



Coherent GT for UE4
Artist quick start guide

version 1.0.0



1 Introduction to Coherent GT

Coherent GT is industry-leading UI middleware specially designed for games. Powered by HTML it gives you the ability to quickly create high performance UI with AAA quality.

The purpose of this guide is to give you quick overview of the UI design process. It essentially goes through the three main stages showed in the diagram below.

Note: This guide shows the desired workflow for artists who develop on Unreal Engine 4. The general principles of the proposed workflow, however, apply to all engines.

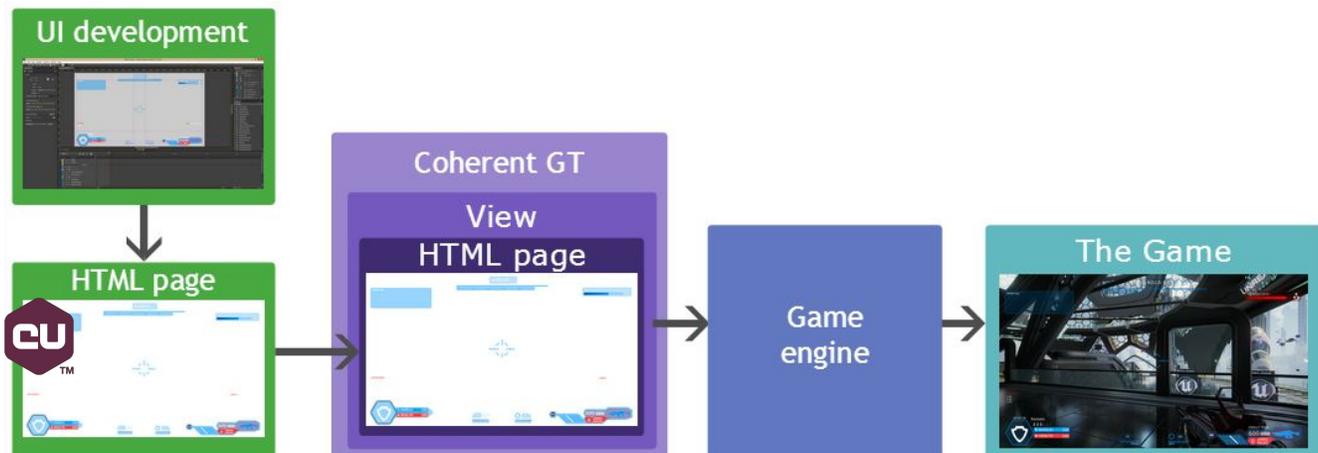
UI Design general workflow



The first stage is to **design the UI assets** in your favorite graphics editor. Coherent GT supports all major image formats such jpeg, png, gif, bmp; vector graphics through svg as well as various audio and video formats.

The second stage is to **compose the UI assets in HTML files**. This can be done either with HTML/CSS/JS coding or with WYSIWYG editors.

The third stage is **setup the HTML UI pages in Coherent GT views** in the **UE4** game engine. The Coherent GT **View** is basically the “canvas” on which the HTML page is rendered in the game engine by Coherent GT. The **View** allows you to perform various operations on the page, such as resizing, navigating to a different page, sending input events, binding, etc.



2 Design UI elements

Coherent GT supports all major raster image formats - **jpeg, png, gif, bmp** as well as **vector graphics** through **svg**. This gives you the freedom to design your ui assets on various image editors. On the diagram below you can see the software that can be used for the different types of UI image assets. Check the UI assets section of the general workflow guide for more information.

UI vector and bitmap assets creation

Bitmap (raster) assets

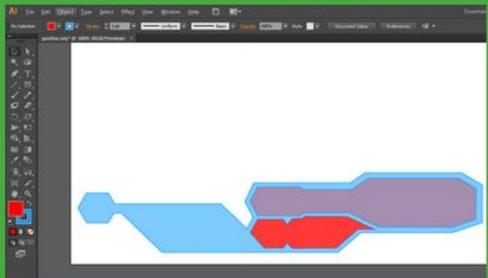
Artwork



software used: Corel Painter, Adobe Photoshop, Gimp, MyPaint, etc.

