Advantages of the MVC Architecture

Supports Collaboration

One benefit of using an MVC architecture is the division of the system into the three separate components. The Model, View and Controller are loosely coupled which means there is a reduced chance that a change in one will affect the other. One instance being if the View of the system changes there will be no need to change the Model. This loose coupling allows multiple developers to work on the system without the fear of interfering with another’s work.

Faster Development

An additional benefit of the aforementioned loose coupling is the hastened development. By having components where change in one is less likely to affect the other, developers can spend less time waiting for others to complete a particular feature and can focus more on developing their own component.

Easy Modification

MVC has a good capacity for future expansion/modification due to the reduced dependencies between components. This allows for additions to be made to components without having to change a great amount in others. For instance, if a client requests additional features after development has already begun, their implementation would be easier due to the loose coupling. This makes MVC useful for developing systems where requirements may change frequently.

Multiple Views

Since the View component of the system is separated from the business logic, it is possible to support multiple views. This is useful for systems with multiple types of users that could require their own individual view of the system. For instance, in a business system the administrators would have greater privileges than regular staff and as such would need a different system view to reflect this.

Code Reusability

Since the business logic and the view of the system are separate entities, the code has an improved reusability since it is not closely tied to any particular system as a whole. This provides a large advantage to organisations that develop a multitude of programs since they can reuse parts of the program in other software they are developing.

Disadvantages of the MVC Architecture

Complexity

Separating the system into multiple components can introduce complexity in relation to how control flows between the view, controller and model. Due to this, a good level of understanding for the architecture is needed in order to design a system that makes proper use of MVC’s loose coupling. A poor understanding of the architecture can lead to difficulties debugging due to the complicated flow of control.

Unsuitable for Small Applications

The divided workload and loose coupling of components is only advantageous to large applications with numerous developers. For small applications with fewer developers and a reduced need for complexity, the MVC architecture can be more work to utilise than is actually worth. Due to the greater complexity of the architecture, a small team may end up over engineering their program and creating a greater workload for themselves than was actually needed.