

# Einstieg in die Flash-Entwicklung

Michael Plank, MSc

POWER ⚡ FLASHER

WebTech '09

ActionScript

Flex SDK

Flex

Flash

FMS

SOAP

AMF

MXML

RIAs

Catalyst

Flash CS4

FDT

Flex/Flash Builder

AIR

Flash Player



# Herzlich Willkommen!

Michael Plank, MSc

Technology Evangelist, Software Developer

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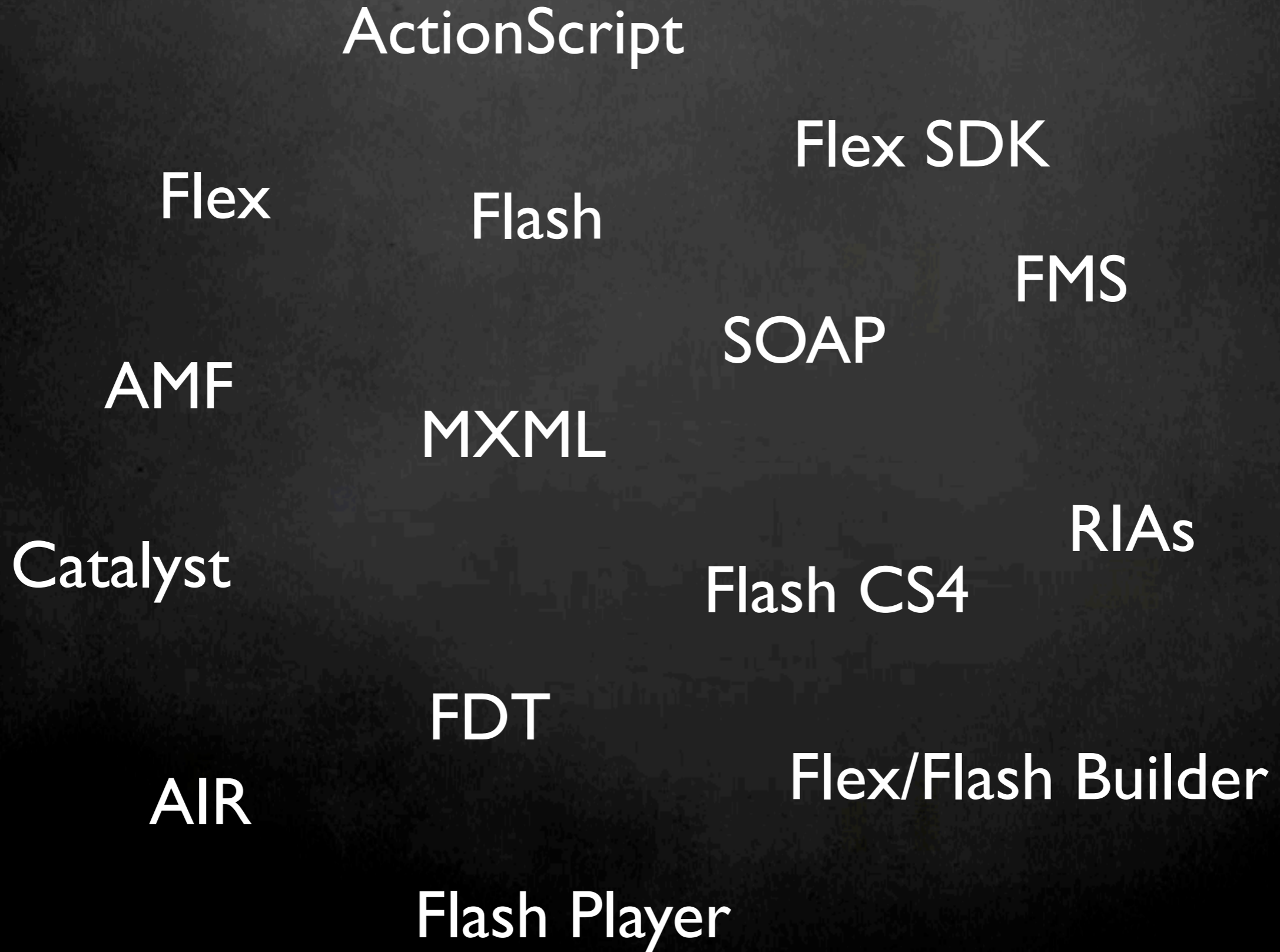
Flash CS4

FDT

Flex/Flash Builder

AIR

Flash Player





Runtimes

Flash Player

Runtimes

Flash Player

AIR

Runtimes



Runtimes

Flas  
AIR

```
1 package com.powerflasher {  
2  
3     public class Person {  
4         private var _age : int;  
5         private var _name : String;  
6  
7         public function Person(age : int, name : String){  
8             _name = name;  
9             _age = age;  
10        }  
11  
12        public function get age() : int {  
13            return _age;  
14        }  
15  
16        public function set age(age : int) : void {  
17            _age = age;  
18        }  
19  
20        public function get name() : String {  
21            return _name;  
22        }  
23  
24        public function toString() : String {  
25            return "Person age: " + age + " name: " + name;  
26        }  
27    }  
28 }  
29
```

