A FiveM Component System

A fivem solution to a lack of structure…

This system should act as the big bulk slow system in comparison to the lightweight sister system the “Level scripting system”.

Definition

Component

Refers to the complete system of client & server ??? and parts of the component. A component can be made up at least a client component environment, components can be synced and linked. Linked components allow calls from the client component environment to the server component environment, while synced components can sync data to and from the server or to and from another client.

ComponentContainer

An object that represents the component, provides methods to communicate with the component environment (client or server) or the opposite env

ComponentContext

Refers to the side of a component that is covered, client or server. A client component context can contain Component APIs and be open to events from the citizen event dictionary. Server component environments can be open to (linked apis) that allow the client to communicate with he server.

ComponentBasescript (To be renamed)

Since this system is located within the environment of fivem. This system will need to be loaded and handled by a basescript. This should probably be renamed, to allow for future loading in different envrioments.

ComponentHandler

Every component environment will have a component handler. A component environment cannot function without one. The handler will contain load, initialize and run functions that will give the component owner the opportunity to declare apis they wish to expose.

ComponentAPI

A client side only attribute that can be attached to a method to allow for public use via level scripting

Common

Framework

???? (Not sure what to call this)

Client Side

Server Side

Syncing Involved

Components that are specified as syncing components, will need to to sync across multiple clients. To do this, components need to have a host, someone who can change the data without authorization, a stage where it syncs with the host and pull methods from the host.

Host – Arbiter

Out of sync

Components need to be accessible

* Can only be accessed via client

Limitations of FiveM

Because FiveM works in separate scripting environments, Direct library referencing will not work. For both this system and the level script system, there needs to be a 3rd solution that can provide access to component apis not in the same environment.