

FLUX  
 $\infty$

Edward Zhu



Single directional  
data flow

**FLUX**



**REACT**

Declarative  
views

# FLUX + REACT

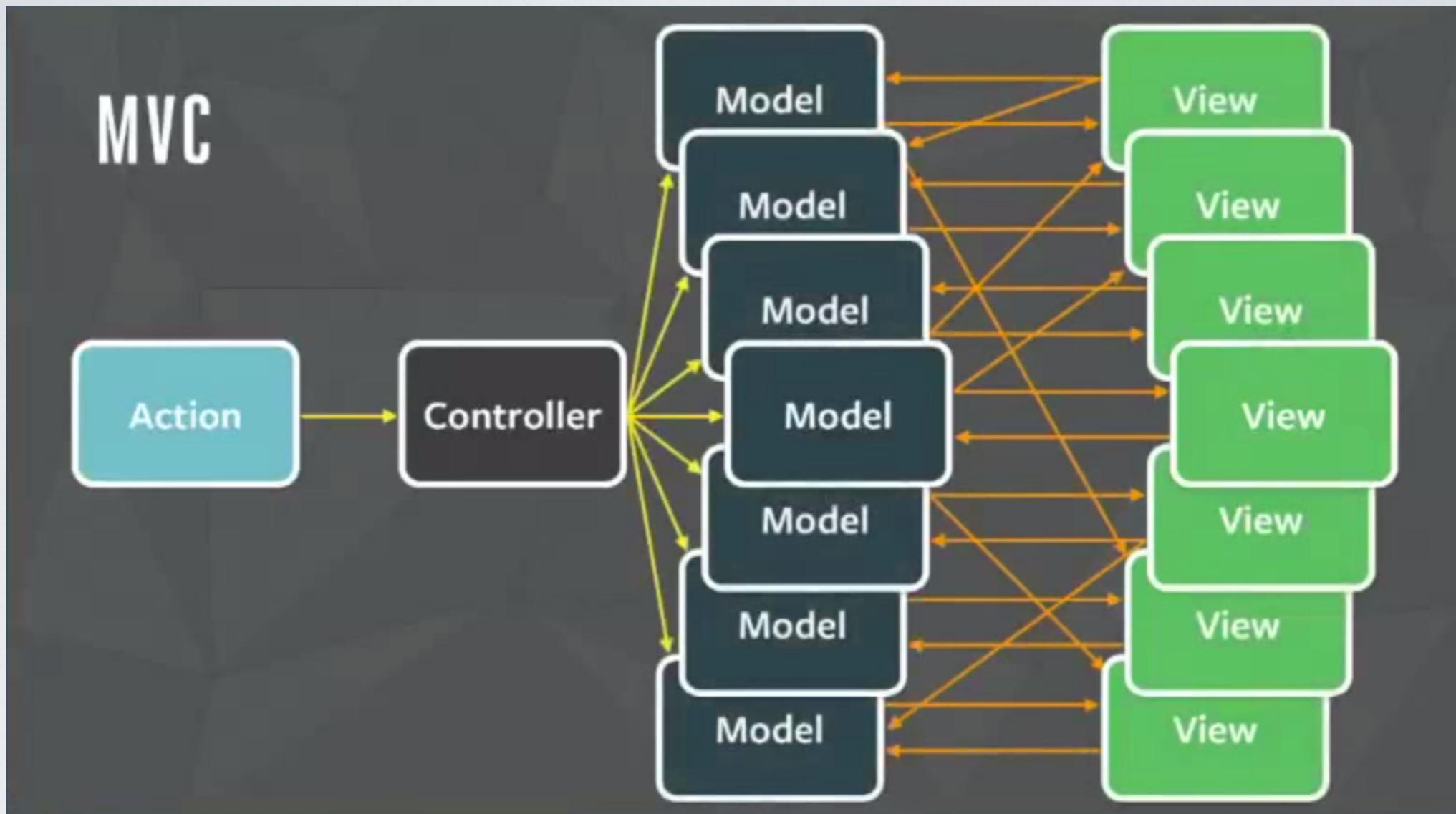
# MVC



# MVC

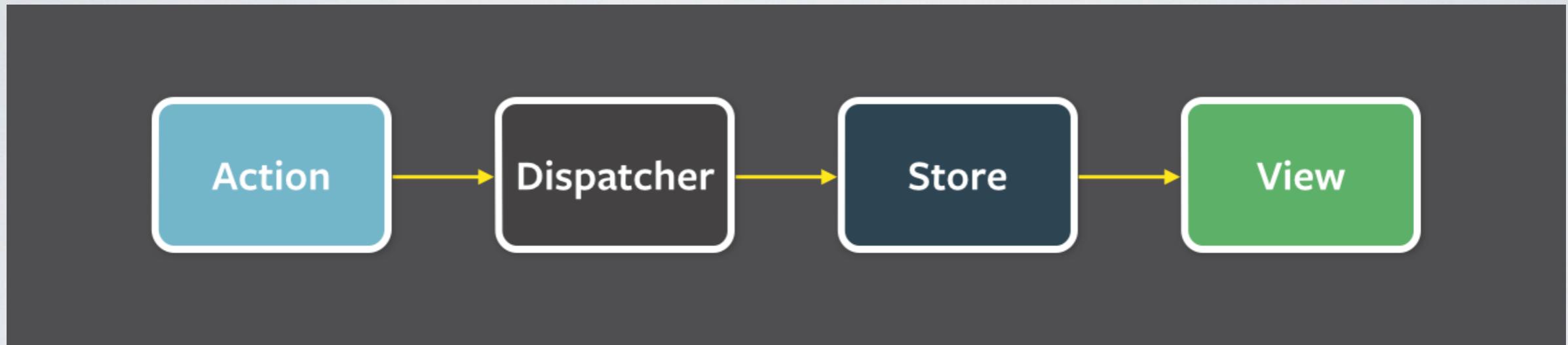
Basic Structure.

