

Assignment - Locators

Assignments – arrowLocator.py

- **Topics Covered**

Implement a custom locator with MPxLocatorNode. It demonstrates working steps you need to follow to draw custom locator in Maya viewport.

- **Overview**

In this project, we will implement a custom locator; it has a unit attribute “windDirection”. This locator is drawn as a big arrow in the Maya viewport. You can change the direction of the locator by retrieving its “windDirection” attribute and rotating corresponding angles when drawing the locator node with OpenGL calls.

- **Exercises**

1. Open arrowLocator.py, the skeleton of the arrowLocator has already been provided.
2. In initialize() function, create “windDirection” as a unit attribute and add it onto the node.

In draw() function, get value of the “windDirection” attribute and add necessary calls for drawing.

Relevant classes and methods:

```
MPxNode::thisMObject()  
MPlug::getValue()  
M3dView::beginGL()  
M3dView::endGL()
```

3. Implement both initializePlugin() and uninitializePlugin() functions to handle registration and de-registration of the arrowLocator node.

Relevant classes and methods:

```
MFnPlugin::registerNode ()  
MFnPlugin::deregisterNode ()
```

- **Result**

After you built and load the plug-in arrowLocator.mll, execute the follow command:

```
createNode arrowLocator;
```

you will find a locator created in the viewport, open AE, find “windDirection” attribute and change its value, the locator will be rotating according to the value you set.