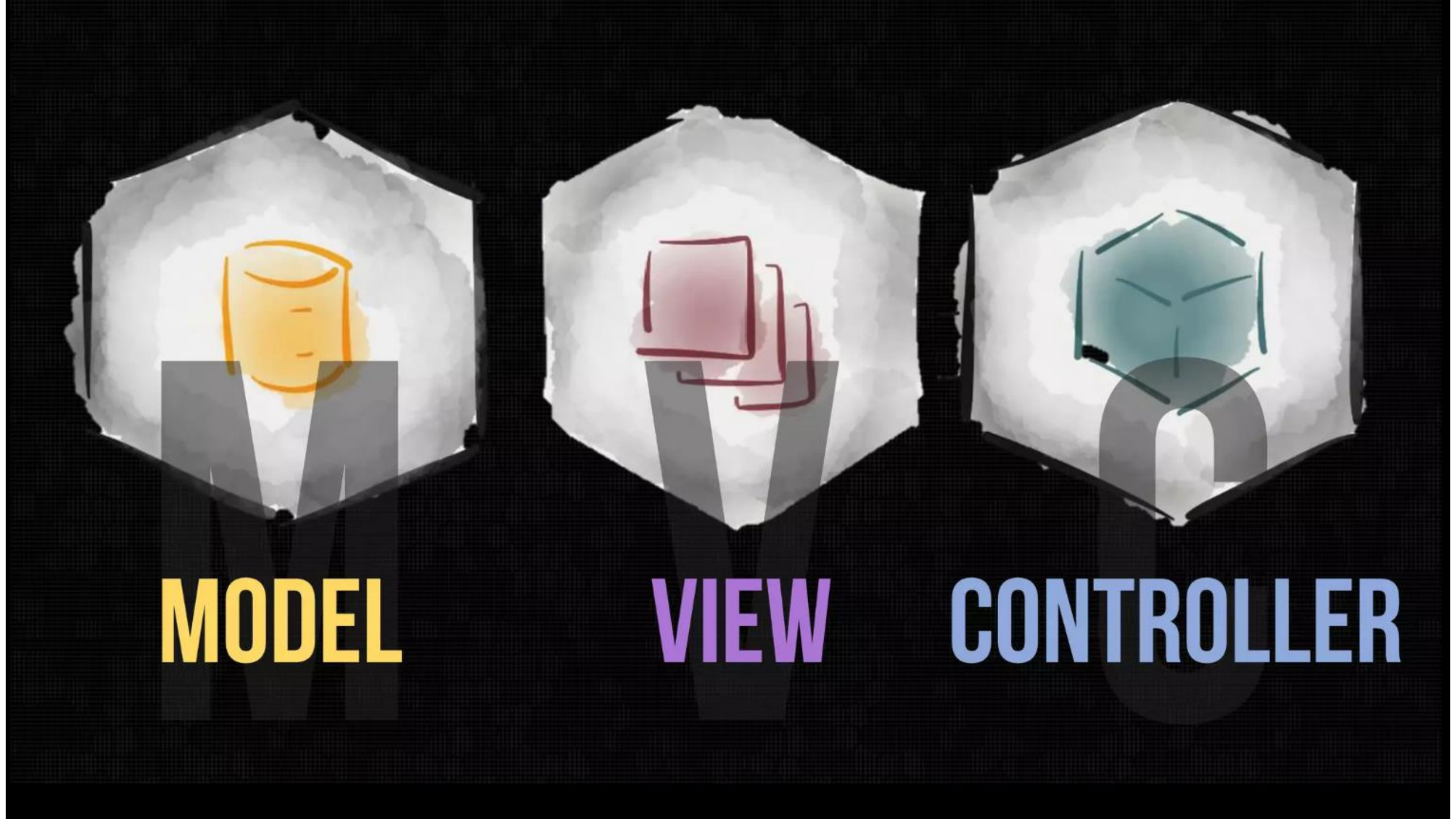
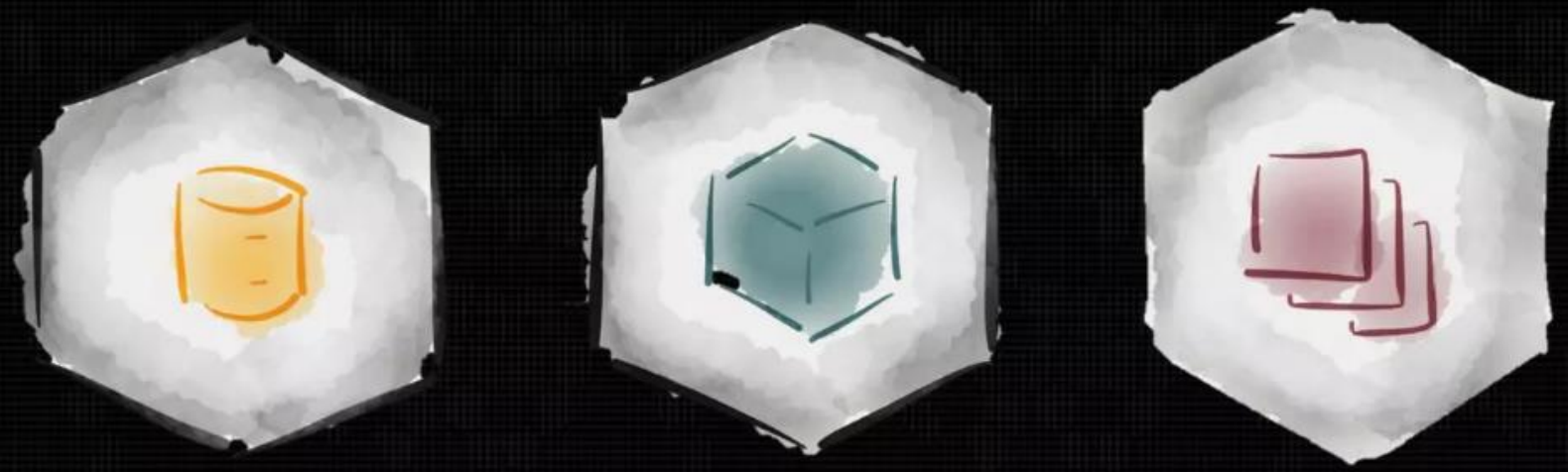

