

Java in programiranje iger



"Games are widely used as educational tools, not just for pilots, soldiers and surgeons, but also in schools and businesses.... Games require players to construct hypotheses, solve problems, develop strategies, learn the rules of the in-game world through trial and error. Gamers must also be able to juggle several different tasks, evaluate risks and make quick decisions.... Playing games is, thus, an ideal form of preparation for the workplace of the 21st century, as some forward-thinking firms are already starting to realise."

– The Economist, August 4, 2005

Kdo vse sodeluje pri razvoju iger

- **Producent** (produkcia iger)
- **Designer** (načrtovanje in igranje iger)
- **Programerji**(engine, Umetna inteliganca, zvok, orodja itd.)
- **Umetniki, animatorji** (teksture, animacije, modeli)
- **Načrtovalci nivojev** (nivoji, sekcije itd.)
- **Preizkuševalci** (hrošči, skromna zasnova igre)



Zgradba 2D iger

Kaj (2D) igra ima...

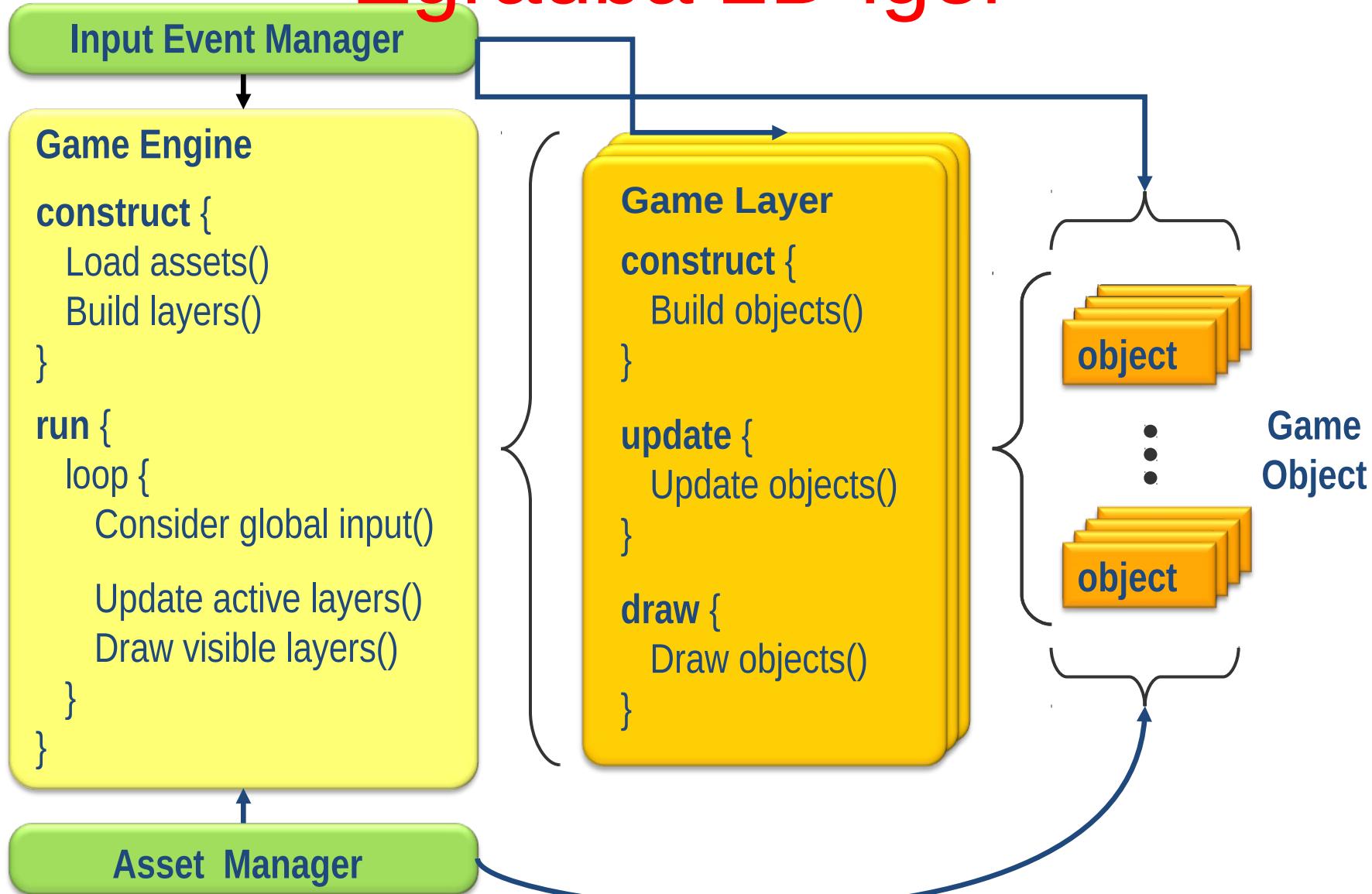
- Front-end (titles, menus)
 - Assets
 - *Graphical assets*
(animations, backgrounds)
 - *Sound assets*
(sfx, background music)
 - Objects
 - *In-game objects*
(sprites, platforms, etc.)
 - *HUD objects*
(score, lives, time, etc.)
 - Object Containers
 - *Levels, Areas, Maps*
 - Input Events
- {other things as needed}

