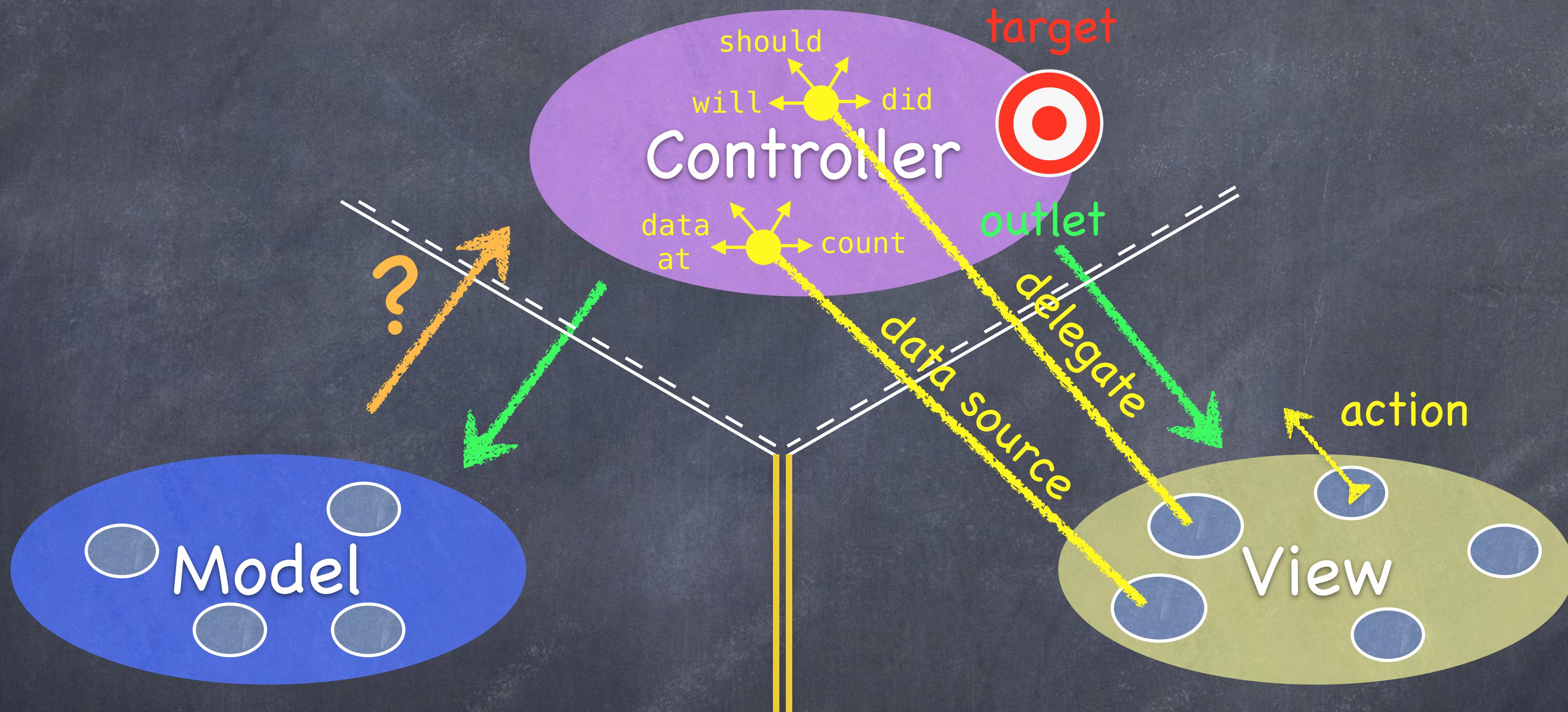
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Controllers interpret/format Model information for the View.



