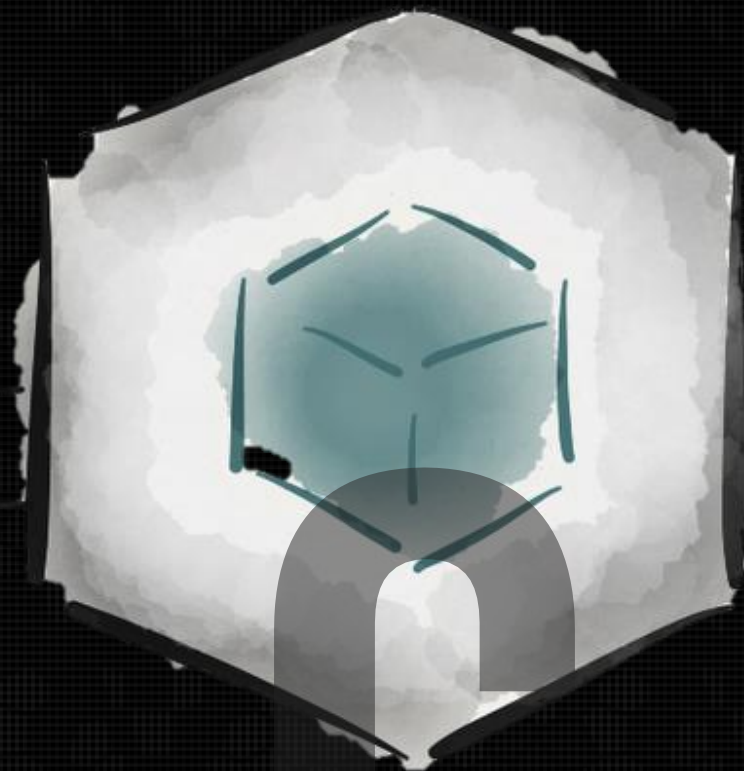




**MODEL**



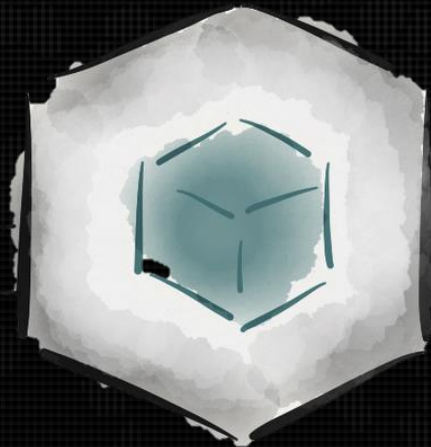
**VIEW**



**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

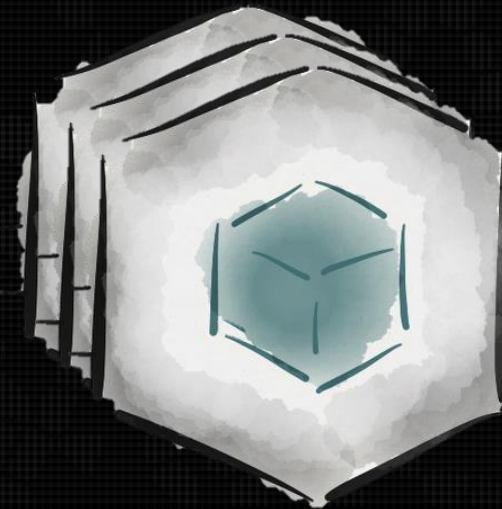
- MVC proposes the construction of three distinct components. One side for the representation of information, and on the other hand for user interaction.



One model



Many Views



Many Controllers

# THE MVC PATTERN



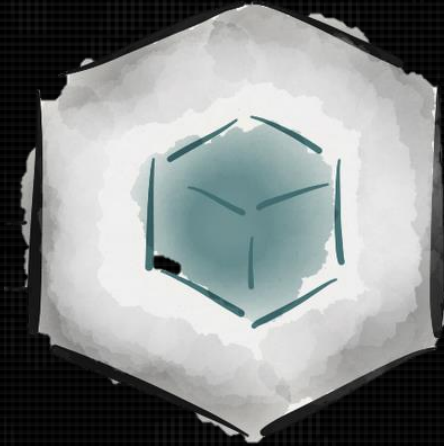
The Model

Representation of domain data.  
Business logic  
Persistence mechanism



The View

User Interface  
Interaction elements



The Controller

Intermediary between Model and View  
It maps user actions - model actions  
Select the view and provide  
information to itself



