

Modular Monolith

The Best of Both Worlds



About Me

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Slides and more are available at <http://tech.sethkraut.com>



Architecture



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Evaluating Architecture

A good design is not the one that correctly predicts the future, it's one that makes adapting to the future affordable.

— Venkat Subramaniam



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First, there was the monolith



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Monolith Advantages



Big Ball of Mud



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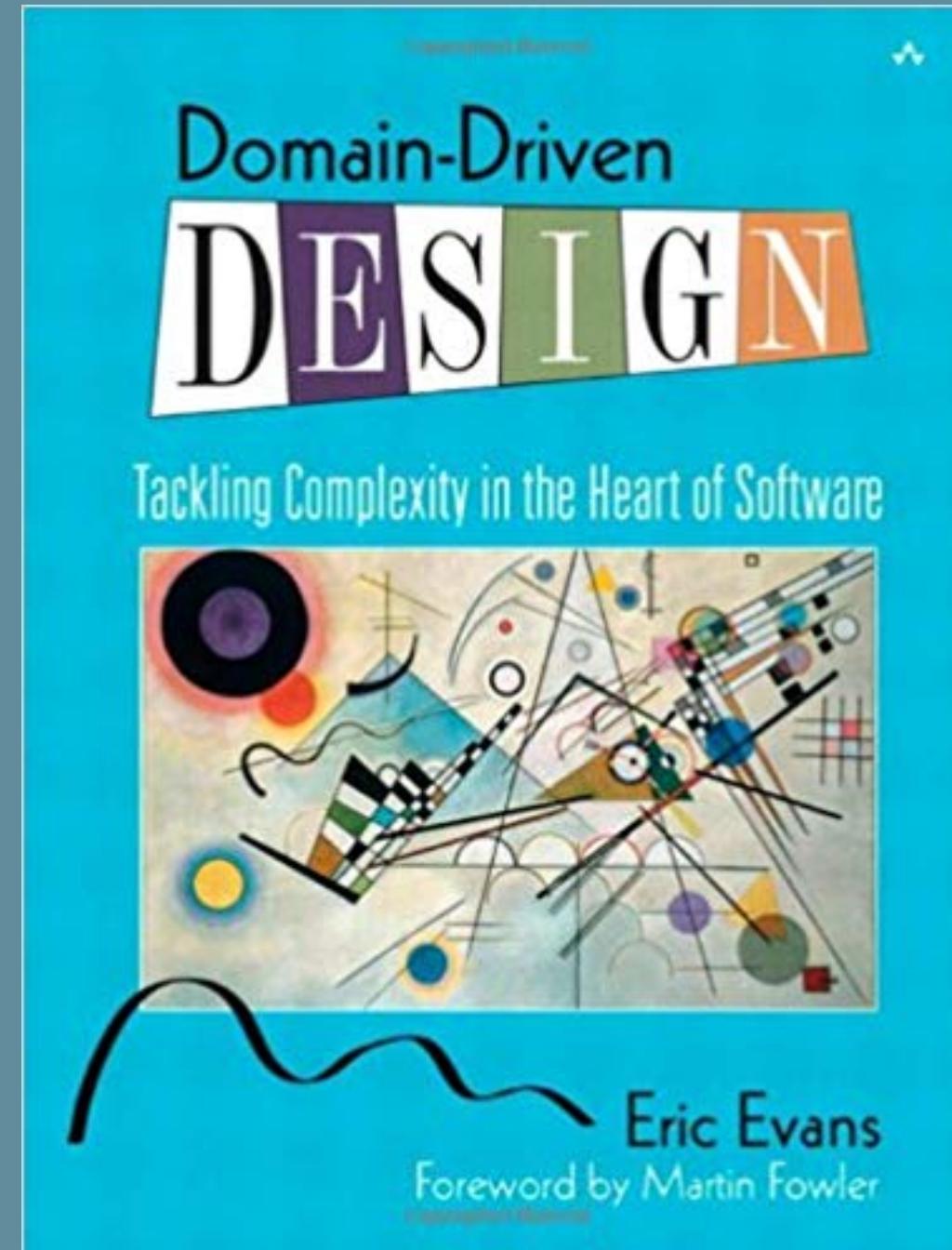
Conway's Law

organizations which design systems ... are constrained to produce designs which are copies of the communication structures of these organizations.

