Design Patterns for Lunch
Iterator Pattern

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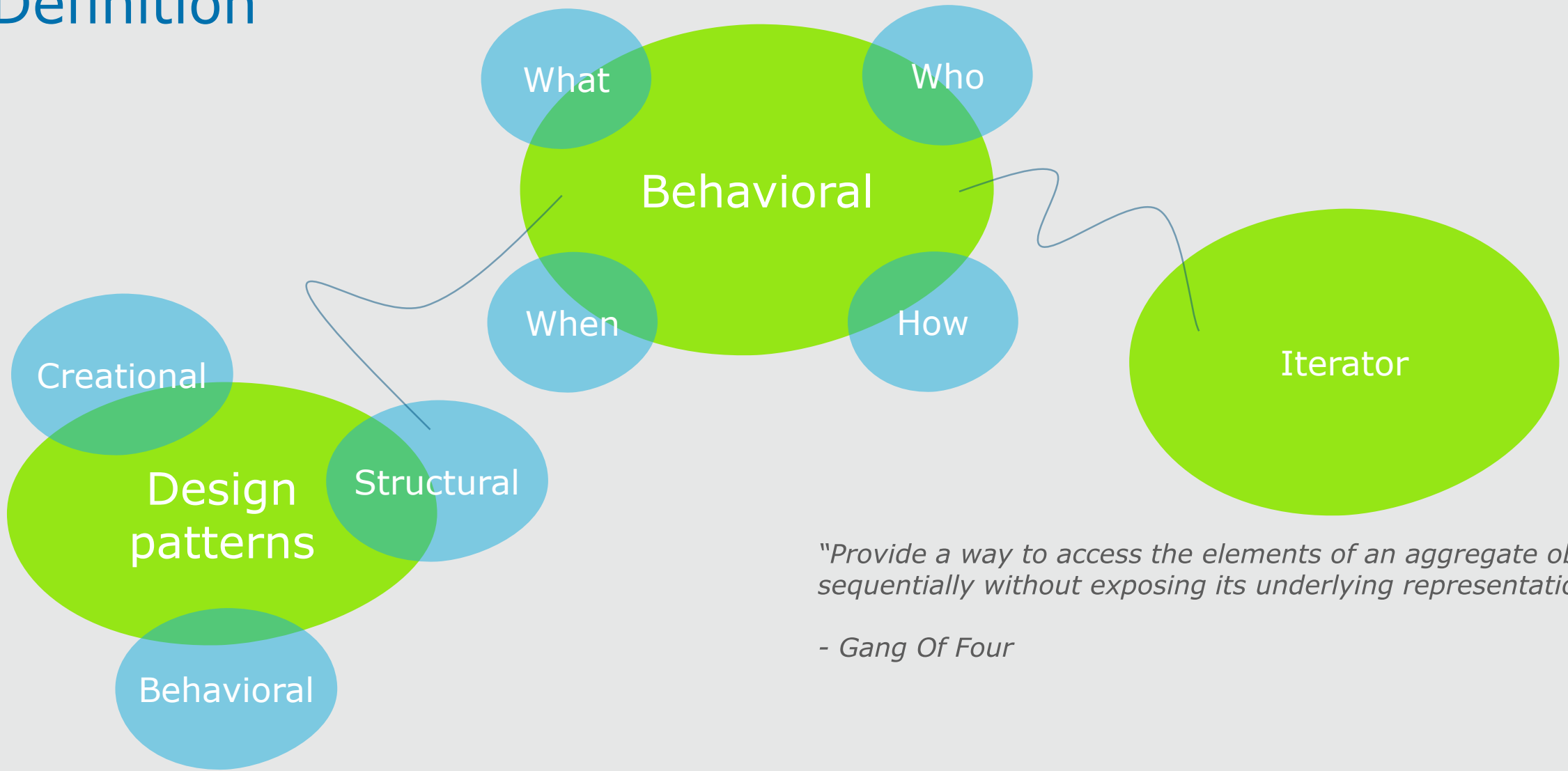Capgemini

Introduction

Jamie Kalloe

- 26 years old

- Studied Software Engineering

- Assigned at UWV Werkbedrijf, responsible for various backend applications such as werk.nl.

