From ‘Java Sucks’ to ‘Java…Eh, Not Bad’

How Vert.x & Java 21 Made Me Stop Complaining

Thomas Gebert

Who Am I?

- Software Engineer in New York City.

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- There is nothing else interesting about me.

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- Java programmers…

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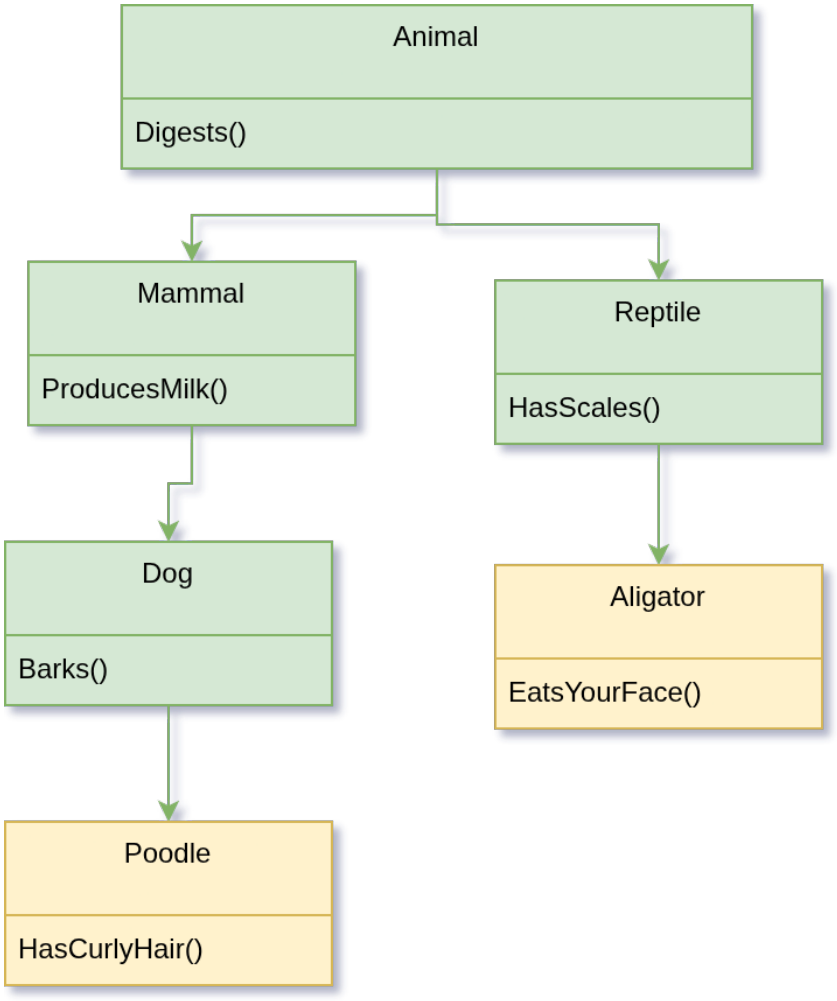

Figure 2: UML

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- (Can be) fast.

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- Many companies will find it infeasible to migrate to a better language, and would rather spend infinitely more money hiring dozens of engineers to write a million incrementatal patches to a Java codebase.
- Many of us are stuck in this hell.

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```
int count = 0;
for (String word : words) {
  if (word.length() > 10) {
    count++;
  }
}
System.out.println("Long words: " + count);
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long count = words.stream()
                  .filter(w -> w.length() > 10)
                  .count();

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BlockingQueue (java.util.concurrent)

- A thread-safe queue that blocks on `put` and `take` operations
- Useful for producer-consumer patterns
- Comes in several flavors: `ArrayBlockingQueue`, `LinkedBlockingQueue`, `PriorityBlockingQueue`, etc.

Old Underutilized Java Feature

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```
BlockingQueue<String> queue = new LinkedBlockingQueue<>();

// Producer
new Thread(() -> {
    queue.put("data");
}).start();

// Consumer
new Thread(() -> {
    String item = queue.take();
}).start();
```

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```
ExecutorService executor = Executors.newFixedThreadPool(4);

for (int i = 0; i < 10; i++) {
  int taskId = i;
  executor.submit(() -> {
    System.out.println("Running task " + taskId +
                       " on thread " + Thread.currentThread
  });
}

executor.shutdown();
```

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Verticle

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- Deployed with `vertx.deployVerticle(...)`

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```
void doSomethingAsync(Promise<String> promise) {
  vertx.setTimer(500, id -> {
    promise.complete("Hello, future!");
  });
}
```

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SharedData

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- Useful when handling large streams (e.g., file uploads, HTTP bodies)

Backpressure in Vert.x

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Example: Handling a slow WriteStream

```
source.pipeTo(slowSink, res -> {
  if (res.succeeded()) {
    System.out.println("All data written.");
  } else {
    res.cause().printStackTrace();
  }
});
```

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public class MyVerticle extends AbstractVerticle {

  @Override
  public void start(Promise<Void> startPromise) {
    System.out.println("Verticle started on thread: " + Thr

    vertx.setTimer(1000, id -> {
      System.out.println("Timer fired after 1 second");
    });

    startPromise.complete();
  }
}
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Local Deployment

```
Vertx vertx = Vertx.vertx();
vertx.deployVerticle(new MyVerticle());
```

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Distributed Deployment

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Distributed Deployment

```
Vertx.clusteredVertx(new VertxOptions(), res -> {
  if (res.succeeded()) {
    Vertx vertx = res.result();
    vertx.deployVerticle(new MyVerticle());
  } else {
    res.cause().printStackTrace();
  }
});
```

Conclusion.

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- Java 21 isn’t that bad.

Conclusion.

- Java 21 isn’t that bad.
- Convince your employers to upgrade if you want to reclaim your sanity.
- Blah . . .
- Use libraries like Vert.x and Disruptor to make life simpler.

Conclusion.

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- blog.tombert.com

-