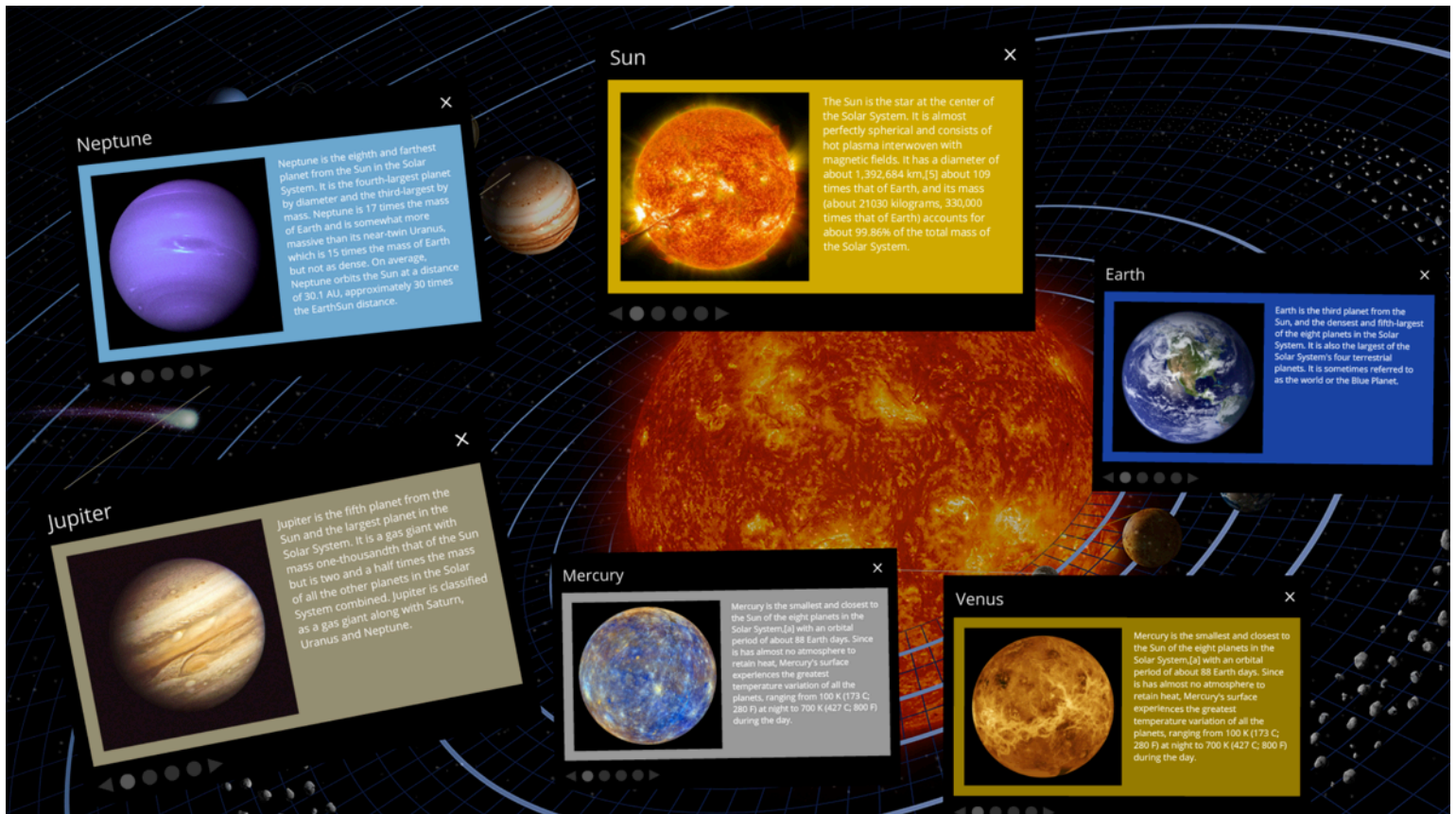# Open Exhibits
Solar System Manual

The solar system exhibit is a multitouch interface that allows users to select planets as image hotspots and explore the pop-up windows. Each planet is linked to an informational pop-up that contains a slideshow of images and descriptive text for each planet. Each pop-up can be rotated, scaled, and dragged. Pop-ups are tethered to the planet for easy identification. The exhibit also includes an attract screen.

The exhibit is fully configured in CML to support customization of a number of features. The exhibit can be customized to support your own subject, content, and style by altering the CML and media files. For example, font sizes and colors, background colors, amount of images, and image navigation buttons are all customizable.

Exhibit Folders

library/assets/
This folder contains all the images, backgrounds and css stylesheet.

library/swfs/
This folder contains the openexhibits_assets.swf

library/assets/
This folder contains all the images, backgrounds and stylesheet.