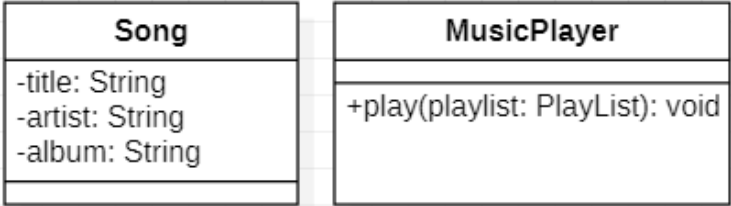- Hang out with friends, kung fu, playing guitar and sushi
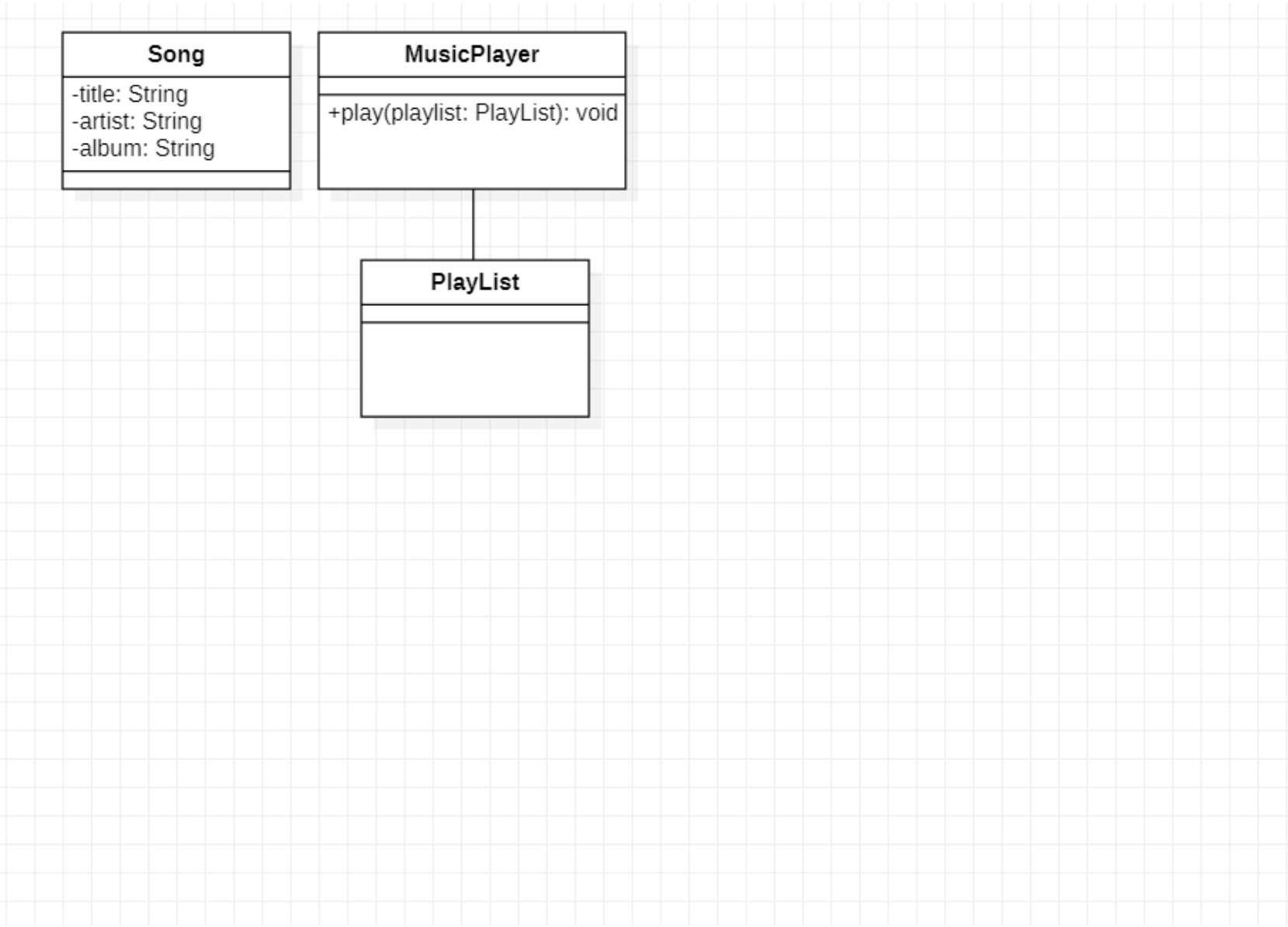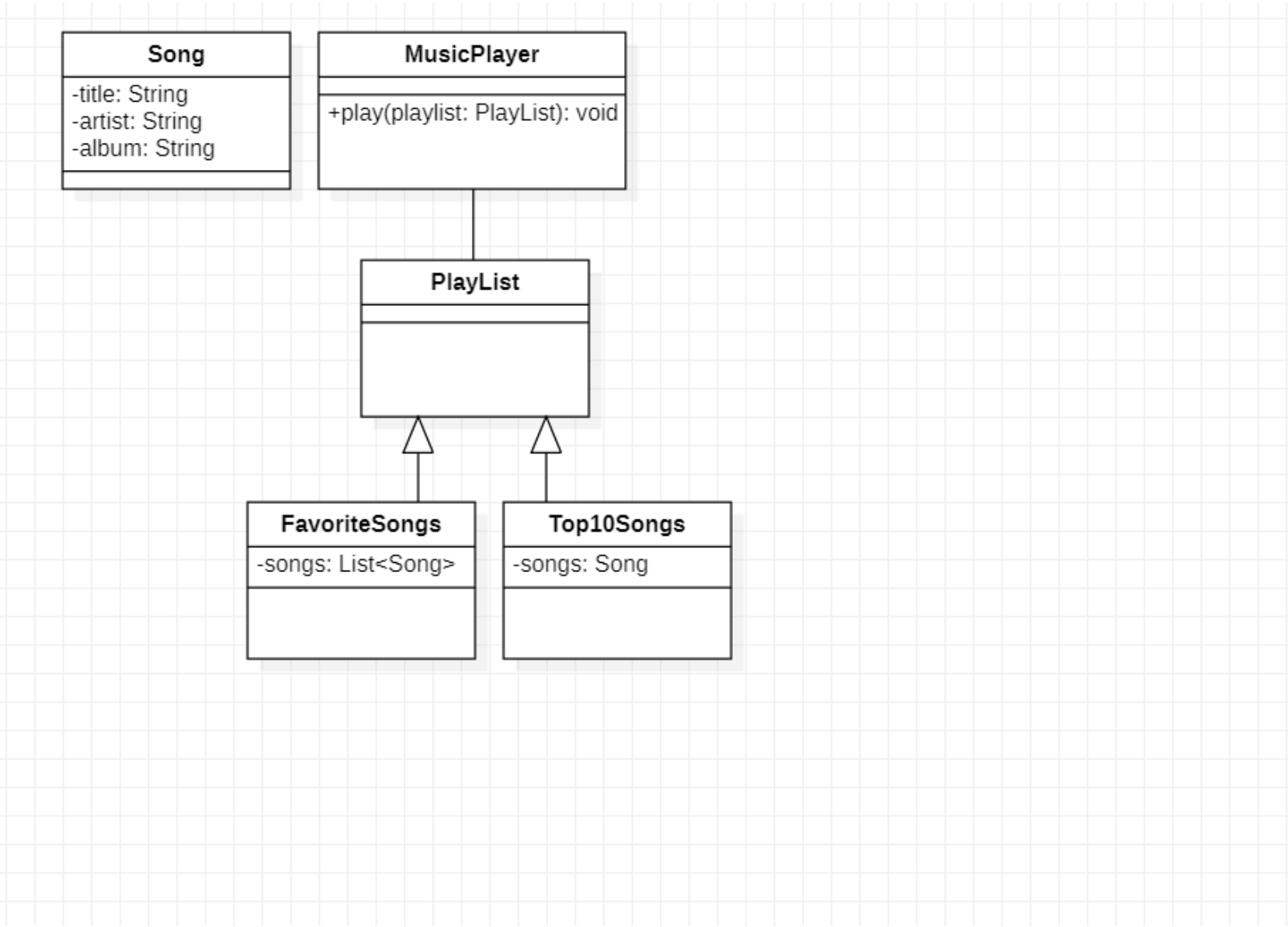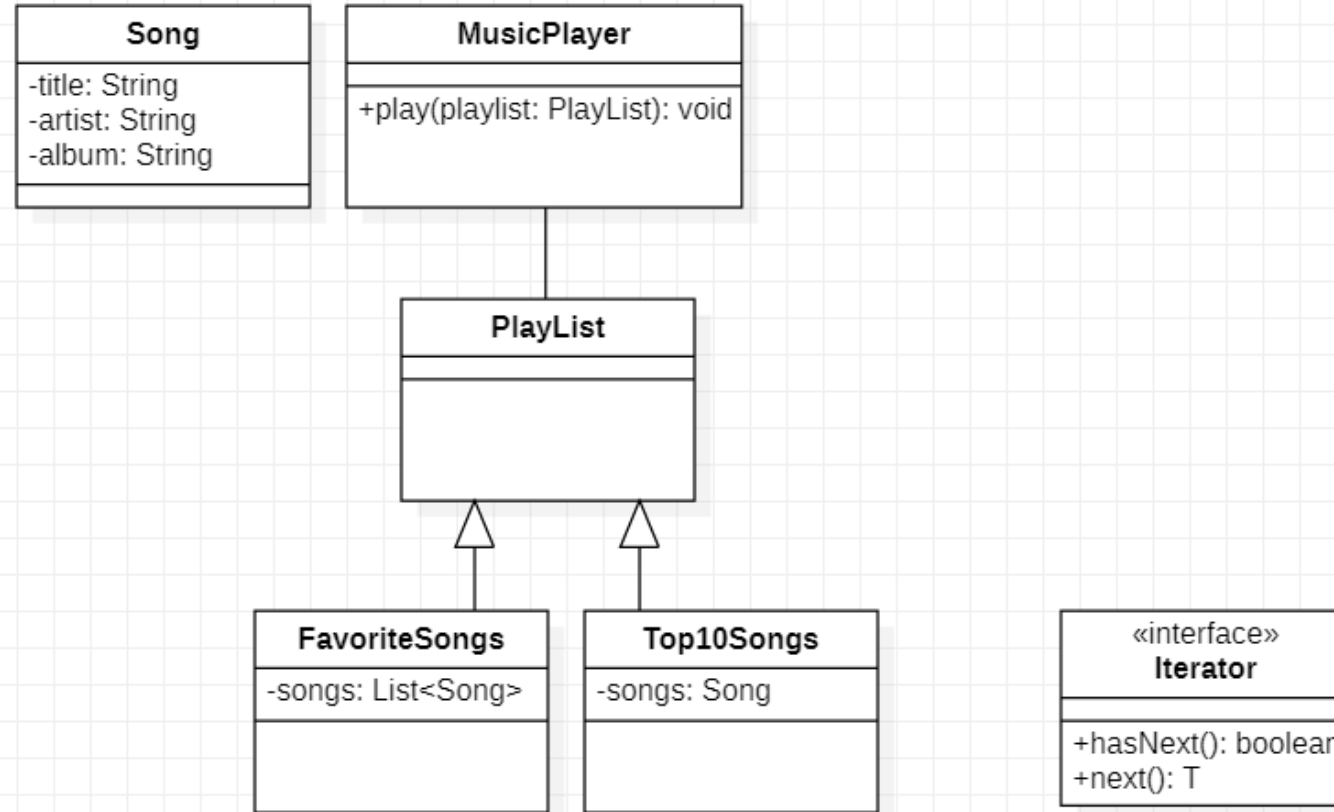
Definition