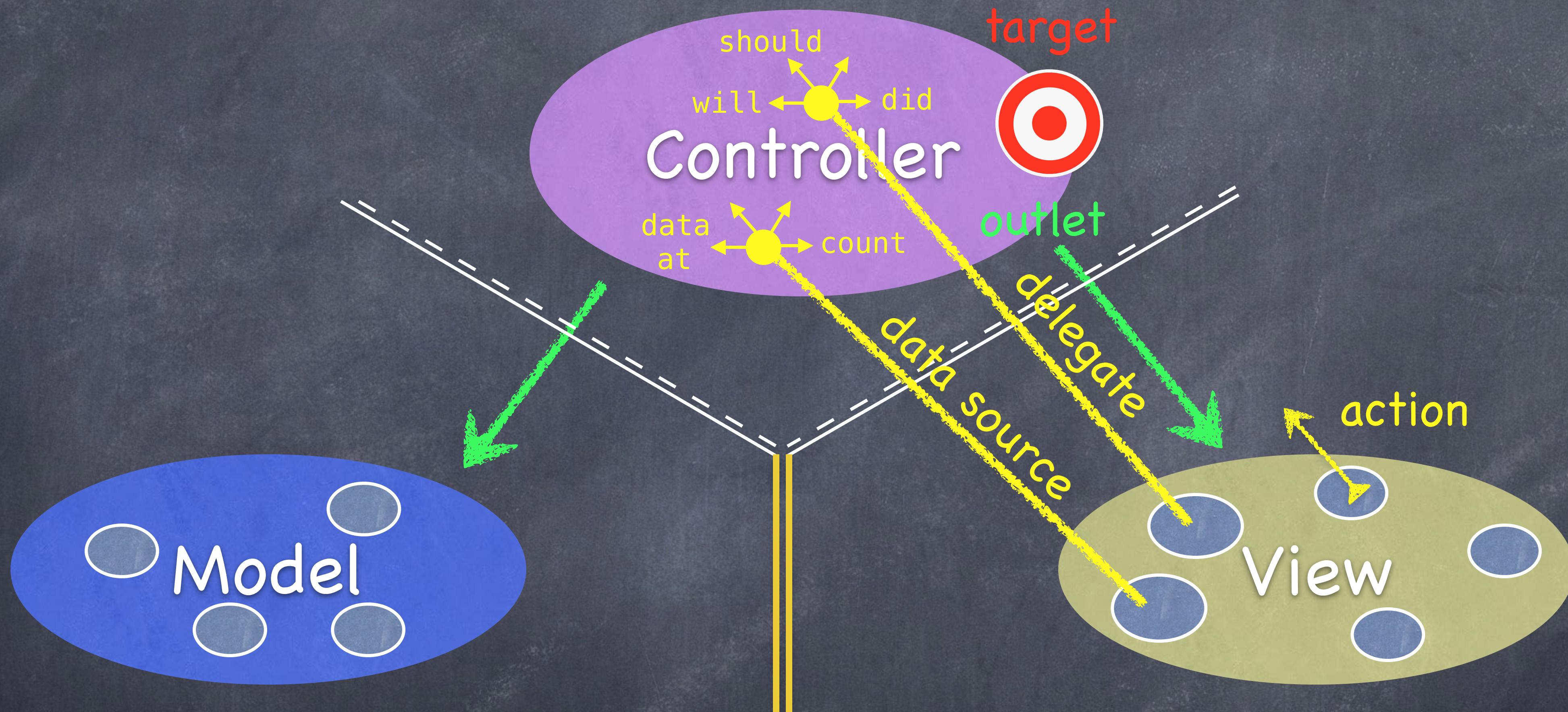
MVC



Can the Model talk directly to the Controller?