Vector assets

Scalable UI elements



software used: Adobe Illustrator, Corel Draw, Inkscape, etc.

Photos and various non-scalable UI elements



| Scanning object | |
|-----------------|----|
| Platinum | 78 |
| Gold | 43 |
| Uranium | 84 |

software used: Adobe Photoshop, Illustrator, Corel Paint shop pro, Gimp, etc.

CSS and JavaScript code to change svg vector assets at runtime

```
void CoherentBind(Coherent::UI::Binder* binder, Options* options)
{
    // specify the exposed name of the type
    f(auto type = binder->RegisterType("GameOptions", options));
    // expose normal data properties
    type->Property("Backend", &options->Backend);
    type->Property("Width", &options->Width);
    type->Property("Height", &options->Height);
    // expose read-only properties
    type->PropertyReadOnly("Username", &options->GetUsername());
    type->PropertyReadOnly("NetworkPort", &options->GetNetworkPort());
}

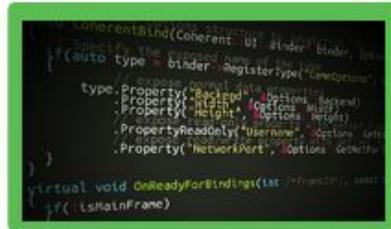
virtual void OnReadyForBindings(int /*frameId*/, const Options* options)
{
    if(!isMainFrame)
        return;
}

// when a routine is called in .ts with these arguments
m_View->BindCall("ApplyOptions", coherent::UI::GameOptions);
m_View->BindCall("GetLegacy", coherent::UI::GameOptions);
m_View->BindCall("GetGameTime", coherent::UI::GameOptions);
// add a handler for the routine using
m_View->RegisterForEvent("ViewReady", coherent::UI::GameOptions);
```



3 Compose the UI assets in HTML pages

As you can see on the diagram below there are multiple ways that you can compose your UI assets in HTML pages. You can choose the approach that best fits your needs and background. You can also use any combination of them.



```
CoherentBind(Coherent UI Binder Binder, ...  
    { (auto type = binder RegisterType("CoherentUI")  
      type.Property("Background", Options, Asset)  
      .Property("Height", Options, Asset)  
      .PropertyReadonly("Username", Options, Asset)  
      .Property("NetworkPort", Options, Asset)  
    }  
    virtual void OnReadyForBindings(LAS, ...  
    } (LsMainFrame)
```

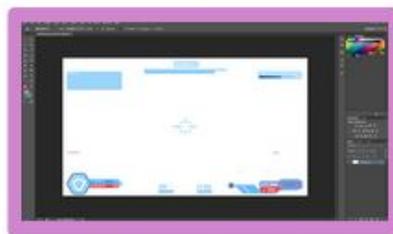
Web designer approach -
HTML/CSS/JavaScript coding



