Actionscript 3.0 Basics

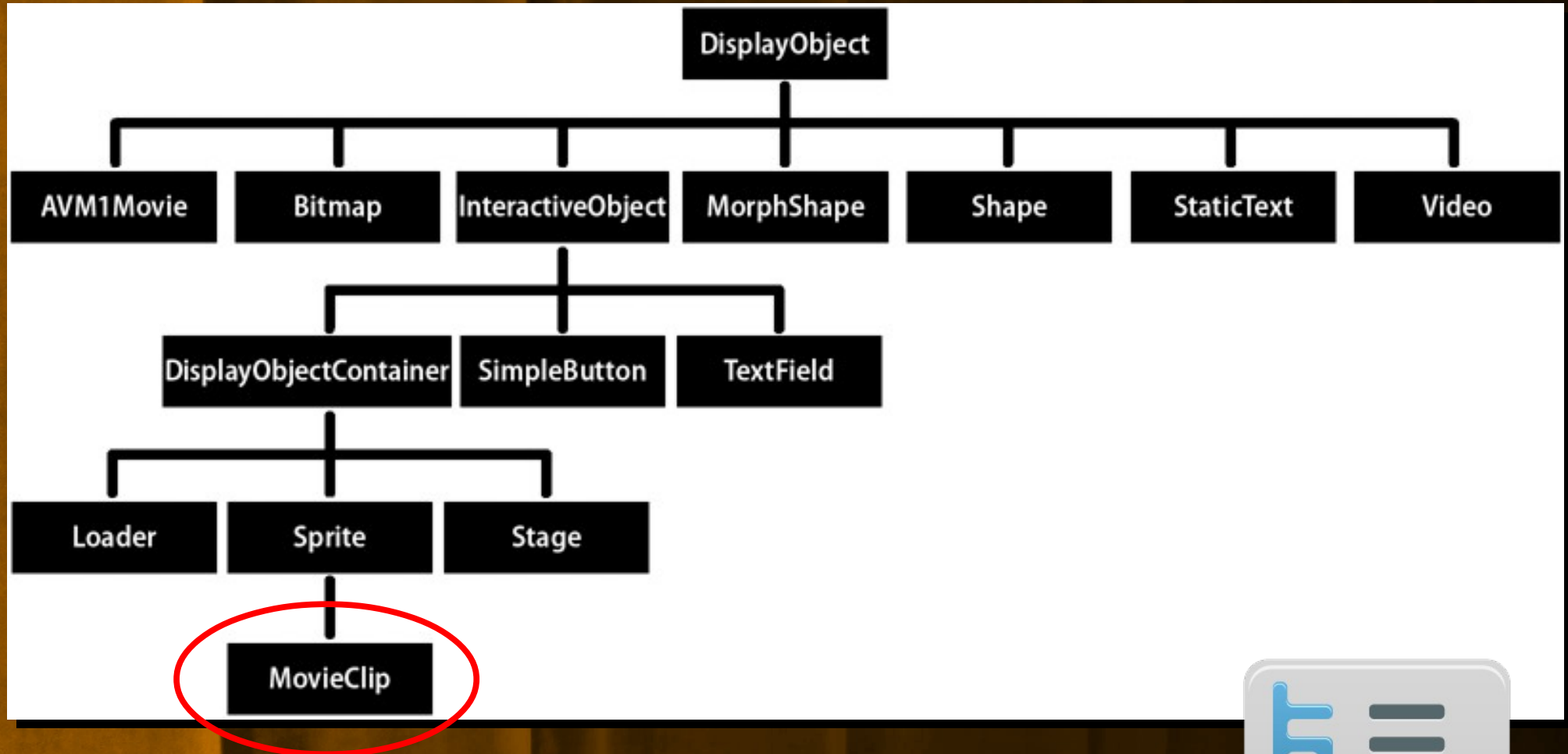4 – Animation

Animation Techniques
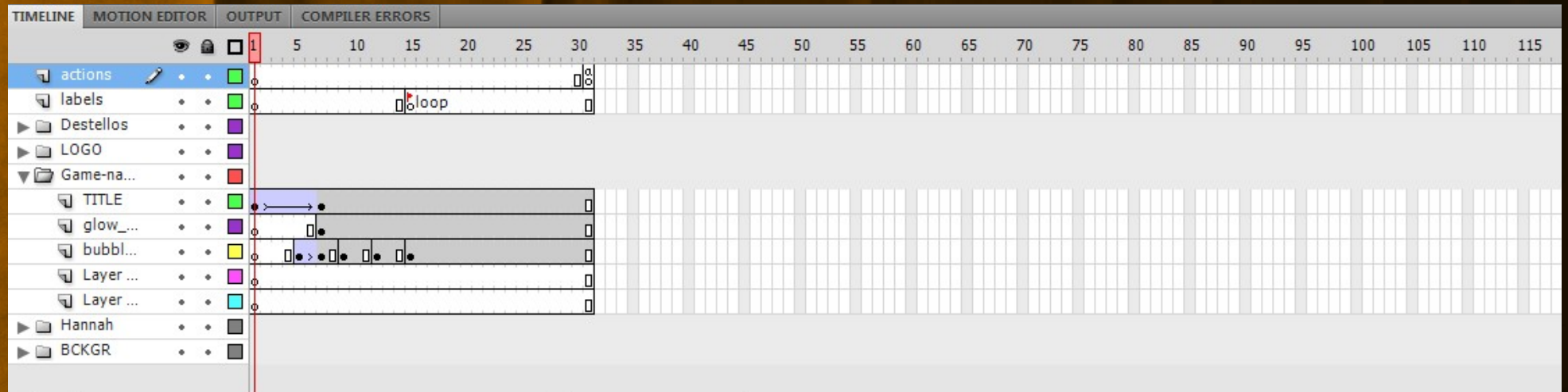

- **Using Authoring Tool**

- **Programmatic Techniques:**
  - Using flash rendering engine:
    - Using ENTER_FRAME event
    - Using Timer
  - Anternative Rendering:
    - Blitting
    - Stage3D (future)

MovieClip

Timeline

Animation as smooth
transitions between states.

Pros & Cons

Using Authoring Tool

- Easier, very familiar for designers and animatiors.
- No need for programming knowledge.

- Animations are atomic.
- Hard to add dynamism.
- Not easiliy accesible from code.

Programmatic Animation

```
1   stage.addEventListener(Event.ENTER_FRAME, onEnterFrame);
2
3   function onEnterFrame(e:Event):void
4   {
5       if (square.x < stage.stageWidth) {
6           square.x += 10;
7           square.rotationX =
8           square.rotationY =
9           square.rotationZ = (square.x / stage.stageWidth) * 360;
10          square.scaleX =
11          square.scaleY =
12          square.scaleZ = (square.x / stage.stageWidth);
13      }
14      else {
15          //reset...