Exhibit CML

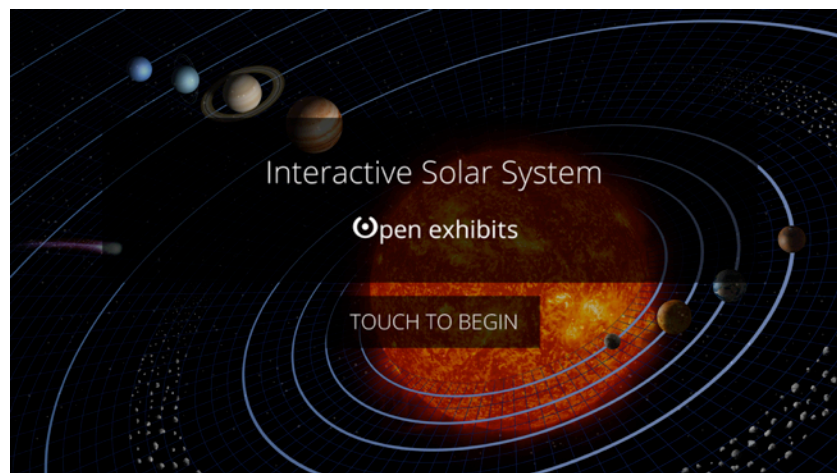### solar_application.cml (library/cml)

This file includes a background video and/or image. It also includes files for the rendering kit. The render kit is a CML template system that contains the renderer (cml template) and renderer data (content).

To change the background, replace the video src link and/or the image src link with the new file path.

```
<BackgroundKit>
        <Video src="library/assets/stars.mp4" x="50" y="50" width="1920" height="1020"
        autoplay="true" loop="true"></Video>
        <Image id="default-bg" src="library/assets/ss-background.png" visible="true"/>
</BackgroundKit>
```

To change the attract screen, replace the image src link with the new file path. The timout duration of the attract screen can be adjusted by changing the timeout attribute.

```
<AttractKit id="attract" timeout="5" tweenFades="true" tweenTime=".5" visible="true">
<Image src="library/assets/attract-screen.png" />
</AttractKit>
```

Below is the path to the file that includes the cml for the renderkit to produce each hotspot. It serves as the CML template for the pop-up windows.

```
<!-- Marker Renderer -->
<Include src="library/cml/renderers/planets.cml"/>
```

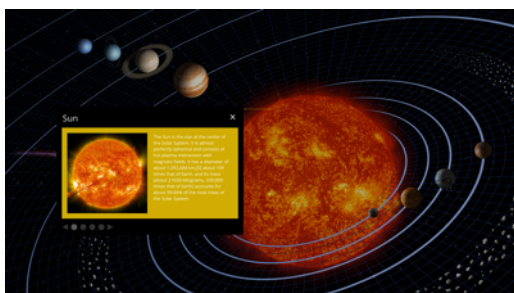**Below is the path to the file that includes cml to display the pop-up with text and slideshow.**

```
<!-- Viewer Renderer -->
<Include src="library/cml/renderers/viewers.cml"/>
```

planets/planets.cml

This file is where each planet is positioned and linked by id to the pop-up. The <link>Earth-PopUp</link> must match the <id>Earth-PopUp</id> in the planets/viewers.cml file. This creates the link between the image hotspot (planet) and the associated pop-up panel.

```
<RenderKit>
        <RendererData>
              <Hotspot>
                      <label>Earth</label>
                      <x>1600</x>
                      <y>600</y>
                      <link>Earth-PopUp</link>
                      <graphic>library/assets/overlays/earth-overlay.png</graphic>
                      <label>Earth</label>
                      <hotspot-class>Planets</hotspot-class>
                      <tether-color>0x1b45a6</tether-color>
              </Hotspot>
        </RenderKit>
</RendererData>
```

planets/viewers.cml

This file populates the pop-up with the title, slideshow and descriptive text for each planet. It serves as the content or data for the CML renderer or CML template.

```
<RenderKit>
      <RendererData>
            <Viewer>
                  <id>Earth-PopUp</id>
                  <title>Earth</title>
                  <bg-color>0x1b45a6</bg-color>
                  <slide-1-graphic>library/assets/Earth/earth01.jpg</slide-1-graphic>
                  <slide-1-text>Earth is the third planet from the Sun, and the densest and
                  fifth-largest of the eight planets in the Solar System.
                  It is also the largest of the Solar System's four terrestrial planets. It is
                  sometimes referred to as the world or the Blue Planet.</slide-1-text>
                  <slide-2-graphic>library/assets/Earth/earth02.jpg</slide-2-graphic>
                  <slide-2-text>Earth formed approximately 4.54 billion years ago, and life
                  appeared on its surface within one billion years.
                  Earth's biosphere then significantly altered the atmospheric and other
                  basic physical conditions, which enabled the proliferation
                  of organisms as well as the formation of the ozone layer, which together
                  with Earth's magnetic field blocked harmful solar radiation,
                  and permitted formerly ocean-confined life to move safely to land.</slide-
                  2-text>
                  <slide-3-graphic>library/assets/Earth/earth03.jpg</slide-3-graphic>
                  <slide-3-text>The physical properties of the Earth, as well as its
                  geological history and orbit, have allowed life to persist.
                  Estimates on how much longer the planet will be able to continue to
                  support life range from 500 million years (myr), to as long
                  as 2.3 billion years (byr).Earth's lithosphere is divided into several rigid
                  segments, or tectonic plates, that migrate across the
                  surface over periods of many millions of years.</slide-3-text>
                  <slide-4-graphic>library/assets/Earth/earth04.jpg</slide-4-graphic>
                  <slide-4-text>About 71% of the surface is covered by salt water oceans,
                  with the remainder consisting of continents and islands which together
                  have many lakes and other sources of water that contribute to the
                  hydrosphere. Earth's poles are mostly covered with ice that is the solid ice
                  of the Antarctic ice sheet and the sea ice that is the polar ice
                  packs.</slide-4-text>
            </Viewer>
      </RenderKit>
</RendererData>
```

