

Gaming with JavaFX

Developing the Next Generation of Casual Games

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9044

JAZOON09

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AGENDA

- > Challenges
- > Advantages and Opportunities
- > Pixel art
- > JavaFX game development
 - Opening resources
 - Sprite composition/animation
 - Tile composition
 - Collision detection
 - Game Cloud

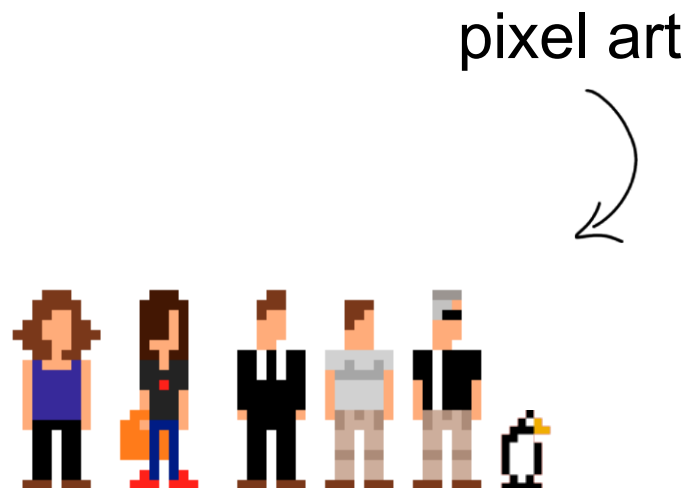
Common game developers challenges

- > Loading resources
 - Libraries for handling different image formats
 - also for video and sound codecs
- > Proprietary platforms
 - leads to proprietary libraries and expensive engines
 - same for tools and plugins
 - Independent game developers?
- > Network is hard
 - More libraries, sockets, protocols
- > Finding resources

JavaFX advantages and opportunities

- > Java advantages
 - JVM, libraries, speed, etc.
- > One application, multiples screens (Desktop/Mobile/Tv).
- > Performance
 - Hardware advantages
- > JavaFX Language and API
 - Easy to program
 - Skinnable UI with CSS
 - Graphical entities like geometry and animations
 - Profiles
- > Java Store

A few words on art



Open and display resources made easy



```
var tree = ImageView {  
    image: Image {  
        url: "{__DIR__}tree.png"  
    }  
}
```

External resources transparent



```
var bed = ImageView {  
    image: Image {  
        url: "http://example.com/bed.png"  
    }  
}
```

Sprite composition



```
var layers = [  
    dress,  
    hair,  
    crown,  
    shoes  
];
```



Avatar Combinations



For four directions



Sprite animation



```
Sprite {  
  img: "princess.png"  
  frames: 4  
  (...)  
}
```