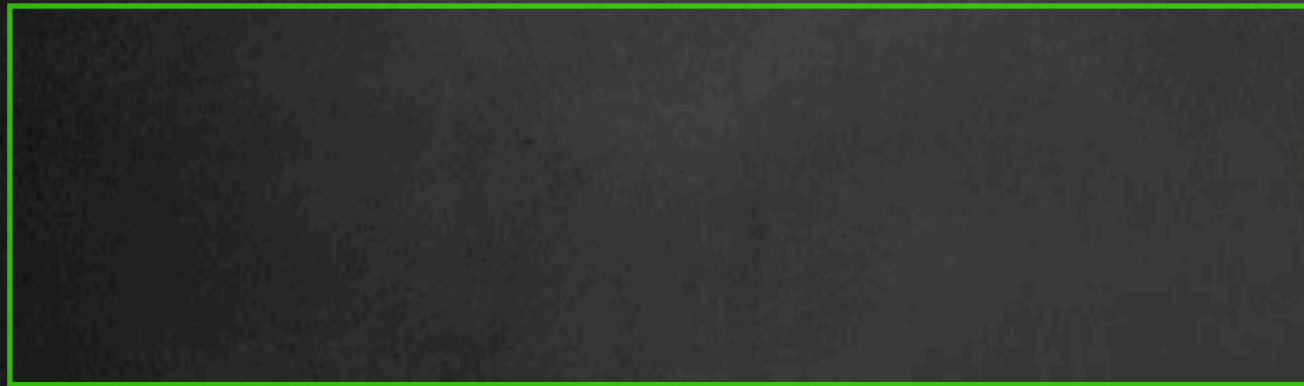
Runtimes

Flash Player

AIR

ActionScript

Client  
Framework



Runtimes



Client  
Framework

Flex

Runtimes

Flash Player  
AIR  
ActionScript

Client  
Framework

Flex  
Flex SDK

Runtimes

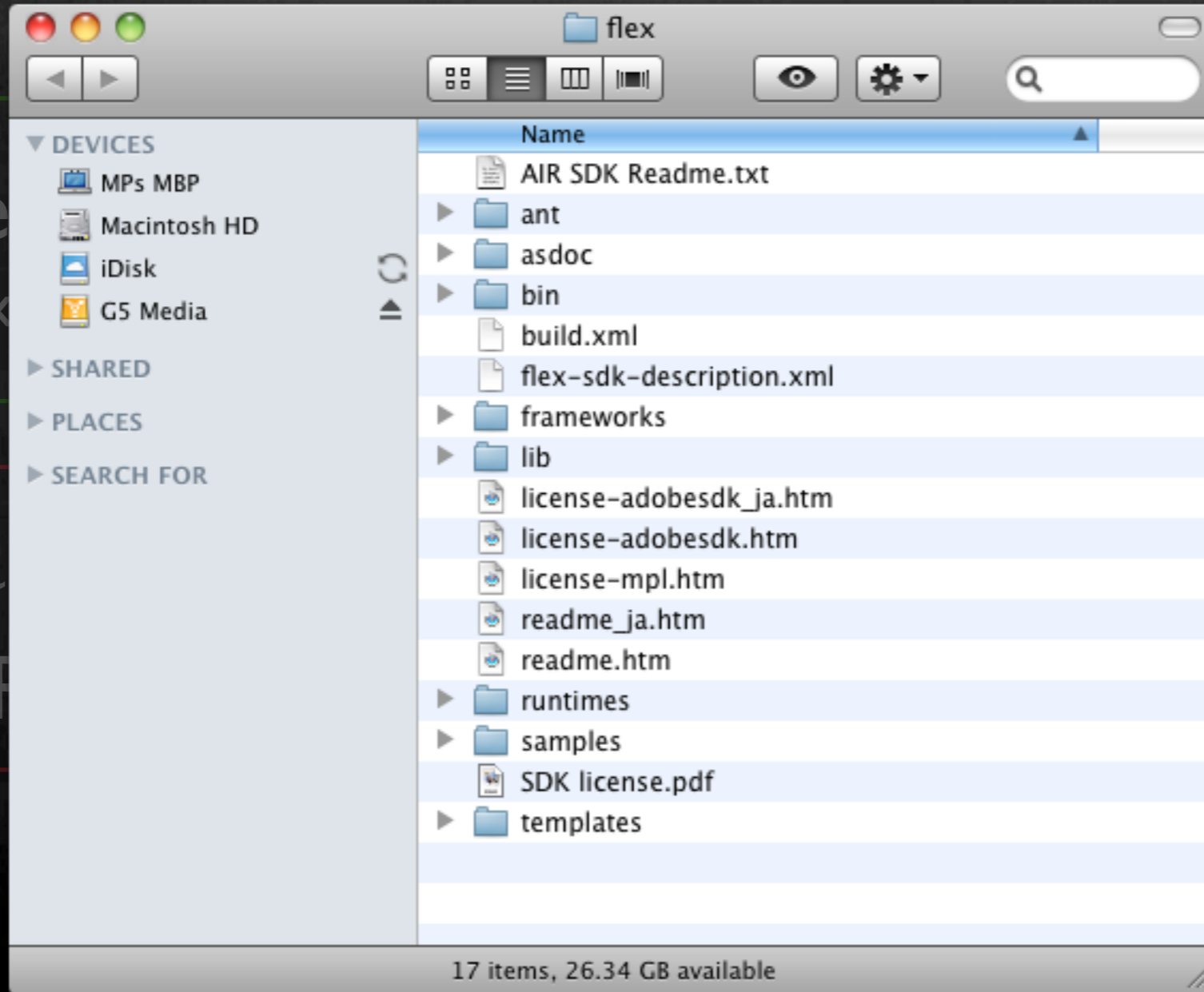
Flash Player      ActionScript  
AIR

Client  
Framework

Flex  
Flex

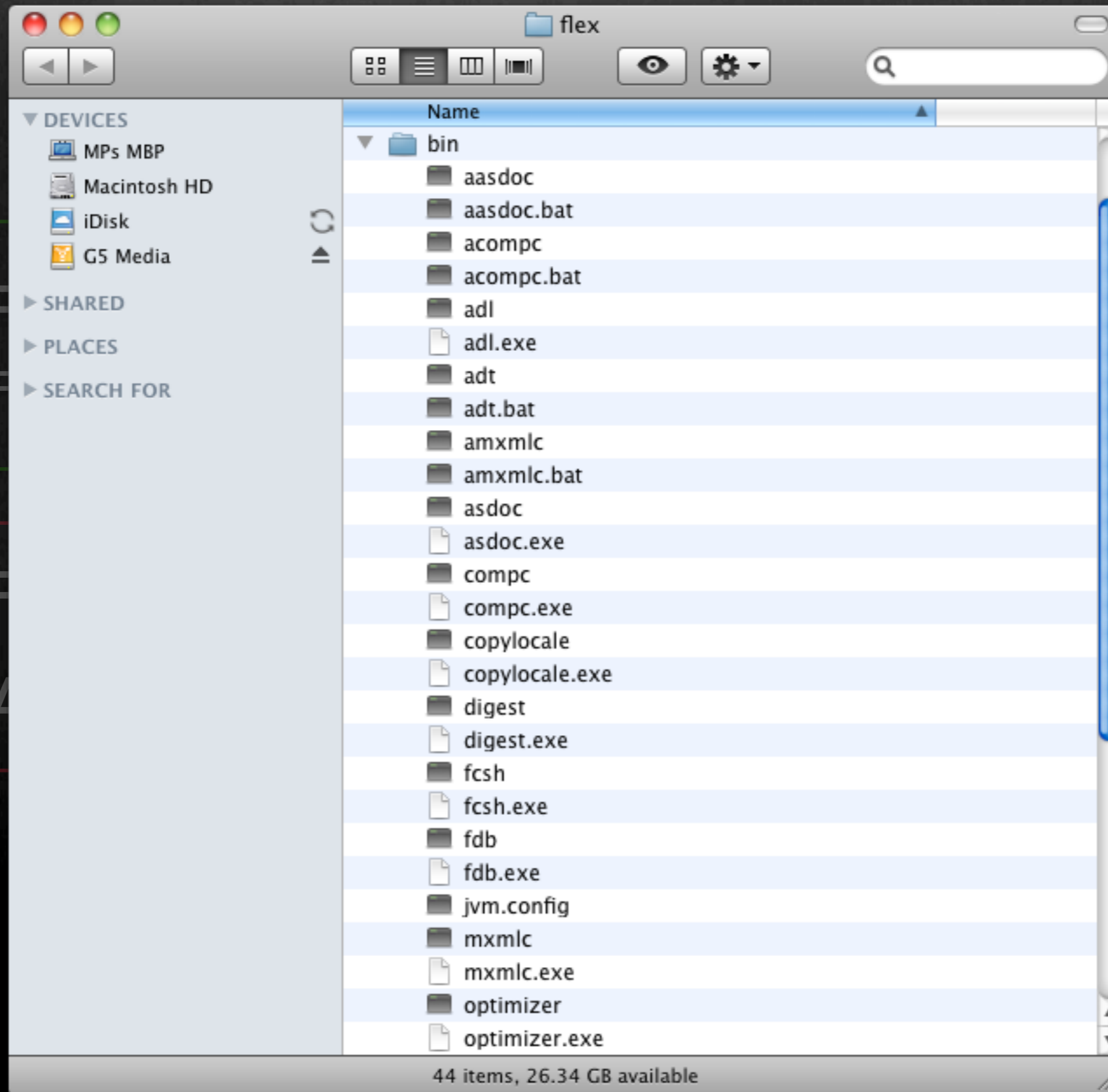
Runtimes

Fla  
AIR



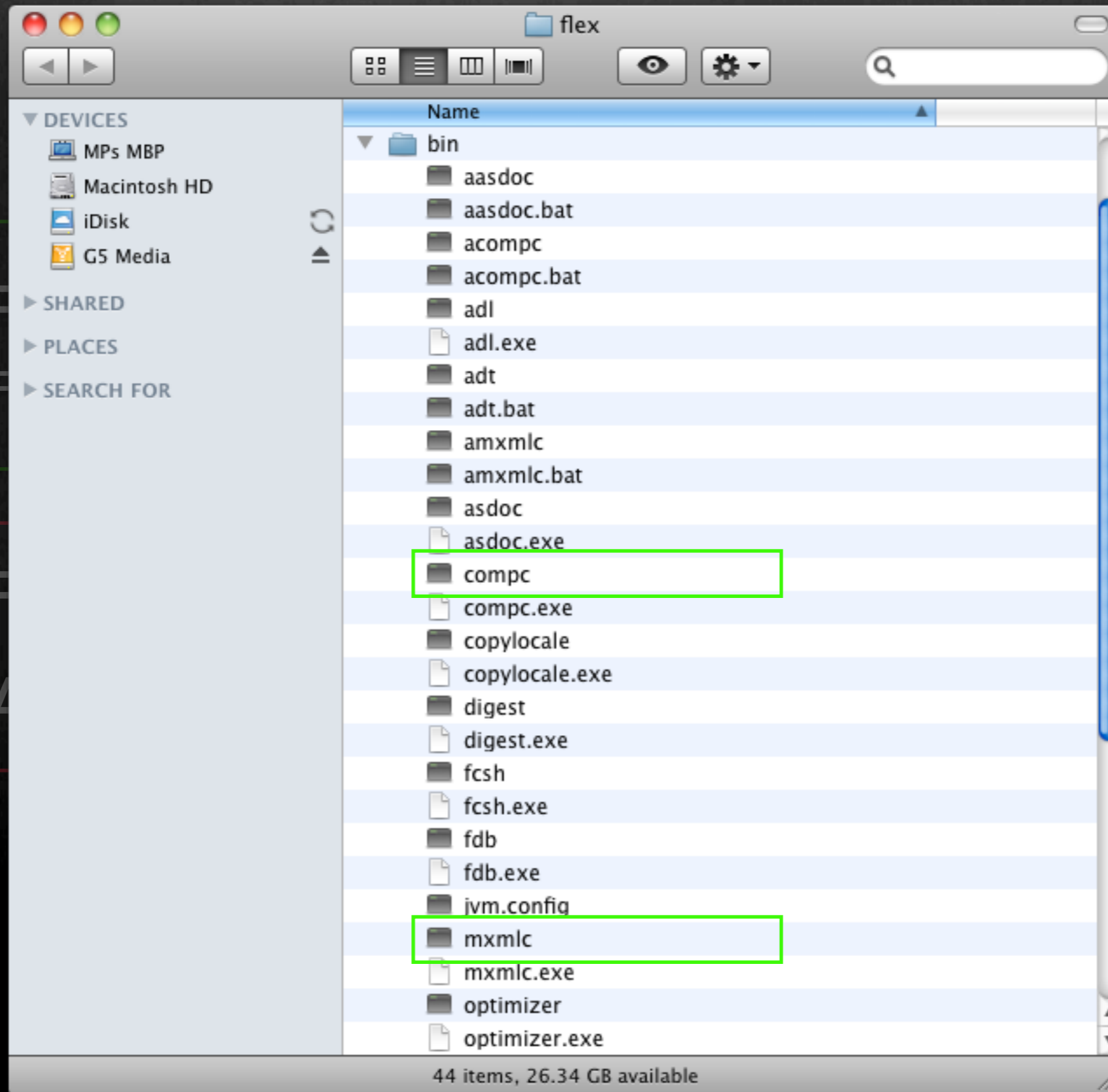
Client Framework

Runtimes



Client Framework

Runtimes



Client  
Framework

Flex  
Flex SDK

Runtimes

Flash Player      ActionScript  
AIR

Client  
Framework



Runtimes



Client  
Framework

Flex  
Flex S

Runtimes

Flash  
AIR

```
1
2<?xml version="1.0" encoding="utf-8"?>
3<mx:Application xmlns:mx="http://www.adobe.com/2006/mxml" >
