Factory

Pattern Use Location

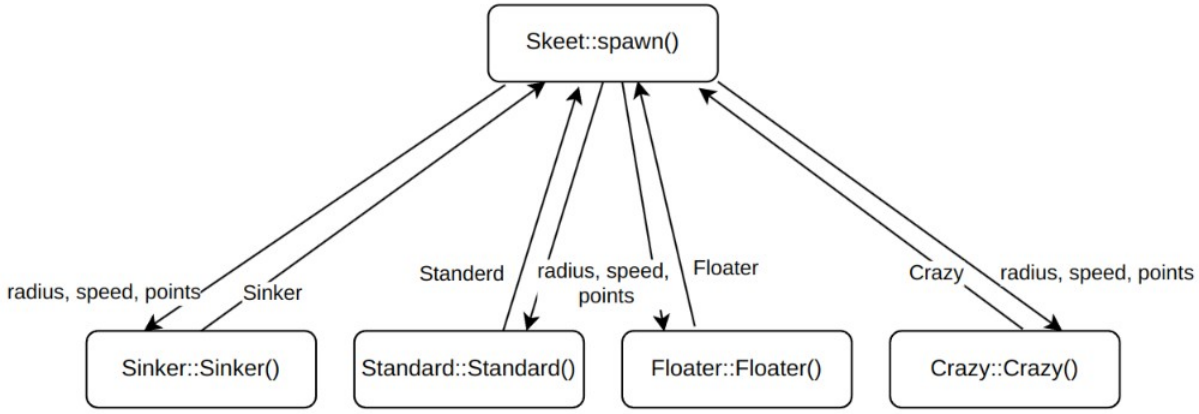
The factory pattern will be used in the Skeet::spawn function. This should simplify the work that Skeet::spawn will have to do. It will also make reduces the ability for birds to be set incorrectly for the level they are on.

Describe Implementation

This pattern will be called in place of the simple object creation patterns in the spawn function. It be a class Factory class with a few variations of factory functions that represent the options for the birds on each level of the skeet game.