Ref.: <http://silveiraneto.net/?p=1861>

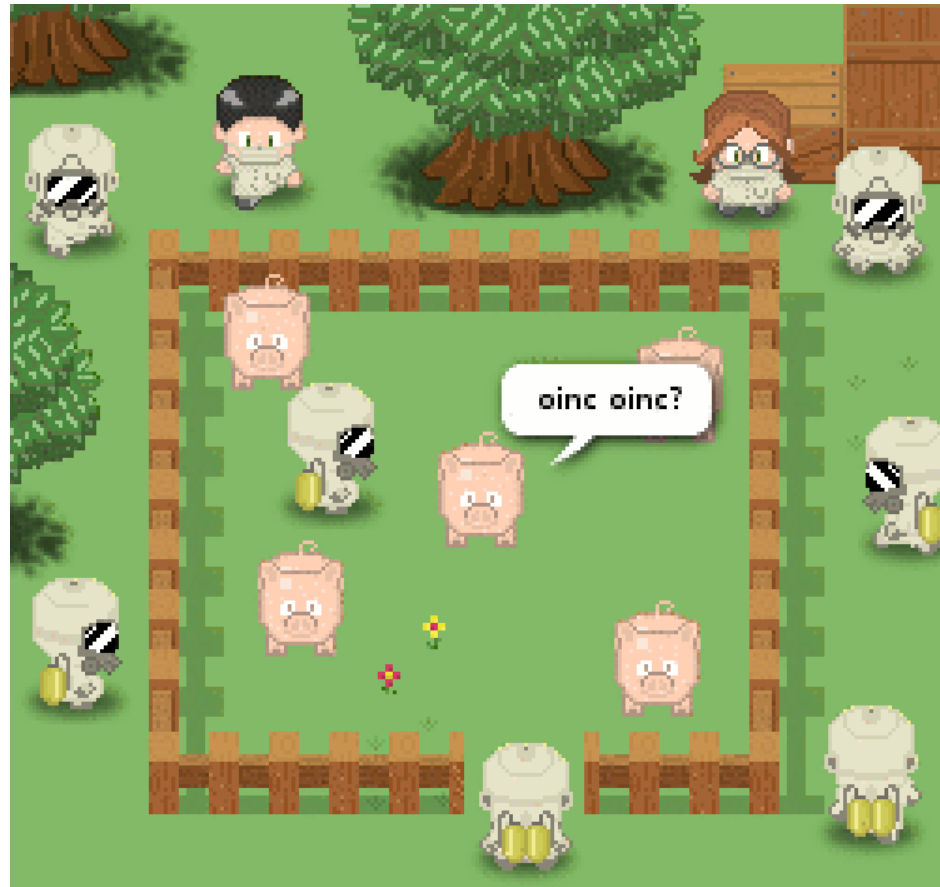
Tile Composition



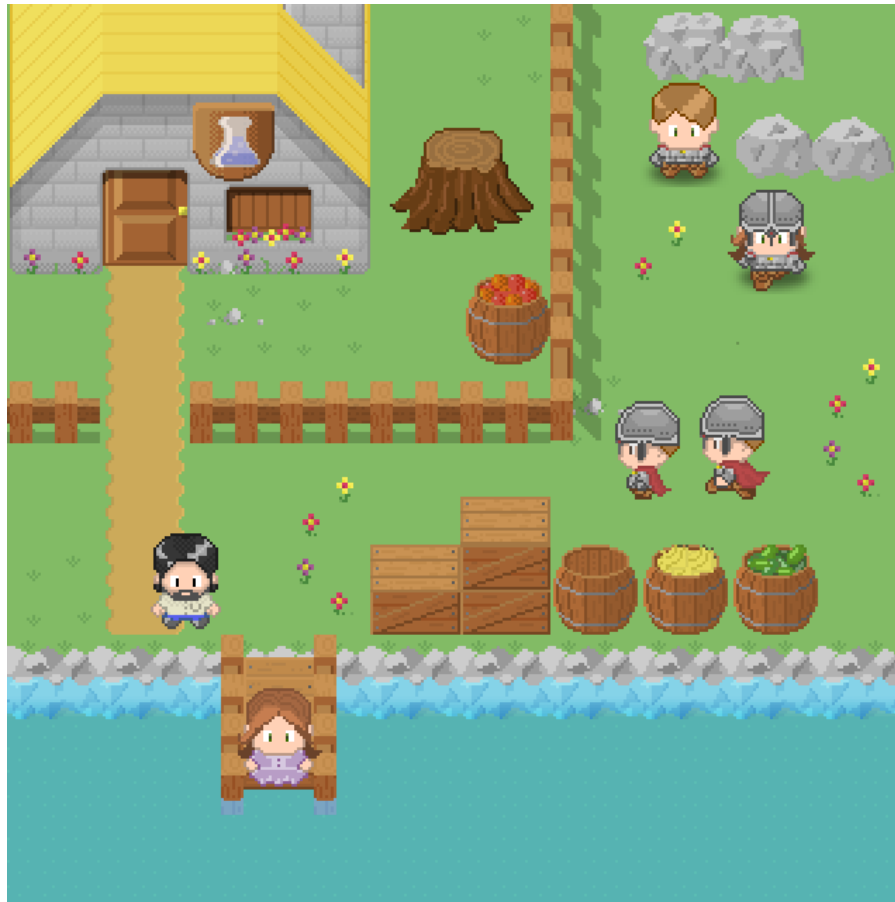
```
Tilemap {
  tiles: myTileSet
  Map: [5,1,12,63
    (...)]
}
```