Kaj (2D) igra dela...

- Once per game/per level
- Load assets
 - Construct objects
 - Populate containers
- Lots of times / second
- Consider input events
 - Update objects
 - Draw graphics
 - Play sounds
- {other things as needed}

Ni splošnega točnega odgovora na to:
Vsak model vsiljuje določena
predvidevanja, primerna za dani tip
igre

Zgradba 2D iger



Vhodne dogodke upravljajo in uporabljajo pogon igre, plasti in objekti

The java game development tutorial

<http://www.javacooperation.gmxhome.de/TutorialStartEng.html>

- [Basic structure of an applet](#)

- Animation

[Move a ball](#)

[Double buffering](#)

[Ball bouncing and change the direction](#)

- Sound und Gif's

[Using sound in applets](#)

[Using pictures in applets](#)

- Event handling in applets

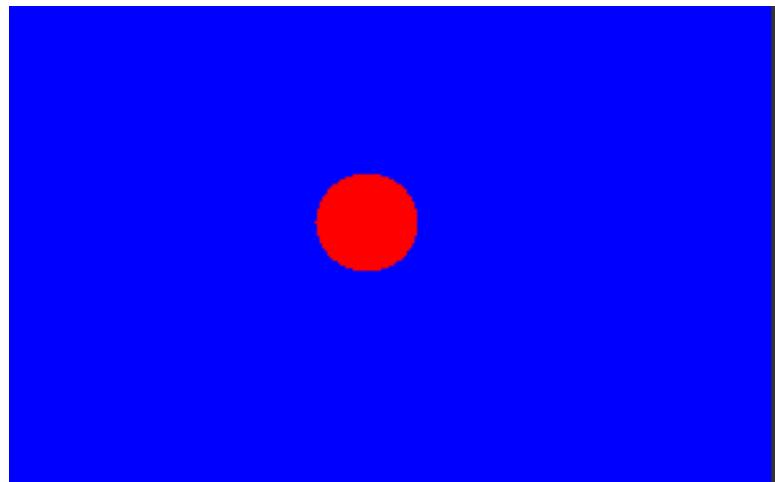
[Mouse events \(deprecated\)](#)

[Keyboard events \(deprecated\)](#)

[New event handling using](#)

[EventListener](#)

- [The first complete game](#)