Powerful animations
and WYSIWYG editing
with Adobe Edge



Directly in the UE4
editor with the
Coherent Editor

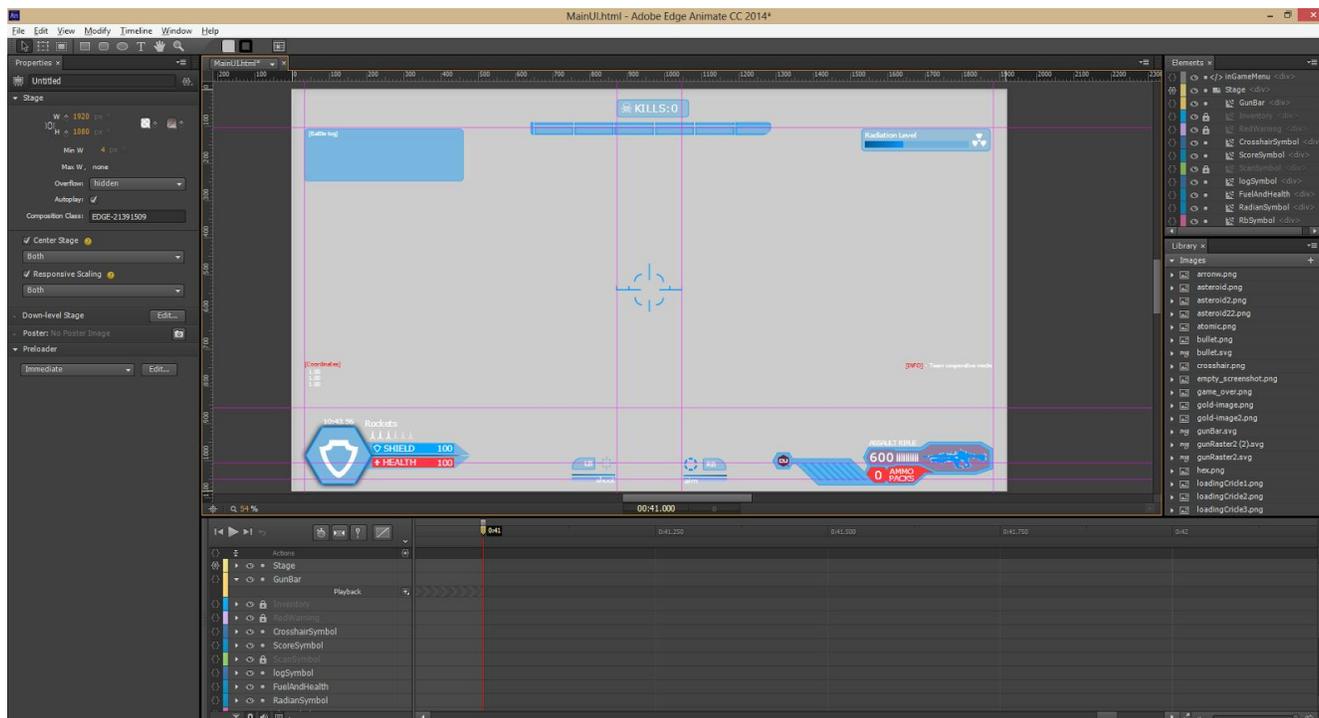


Rapid UI prototyping
with Adobe Photoshop



3.1 Powerful animations and WYSIWYG editing with Adobe Edge

Adobe Edge Animate is a powerful WYSIWYG editor that allows you to quickly create and animate HTML content.



Key features:

- WYSIWYG editing of HTML content or imported UI assets (images, video, audio)
- powerful animation options (timeline, animate along path, transitions, embedded animations)
- responsive rescaling (for resolution independent UI)

For detailed Adobe Edge Animate tutorials and how to use it to design UI for game you can check the following links:

<http://coherent-labs.com/blog/create-animated-game-hud-with-adobe-edge-animate-and-cohe>



[rent-ui/](#)

