

Novosti s *JavaOne*

-

u iščekivanju
Java SE 8

HUJAK

Hrvatska udruga Java korisnika

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Aleksander Radovan**
www.hujak.hr



Bili su Hrvati i na JavaOne

- Ovo je bilo **2012.** 😊 ☹️



Ove godine nažalost
nismo bili ☹️



JavaOne 2013

- Najveća svjetska **Java** konferencija
- Punoljetna – već **18.-ta**
 - četvrta u organizaciji tvrtke Oracle
 - istovremeno kad i **OpenWorld**
 - isti tjedan kad i **America's Cup**
- **5 dana, 400+ događanja, 92 države predavača**
 - **San Francisco** – hoteli Hilton, Parc 55 i Nikko
- Zanimljivosti:
 - **Codegarten** – „kodiranje s predavačima”
 - **Coding Challenge** – **Raspberry Pi Challenge**
 - **Taylor Street Open House** – cijela ulica-kafić





JavaOne **Keynotes**

- Keynote predavanja
 - Moscone centar
- Predavači (neki od):



- **Peter Utzschneider**, VP of Java Product Management
- **Nandini Ramani**, VP of Java Development of Java Platform
- **Cameron Purdy**, VP of Cloud Application Foundation and Java EE
- **Mark Reinhold**, Chief Architect, Java Platform
- **Brian Goetz**, Java Language Architect
- **Stephen Chin**, JavaOne Content Chairperson
- **Donald Smith**, Senior Director of Product Management
- **Henrik Stahl**, VP of Product Management in Java Platform Group
- **IBM, Freescale** i mnogi drugi ...



Napredak u 2013.

Tehnologija

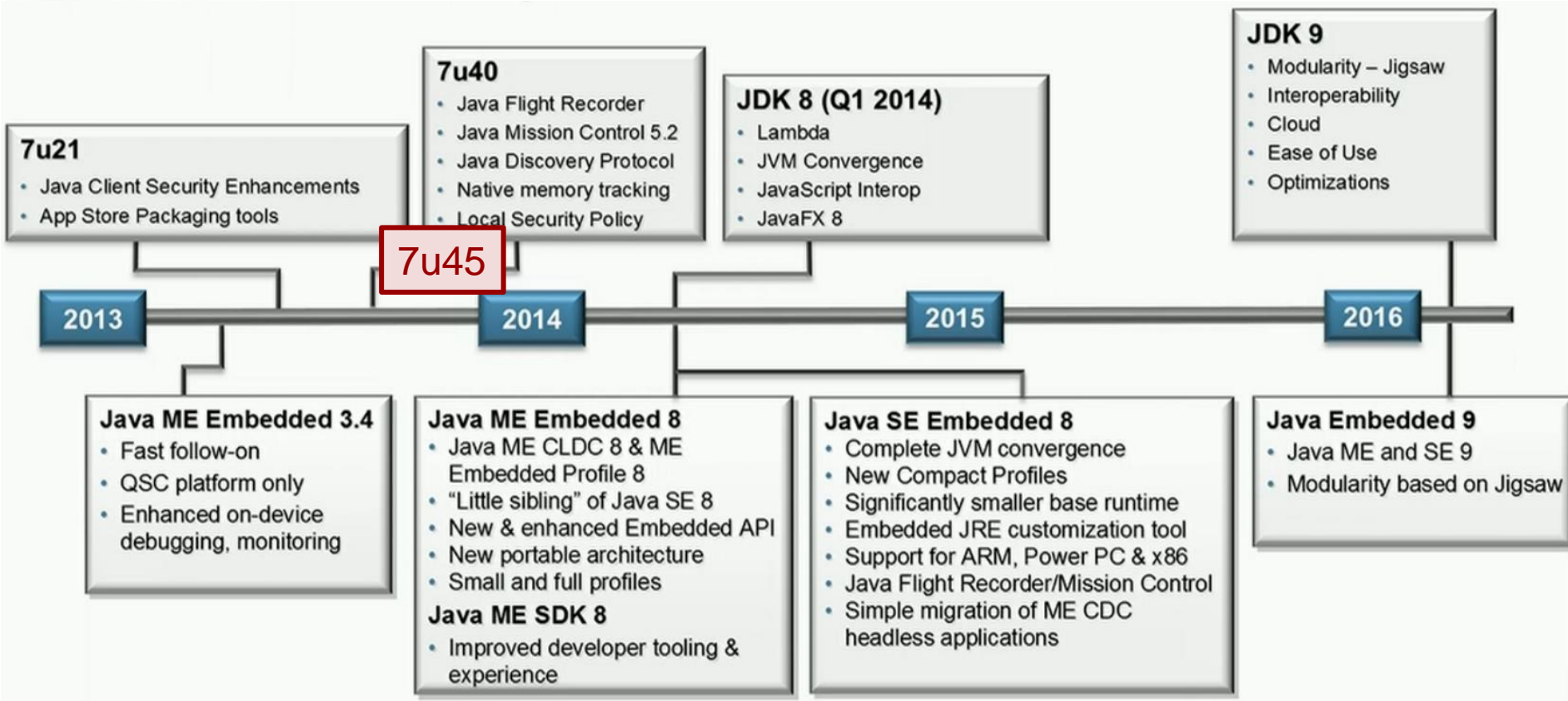
- **Nove specifikacije**
 - 14 dovršenih JSR-ova
- **Java EE**
 - Java EE 7 izdano 12.6.2013.
 - GlassFish 4.0
- **JavaFX**
 - OpenJFX (*open source*)
- **Java SE**
 - updates, sigurnost
 - OpenJDK – JIRA
 - JDK 8 preview