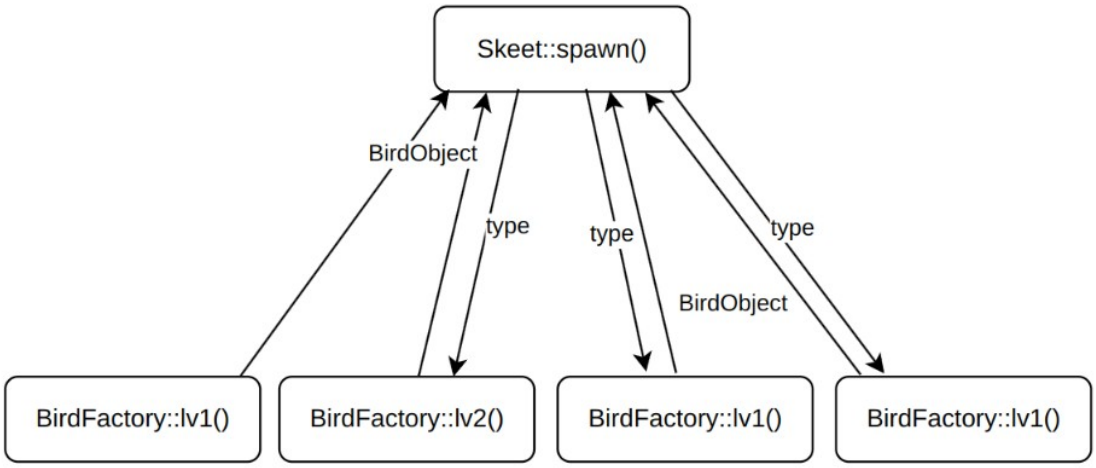
Before

View 1 – Structure Chart

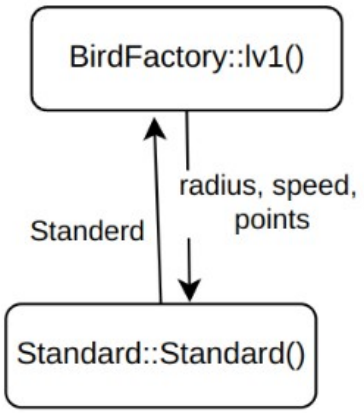


After

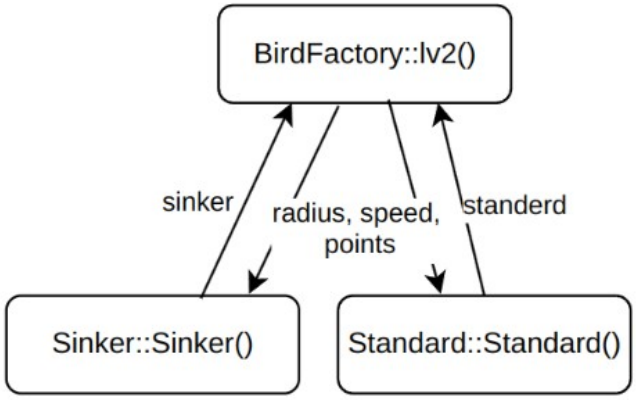
View 1 – Skeet:spawn



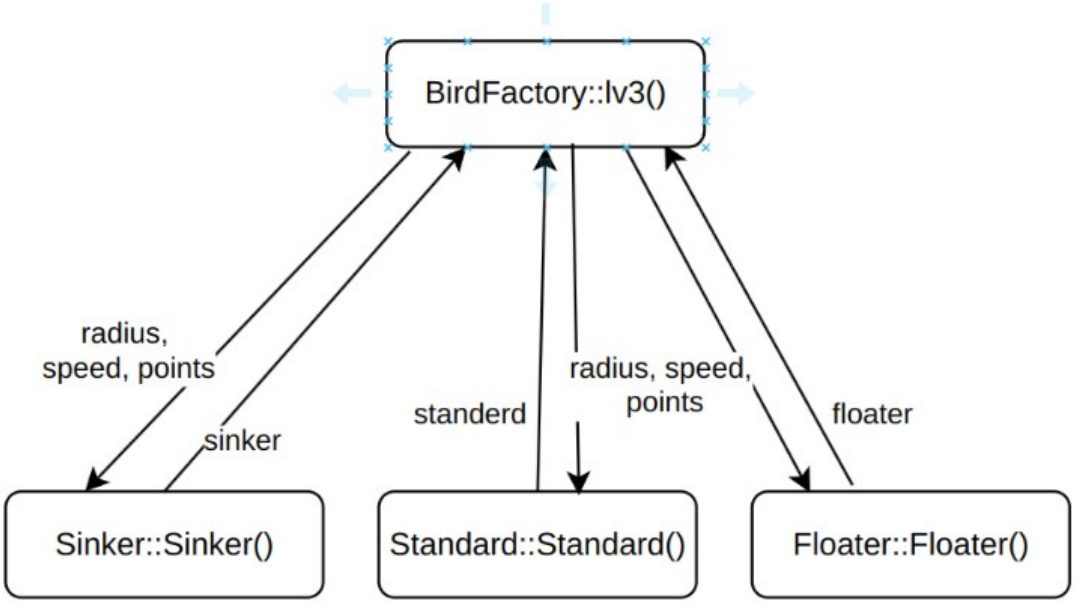
View 2 – BirdFactory::lv1



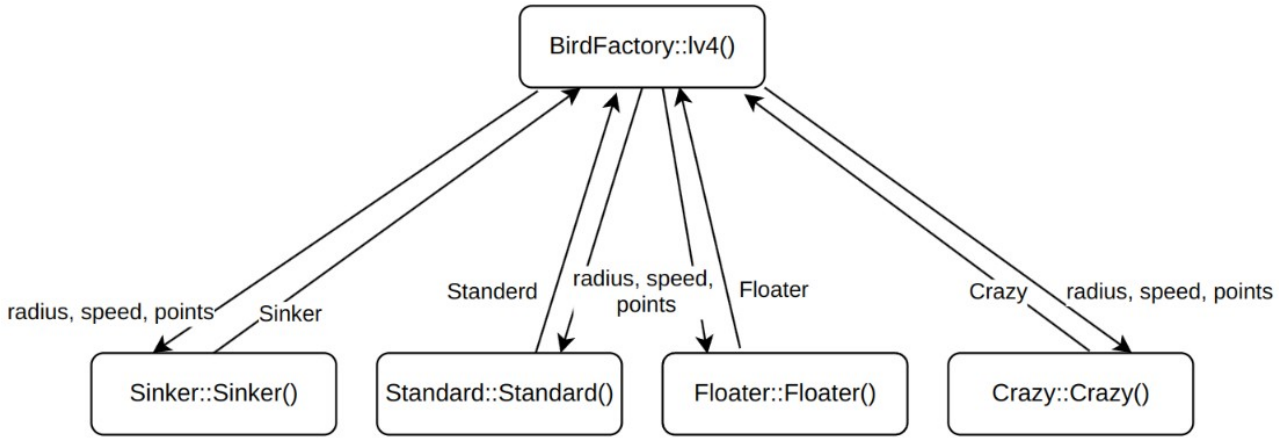
View 3 – BirdFactory::lv2



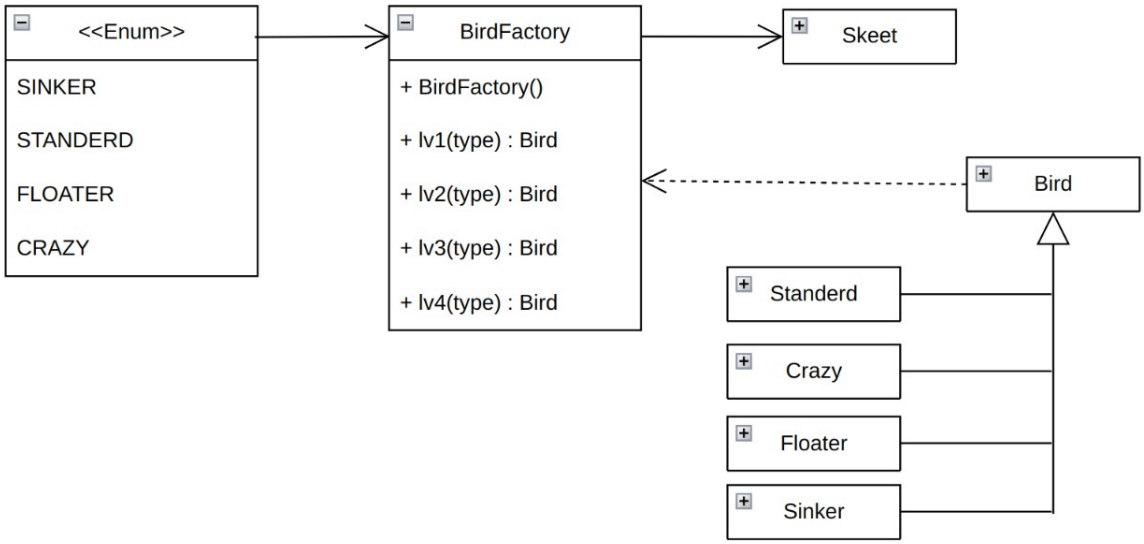
View 4 – BirdFactory::lv3



View 5 – BirdFactory::lv4



View 6 – BirdFactory Class Diagram



View 7 – Pseudo Code

```
class BirdFactory

    lv1()
        return Standard(30.0, 7.0)



    lv2(type)
        size = 25.0
        switch type
            case STANDARD
                return Standard(size, 7.0, 12)
            case SINKER
                return Sinker(size)
        assert(false)
        return null

    lv3(type)
        size = 20.0
        switch type
            case STANDARD
                return Standard(size, 5.0, 15)
            case SINKER
                return Sinker(size, 4.0, 22)
            case FLOATER
                return Floater(size)
        assert(false)
        return null
```

```
lv4(type)
    size = 15.0
    switch type
        case STANDARD
            return Standard(size, 4.0, 18)
        case SINKER
            return Sinker(size, 3.5, 25)
        case FLOATER
            return Floater(size, 4.0, 25)
        case CRAZY
            return Crazy(size)
    assert(false)
    return null
```