App Intents / App entities

API Collection

App entities

Make core types or concepts discoverable to the system by declaring them as app entities.

Overview

App entities provide the system with information about your app's data, or about concepts related to your app's data. App entities help the system resolve parameters for app intents by letting it introspect relevant types. For example, a photo app that provides app entities for its photos and albums might also provide app entities to represent "the current photo" or "this album." These specific app entities help resolve intents more quickly and with fewer verbal interactions.

Define app entities for core types and concepts that you want to make available to system experiences. Add properties for any data values that help people discover entities using queries. For example, add the name of a photo album or the currency amount for a financial transaction.

Topics

Entities

📄 Integrating custom data types into your intents

Provide the system with information about the types your app uses to model its data so that your intents can use those types as parameters.

protocol AppEntity

An interface for exposing a custom type or app-specific concept to system experiences like Siri and the Shortcuts app.

protocol `FileEntity`

An entity that refers to a document or other file.

protocol `IndexedEntity`

`IndexedEntity` represents an App Entity decorated with an attribute set. A set of attributes that enable the system to perform structured indexing and queries of entities.

protocol `TransientAppEntity`

A type that represents a transient model object which exposes its interface to App Intents via properties. Note that `TransientAppEntity` types are not meant to be queried.

protocol `UniqueAppEntity`

An entity that will only ever have one value, such as global settings.

protocol `URLRepresentableEntity`

An app entity with a URL representation.

Entity identity

protocol `PersistentlyIdentifiable`

Defines a string that uniquely identifies a type. This is useful for maintaining the identity of a type, even when its type name is changed.

struct `EntityIdentifier`

A type that uniquely identifies a specific instance of an app entity.

protocol `EntityIdentifierConvertible`

An interface for converting between an entity's identifier and its string representation.

Entity content

class `EntityProperty`

A property wrapper that exposes the associated property to the system.

protocol `AppValue`

An interface that describes conceptual types you use in app intents.

protocol `AnyIntentValue`

A type the system uses to access a parameter or property value.

protocol `AppEnum`

An interface to express that a custom type has a predefined, static set of valid values to display.

`protocol URLRepresentableEnum`

An app enum with a URL representation.

Entity property macros

`macro ComputedProperty()`

A macro that creates a computed property for an AppEntity that allows for providing a get and/or set accessor

`macro ComputedProperty(title: LocalizedStringResource)`

A macro that creates a computed property for an AppEntity that allows for providing a get and/or set accessor

`macro ComputedProperty(indexingKey: PartialKeyPath<CSSearchableItemAttributeSet>)`

A macro that creates a computed property for an AppEntity that allows for providing a get and/or set accessor

`macro ComputedProperty(customIndexingKey: CSCustomAttributeKey)`

A macro that creates a computed property for an AppEntity that allows for providing a get and/or set accessor

`macro ComputedProperty(title: LocalizedStringResource, customIndexingKey: CSCustomAttributeKey)`

A macro that creates a computed property for an AppEntity that allows for providing a get and/or set accessor

`macro ComputedProperty(title: LocalizedStringResource, indexingKey: PartialKeyPath<CSSearchableItemAttributeSet>)`

A macro that creates a computed property for an AppEntity that allows for providing a get and/or set accessor

`macro DeferredProperty()`

A macro that creates an async property for an AppEntity that allows for providing an async get accessor

`macro DeferredProperty(title: LocalizedStringResource)`

A macro that creates an async property for an AppEntity that allows for providing an async get accessor.

Entity presentation

`struct` `DisplayRepresentation`

A type that describes the user interface presentation of a custom type.

`protocol` `DisplayRepresentable`

An interface for providing a dynamic visual representation of a specific type and instances of that type.

`protocol` `InstanceDisplayRepresentable`

An interface for providing the visual representation for an instance of a specific type.

`protocol` `TypeDisplayRepresentable`

An interface for providing the visual representation of a specific type.

`struct` `TypeDisplayRepresentation`

A type that describes the user interface presentation of a custom type.

`protocol` `StaticDisplayRepresentable`

An interface for providing a static visual representation of a specific type.

`protocol` `CaseDisplayRepresentable`

An interface for providing the visual representation for an iterable collection of values.

See Also

Parameters, custom data types, and queries

Adding parameters to an app intent

Enable people to configure app intents with their custom input values.

Integrating custom data types into your intents

Provide the system with information about the types your app uses to model its data so that your intents can use those types as parameters.

Parameter resolution

Define the required parameters for your app intents and specify how to resolve those parameters at runtime.

☰ **Entity queries**

Help the system find the entities your app defines and use them to resolve parameters.

☰ **Resolvers**

Resolve the parameters of your app intents, and extend the standard resolution types to include your app's custom types.