4
5    <mx:Form width="100%" height="100%">
6        <mx:FormHeading label="WebTech"/>
7        <mx:FormItem label="Name" required="false">
8            <mx:TextInput />
9        </mx:FormItem>
10    </mx:Form>
11
12    <mx:Button label="Send"/>
13
14</mx:Application>
```

Client  
Framework

Flex  
Flex S

Runtimes

Flash  
AIR

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3<mx:Application xmlns:mx="http://www.adobe.com/2006/mxml" >
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12    <mx:Button label="Send"/>
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14</mx:Application>
```



**WebTech**

Name

Send

Client  
Framework



Runtimes



Content



Client  
Framework



Runtimes



Content

RIAs

Client  
Framework

Flex

Flex SDK

MXML

Runtimes

Flash Player

AIR

ActionScript

Content

RIAs

Client  
Framework

Flex

Flex SDK

MXML

Runtimes

Flash Player

AIR

ActionScript

Backend



Content

RIAs

Client  
Framework

Flex  
Flex SDK

MXML

Runtimes

Flash Player  
AIR

ActionScript

Backend

FMS PHP Java

Content

RIAs

Client  
Framework

Flex

Flex SDK

MXML

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ActionScript

Protocols

Backend

FMS

PHP

Java



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Flash Explorer

- assets
- DynamicClassesTest
- InsposoRF
- MetadataTags
- OneClass
  - Linked SWCs
  - src
    - com
      - powerflasher
        - Person.as
        - WebTech.mxml
      - TestMetadata.as
    - .settings
    - bin
      - .as3\_classpath
      - .project
  - ZTE\_Traffic\_Analyzer

