# Operation-based CRDTs
## From a programmer's perspective

```haskell
-- | An effector applies an operation on a state to produce a new state
class Effector t op | t → op where
  applyOperation :: op → t → t


-- | A generator is a way of expressing state modifications
-- | as  operations that can be sent over the network
class Generator t op | t → op where
  generateOperations :: t → t → Array op
```

```
           |\_/|
           | @ @   Woof!
           |   <>
           |  _/\_____ ___ ((|¯|))
           |_|        |   |  `--'|
          _|         |    |     |
         /_/_____/___/_____|
```

**This talk mainly focuses
State-based CRDTS, however …**