MODEL
VIEW
CONTROLLER

MODEL VIEW CONTROLLER (MVC)

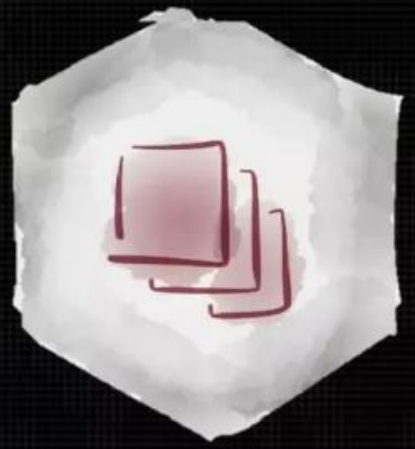
- Software architecture pattern that separates the model, the user interface and control logic of an application in three distinct components.



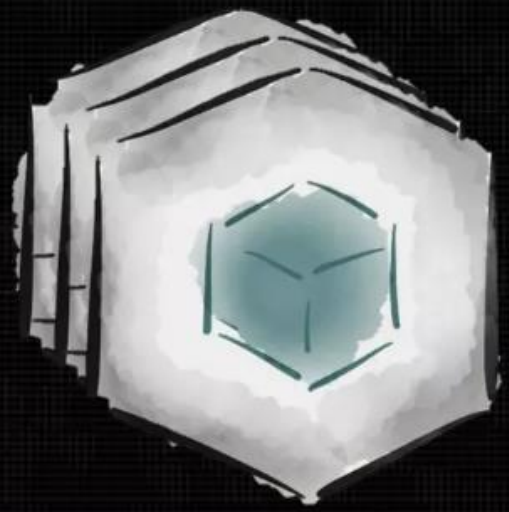
THE MVC PATTERN

- MVC proposes the construction of three distinct components. One side for the representation of information, and on the other hand for user interaction.