16          square.x =
17          square.rotationX =
18          square.rotationY =
19          square.rotationZ =
20          square.scaleX =
21          square.scaleY =
22          square.scaleZ = 0;
23
24          onion.bitmapData.fillRect(onion.bitmapData.rect, 0);
25      }
26  }
27
```
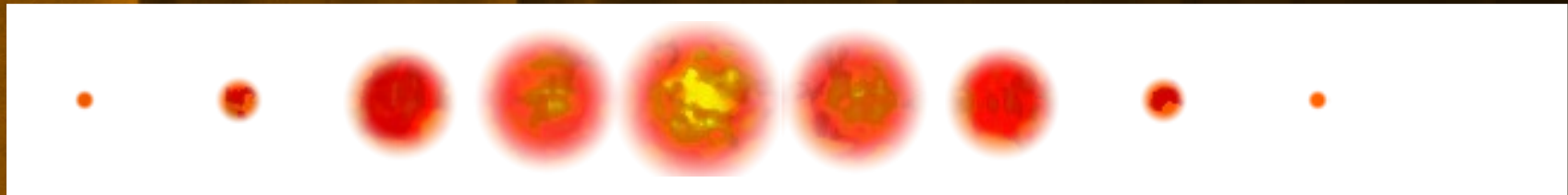
Write code that performs timely syncronized changes to a display object properties.

Pros & Cons

Programmatic Animation

- Animations are totally dynamic.
- Animations can change according conditions.

- You have to describe as code the entire animation.
- Requires Programming skills.

Blitting

Spritesheet

Programatically perform in-place frame replacement.

Pros & Cons

Blitting

- Blazing Fast.
- Allows more complex graphics for animation.

- Animations are atomic.
- Hard to add dynamism.
- Requires some extra work.

Stage3D

Completely new 3D rendering engine.
Uses hardware acceleration.
Complex Apis, requires 3D programmatic
Animation Skills.
Authoring tools will be available.

Thanks!

github.com/matix/as3basics

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