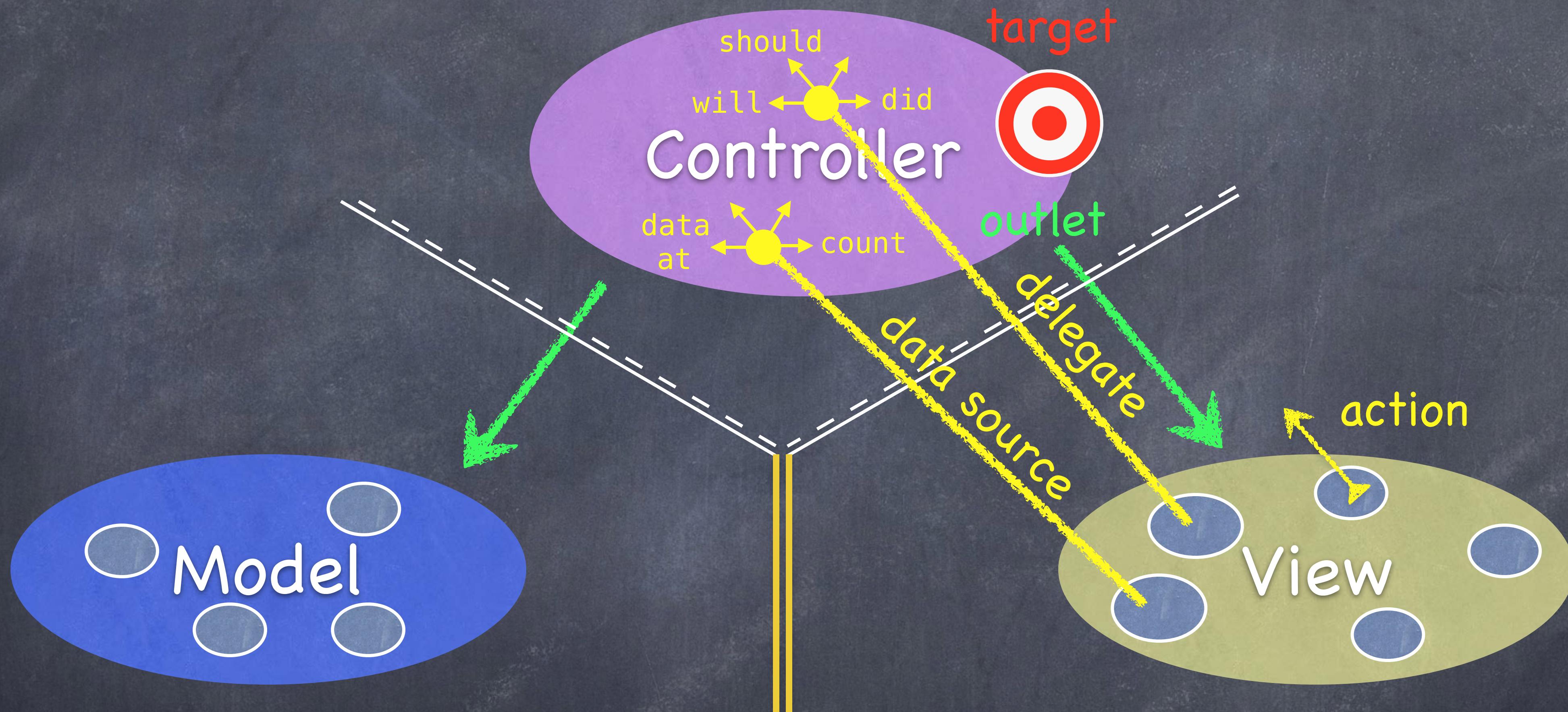
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No. The Model is (should be) UI independent.