One model



Many Views



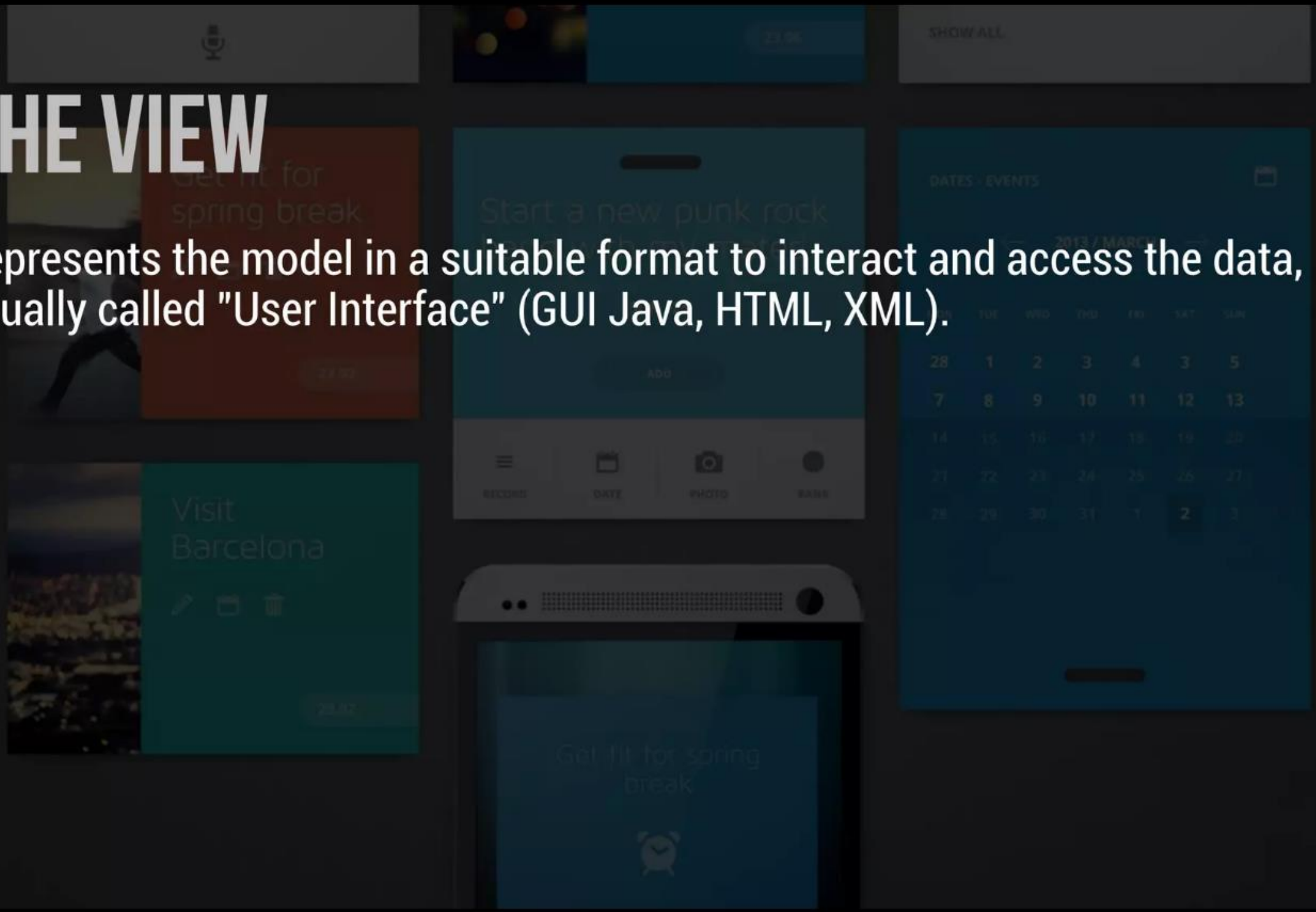
Many Controllers

THE MODEL

It is the specific representation of the information with which the system operates. Logic ensures the integrity of data and allows to derive it.