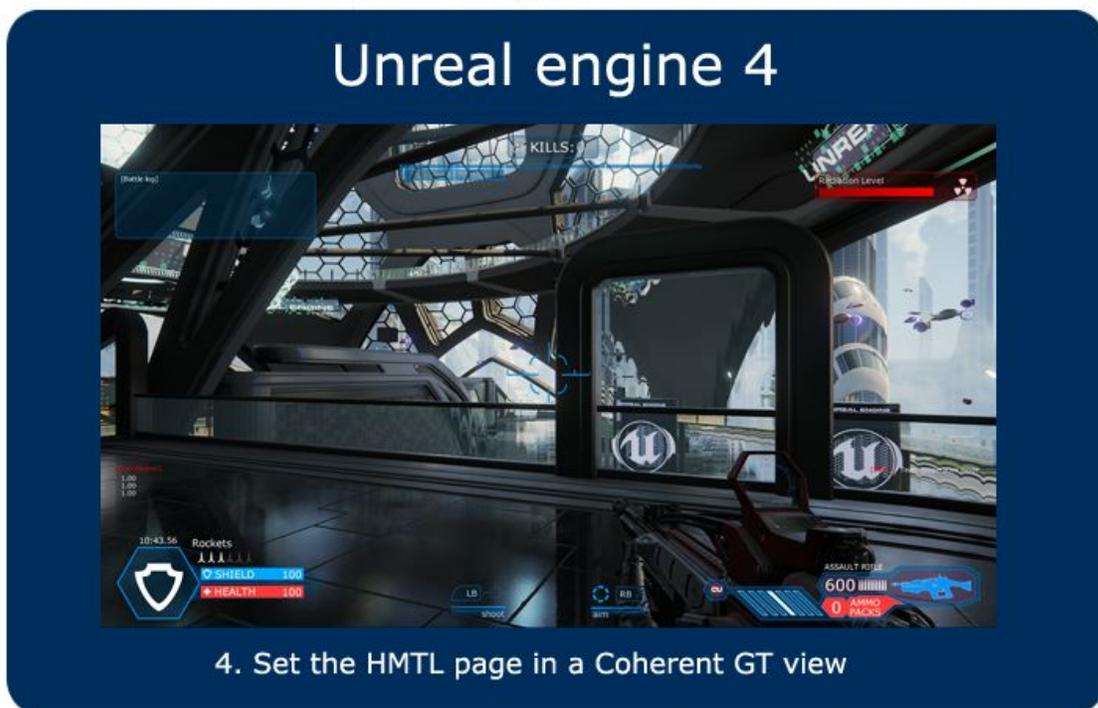
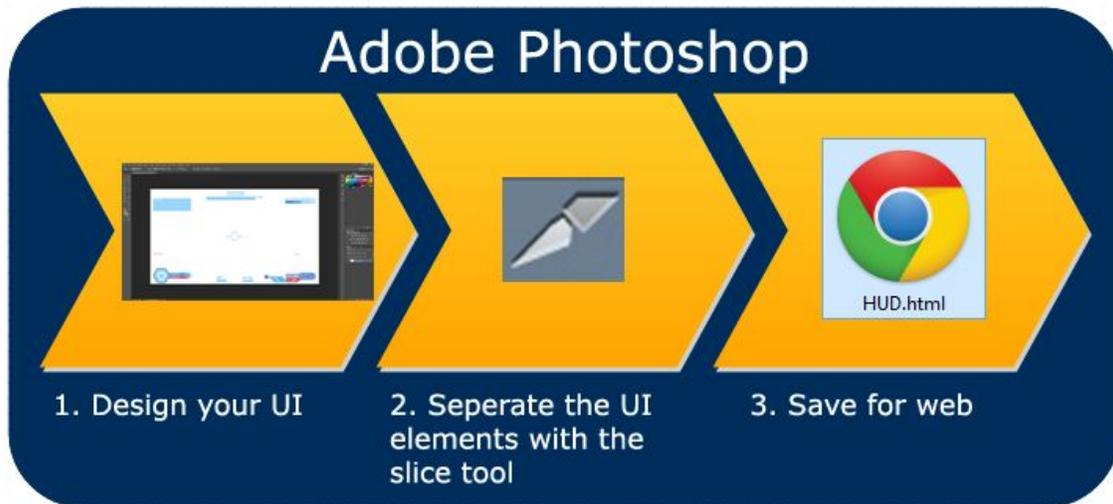
<http://coherent-labs.com/blog/create-animated-game-hud-with-adobe-edge-animate-and-coherent-ui-part-2/>

<http://coherent-labs.com/blog/3d-hologram-menu-tutorial-part-2-adobe-edge-animate/>

3.2 Rapid UI prototyping with Adobe Photoshop

Coherent GT is powered by HTML and gives you the unique possibility to prototype your UI in directly in Photoshop. Once your UI is complete you just need to define the separate UI elements using the slice tool and save the document using the “save for web” option in the “file” menu in Photoshop. A HTML page will be automatically generated. For more information check this article - <http://coherent-labs.com/?p=5819>