# MVC



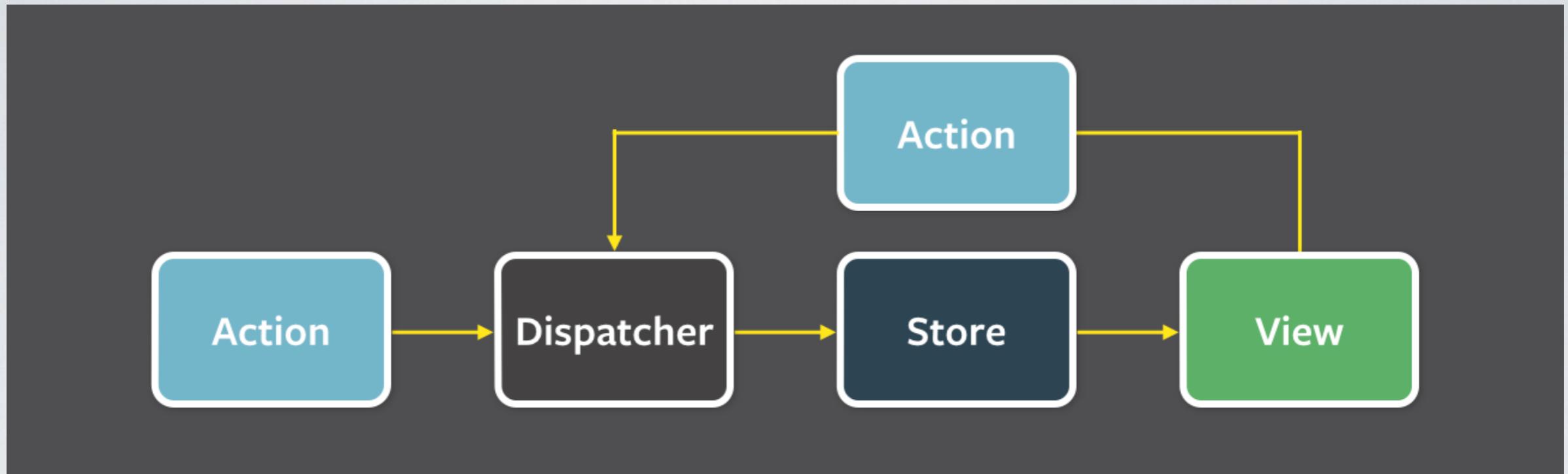
# MVC

Great..