— Melvin Conway



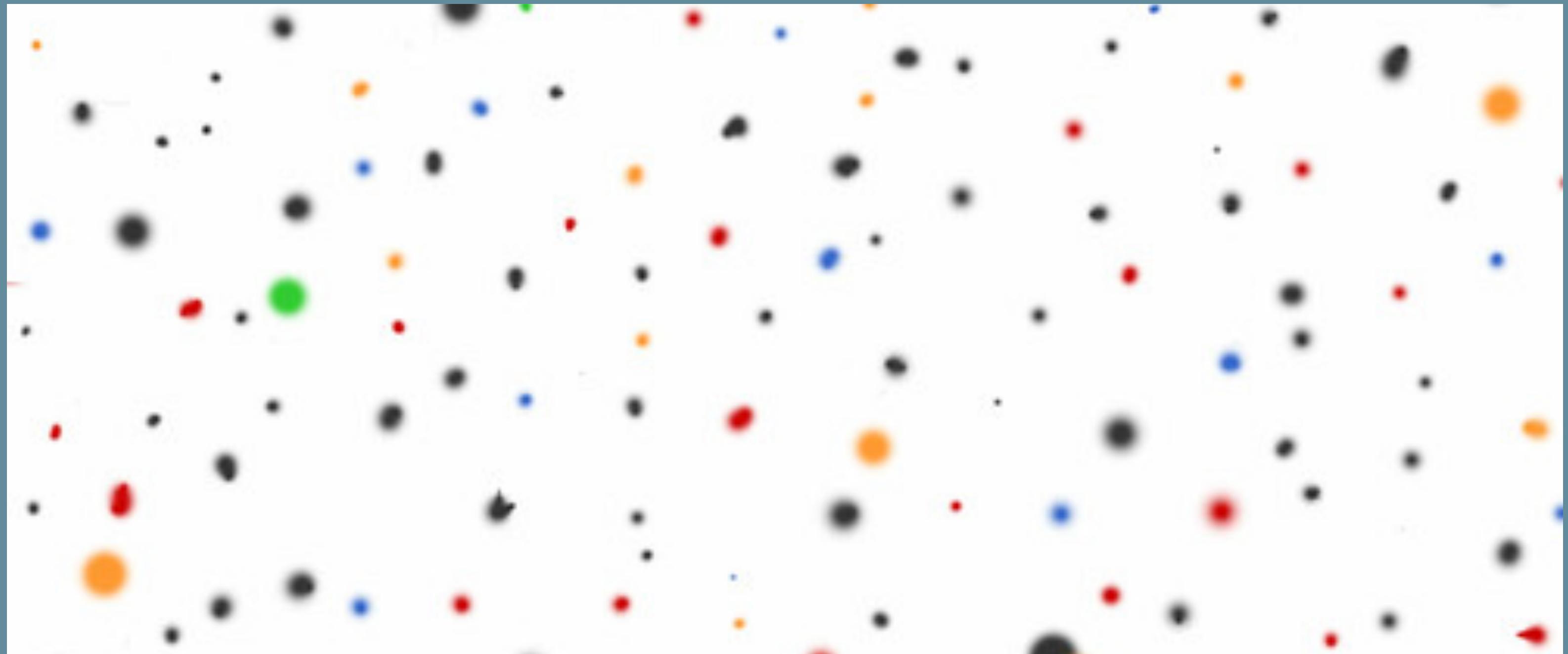
Domain Driven Design



Bounded Context



Microservices



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Microservice Advantages



"2008_11_07_Köln_121410" by Timo_Beil is licensed under CC BY-SA 2.0

Complexity



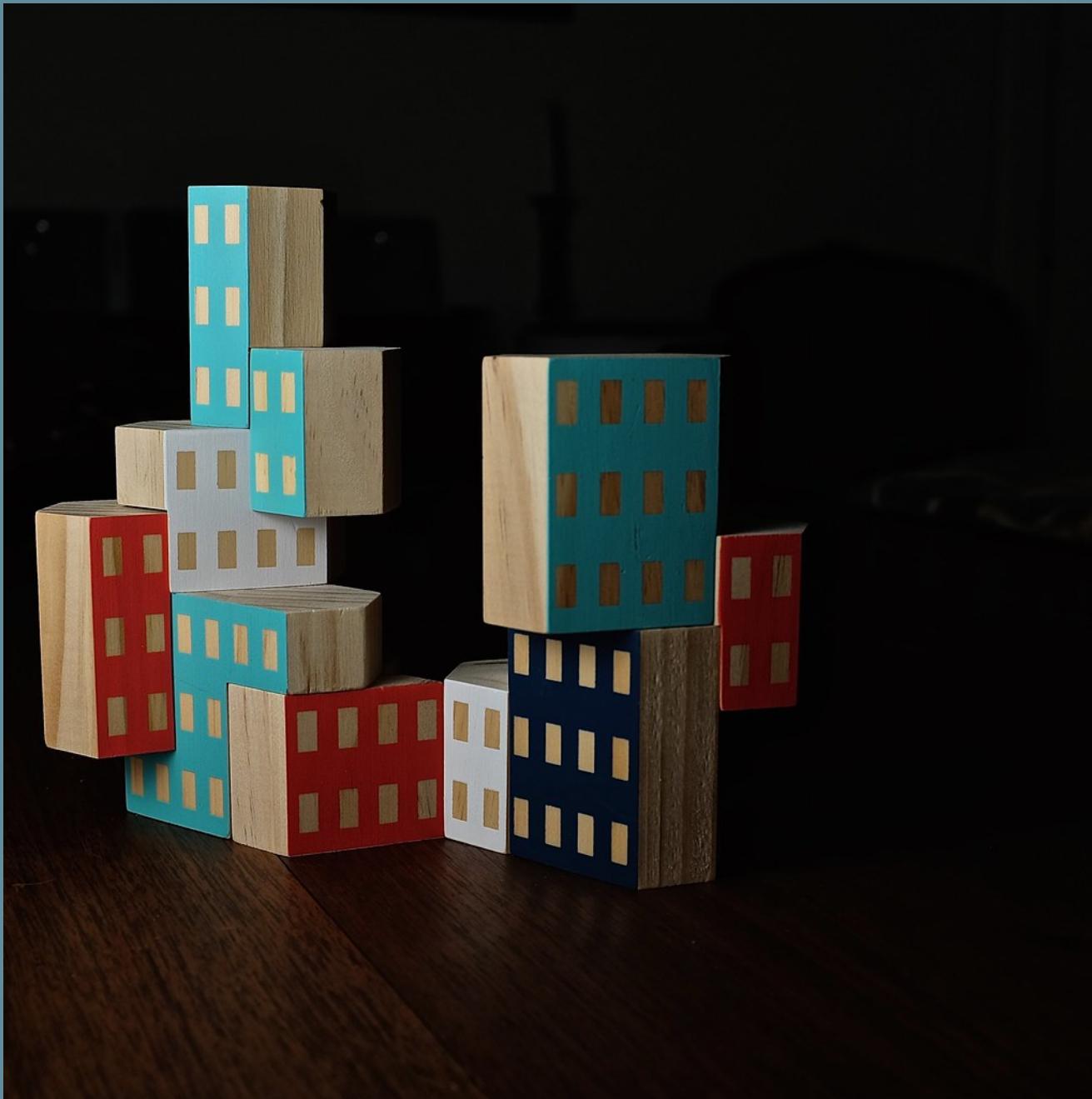
"20080810 - final r2d2 setup 16" by bpende is licensed under CC BY 2.0