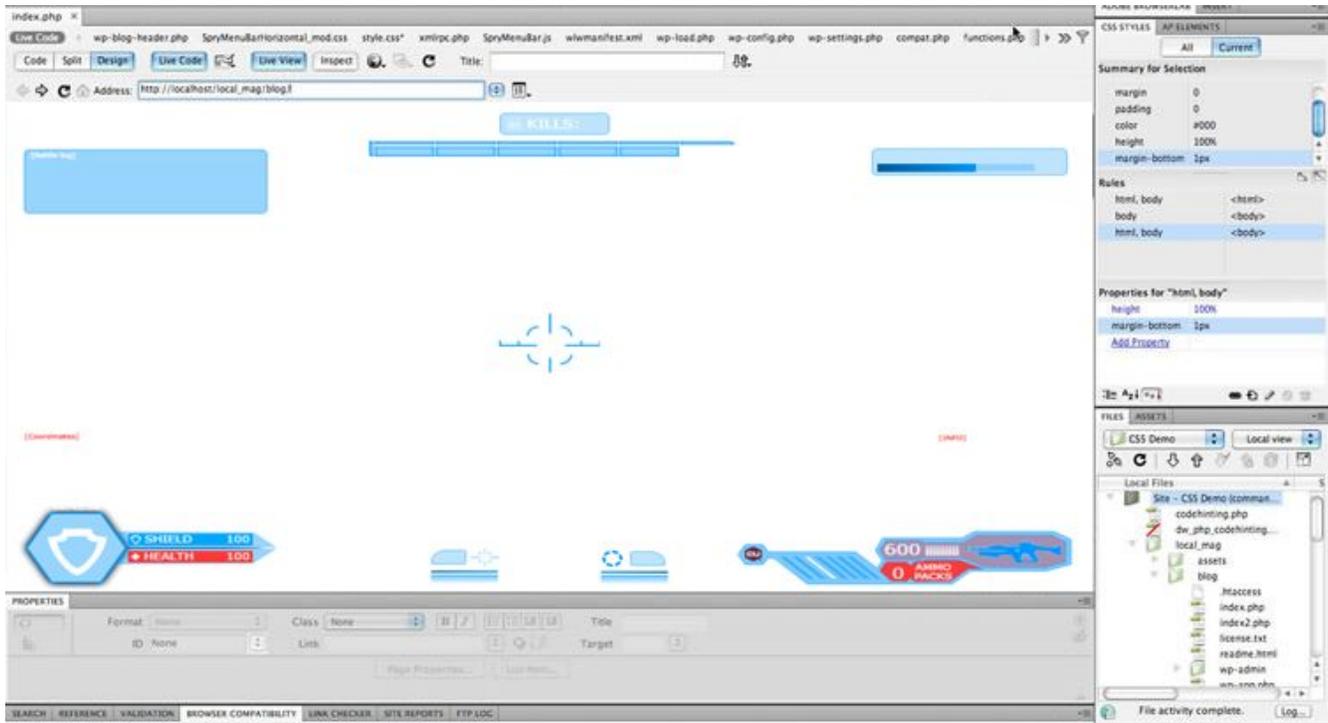


3.3 Web designer approach

If you have web designer experience you can easily use standard modern HTML5, CSS3, and JavaScript to compose your UI. For any functionality that your are trying to achieve you



can easily find practically endless number of free JavaScript frameworks. Some of the most popular JavaScript libraries are jQuery, Angular.js, Bootstrap.js, Backbone.js and others. If you prefer WYSIWYG editing you can use WYSIWYG web editors like Adobe Dreamweaver or Adobe Muse.



Here are a few links to get you started if you are new to web development:

HTML - <http://www.w3schools.com/html/>

CSS - <http://www.w3schools.com/css/>

JavaScript - <http://www.w3schools.com/js/>

3.4 Directly in the UE4 editor with the Coherent Editor (coming soon)

The Coherent Editor (which should be available very soon) will give you the unique ability to create HTML based UI directly in the UE4 editor!