```
1
2<?xml version="1.0" encoding="utf-8"?>
3<mx:Application xmlns:mx="http://www.adobe.com/2006/mxml" >
4
5    <mx:Form width="100%" height="100%">
6        <mx:FormHeading label="WebTech"/>
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9        </mx:FormItem>
10    </mx:Form>
11
12    <mx:Button label="Send"/>
13
14</mx:Application>
```

Problems Console Search Tasks Error Log History Progress

No consoles to display at this time.

Ant

Content

RIAs

Client Framework

Flex  
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# Geschichte von ActionScript

Dez. 1996	Flash Player 1	
Jun. 1997	Flash Player 2	
Jun. 1998	Flash Player 3	
<b>Jun. 1999</b>	<b>Flash Player 4</b>	<b>AS 1</b>
Aug. 2000	Flash Player 5	Anpassung von AS1 an ECMAScript
Mär. 2002	Flash Player 6	AS 1 Verbesserungen
<b>Sep. 2003</b>	<b>Flash Player 7</b>	<b>AS 2</b>
Sep. 2005	Flash Player 8	
<b>Jun. 2006</b>	<b>Flash Player 9</b>	<b>AS 3</b>
Nov. 2008	Flash Player 10	

# ActionScript 3 **und** OOP

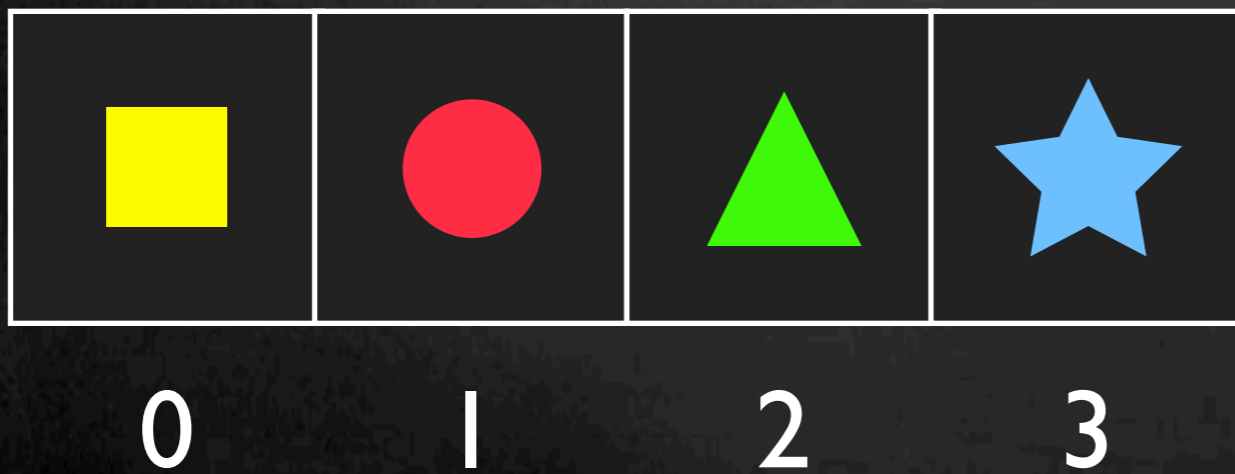
- ✓ Klassen u. Objekte
- ✓ Vererbung
- ✓ Polymorphismus
- ✓ Dynamische Bindung

# ActionScript 3 und OOP ✓

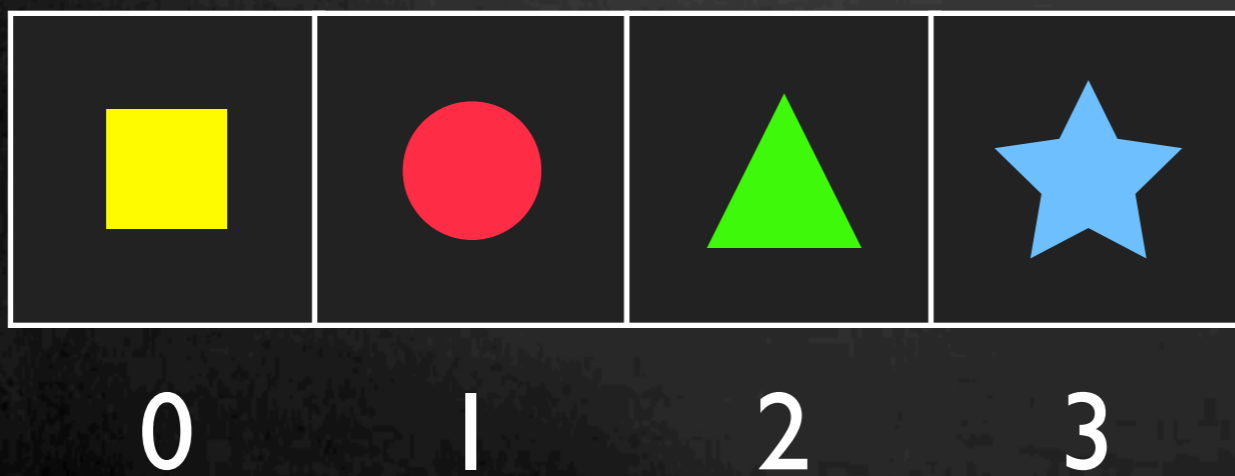
- ✓ Klassen u. Objekte
- ✓ Vererbung
- ✓ Polymorphismus
- ✓ Dynamische Bindung


Los geht's  
Flash CS4

# Display List

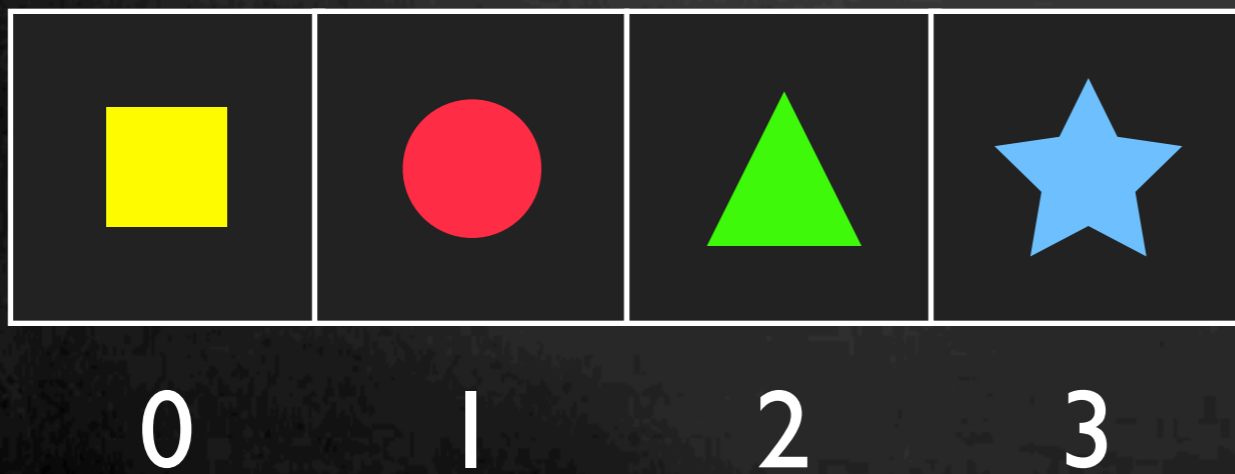



# Display List



`getChildAt(1)` → 

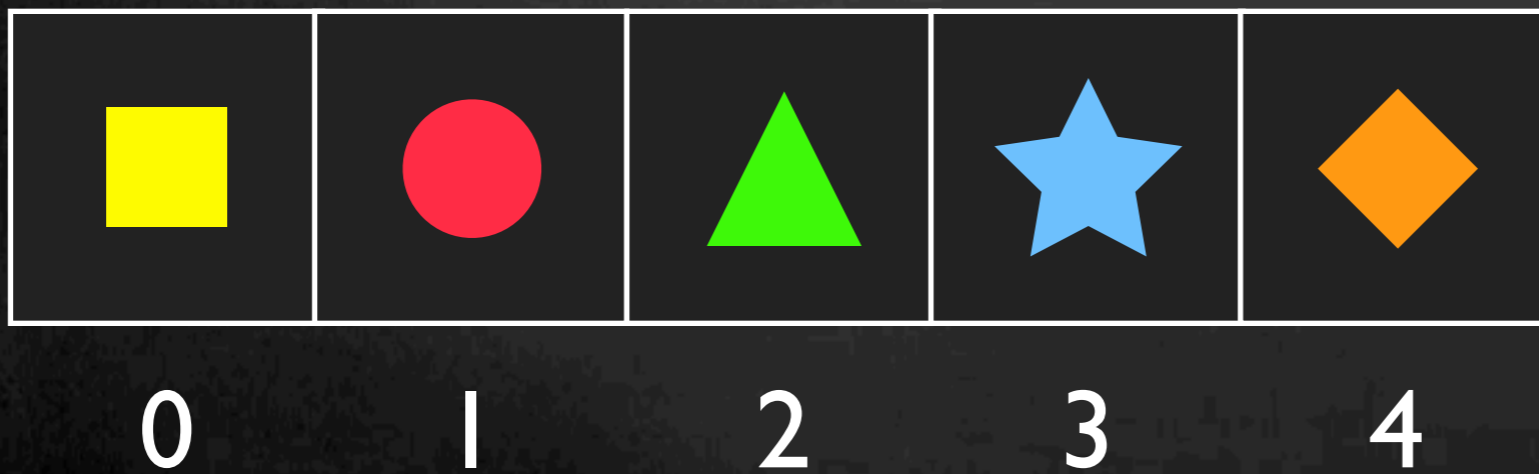