Zajednica

- **Java Magazine**
 - 150.000+ čitatelja
- **JavaOne** – 4 regionalne konferencije
 - San Francisco, Moscow, Hyderabad, Shanghai
- **Java.net**
 - 850.000+ članova
 - 2300+ javnih projekata
- **JUG-ovi**
 - 200 → 230+



Java roadmap





Platforma Java EE 7

- Objavljen oracle.com/javaee
- Referentna implementacija – **GlassFish 4.0**





Java SE 8

- **Java SE 8 Early Access** dostupan na jdk8.java.net
 - **Release Candidate** u siječnju 2014.
 - **puno izdanje** u ožujku 2014.
 - milestones:

M8	2013/09/05	<i>Developer Preview</i>
	2013/09/12	<i>All Tests Run</i>
	2013/10/10	<i>API/Interface Freeze</i>
	2013/10/24	<i>Zero Bug Bounce</i>
	2013/11/21	<i>Rampdown phase 2</i>
M9	2014/01/23	<i>Final Release Candidate</i>
GA	2014/03/18	<i>General Availability</i>





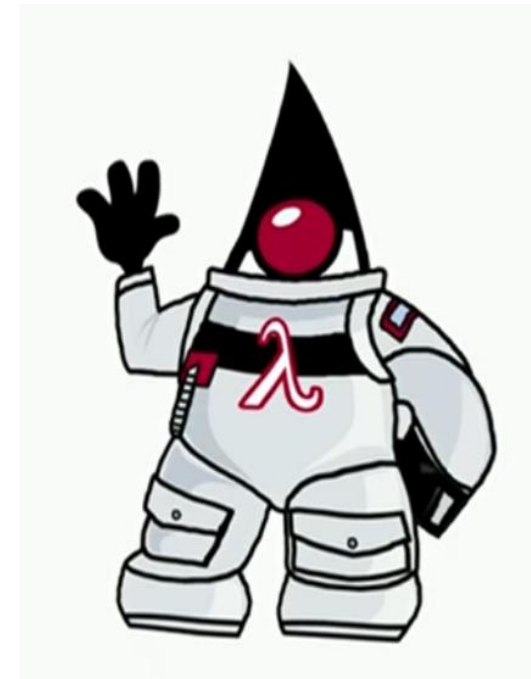
Java SE 8 – **novosti**

- **Umbrella JSR 337**
- **JDK 8** - brži i jednostavniji
- **Nove funkcionalnosti**
 - **Date & Time API (JSR 310)**
 - **Type Annotations (JSR 308)**
 - **Compact Profiles**
 - **Lambda expressions (JSR 335)**
 - ...
- **Osvježene funkcionalnosti**
 - **Nashorn JavaScript Engine**
 - **JDBC 4.2**
 - **I18N – Unicode 6.2 ...**
 - **Secure RNG**
 - ...

