Transition (Native)

# Overview:

The user should be able to add transitions between two photos. Currently we only want to provide two simple transitions: Fade transition and Fly-in transition. We may expand the transition library in the future. So we need to design an interface for the transition feature.

This document only covers the native part. See the corresponding spec for the native interface design.

# Goals:

* Create an interface for the native component to interact with the transition library.
* Allow each transition to implement the transition logic without knowledge of WIC and Media Foundation.

# None Goals:

* Create a plug-in model.
* Implement the actual transition library.

# Design:

The native part is relatively simple, as it doesn’t need to interact with UI. Considering C++ doesn’t support interfaces, we provide a single abstract base class without any interfaces. Whether to remove the interface and use the abstract base class only is to be debated. The class is named TransitionBase, and is designed as below.

class TransitionBase

{

public:

int GetTransitionDuration();

void SetTransitionDuration(int value);

BYTE\* GetForegroundFrame();

void SetForegroundFrame(BYTE\* value);

BYTE\* GetBackgroundFrame();

void SetBackgroundFrame(BYTE\* value);

int GetFrameSize();

int GetFrameWidth();

void SetFrameWidth(int value);

int GetFrameHeight();

void SetFrameHeight(int value);

virtual BYTE\* GetOutputFrame(float time) = 0;

virtual void ParseXml(XmlParser\* pParser);

};

## Common properties

Certain properties/events/methods in the managed interface are not required in the native counterpart. Instead, the native base class requires information about each video frame’s size. Currently we hard code 800\*600 in the calling component, but this may change in the future, so the interface must be provided. Each transition is also required to provide an output frame.

## Deserialization

In the native part, we only need to deserialize the transitions from xml. We provide some common persistence logic in the TransitionBase class, while allow child classes to override it.