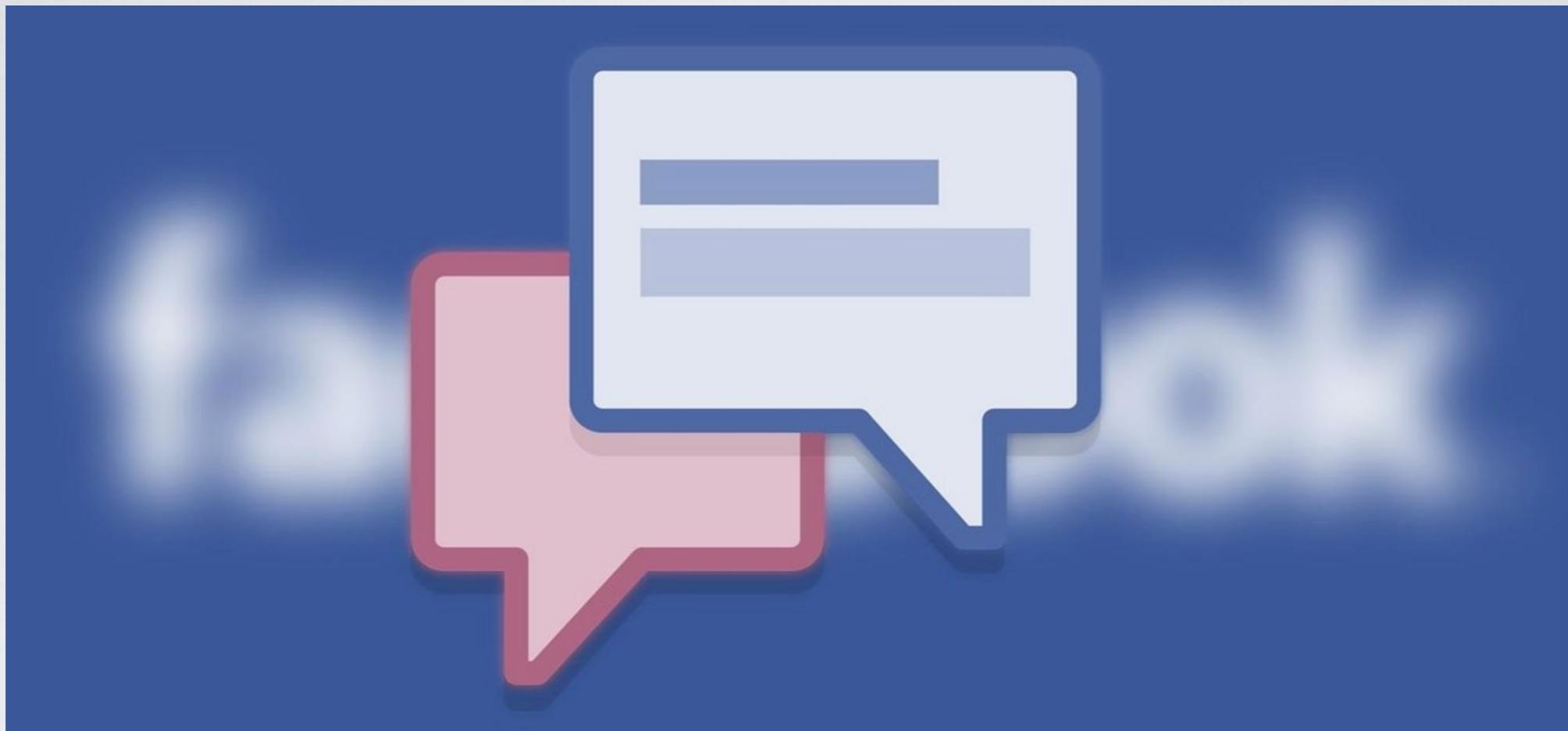
# SINGLE DIRECTIONAL DATA FLOW

Basics of Flux

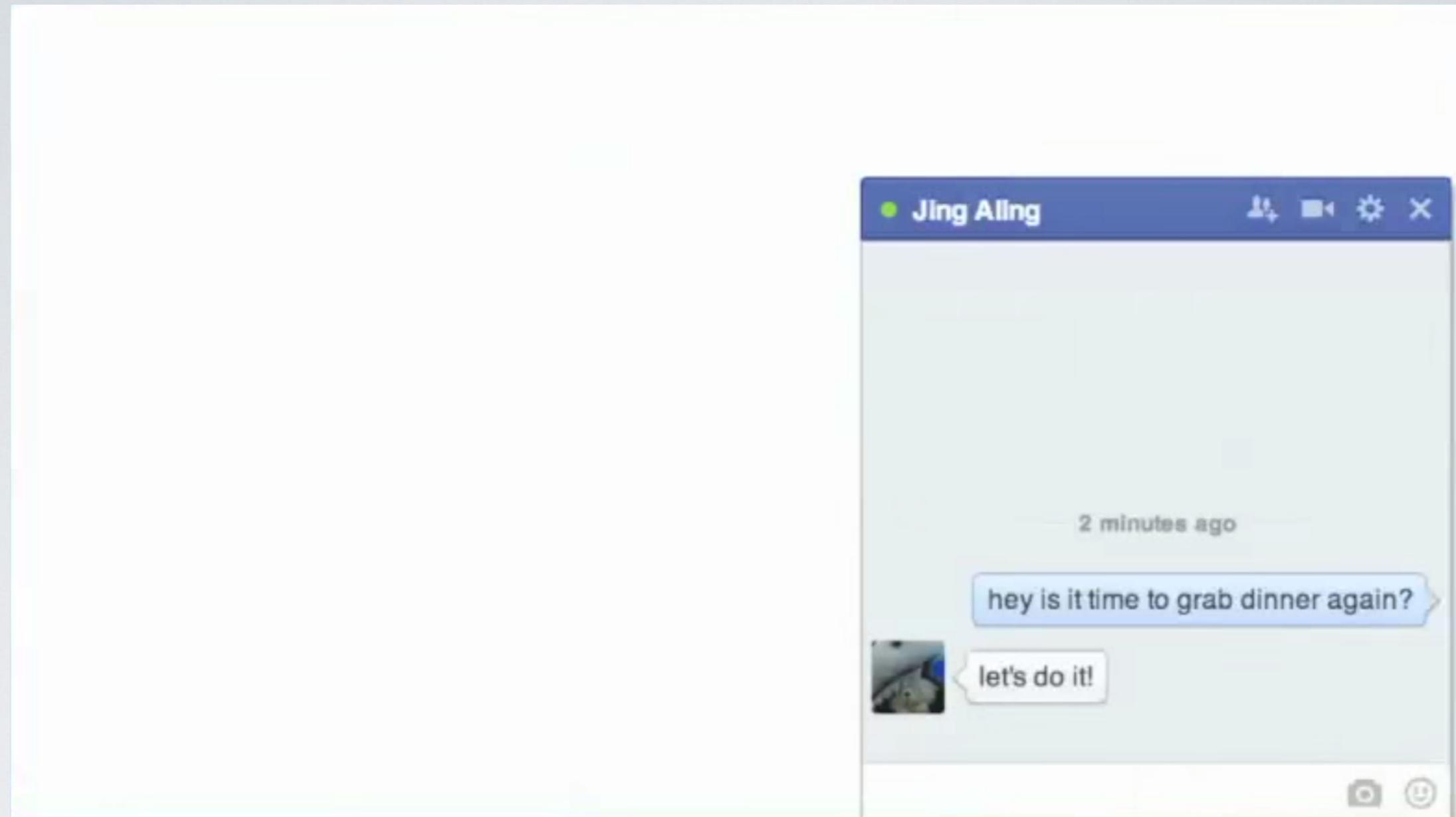


# SINGLE DIRECTIONAL DATA FLOW

Basics of Flux



REAL WORLD EXAMPLE:  
FB CHAT



# CHAT TAB VIEW

# CASE STUDY: CHAT

Receive new chat message

```
function newMessageHandler(message) {  
    var chatTab = ChatTabs.getChatTab(message.threadID);  
    chatTab.appendMessage(message);  
}
```

1. Append message in chat tab

# APPEND



# UNREAD NOTIFICATIONS

# CASE STUDY: CHAT

## Add unseen count

```
function newMessageHandler(message) {  
    UnseenCount.incrementUnseen();  
  
    var chatTab = ChatTabs.getChatTab(message.threadID);  
    chatTab.appendMessage(message);  
  
    if (chatTab.hasFocus()) {  
        UnseenCount.decrementUnseen();  
    }  
}
```

1. Increment unseen thread count
2. Append message in chat tab
3. If chat tab is focused, decrement unseen count

# INCREMENT.. DECREMENT..

A screenshot of a Facebook inbox interface. At the top, there's a search bar and a navigation bar with icons for Home, Like, and Notifications (with a red '1'). Below the search bar, the inbox header includes 'Inbox', 'Other', 'More', and the recipient name 'Jing Aling'. A toolbar at the top right offers '+ New Message', 'Actions', and a search icon.

The main area shows a list of messages. The first message is from 'Jing Aling' at 1:12pm, containing the text 'let's do it!'. The second message is from 'Tom' at 1:10pm, containing the text '2 new'. Below these, several other messages are listed, though their content is mostly obscured by a large watermark.

A detailed view of the conversation with 'Jing Aling' is shown on the right. It starts with 'Conversation started today' and two messages:

- Jing Chen: 'hey is it time to grab dinner again?' (1:10pm)
- Jing Aling: 'let's do it!' (1:12pm)

Below this, a text input field says 'Write a reply...' with options to 'Add Files' or 'Add Photos' and a 'Press Enter to send' button with a checked checkbox.

A separate, larger message box on the right shows a recent message from 'Jing Aling' sent '2 minutes ago':

- Jing Aling: 'hey is it time to grab dinner again?'
- Jing Aling: 'let's do it!'