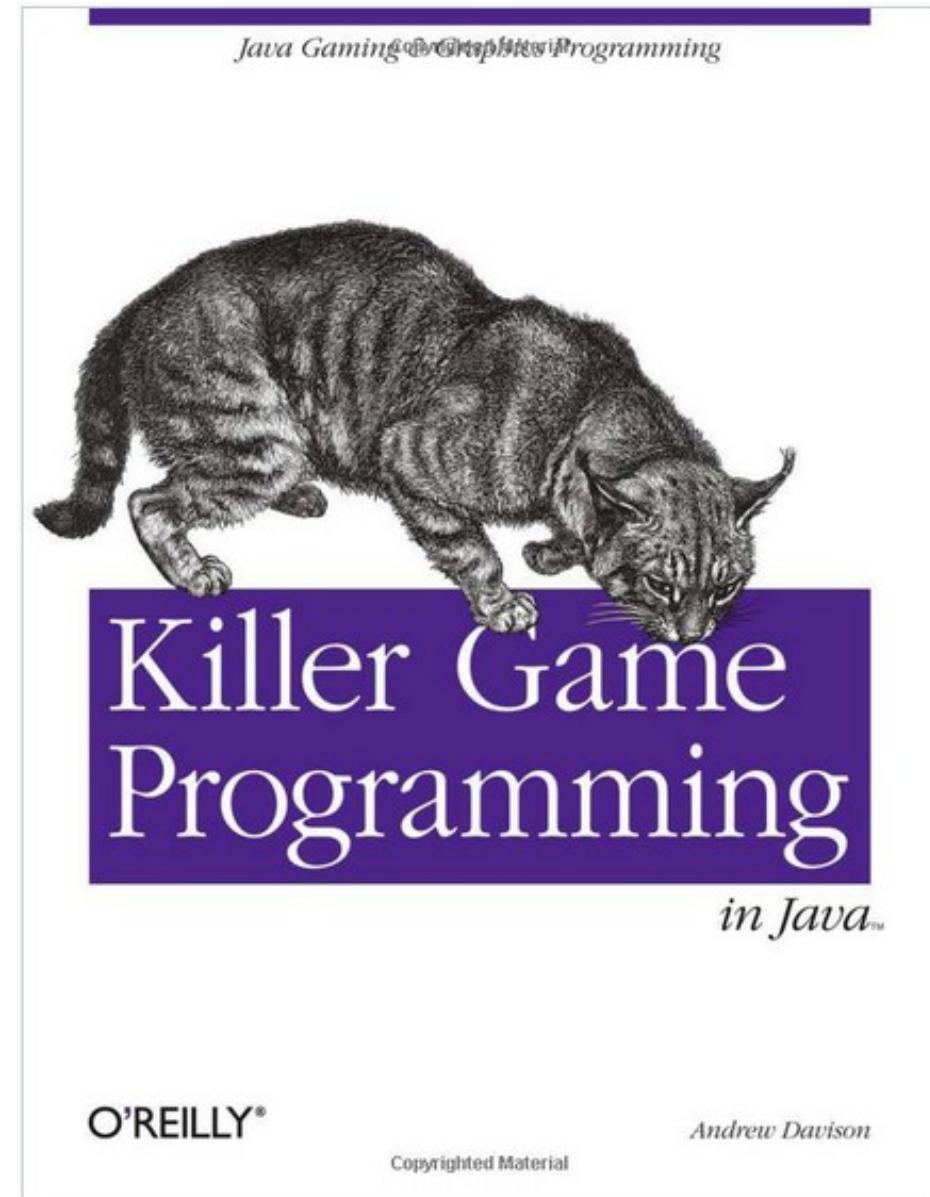


Killer Game Programming



Andrew Davison

<http://fivedots.coe.psu.ac.th/~ad/jg/>

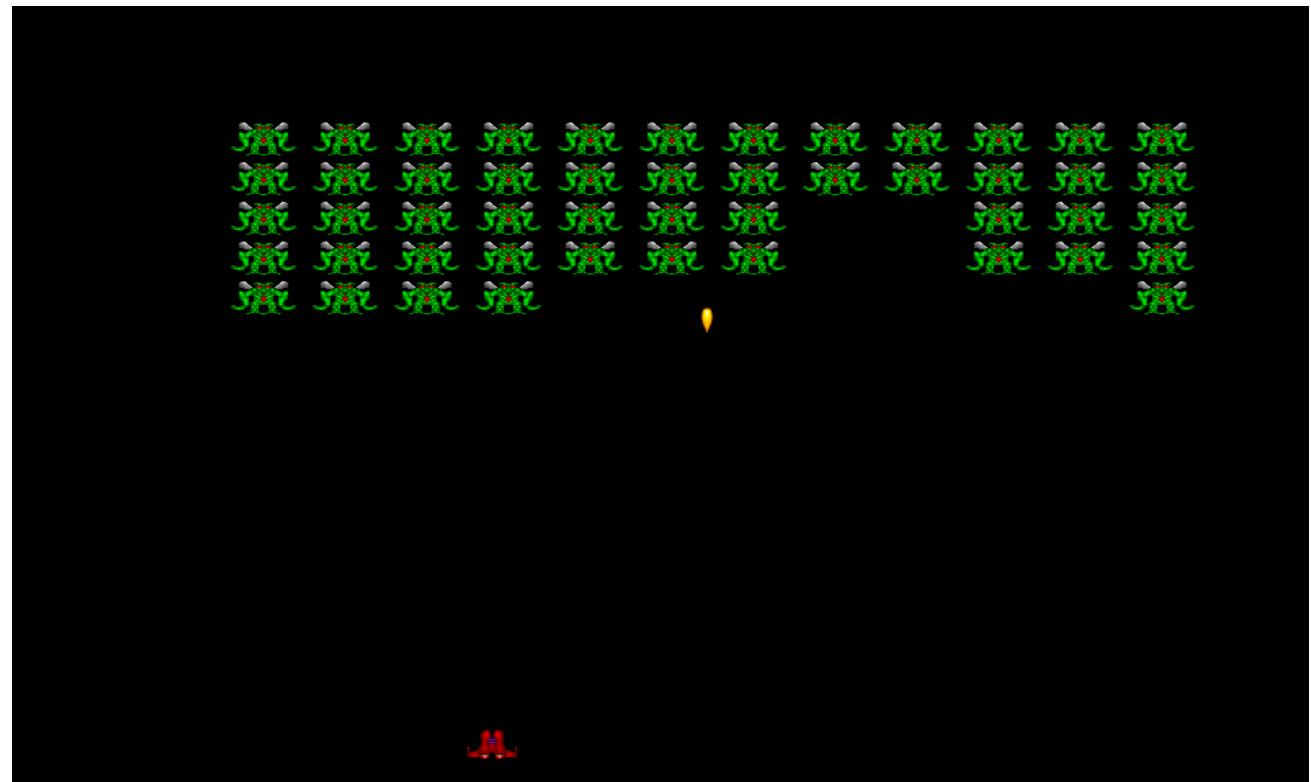


2D igra (Space invaders)

<http://www.cokeandcode.com/info/tut2d.html>