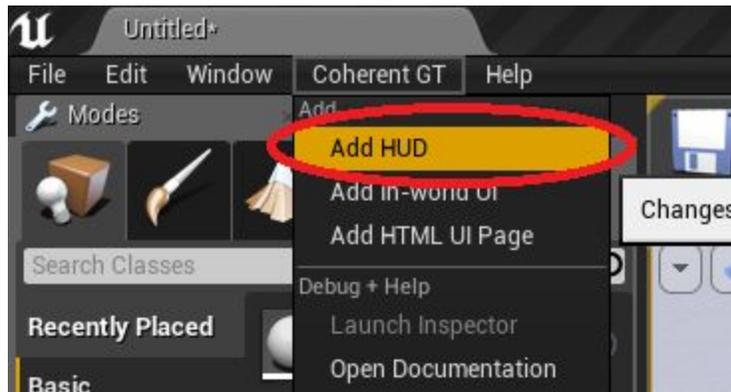


4 Setup the HTML UI pages in Coherent GT views

Once you have composed and animated your UI in HTML pages you just need to set each HTML page to a Coherent GT view. You can add Coherent GT views both as a HUD (to the main camera) or as objects in your 3D world (level).

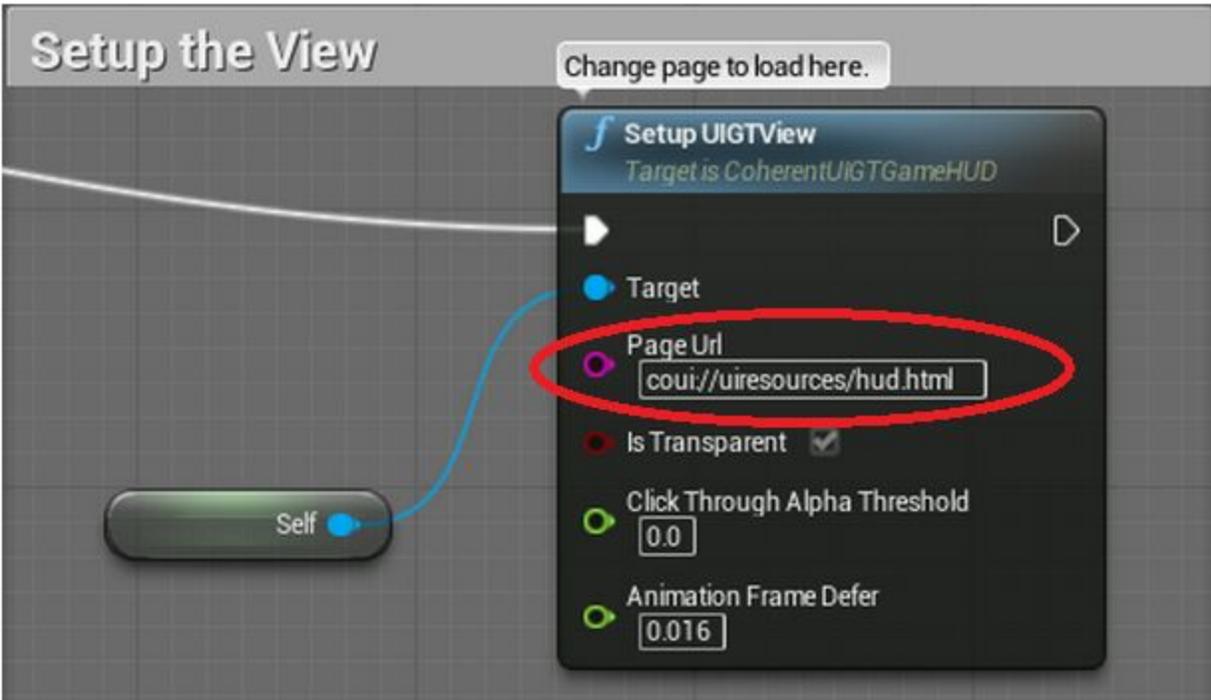
4.1 Add HUD

To add a view to the HUD from the Coherent GT menu, choose Add HUD. This will change the current GameMode's HUD class to `GTGameHUDBP` and will initialize it. Also, it will add a hud.html page in `<YourProjectDir>/Content/UIResources/` directory, if not already present; then this page will be opened in your default browser.



