**Write a one-page paper on MVC and how it works, broken down.**

Model-View-Controller (MVC for short) is a concept and a software architectural design pattern that has been widely used by various languages and applications, for architecting software applications, making lives easier. Apple’s frameworks are mostly infused by this pattern. It is mainly used for controlling logic, implementing user interfaces and data. This method is a default approach that is used by many developers within the Apple platforms.

In 1979, Trygve Reenskaug (a computer scientist) is the developer of MVC for SmallTalk platform (object-oriented language). In 1988, an article described MVC as a concept that is a leading evolution of other patterns that have a similar structure. 1996 was when the popularity exploded after the WebObjects application was introduced.

Within each component of MVC, it has its own role:

* **Model:** stores data, for example, product names in a store. Data is represented to the user and defines where the applications data objects are stored and interacts with database with the use of queries, such as select, update and delete.
* **Views:** provides data for users, such as, the availability of a list of products shown in a table format. This is the visual representation of the pattern where it has a front-end interface to portray to the user. The files consist of HTML, CSS and ERB. The Controller provides data to display to the View, as the View doesn’t display anything on its own.
* **Controller:** it’s a combination of model and view, where model is queried, and data is converted into something views can display. This is the brain of the whole MVC design. This is where data is communicated back and forth between Model objects and View objects.

Controller

Controls & decides how data is displayed

Model

Data logic

View

Shows current model state

User action

Update

Update

Notify

Model does not participate in the communication with the View as the Controller ensures the communication between Model and View. Most of the logical code goes to the Controller. If there’s a user action that requires a change in the Model, the Controller would be notified of this and updates the View.

The main reason of MVC is to create an efficient way of code writing with the use of Object-Oriented Design.

**Technologies that use MVC:**

* Python
* Codeigniter PHP
* MongoDB
* Cake PHP
* Zen
* Ruby on Rails
* Angular (JS)
* Larevel

**Companies/websites that use MVC:**

* Microsoft
* GoDaddy
* Visual Studio
* Dell
* iOS
* Stack Overflow

**What are the usefulness of MVC in a working environment?**

MVC has an ease of modification where it is easy to alter the View without the need of modification of the Model or Controller. Multiple developers are able to work on the same project simultaneously and decrease repetition. The way the organization is structured allows projects to be introduced to new members of the team.

**Conclusion**

MVC is a well-known software pattern where its main purpose is to break down the logic of an application into three different components. Initially, MVC was used in desktop applications, however, it became popular with web applications during the 1990s.