What

Who

Behavioral

When

How

Creational

Design patterns

Structural

Behavioral

Iterator

"Provide a way to access the elements of an aggregate object sequentially without exposing its underlying representation."

- Gang Of Four

Context

Context

Context

Song

-title: String
-artist: String
-album: String

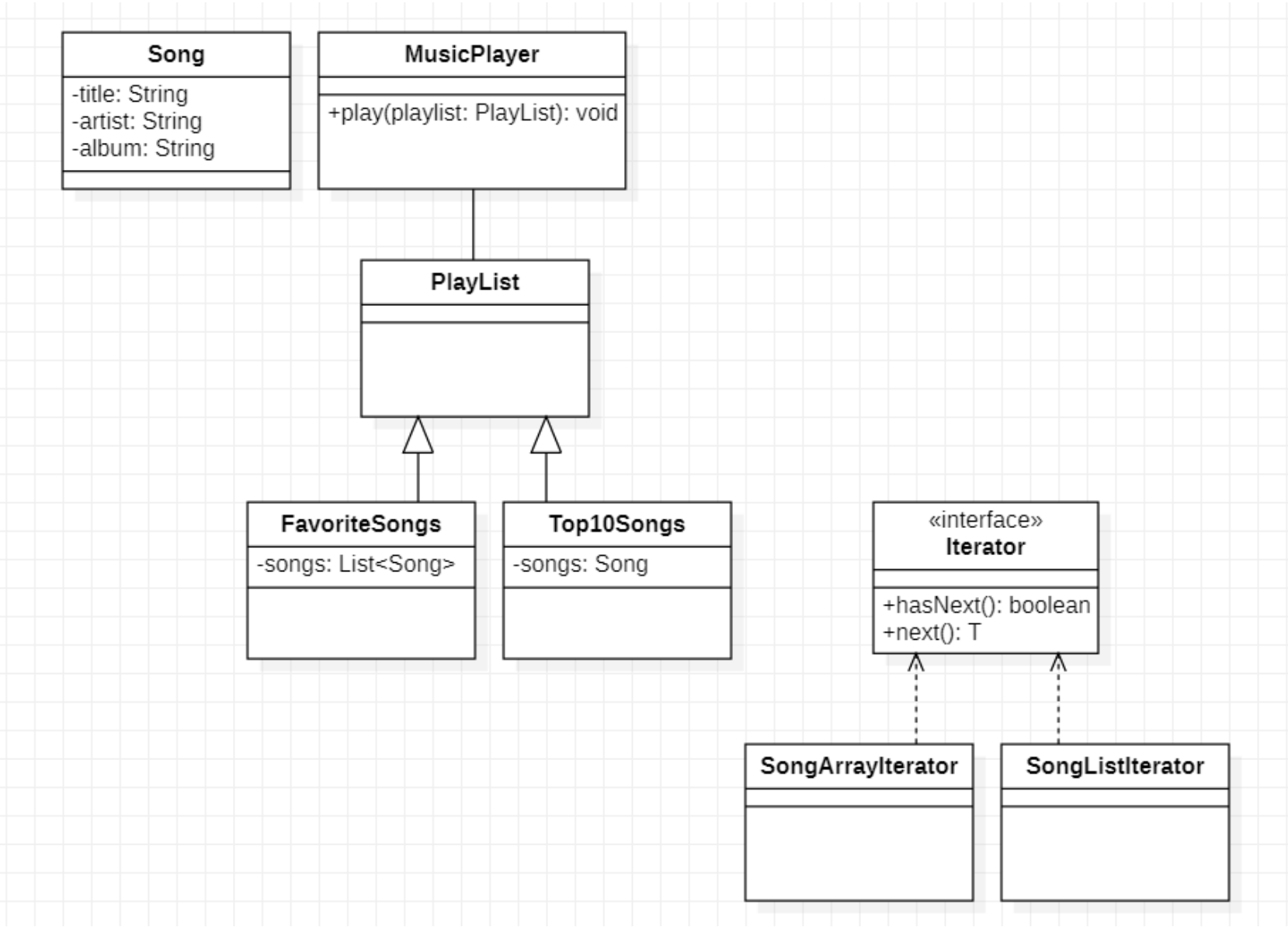**MusicPlayer**

+play(playlist: PlayList): void
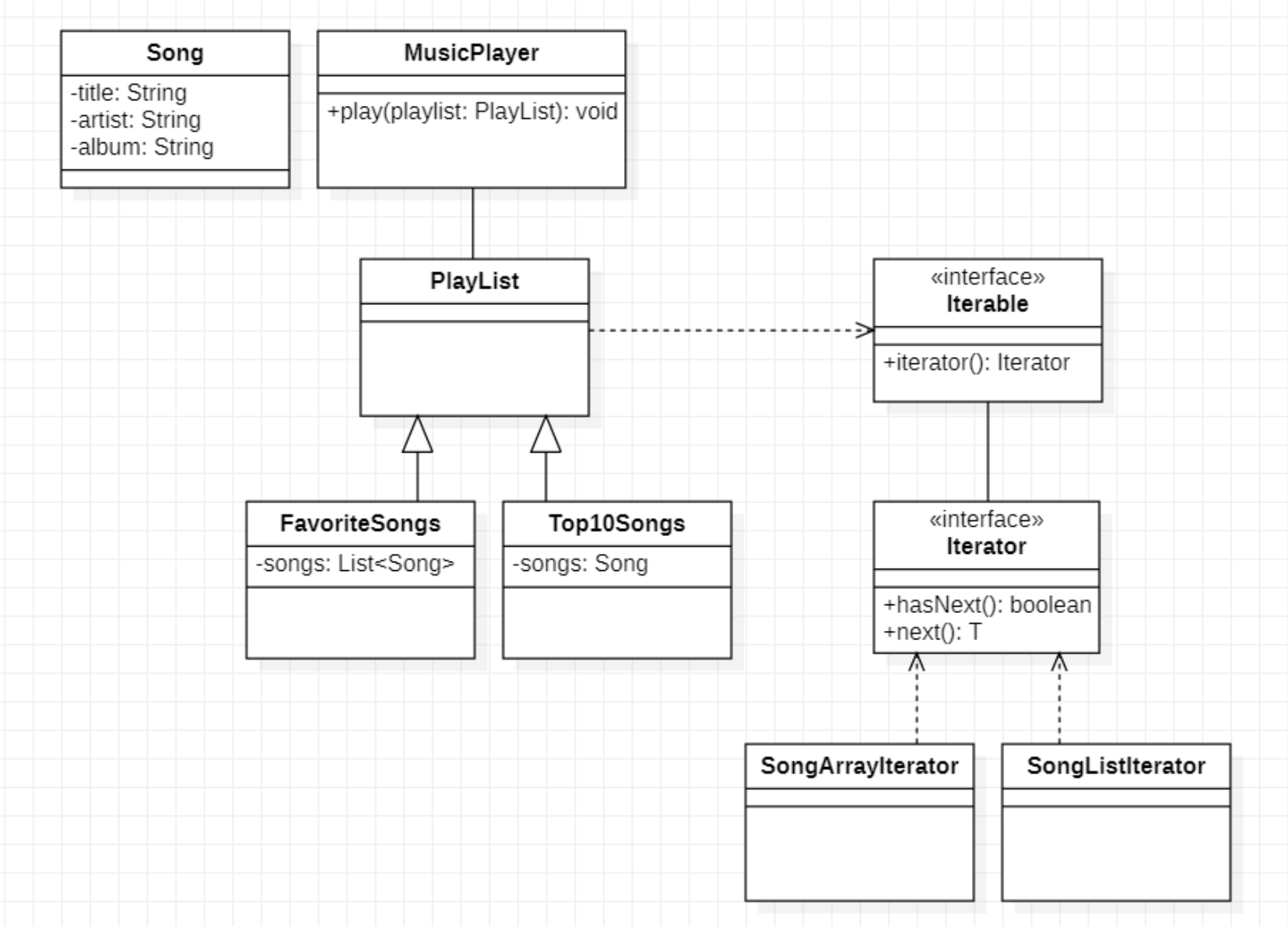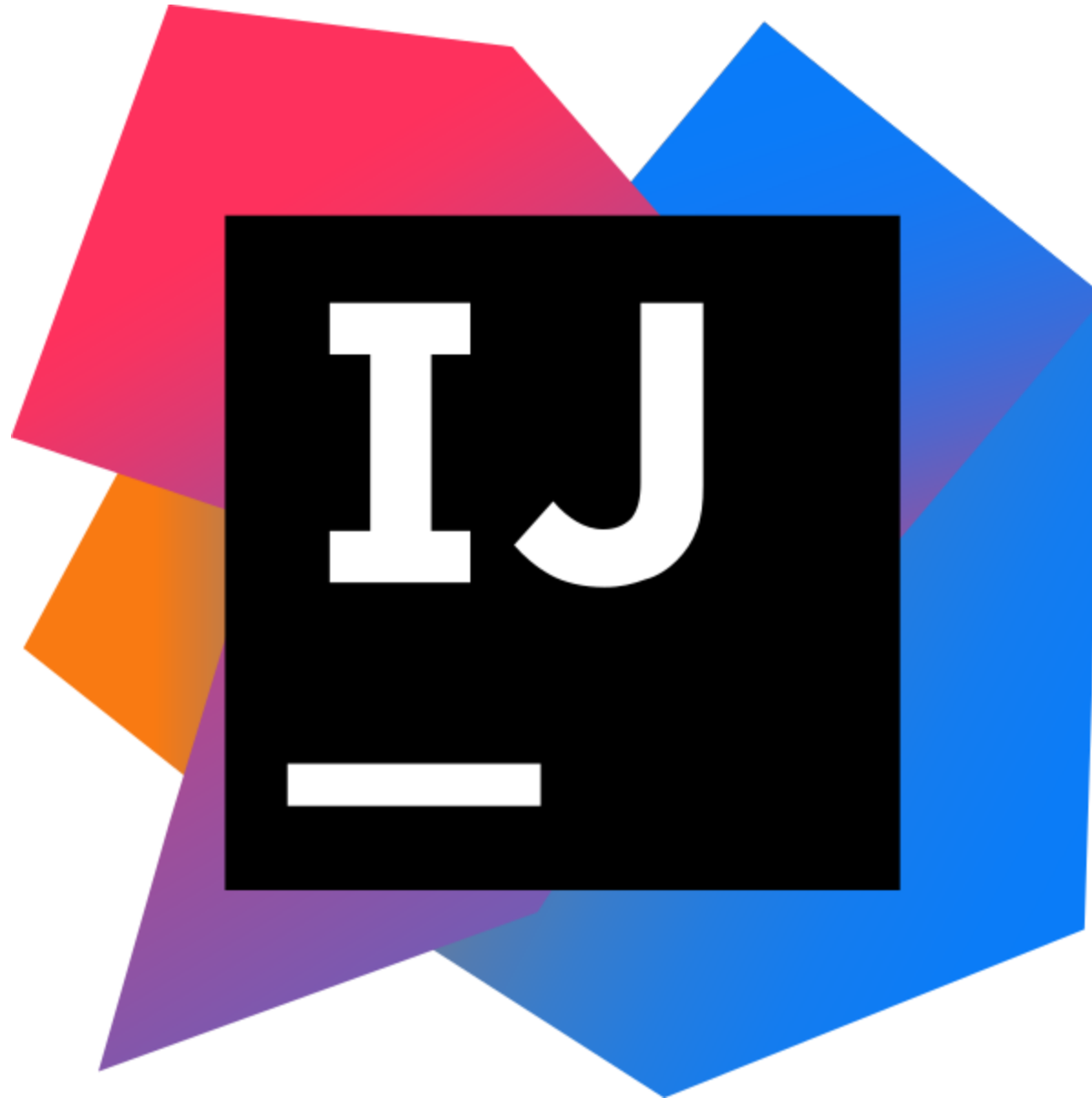
PlayList

