

# HERE Maps API - Utility class Vector3D

This article explains how to use the Vector3D utility class.

## Introduction

This is a class representing a three dimensional vector. Full description is here:

[http://developer.here.net/docs/maps\\_js/topics\\_api\\_pub/nokia.maps.util.Vector3D.html](http://developer.here.net/docs/maps_js/topics_api_pub/nokia.maps.util.Vector3D.html)

## Usage examples

Let's create a new Vector3D object:

```
>>> myVector = new nokia.maps.util.Vector3D (10, 10, 10) ;
```

This would return an object containing:

```
Object { x=10, y=10, z=10}
```

The "add(other)" method would create the sum of this vector and the added one.

We will create two Vector3D's and then create the third based on adding the 2nd to the 1st Vector3D.

```
>> myVector1 = new nokia.maps.util.Vector3D (10, 10, 10) ;  
>> myVector2 = new nokia.maps.util.Vector3D (20, 20, 20) ;  
>> myVector3 = myVector1.add(myVector2);
```

We would now have myVector3 to contain:

```
Object { x=30, y=30, z=30 }
```

With the method "angle" we can request, as the name says the relative angle: angle ([px, [py, [intertX, [intertY]]]]) : Number

Example on requesting the angle for myVector3:

```
>>> myVector3.angle();
```

Would return us a numeric value as follows:

```
45.000000000000001
```

And let's try one more operation with the "subtract" method. With it we can get the difference between two vectors:

```
>>> subtracted = myVector3.subtract(myVector1);
```

Would return us:

```
Object { x=20, y=20, z=20}
```

Feel free to try the other methods too, used in a similar manner.

## Description of the angle method:

```
angle ([px, [py, [intertX, [intertY]]]]) : Number
```

Returns the angle of this vector in decimal degree to the given point within a coordinate system that goes positive to top/right.

For screen coordinates the Y-axis is inverted. For a normalized vector the method can be called without parameters to return it's normalized angle.

### Parameters:

{Number} [px]: The x-coordinate of the point to which the angle shall be calculated, if not given zero is used.

{Number} [py]: The y-coordinate of the point to which the angle shall be calculated, if not given zero is used.

{Boolean} [intertX]: If given and true, the x-axis is inverted, therefore the coordinates are increasing to the left and decreasing to the right.

{Boolean} [intertY]: If given and true, the y-axis is inverted, therefore the coordinates are increasing to the bottom and decreasing to the top.

### Returns:

{Number} The angle of this vector in degree, relative to the given coordinate.

## Tested with

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- Firefox 12.x