Tradeoffs



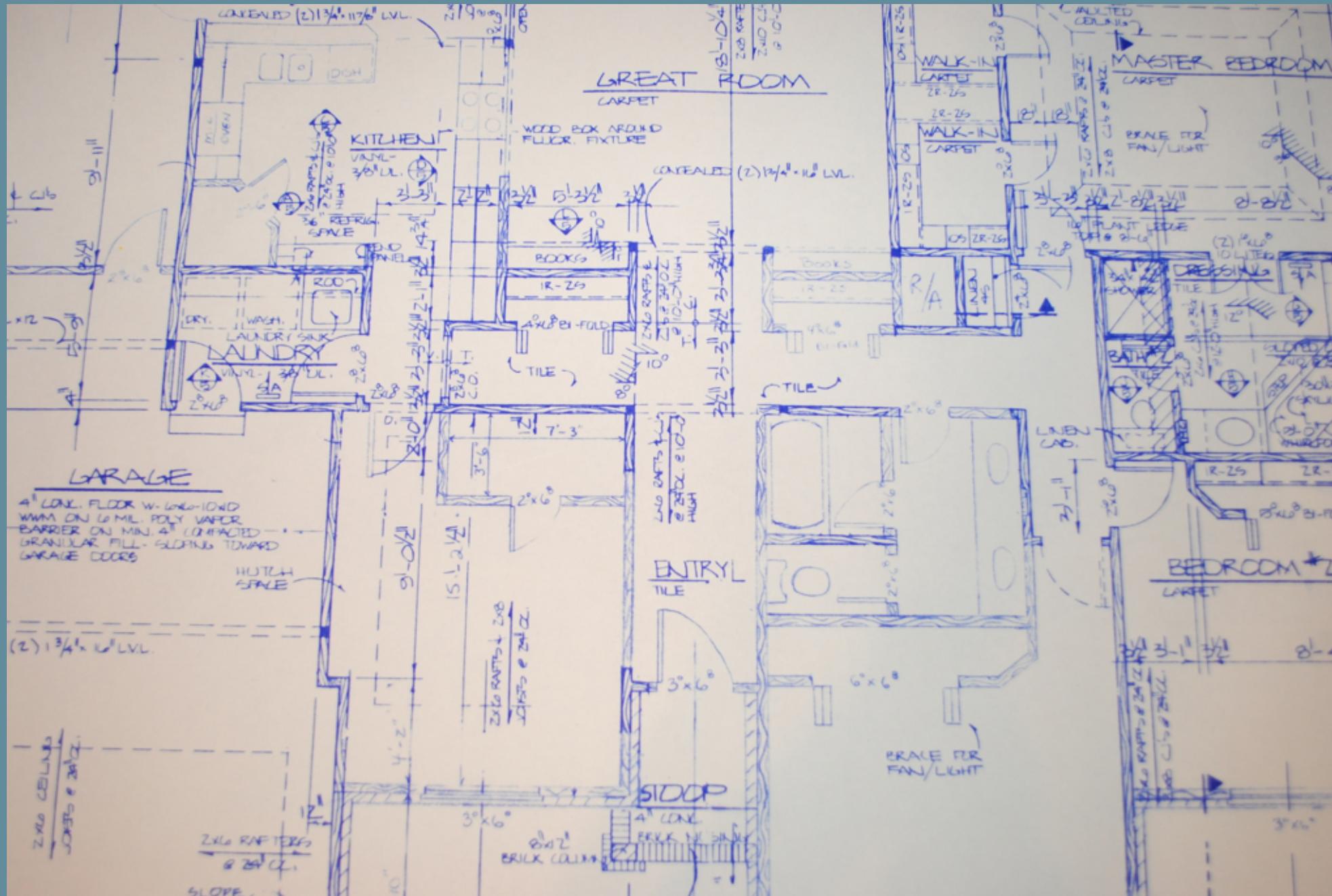
"Scales - Gold, circa 1850s" is licensed under CC BY 4.0