# FULL MESSAGES VIEW

# CASE STUDY: CHAT

## Receive new chat message

```
function newMessageHandler(message) {
  UnseenCount.incrementUnseen();

  var chatTab = ChatTabs.getChatTab(message.threadID);
  chatTab.appendMessage(message);

  var messagesView = Messages.getOpenView();
  var threadID = MessagesView.getThreadID();
  if (threadID == message.threadID) {
    messagesView.appendMessage(message);
  }

  if (chatTab.hasFocus() ||
      threadID == message.threadID) {
    UnseenCount.decrementUnseen();
  }
}
```

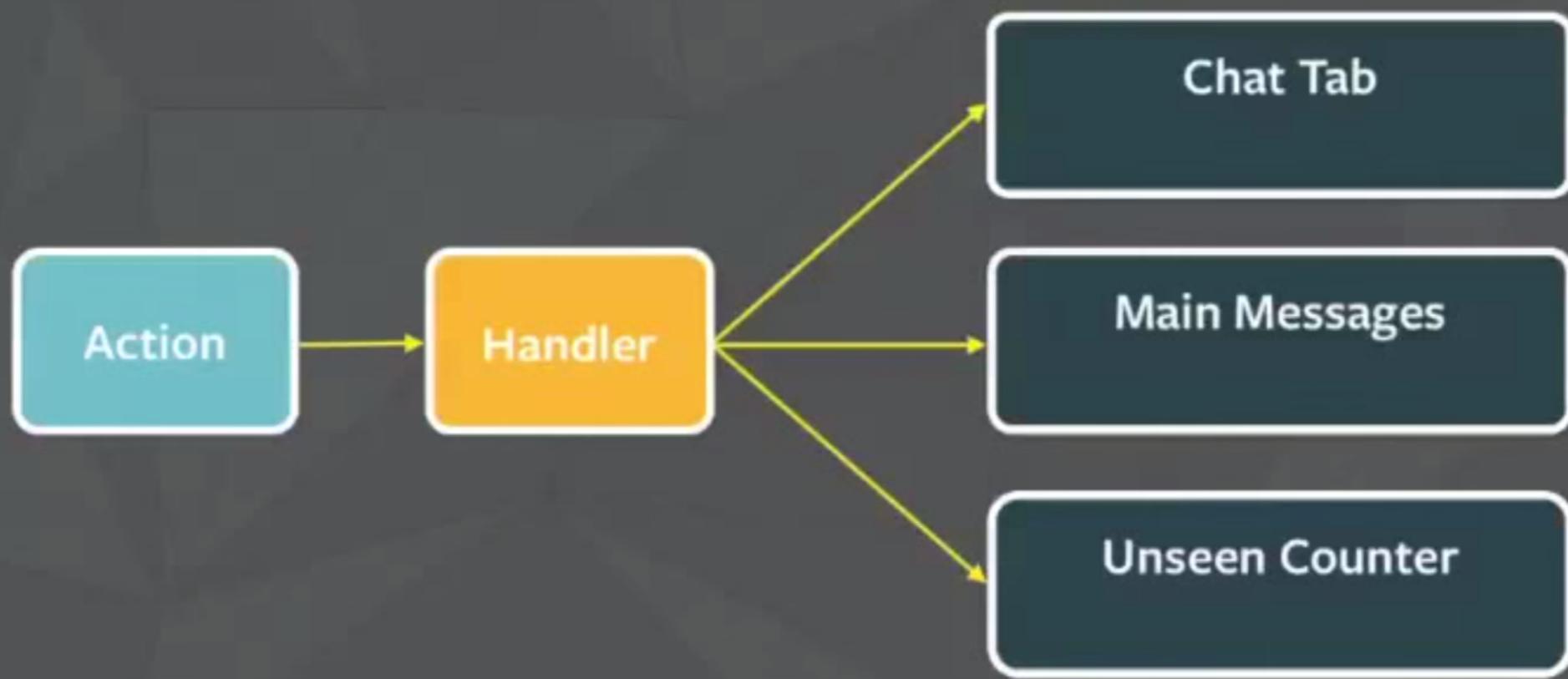
1. Increment unseen thread count
2. Append message in chat tab
3. If open, append message in main messages view
4. If chat tab is focused or main messages view is open, decrement unseen count