# Display List





getChildAt(1) → 

addChild()

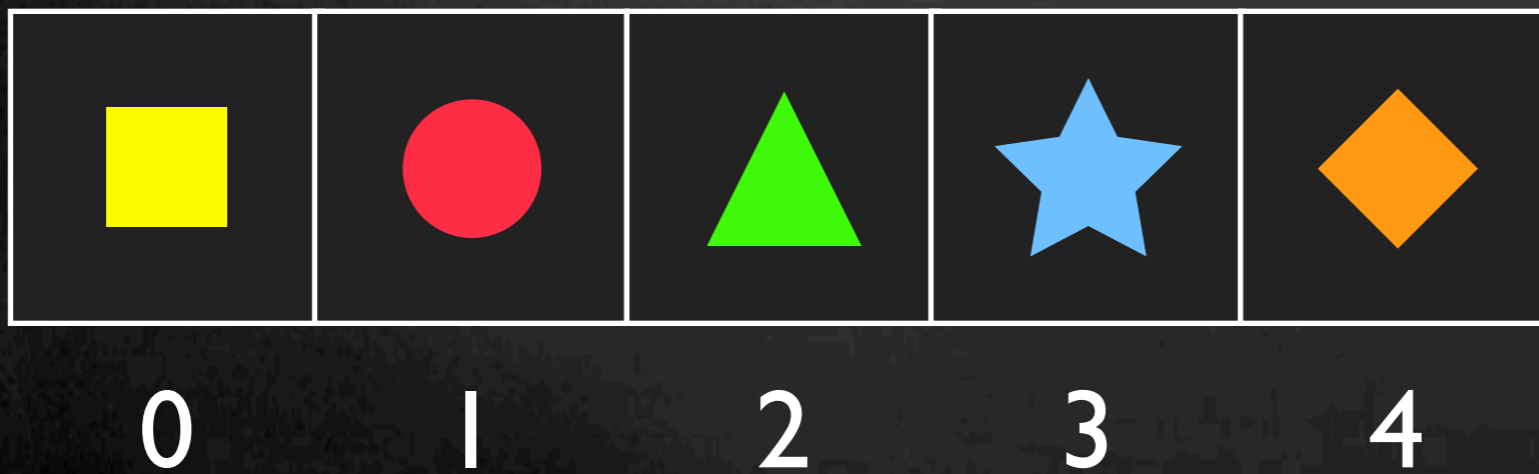
# Display List




getChildAt(1) → 

addChild()

# Display List

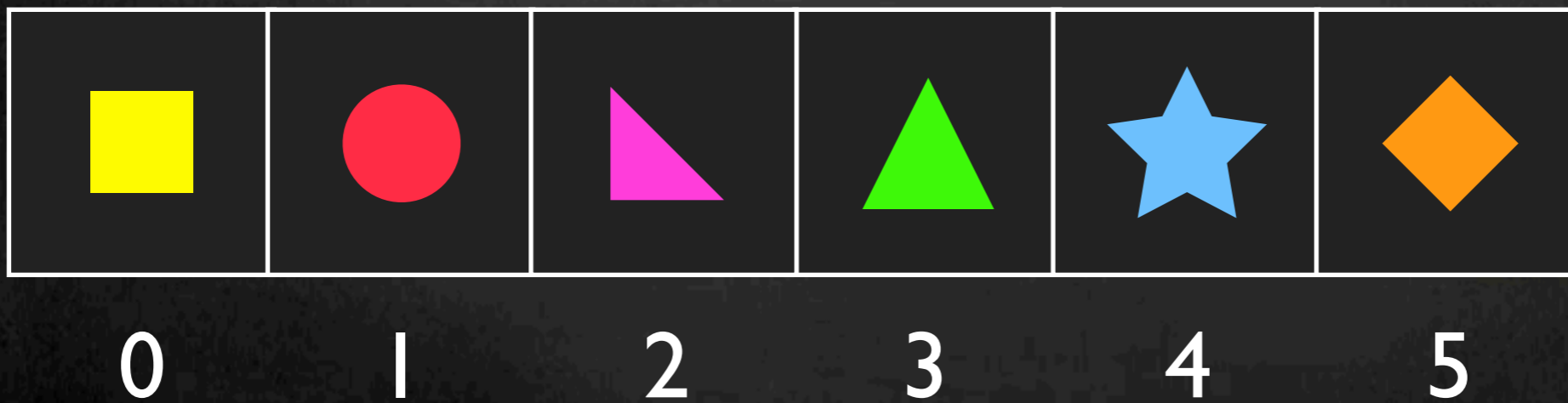



getChildAt(1) → 

addChildAt(, 2)

addChild()

# Display List

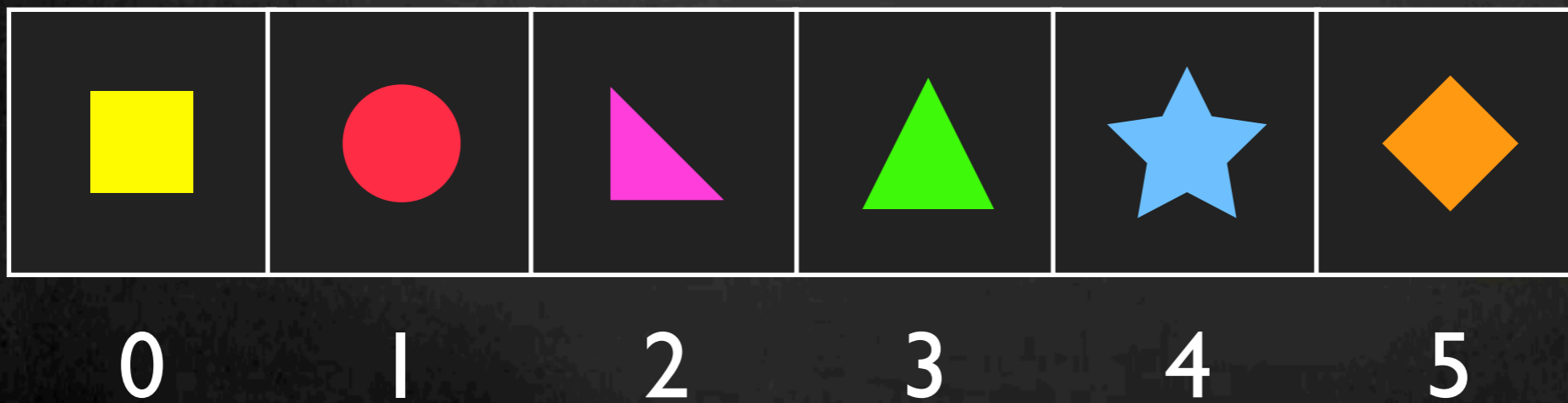



getChildAt(1) → 

addChildAt(, 2)

addChild()

# Display List



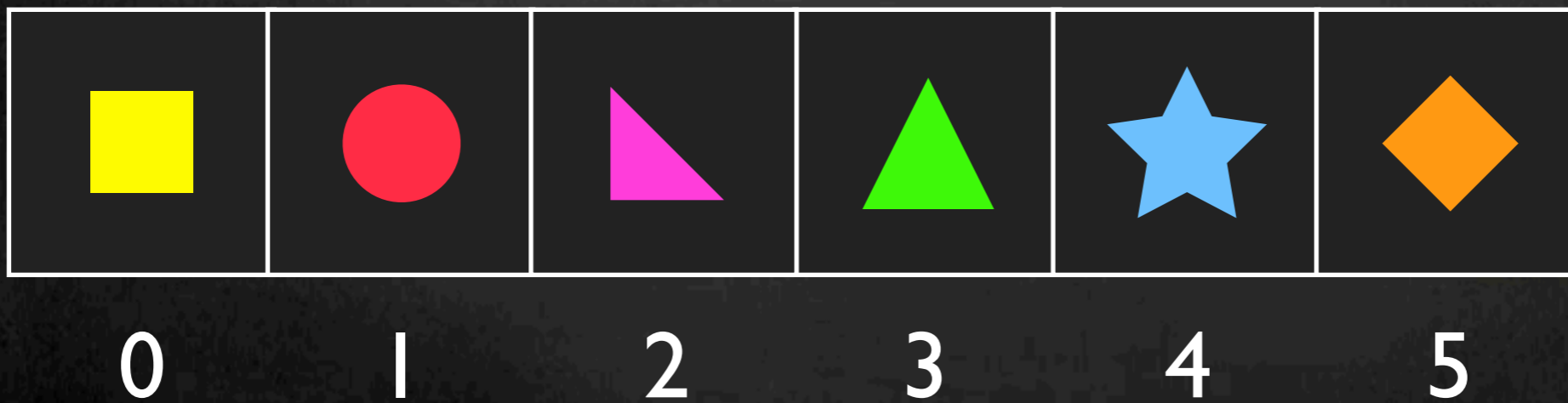
getChildAt(1) → 


addChild()

addChildAt(, 2)

addChildAt(, 7)

# Display List



getChildAt(1) → 

addChild()

addChildAt(, 2)

addChildAt(, 7) ✗

# Display List

Stage

└ Document Class

└ Image 1  
└ Container

└ Image 2  
└ MC

Synchron

vs.

Asynchron

# Synchron

vs.

# Asynchron