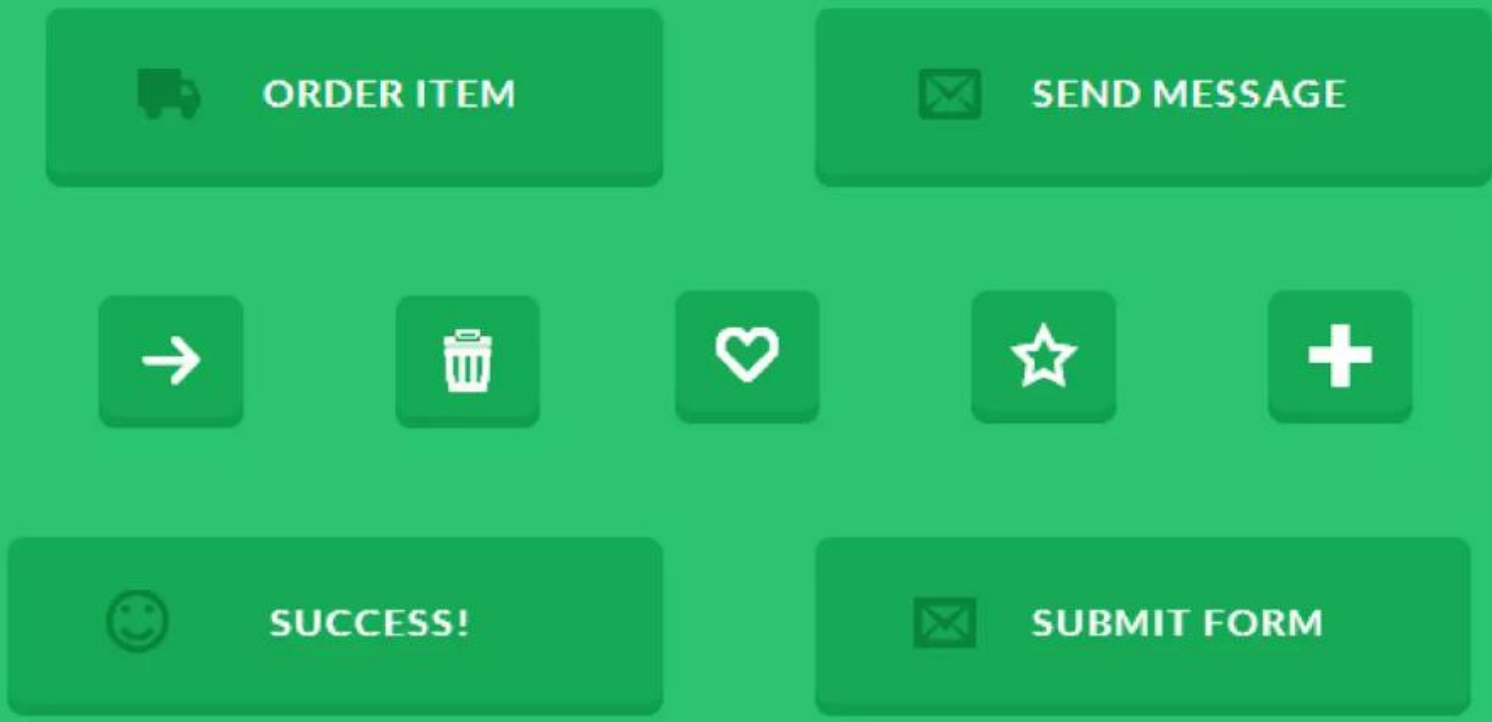
THE VIEW

Represents the model in a suitable format to interact and access the data, usually called "User Interface" (GUI Java, HTML, XML).



THE CONTROLLER

It is the link between the view and the model, is responsible for receiving and responding to events, typically user actions and invokes changes on the model and probably in the view.



BENEFITS

- Organization
- Rapid Application Development
- Reusing Code
- Parallel development
- It presents the same information in different ways.
- The views and application behavior should reflect the manipulations of the data immediately.
- It allows different user interface standards or port it to other environments where the application code should not be affected.