# EVEN MORE COMPLICATED



# FACEBOOK'S BIGGEST BUG

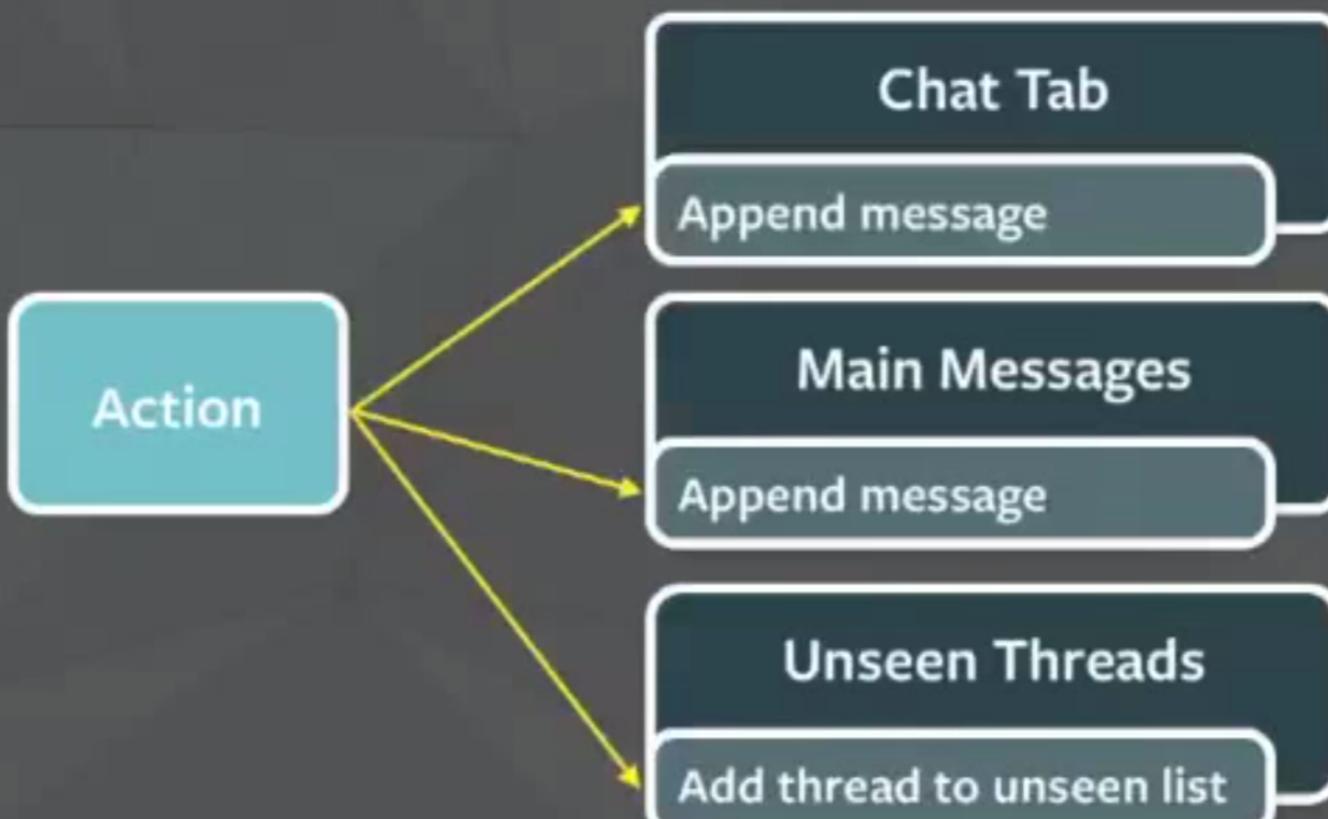
# EXTERNAL CONTROL



# ORIGINAL MODEL

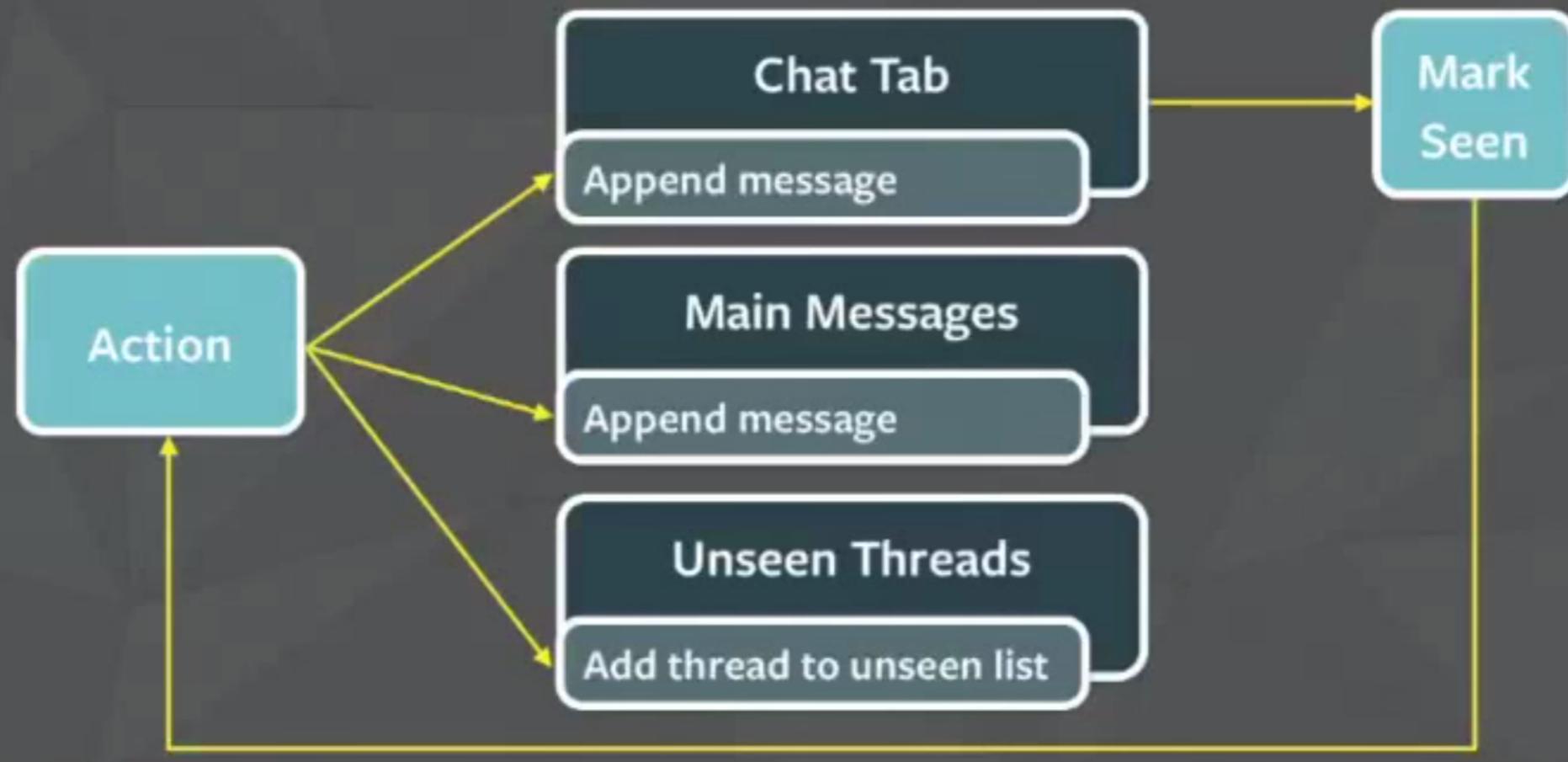
MVC

# INTERNAL CONTROL



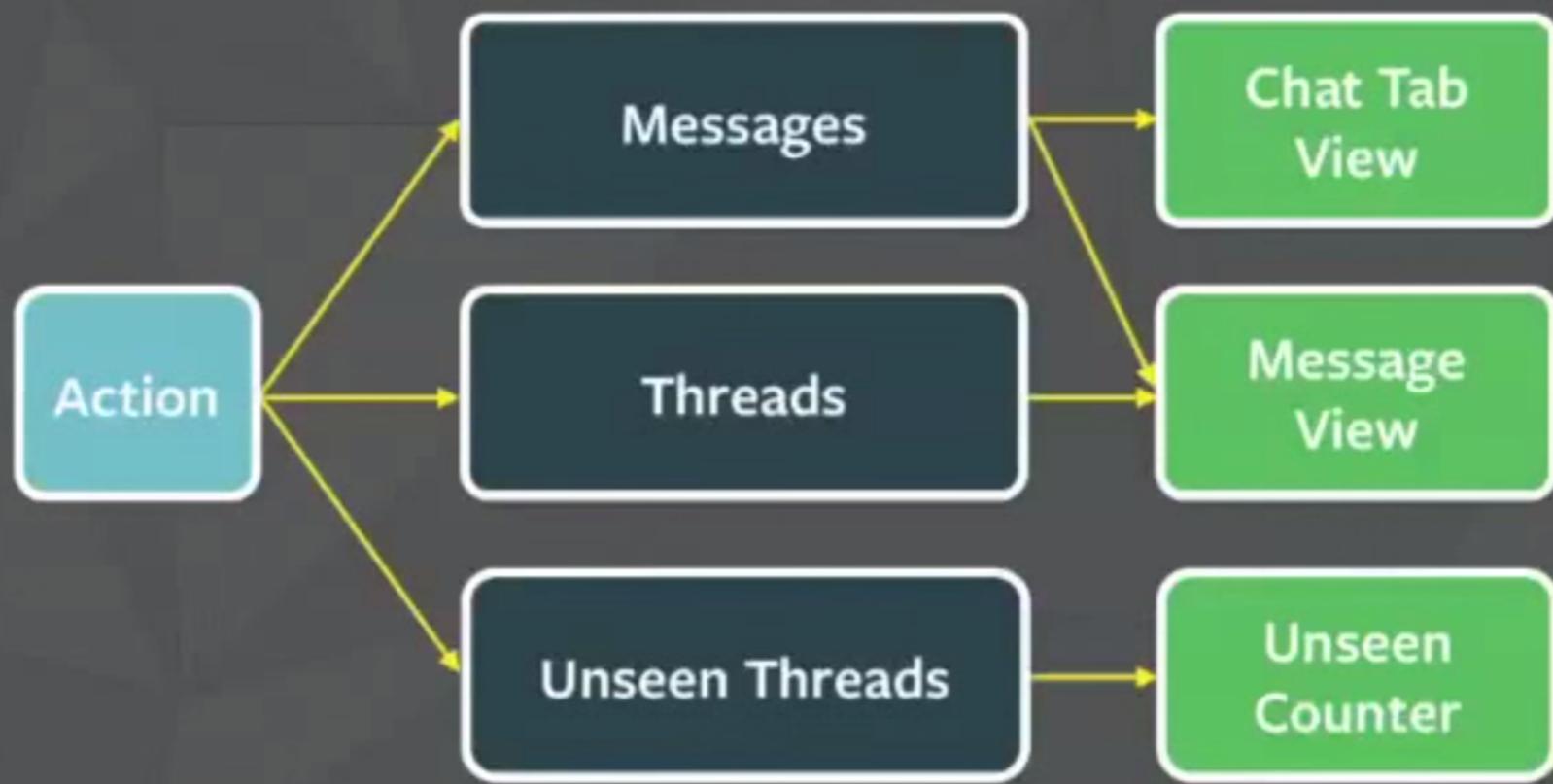