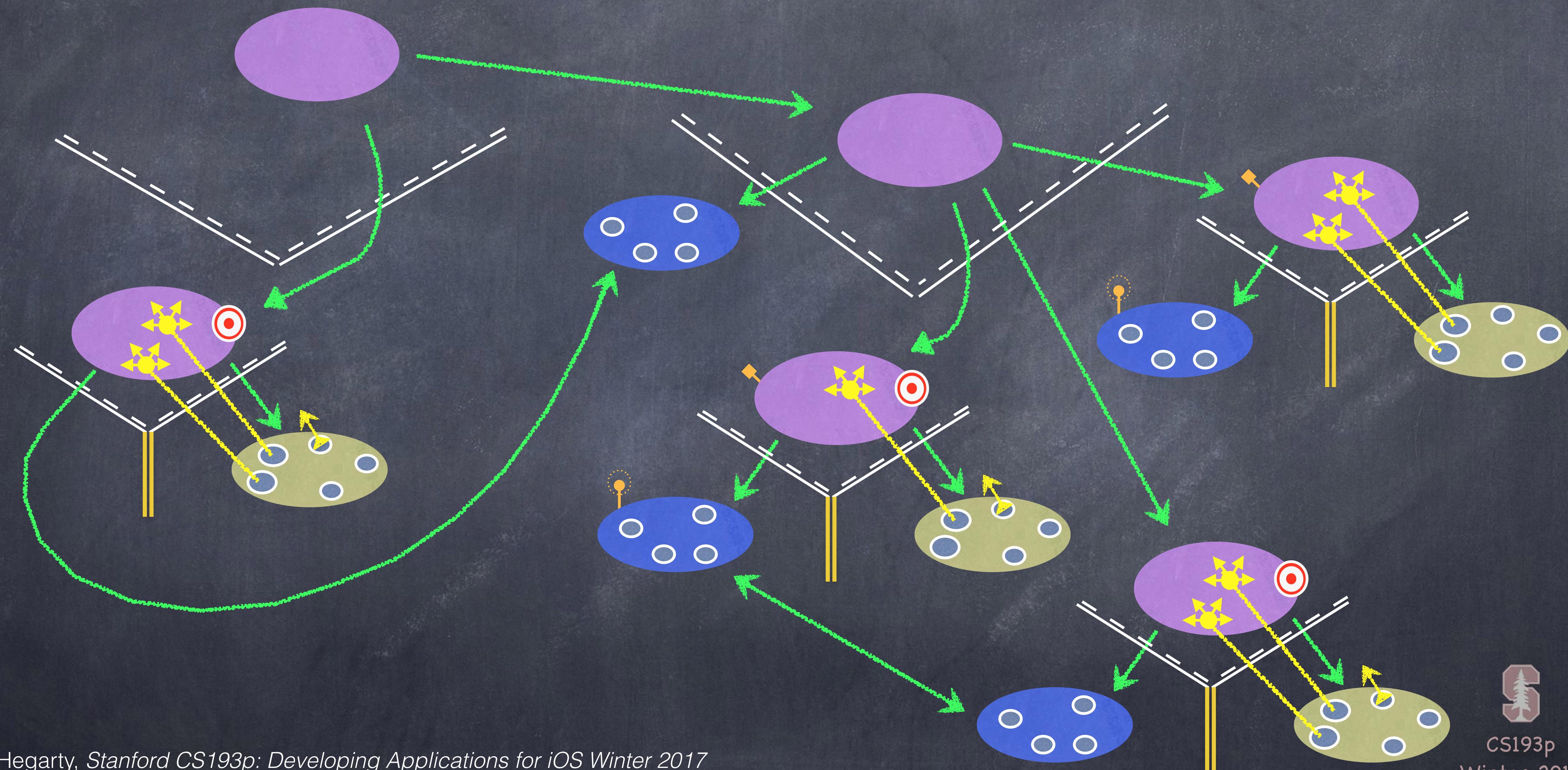
MVC



So what if the Model has information to update or something?