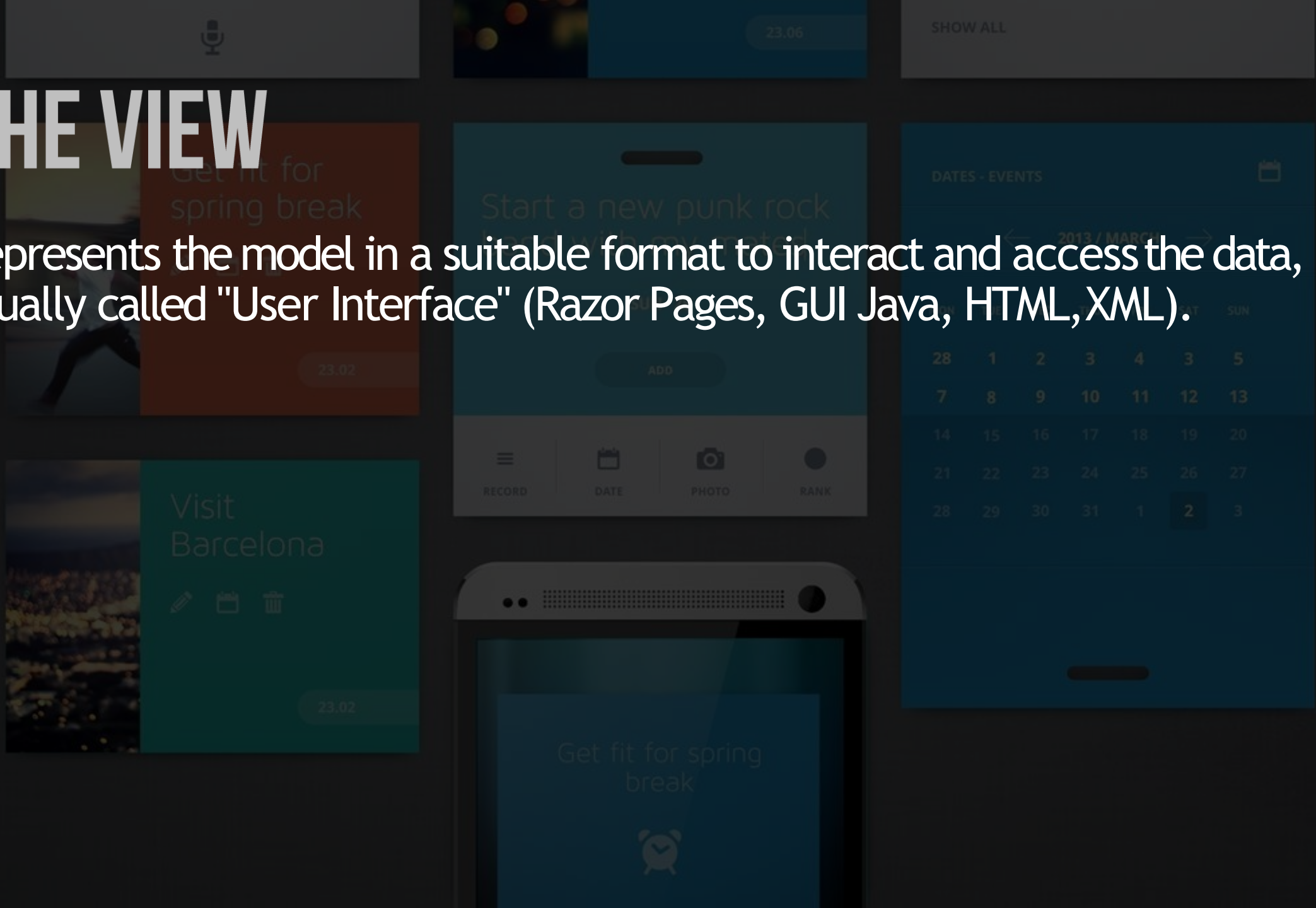
# THE MODEL

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



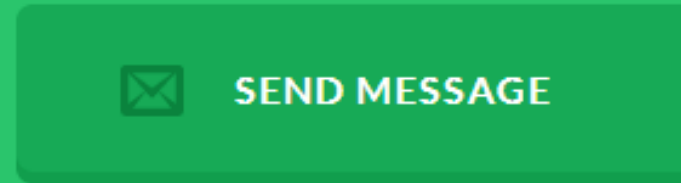
# THE VIEW

Represents the model in a suitable format to interact and access the data, usually called "User Interface" (Razor Pages, 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

A black and white photograph of a landscape. In the foreground, there are several large, leafless trees with intricate branch structures. In the background, a body of water is visible, and on the left side, two birds, possibly swans or geese, are standing on a grassy bank. The overall scene is misty or hazy, giving it a serene and somewhat somber atmosphere.