renderers/planets.cml

This file contains the data that is linked to the planets/planets.cml file.

```
<RenderKit>
      <rendererData id="hotspots" dataPath="planets/planets.cml">
            <Hotspot id="{label}" class="{hotspot-class}" x="{x}" y="{y}" component="{link}"
            visible="true" tether="true" tetherColor="{tether-color}">
```

```
                    <Button dispatch="down:hotspot" hit="img" initial="graphic"
                    down="graphic" up="graphic" out="graphic">
                            <Image id="graphic" src="{graphic}" />
                    </Button>
            </Hotspot>
        </ rendererData >
</RenderKit>
```

renderers/viewers.cml
This file contains the data that is linked to the planets/viewers.cml file.

```
<RenderKit>
        <RendererData id="viewers" dataPath="planets/viewers.cml">
                <SlideshowViewer id="{id}" x="{x}" y="{y}" front="front" mouseChildren="true"
                linkSlideshows="true" autoTextLayout="false" visible="false">
                        <Graphic targetParent="true" shape="rectangle" width="700"
                        height="480" lineStroke="0" fill="color" color="0x000000">
                                <Text width="200" x="20" y="20" font="OpenSansRegular"
                                fontSize="30" color="0xffffff" text="{title}" />
                        </Graphic>
                        <Graphic shape="rectangle" width="660" height="340" x="20" y="80"
                        lineStroke="0" alpha="1" fill="color" color="{bg-color}" targetParent="true"
                        mouseChildren="false">
                                <Slideshow x="{slideshow-x}" y="{slideshow-y}" id="front"
                                loop="true" fadeDuration="1000" rate="2000" autoplay="false">
                                        <Container id="slide-1" x="20" y="20">
                                                <Image src="{slide-1-graphic}" width="300" x="0"
                                                y="0" />
                                                <Text multiline="true" wordWrap="true"
                                                width="300" height="400" x="320" y="0"
                                                font="OpenSansRegular" fontSize="15"
                                                color="0xffffff">{slide-1-text}</Text>
                                        </Container>
                                        <Container id="slide-2" x="20" y="20">
                                                <Image src="{slide-2-graphic}" width="300" />
                                                <Text multiline="true" wordWrap="true"
                                                width="300" height="400" x="320" y="0"
                                                font="OpenSansRegular" fontSize="15"
                                                color="0xffffff">{slide-2-text}</Text>
                                        </Container>
                                <Container id="slide-3" x="20" y="20">
                                        <Image src="{slide-3-graphic}" width="300" />
                                        <Text multiline="true" wordWrap="true" width="300"
                                        height="400" x="320" y="0" font="OpenSansRegular"
                                        fontSize="15" color="0xffffff">{slide-3-text}</Text>
                                </Container>
                                <Container id="slide-4" x="20" y="20">
                                        <Image src="{slide-4-graphic}" width="300" />
```

```
                              <Text multiline="true" wordWrap="true" width="300"
                              height="400" x="320" y="0" font="OpenSansRegular"
                              fontSize="15" color="0xffffff">{slide-4-text}</Text>
                      </Container>
              </Slideshow>
      </Graphic>
              <RadioButtons x="20" y="440" id="page-buttons" pageButtons="true"
              labels="" absOffset="true" horizontalOffset="10" verticalLayout="false"
              selectedColor="0xffffff" selectedFillRatio="1" fontAlpha="0" f
              ontSize="23" alpha="0.2"/>

              <Gesture ref="n-drag" gestureOn="true"/>
              <Gesture ref="n-scale" gestureOn="true"/>
              <Gesture ref="n-rotate" gestureOn="true"/>
              <Include src="library/cml/buttons/closeButton.cml"/>
      </SlideshowViewer>
  </RendererData >
</RenderKit>
```

buttons/closeButton.cml
This file creates the close button on the pop-ups.

Exhibit Actionscript

src/Main.as
This file is the main Actionscript file that includes the package import files and main
functions.