DEMO

Lep primer dedovanja, polimorfizma, preproste računalniške grafike



Zgradba igre Invaders

Definirani objekti

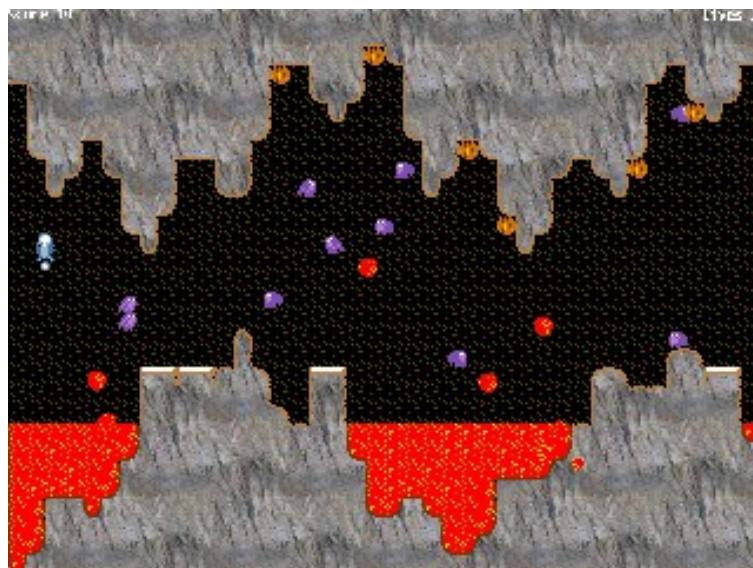
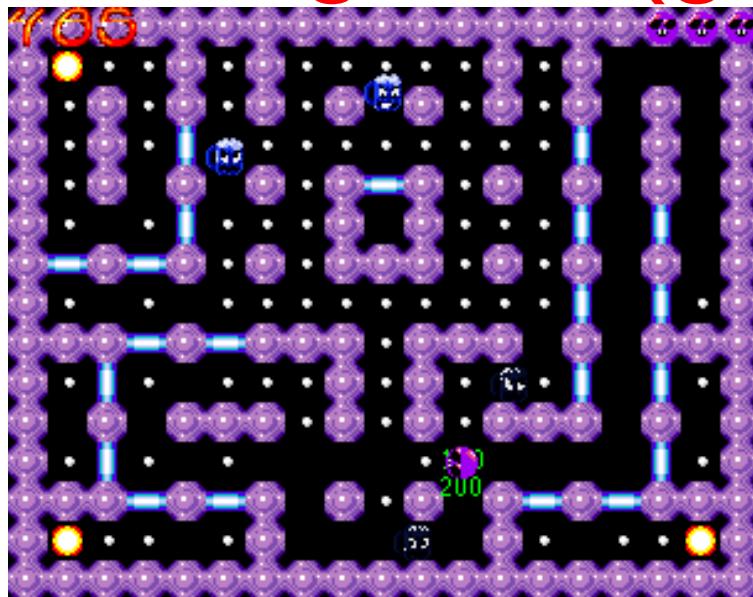
Definiranih je enajst tipov