Modular Monolith



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Modular Monolith Advantages



Requires Some Thought



Comparison

Easy

Monolith



Modular



Scalable



Microservice



Modular



Splitting a Monolith



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A Note



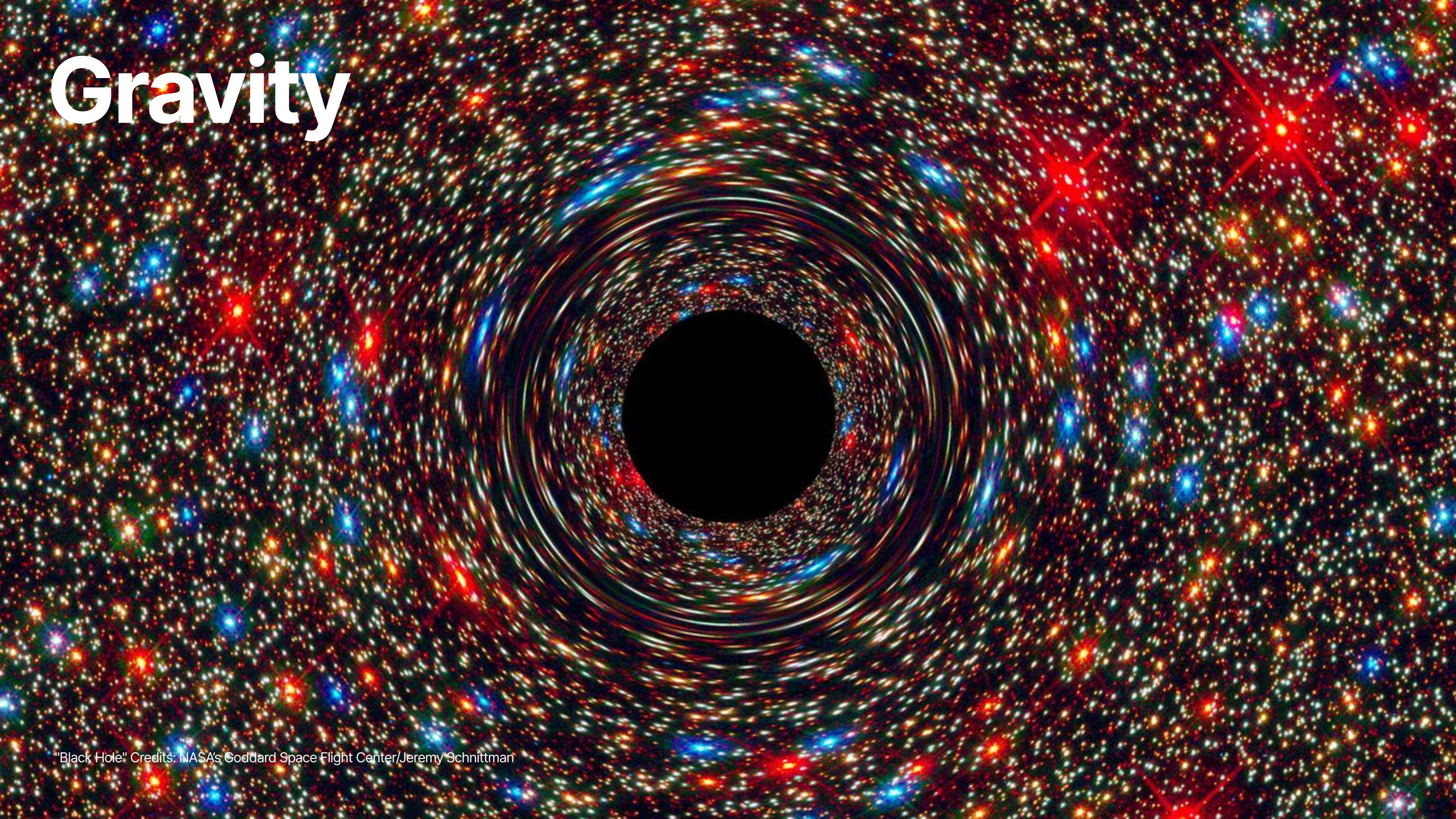
Rules

- The best piece to split is the easiest
- Perfect is the enemy of the good

Jenga - "IMG_2404" by n.hewson is licensed under CC BY 2.0



Gravity



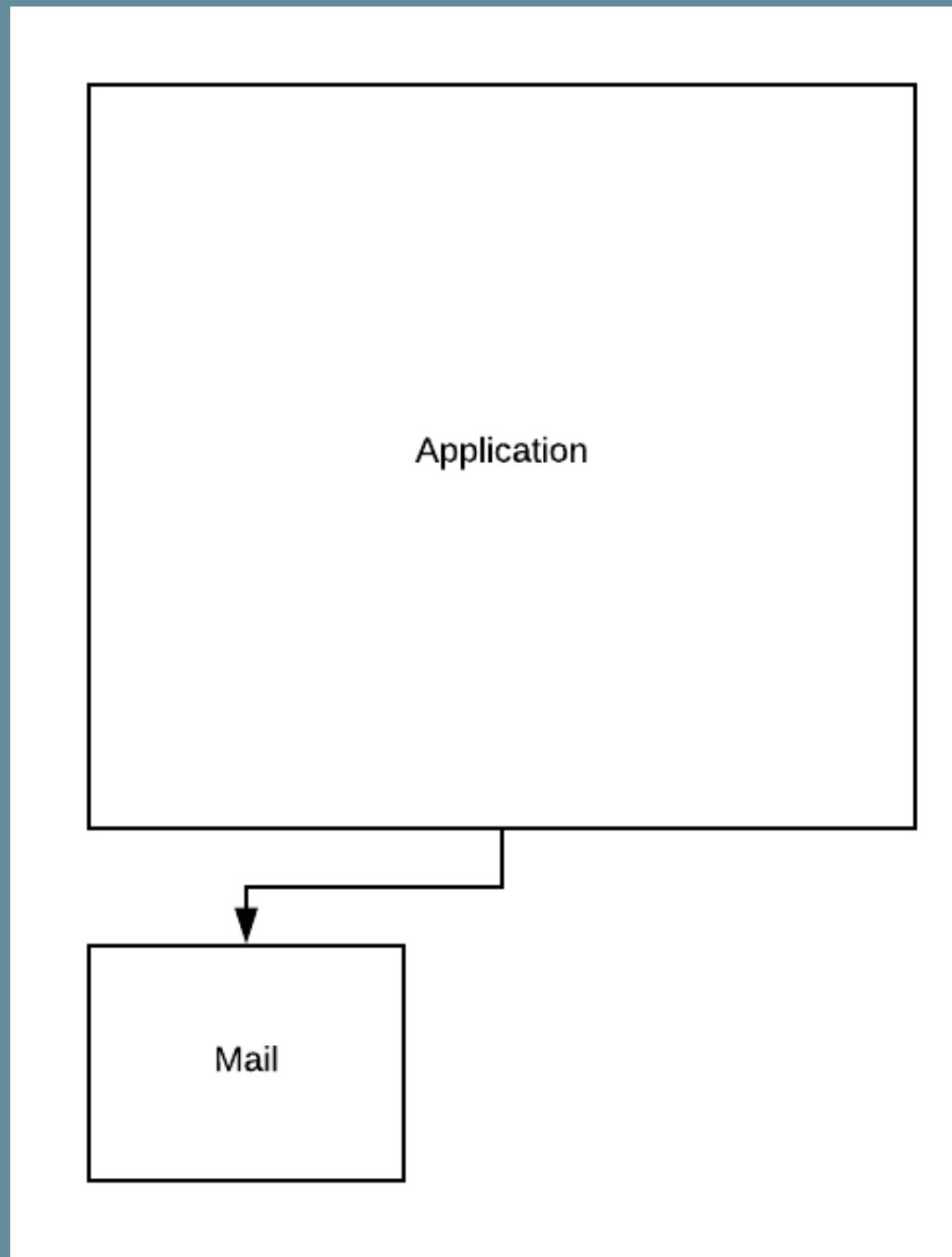
"Black Hole" Credits: NASA's Goddard Space Flight Center/Jeremy Schnittman