Context

Iterator pattern
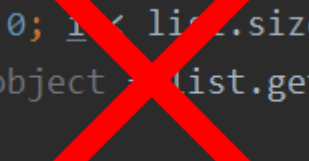
Iterator pattern

Iterator pattern

Code demo

Iterator pattern

- List

```
for(int i = 0; i < list.size(); i++) {
    Object object = list.get(i);
}
```
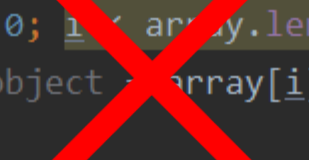
- Array

```
for(int i = 0; i < array.length; i++) {
    Object object = array[i];
}
```

- Universal accessor

```
Iterator<Song> songsIterator = playList.iterator();

while (songsIterator.hasNext()) {
    Song song = songsIterator.next();

    System.out.println(song.toString());
}
```

Design principles

1

Loose coupling

Little or no knowledge of the definitions of other separate components

2

Program to an interface, not an implementation
Use of polymorphism.

3

Open-closed principle

We add code, without having to change existing code.

Resources

1

Github

http://github.com/JamieKalloe/Iterator-pattern

2

Head First – Design Patterns

https://www.bol.com/nl/f/head-first-design-patterns/34499843/

3

YouTube

https://www.youtube.com/watch?v=VKIzUuMdmag

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