Putting all together



Putting all together



Putting all together



Putting all together

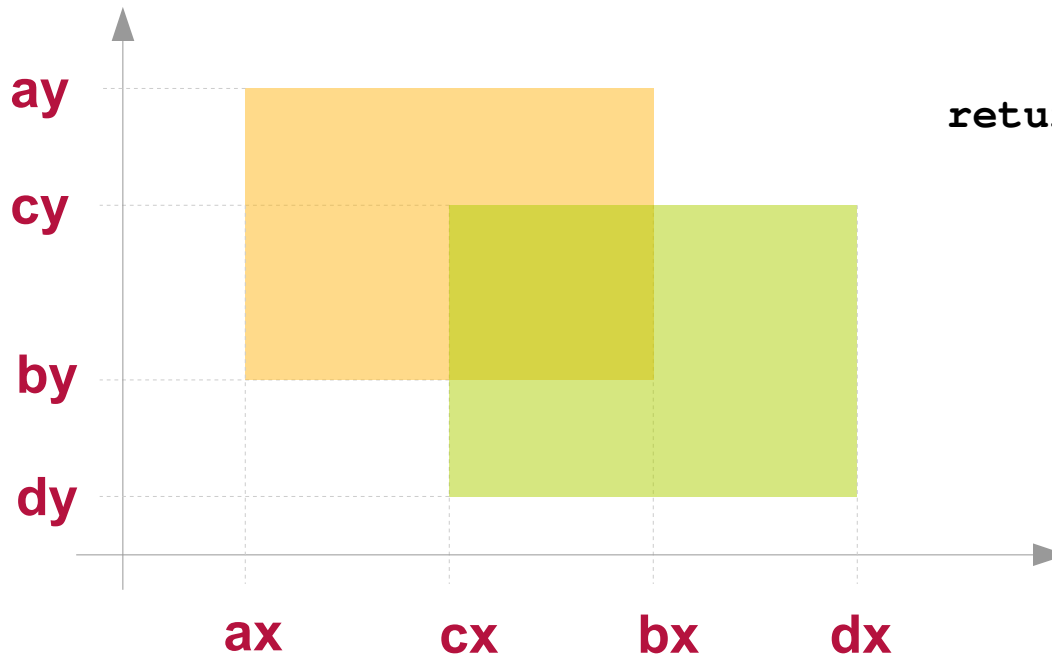


Feel free

- > Those arts are free
 - Creative Commons Attribution Share-Alike
 - <http://silveiraneto.net/pixelart>
- > Use it, put one more pixel.
- > Get them in my blog



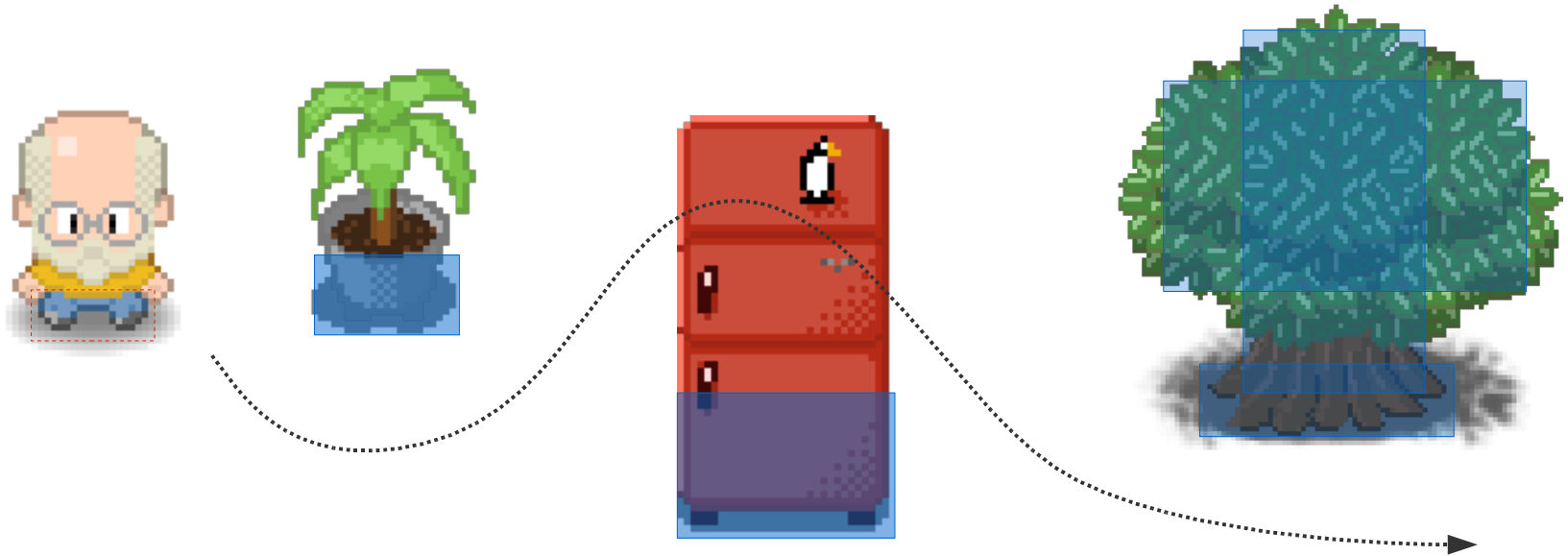
Collision detection (by bounding boxes)



```
return ( (ax>dx) ||  
          (bx<cx) ||  
          (ay>dy) ||  
          (by<cy) ) ;
```

or just use the new API...