MVCs working together

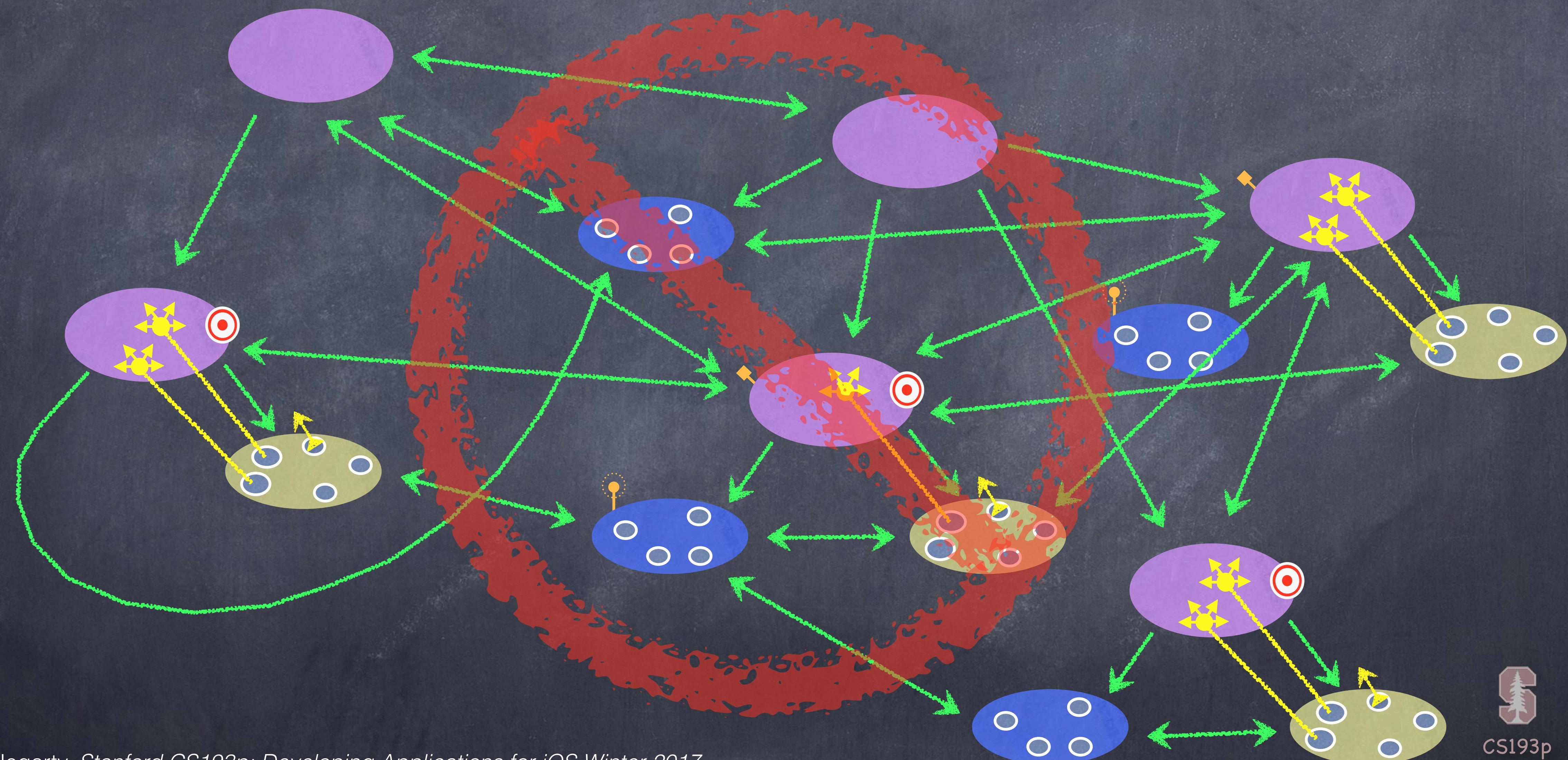


Source: Paul Hegarty, Stanford CS193p: Developing Applications for iOS Winter 2017



CS193p
Winter 2017

MVCs not working together



Source: Paul Hegarty, Stanford CS193p: Developing Applications for iOS Winter 2017



CS193p
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poScene 1.0 (current version) uses Scene Graph structure