# STRUCTURAL CHANGES

# INTERNAL CONTROL



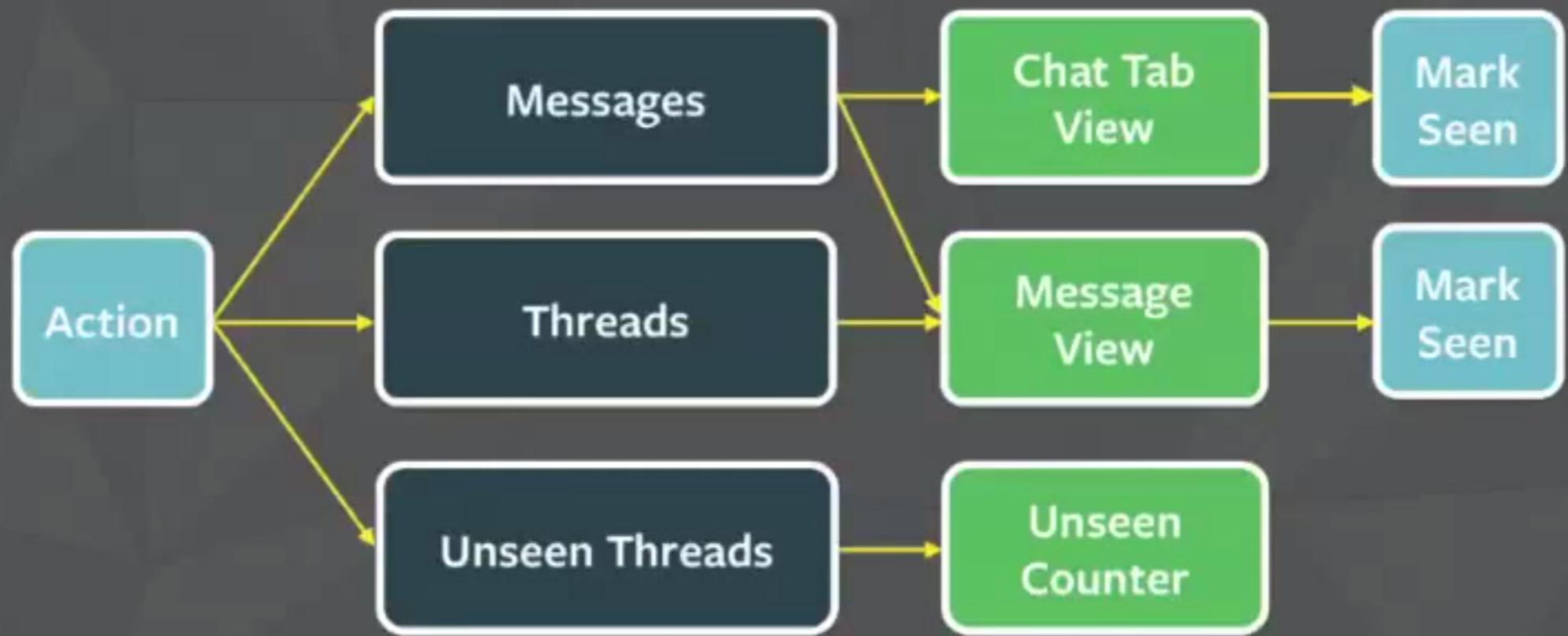
UI CHANGES CREATE NEW ACTIONS

# FULL SYSTEM



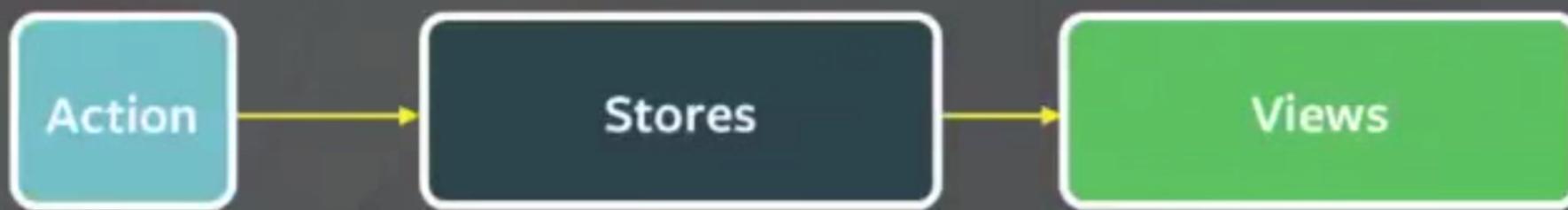
# FULL SYSTEM

# FULL SYSTEM



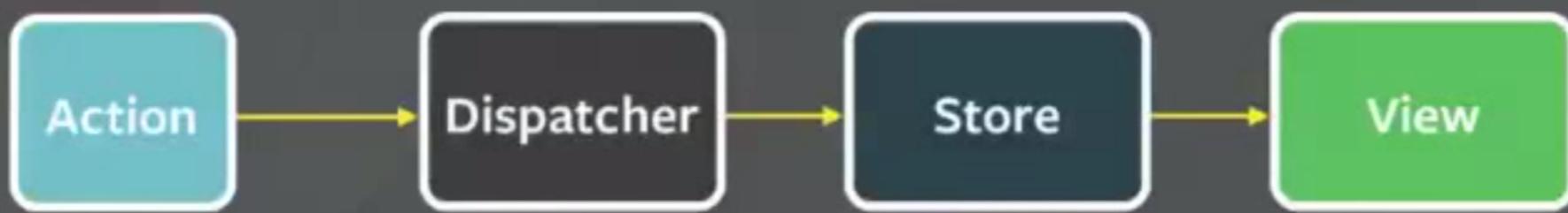