Collision detection

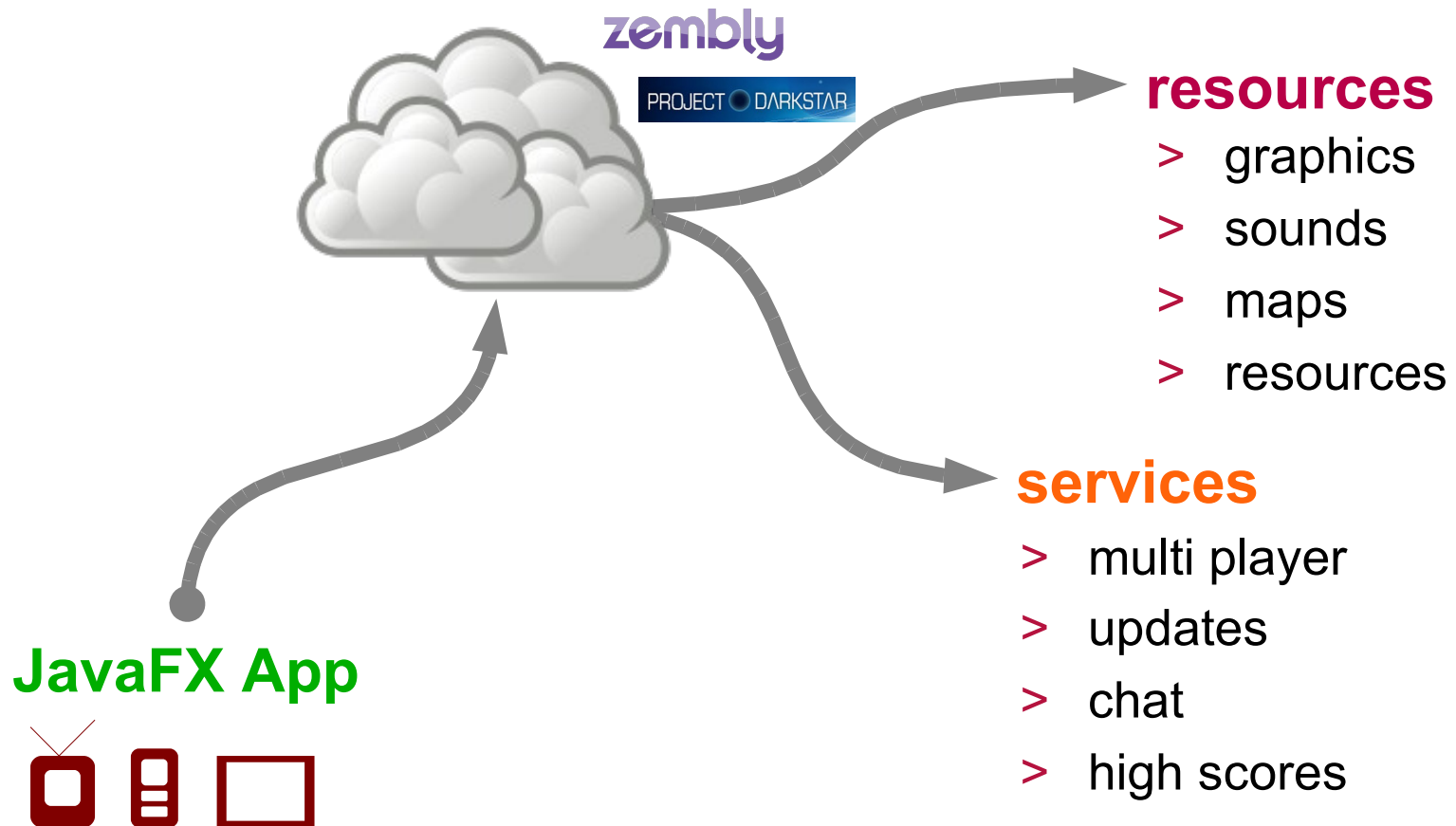


```
for (obt in obstacles) {  
    if (obt.boundsInLocal.intersects(x, y, w, h)) {  
        return false;  
    }  
}
```

Demo

- > Simple rpg like game

Game Cloud



Demo

- > High score demo
 - JavaFX
 - Remote data at Zembly



Questions?

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