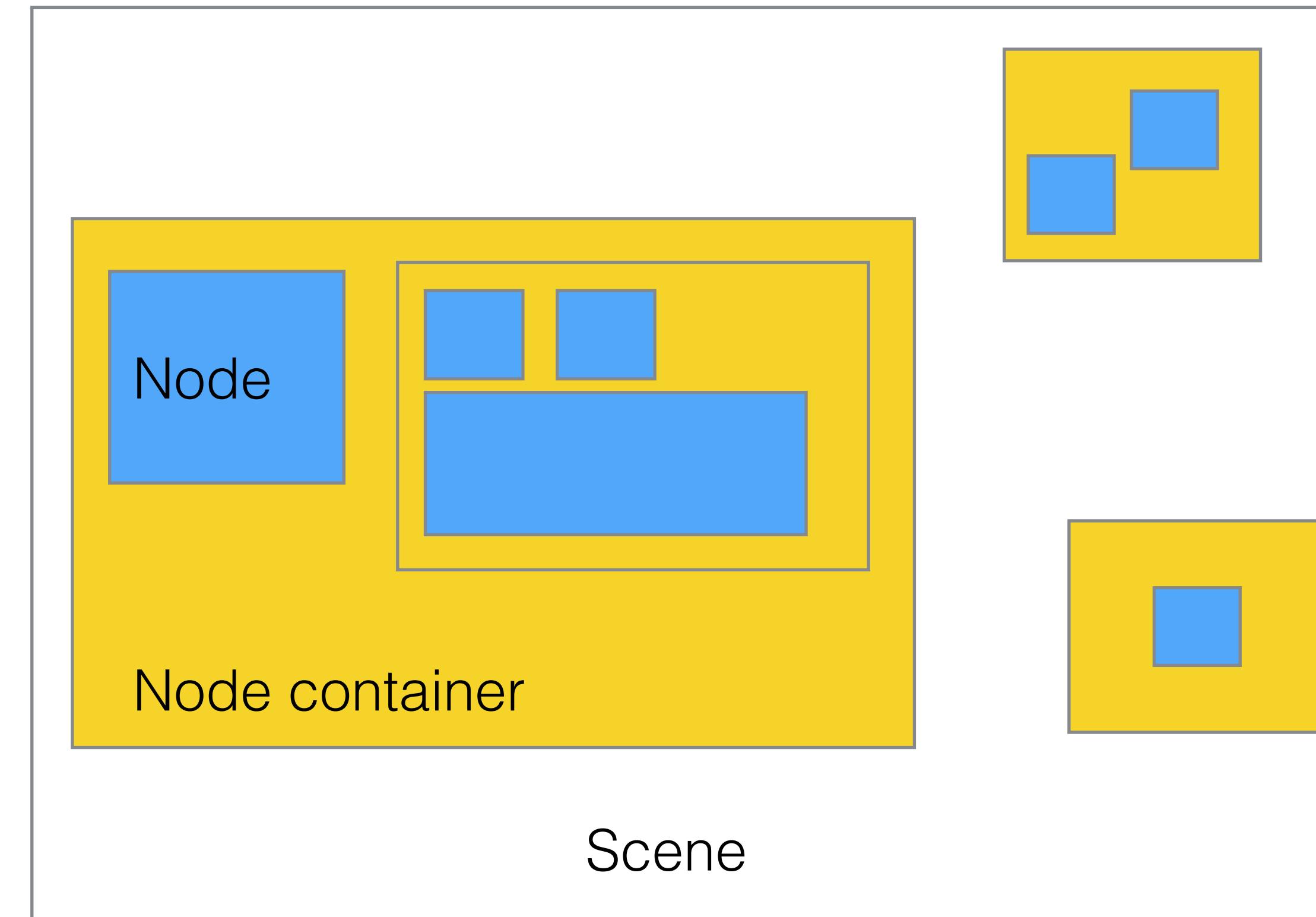
A scene graph is a collection of nodes in a graph or tree structure. A tree node (in the overall tree structure of the scene graph) may have many children but often only a single parent, with the effect of a parent applied to all its child nodes; an operation performed on a group automatically propagates its effect to all of its members.

poScene 2.0 is more like MVC

But mostly is naming and small structural changes. You have to implement MVC yourself when you are coding.

poScene

Basically the structure is like this:



Adding poScene to your project

No tinderbox included.

Don't forget to:

#include “poScene.h”

to start

po::scene::SceneRef

Usually you only need one scene

po::scene::NodeContainerRef

But you probably need a lot of
node containers

`po::scene::ShapeRef`

`po::scene::TextboxRef`

And a lot of nodes... with
different types

`po::scene::ImageRef`

```
->setPosition();      ->getScale();  
                      ->setTexture();  
  
                      ->setFillColor();  
Once you have a shape, you can  
do a lot of things.  
                      ->setMask();  
  
                      ->setAlignment();
```

Let's try to use poScene

Homework



Do a sophisticated app interface using poScene.

Figure out how to use texture in poScene.

Figure out how to add sound effects in your homework.

Think about your final project.

Final project

- Should be heavily interactive and mainly using Cinder(seriously).
- Should fall into categories like game, interactive installation or data visualization.
- Use poScene and other libraries.
- We would like to see something like this: <http://www.redpaperheart.com/work/playground-deconstructed> or this <https://localprojects.net/work/aros-art-museum>
- Team work.
- Treat your work with love, if you are spending time on this, have a good and memorable time on this.
- Should have at least 5 different classes and headers in your app.
- Combined with other final projects should be fine, but you have to meet all the standards above.