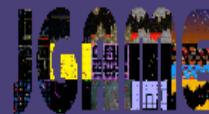
- ~~objektov:~~ Vsi so izpeljani iz razreda `GameObject`
- Hierarhiji, so pa identificirane skupine
- Ključni objekti
 - Ladje (ships)
 - Rakete (missiles)
 - Baze
- Začasni objekti
 - Eksplozije
 - Obvestila
- Prekrivni objekti
 - Življenja
 - Točkovan



Jgame (game engine)

WEB





What is JGame?

JGame is an open source 2D game engine that runs on any Java 1.2+ JRE platform (with optional OpenGL enhancements through JOGL), as well as the mobile J2ME (CLDC1.1/MIDP2.0) platform. It provides a very high-level framework for developing "classic" type arcade games. It is based on sprites with automatic animation and collision detection, a tile-based background with easy sprite-tile interaction facilities, and high-level game state and game sequence facilities. JGame games can be run in a variety of ways without requiring any changes in the code: regular applications, webstart, applets, or MIDlets. Graphics are scaled automatically to fit any screen size, from the smallest mobile device to full-screen desktop PC. JGame uses 2D graphics acceleration where available, but using OpenGL enables better graphical quality.

JGame - a Java game engine for 2D games

Download / Run

- [Download JGame 3.3 \(20080310, patch a\) as tar.gz \(9345k\)](#) or as ZIP (9504k). The package comes with all the docs and games. Or use this mirror: [tar.gz](#) or [zip](#), or the [sourceforge download mirror](#). Older versions are available in [the archive section](#).
- [Download the games collection as an executable Jar \(non-OpenGL\)](#). Click on the jar file to start, or use `java -jar jgame-all.jar`.
- [Run the JGame games collection as applets](#).
- [Run the JGame games collection as a Webstart](#):
 - [Without OpenGL \(unsigned version\)](#).
 - [With OpenGL \(unsigned version\)](#).
- [Download J2ME MIDlets](#).
- Try the (prototype) [online action game generator](#)

Contact

For problems or bugs, mail me at schooten@cs.utwente.nl

Done

How to get Java

Macos X comes with Java 1.4+ onboard. For Unix or

Documentation

View the docs online:

- NEW! [Setting up JGame with Eclipse](#)
- [Tutorial](#)
- [README](#) - intro and install instructions
- [Manual](#) - general concepts and troubleshooting
- [Changelog](#)
- [Javadoc](#)
- [License \(BSD\)](#)
- Also try: the [JGame tutorial by Jeff Friesen](#). Note: he assumes the JGame 1.x API. In JGame 2.X, the initialisation API has changed. In JGame 3.X, some classes and methods are replaced.

Example code

So, what does the code of a JGame game look like?