# NO CASCADING

# GENERIC SYSTEM



MORE GENERALLY

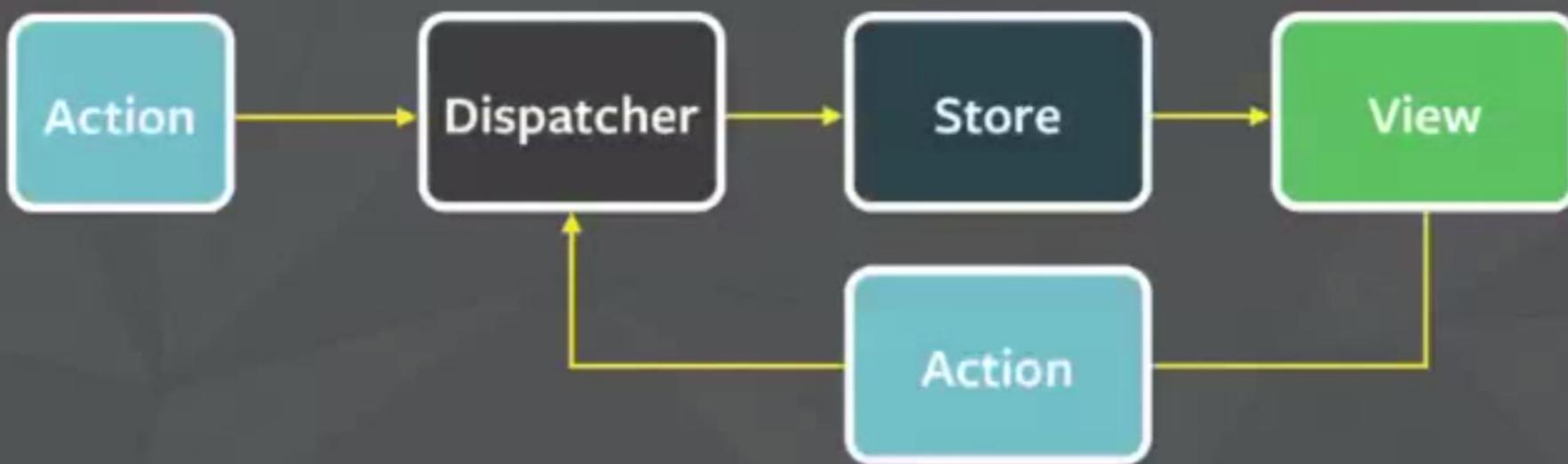
# FLUX



## ADDING THE DISPATCHER

Basic Model of FLUX

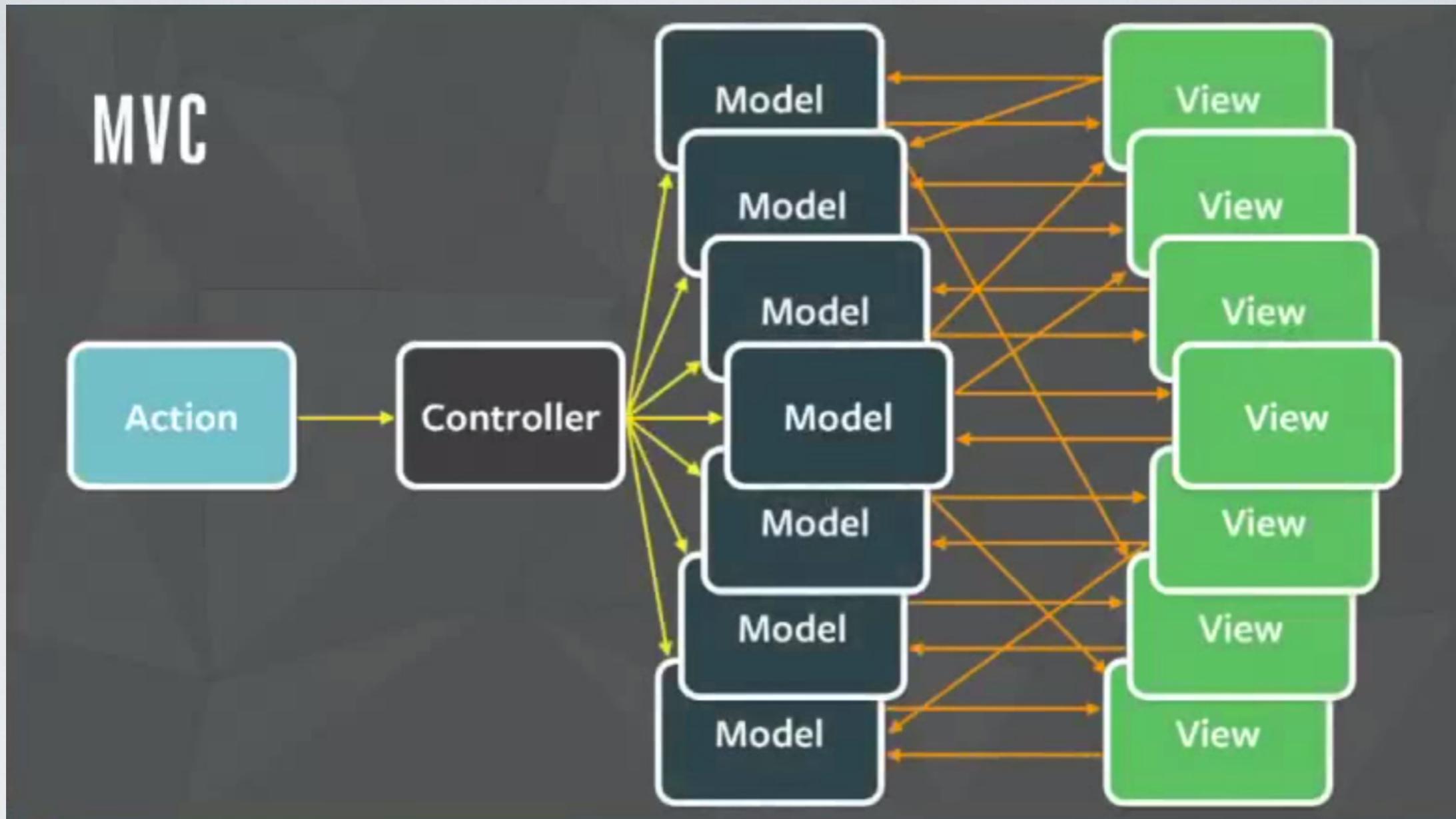
# FLUX



## ADDING THE DISPATCHER

Basic Model of FLUX