```
var s : Shape = new Shape();
```



```
s.x = 20;
```



```
s.y = 30;
```



# Synchron

vs.

# Asynchron

```
var s : Shape = new Shape();
```



```
s.x = 20;
```



```
s.y = 30;
```



```
var l : Loader = new Loader();
```



```
l.load(new URLRequest("im.jpg"));
```



```
l.x = 100;
```



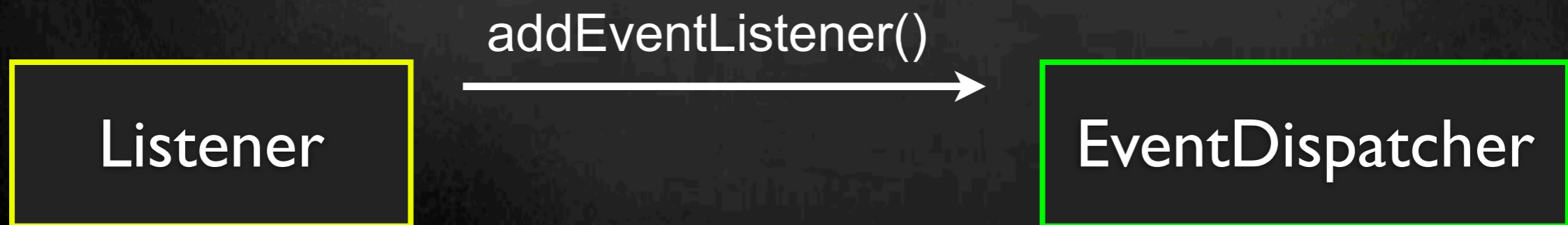
Asynchroner  
Ladevorgang!

# Events

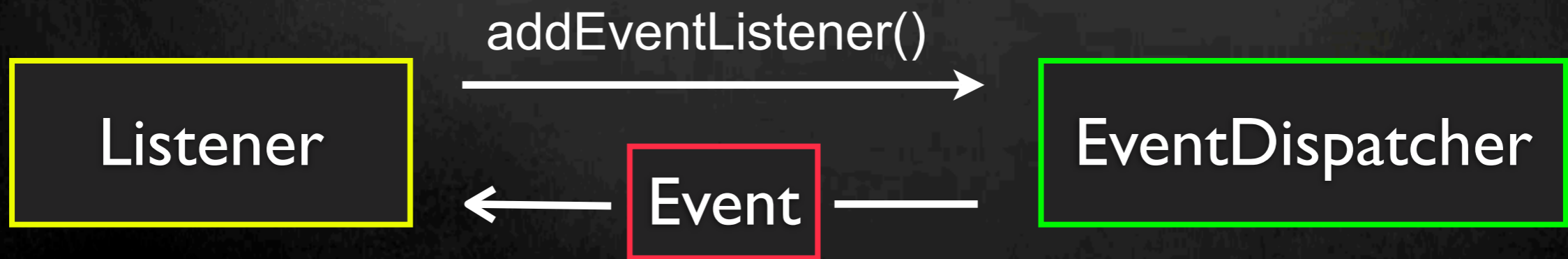
Listener

EventDispatcher

# Events



# Events



# Designer-Developer Workflow

**Vermeide:**

- Frame Scripts
- Klassenpfad in Flash IDE

# Pure Flash vs. Flex

# Kontakt



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