Start

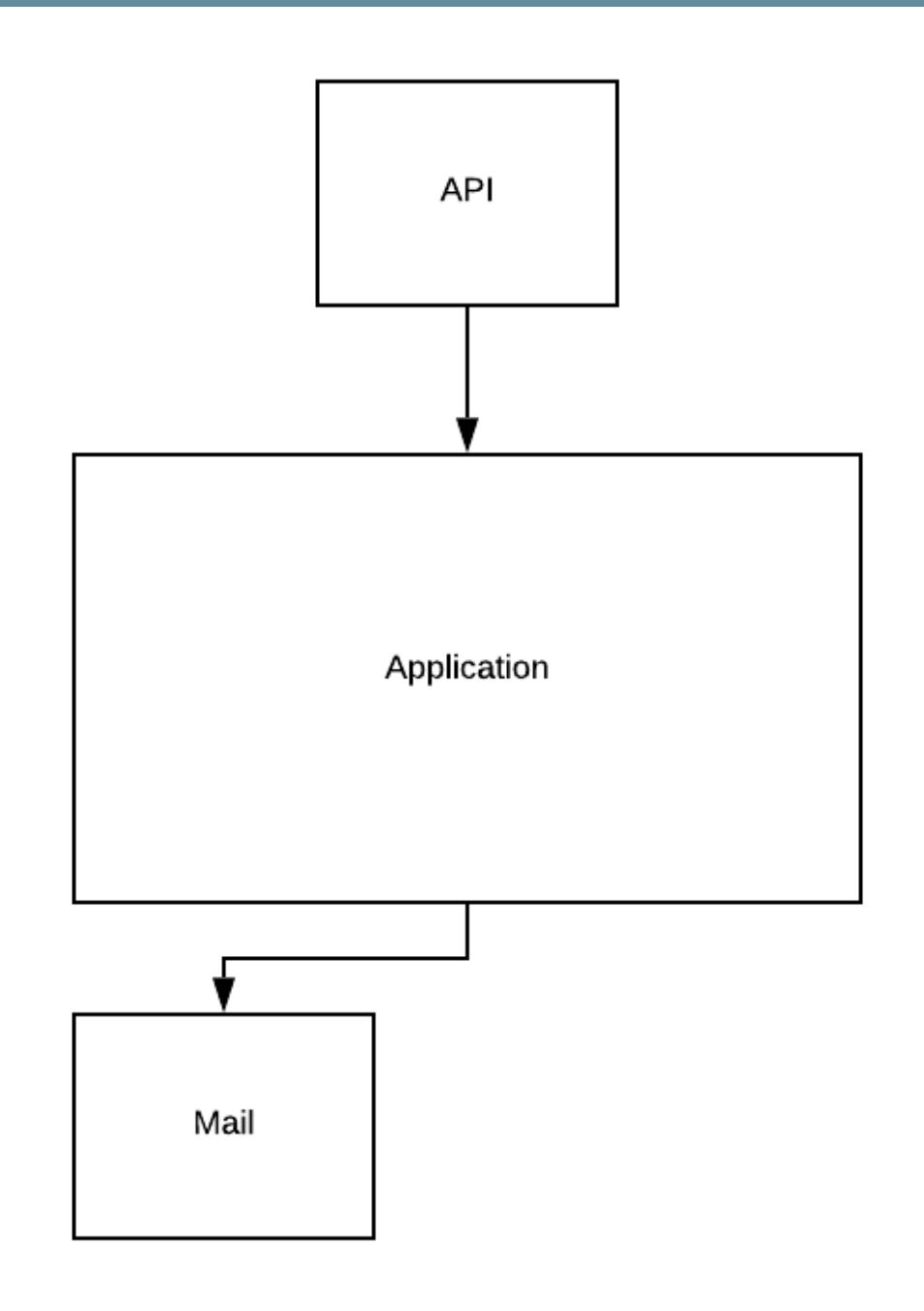


Big Ball of Mud

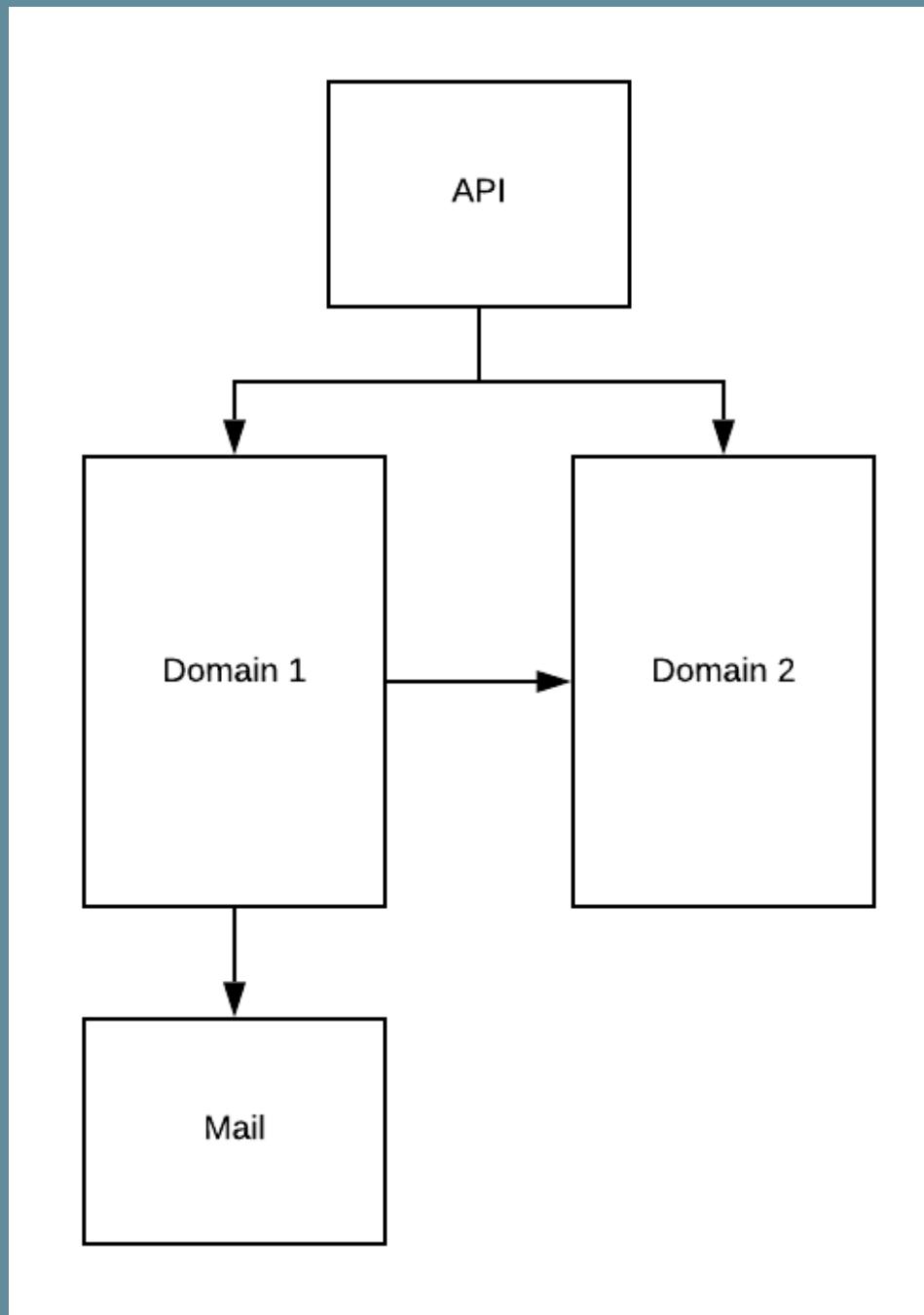
Pull Down



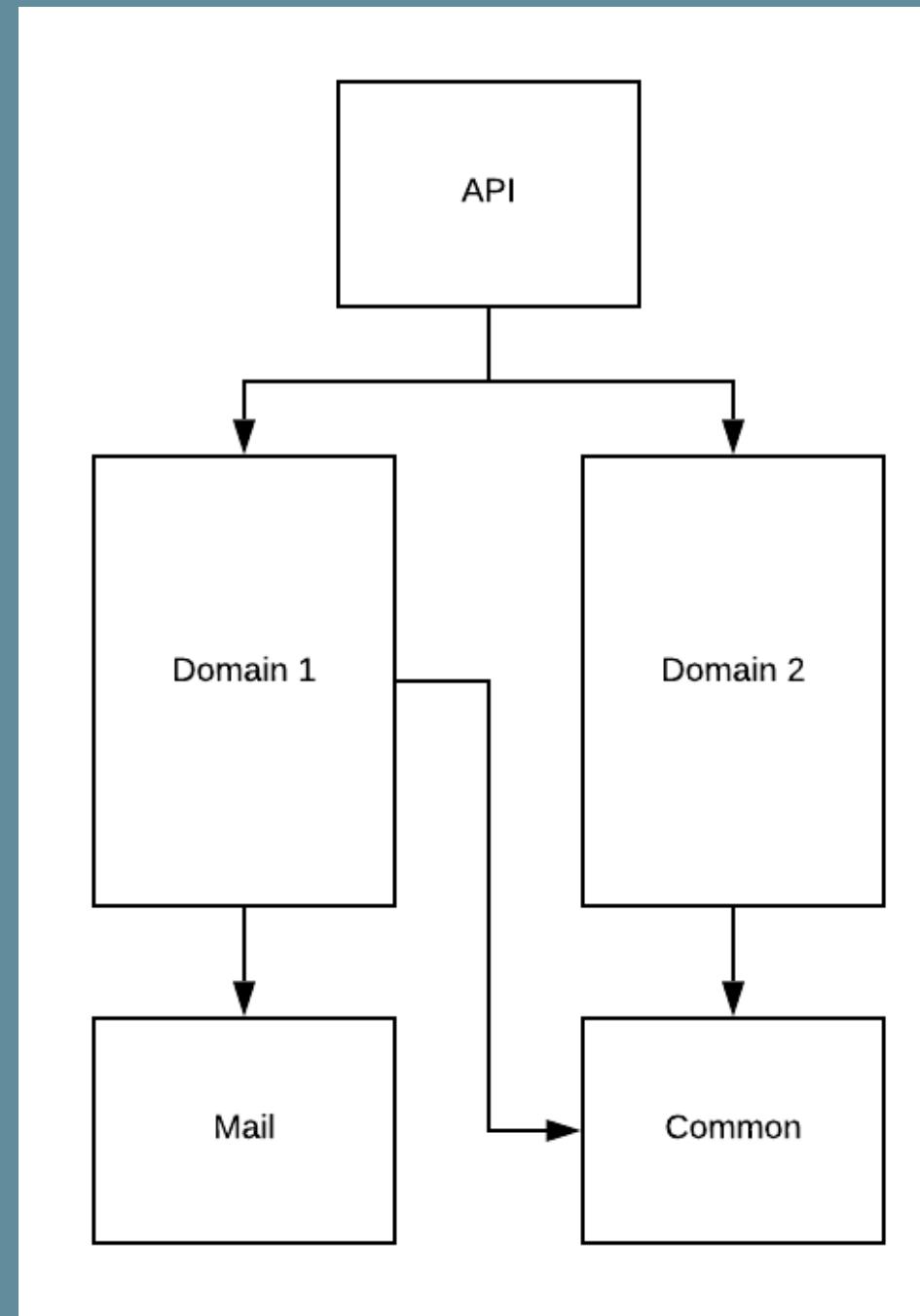
Pull Up