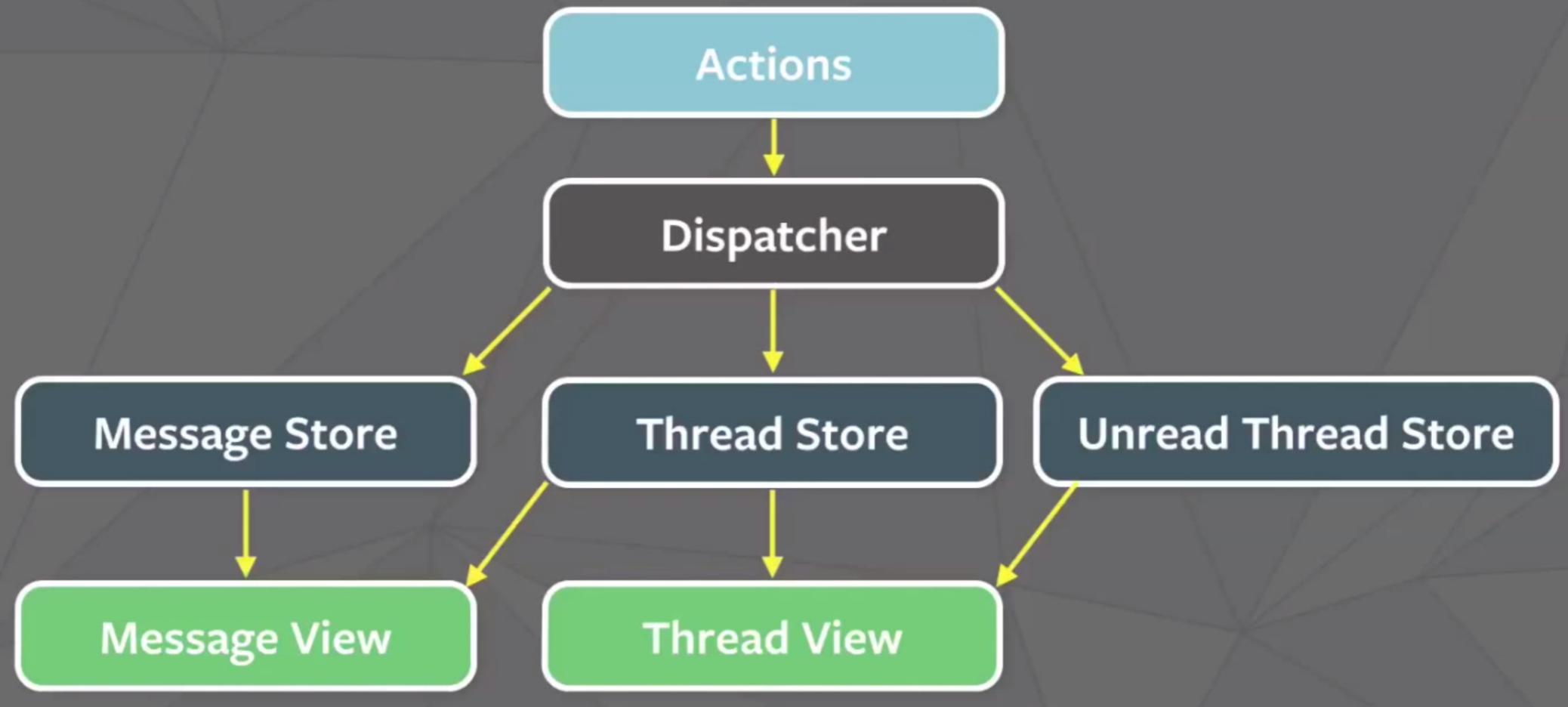
# MVC



# ORIGINAL CHAT MODEL

MVC

# UNREAD THREADS



## FB CHAT W/ FLUX

“CODE”

# REFERENCES

- <https://facebook.github.io/flux/>
- <http://fluxxor.com/what-is-flux.html>