Getting Stepped Random Values from Config

You would be familiar with retrieving a random value from the config by writing:

```
[Values]
Randoms = 0 ~ 1999
```

And in code:

```
if (orxConfig_PushSection("Values")){
    orxU32 value = orxConfig_GetU32("Randoms");
    orxLOG ("Value: %d", value);

    orxConfig_PopSection();
}
```

This will give you a random number, eg:

```
Value: 1675
```

Stepped Integers

You can also define **stepped** random values using the following format:

```
[Values]
Angles = 0 ~ 45 ~ 360

orxU32 value = orxConfig_GetU32("Angles");

Value: 270
```

In the example above, $0 \sim 45 \sim 360$ would mean to define a range of values between 0 and 360, 45 steps apart.

Other examples would be:

```
0 \sim 1 \sim 10 (standard number range of 1 to 10, steps of 1) 0 \sim 1 \sim 1 (like a binary switch 0 or 1, same as 0 \sim 1) 1 \sim 5 \sim 100 (1 to 100 in steps of 5) 0 \sim 2 \sim 10 (an even number between 0 to 10)
```

Code examples

You can also do this from code using any of the following functions:

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- orxMath_GetSteppedRandomFloat
- 2. orxMath GetSteppedRandomU32
- 3. orxMath_GetSteppedRandomS32
- 4. orxMath GetSteppedRandomU64
- orxMath_GetSteppedRandomS64

An example:

```
orxFLOAT val = orxMath_GetSteppedRandomFloat(1, 100, 2.1);
orxLOG ("Value: %f", val);

11.50000
```

So the above would be floats 1 to 100 in steps of 2.1. You can get more details about those functions here: http://orx-project.org/orx/doc/html/group orx math.html

Stepped Vectors

A little tricker, but the same nonetheless:

```
[Values] MyRandomVector = (1, 3, 5) \sim (0, 0.1) \sim (2, 4, 6)
```

- X will be unconstrained between 1 and 2 (step = 0)
- Y will be between 3 and 4 with a step of 0.1 and;
- Z will be unconstrained between 5 and 6 (no Z component, which means: Z = 0)

More details

You can get more detail and examples in the Creation Template here or in your local repo of Orx.

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