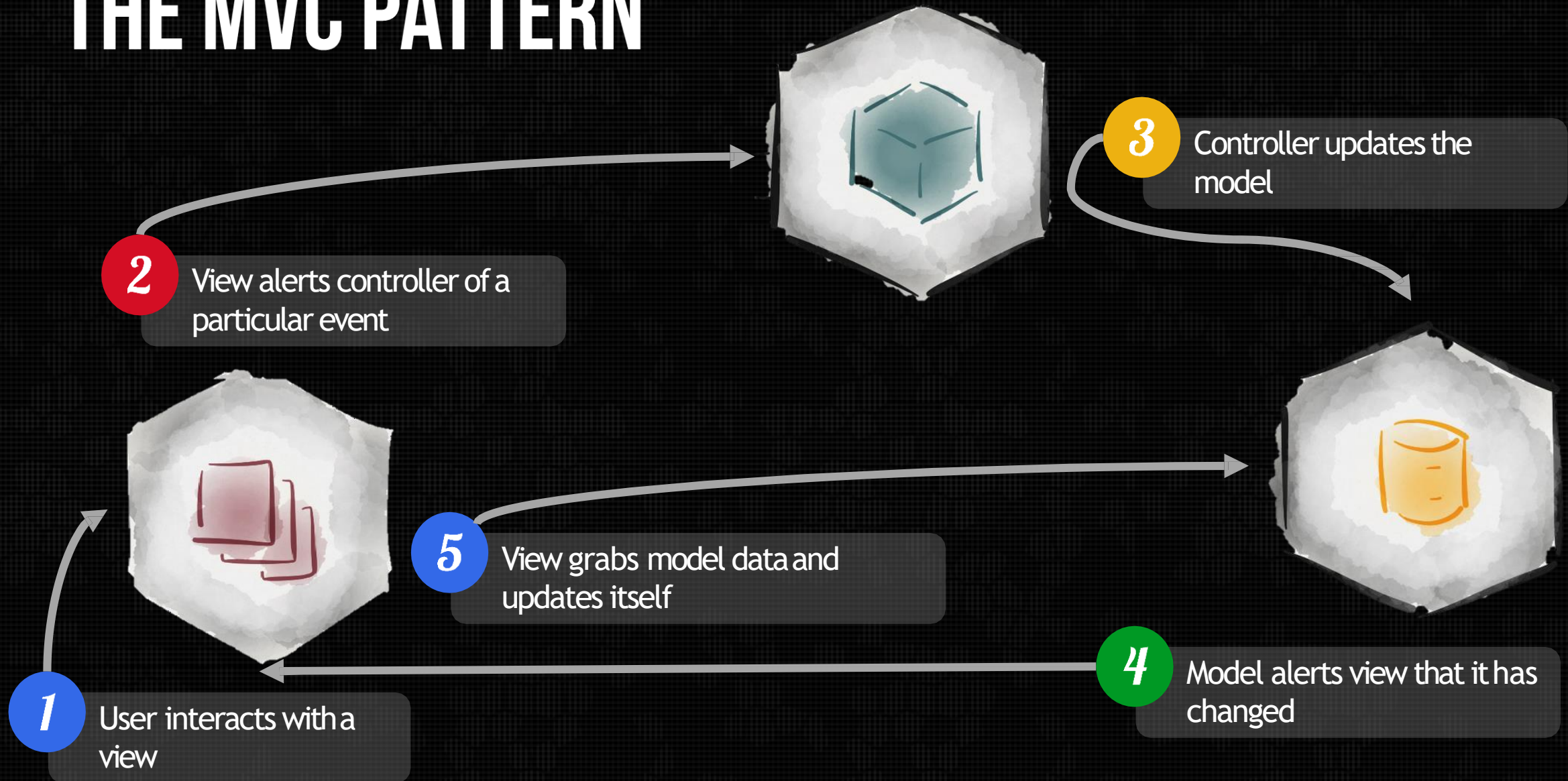
- This model is not new, it was introduced in 1987 in the Smalltalk programming language.
- With the boom of Web applications, it has proven to be a programming mode that fits quite well with the internet, being both the model and the controller executed server side, and the view on the client side executed.

# 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 (ASP.NET, Java, Ruby, Python, Perl, Flex, SmallTalk, etc..)



python



# *Thank you!*

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