Save load system.

Always saves/loads **entire** level.

Save load system UWorld interaction.

Save load system is tied to UWorld instance. The UWorld instance pointer is passed as an argument when initializing the system.

Main save-load system interface.

Represented by IMySaveLoadSystem interface. The system interface is accessible from blueprint.

Load/Save.

Loading and saving is perform from or to FArchive.

To perform loading or saving the corresponding methods are provided in the main save-load system interface.

Saveable object representation and its interaction with the system.

**IMySaveable** interface must be implemented by each UObject that is managed by the system. Now **only UObjects** are **supported** as saveable.

**IMySavebleHandle** instances are created for each UObject that is to be managed by the system.

The handles are created using the corresponding save load system interface call **in the constructor** of the owning UObject (as the implementation uses the CreateDefaultSubobject, which must be called in the constructor only). So, we can configure properties of the handle in the editor.

After the handle is created, all object-level actions are performed through this handle, and not using the system interface.

Relationship is one-to-one – for each call a valid saveable handle instance is created always. This allows you to make the calls on the handle always without checking for null on the client’s level – the system will check whether this object is really saveable.

When object handle is destroyed, it notifies the system automatically about its destruction through its native UObject::BeginDestroy overload.

Managed saveable object.

SaveLoad-functions will be called for saveable object only if it’s managed by the system automatically.

To make saveable object managed by the system automatically one must set SaveLoad flag on its saveable handle;

Saveable object serialization.

Saveable object serialization is performed inside **SaveLoad\_Serialize** method of **IMySaveable** interface. The serialization method has **default implementation** that performs serialization of all **SaveGame**-marked properties.

Saveable object hierarchy.

Saveable object hierarchies are NOT managed by the system automatically for now.

Any SaveGame-marked UPROPERTY cannot contain object that implement IMySaveable interface.

Configuring Saveable object.

Per-object properties are located inside the savable object handle. To make them configurable in the editor, the variable must be marked as with Edit\*.

Implementing IMySaveable.

Each IMySaveable virtual function has default implementation available (Prefixed with Default\_), located inside the MySaveableUtils header.

IMySaveable interface implements its virtual functions with these default implementations by default.

Each saveable UObject MUST implement the GetWorld() appropriately (attention – by default it’s not implemented) because whether the object is in the editor or game world is determined by it;