HISTORY

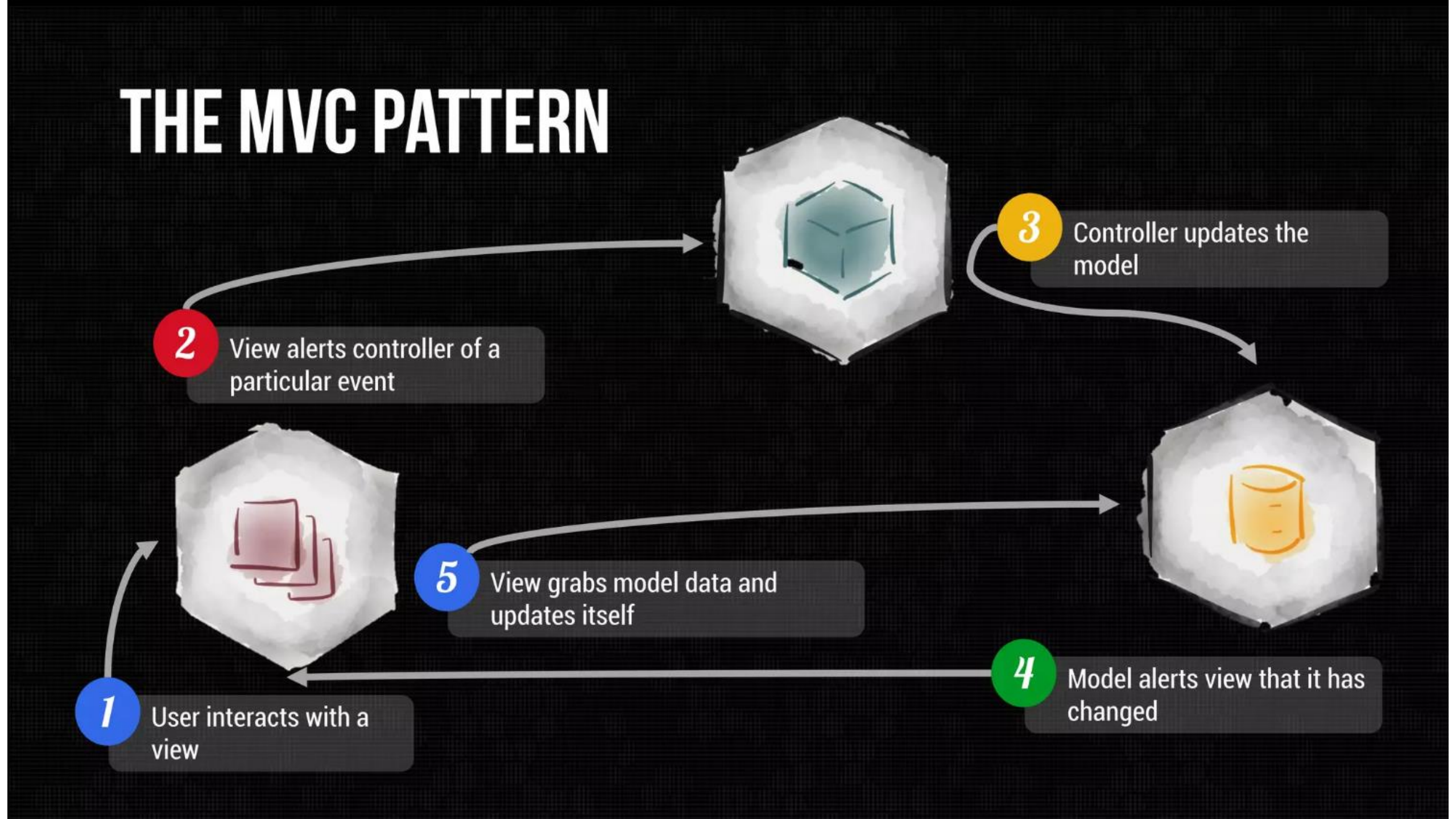
- This model is not new, it was introduced in 1987 in the Smalltalk programming language.
- With the boom of Web applications, it has proven to be a programming mode that fits quite well with the internet, being both the model and the controller executed server side, and the view on the client side executed.

THE MVC PATTERN

Control Flow

1. The user performs an action on the interface.
2. The controller takes the input event.
3. The controller notifies the user action to the model, which may involve a change of state of the model.
4. It generates a new view. The view takes the data model.
5. The user interface waits for another user interaction, which starts a new cycle.

THE MVC PATTERN



WHERE CAN I USE IT?

- It applies to all types of systems
- And technologies (Java, Ruby, Python, Perl, Flex, SmallTalk,. Net, etc..)

python

MVC IN JAVA

- **Model:** The model is made by the developer.
- **View:** Set of objects of classes that inherit from java.awt.Component.
- **Controller:** The controller is the event processing thread, which captures and propagates the event to the view and the model. Treatment classes of events (sometimes as anonymous classes) that implement EventListener type interfaces (ActionListener, MouseListener, WindowListener, etc..).