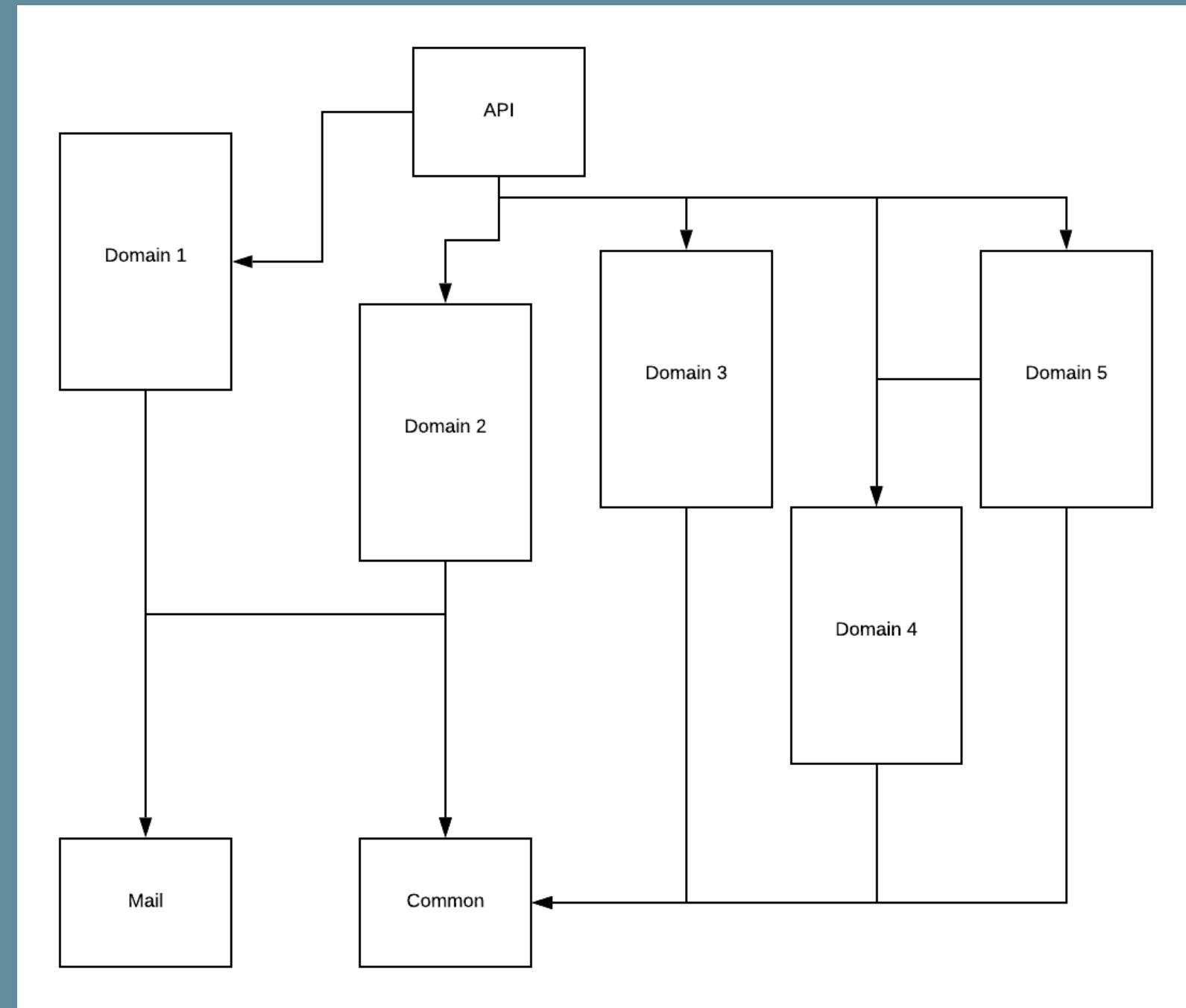
Split Domain



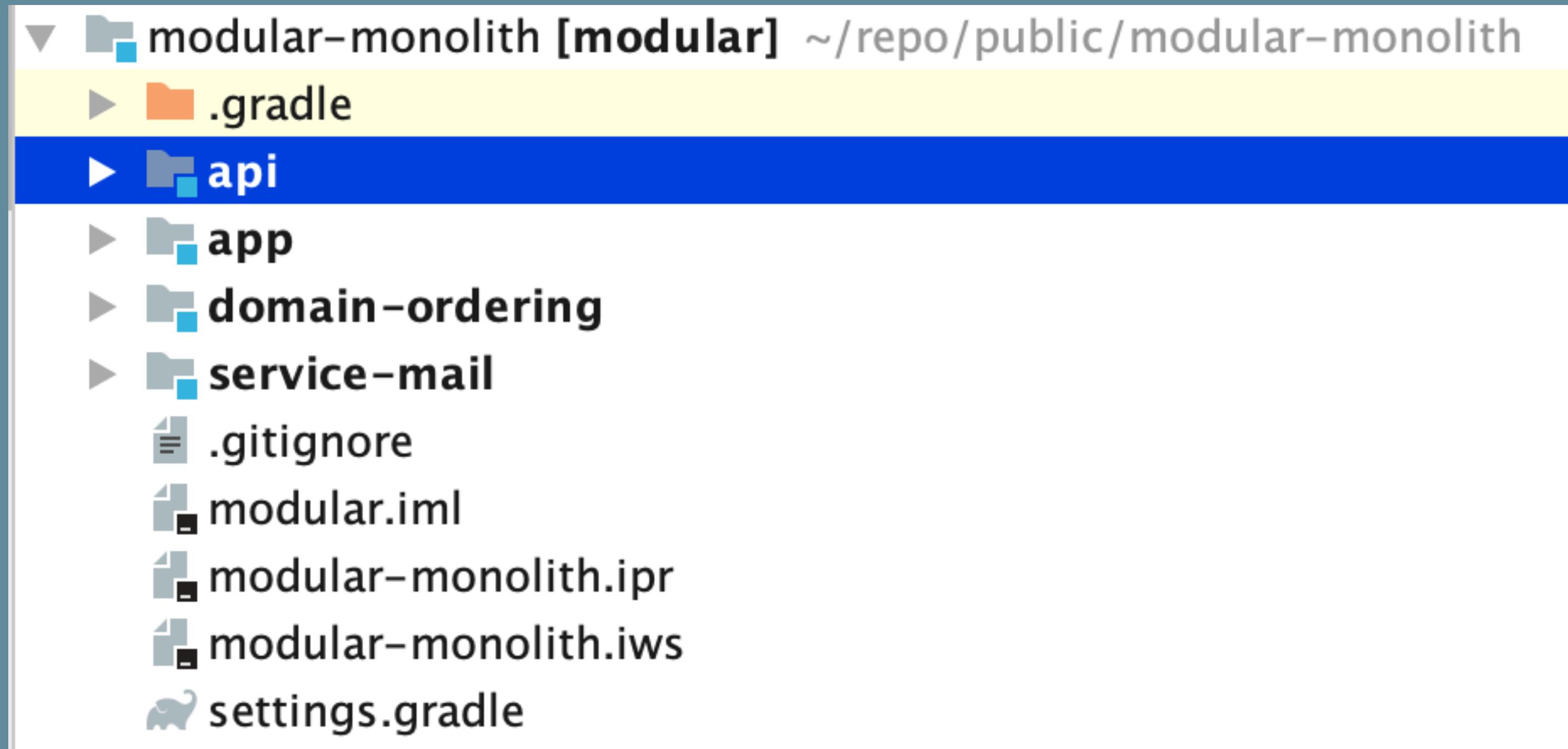
Common/Util



Keep Going



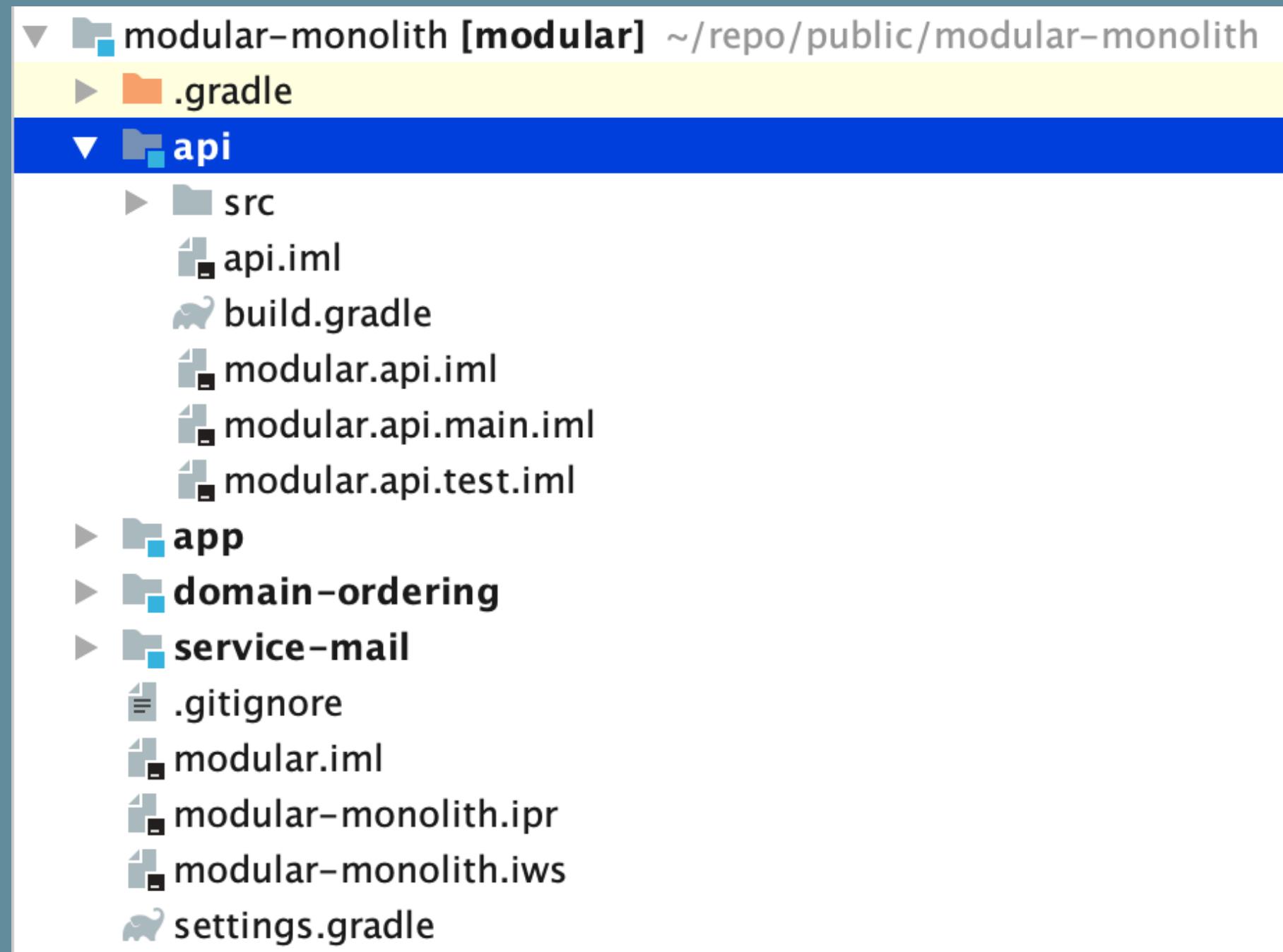
Gradle Sample



settings.gradle

```
rootProject.name = 'modular'  
include 'app'  
include 'api'  
include 'domain-ordering'  
include 'service-mail'
```

Inside Module



build.gradle

```
repositories {  
    mavenCentral()  
}  
  
dependencies {  
    implementation project(':domain-ordering')  
}  
  
test {  
    useJUnitPlatform()  
}
```

Thank You

Seth Kraut

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