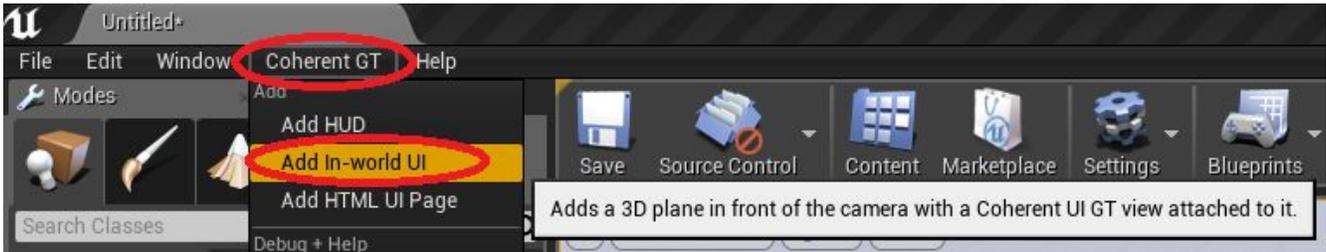
To set the HTML UI page to the added HUD view open `GTGameHUDBP` blueprint in the Blueprint Editor and set the URL of to the HTML page that you created.



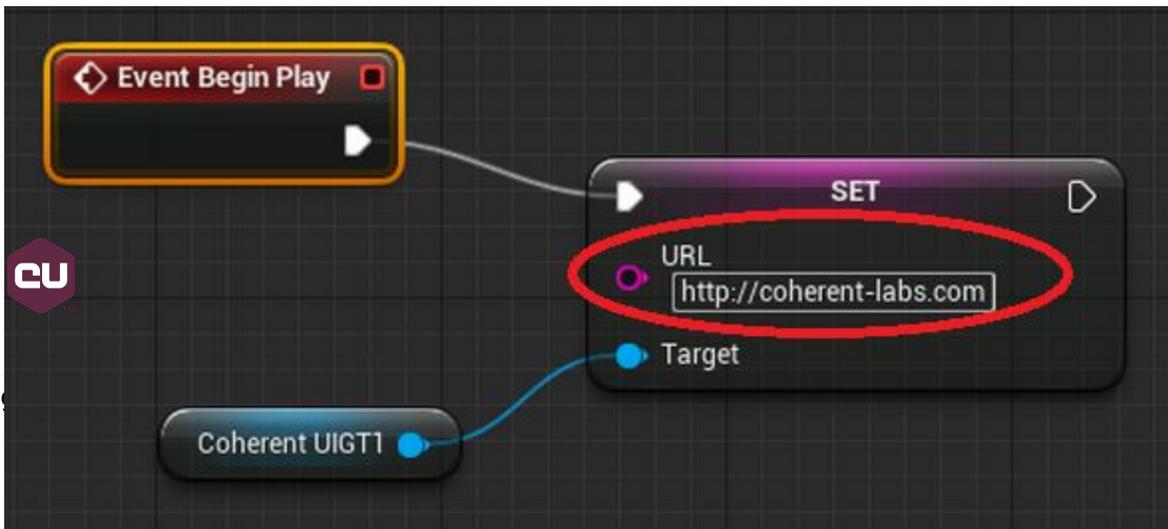


4.2 Add in world UI

To add in world UI choose from the Coherent GT menu -> Add In-world UI. This will add a `GTPlane` to your scene, just in front of the player. You can change its transform via the World Transform in the `Details` tab of the GTPlane.



To set the HTML page to the view click Edit GTPlane from the same tab and its blueprint will open.



1. Get a reference to the `CoherentUIGT` component in the EventGraph of the `GTPlane` blueprint.
2. Drag a pin from the reference and create `SetURL` node and set the url to `coui://uiresources/animation-demo.html`
3. Add a `Begin play`, connect it with the url setter and set the URL to the UI HTML page.

5 Additional notes

For more advance topics such as view setup, data binding, input handling and live views please refer to the Coherent GT for Unreal Engine 4 Guide

For more information about the general UI development workflow please refer to the Workflow guide <http://coherent-labs.com/Documentation/workflow-unreal-engine/>