Lambda



- Najveće **osvježenje** programskog modela
 - ikad dosad, veće od Genericsa 😊
 - koordinirano – VM, jezik i biblioteke
- Značajke:
 - sintaksa
 - učinkovitost
 - apstrakcija
 - paralelizam
- openjdk.java.net/projects/lambda





Lambda – sintaksa i učinkovitost

- Značajno **ukidanje** *boilerplate* koda
 - posebno u radu sa ***Collections***
- Kompajler generira ***inner*** klase
 - koristi ***invokedynamic***
 - generira optimizirani ***bytecode***
 - **kompaktniji i učinkovitiji**
- Korištene za **unaprjeđenje** ostalih klasa u Java SE
 - čak 4024 klasa 😊



Lambda – apstrakcija i paralelizam

- Korištenjem **Streamova** nad kolekcijama
 - u **jednom prolazu** filtriranje, mapiranje i agregiranje podataka
 - ne kreira nikakve *intermediate* objekte
- Uvođenje **paralelnih Streamova**
 - maksimalno se koriste **Fork-Join** funkcionalnosti
 - ali na implicitan način



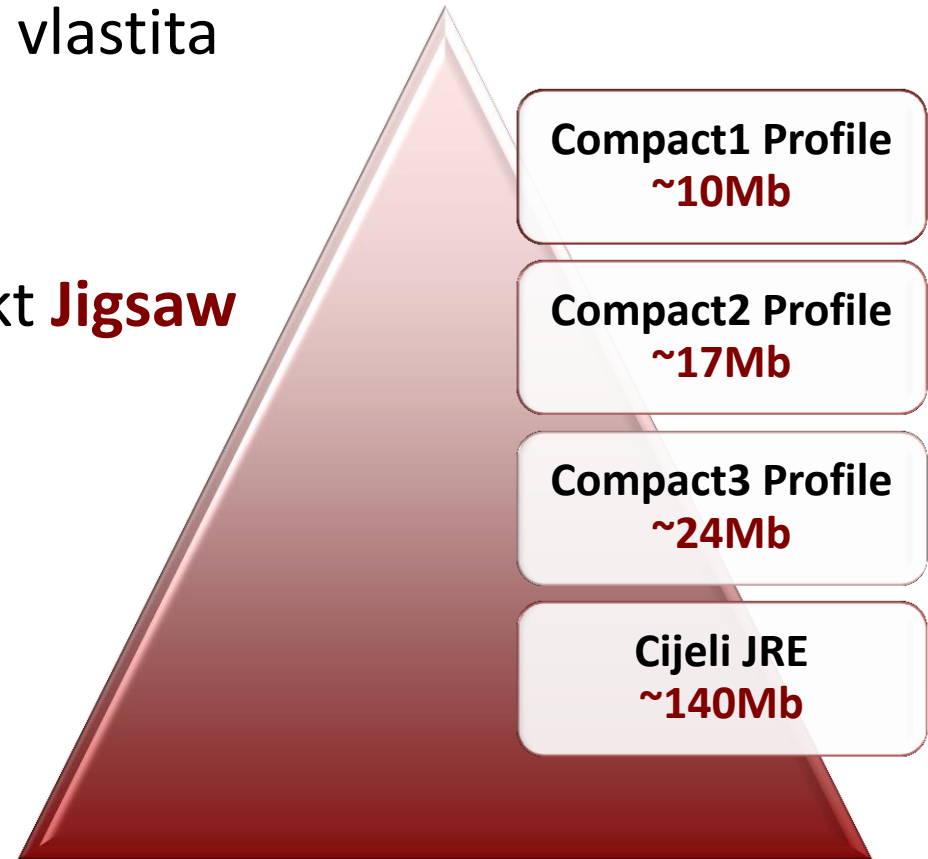
Lambda – default metode

- (Virtualne) metode koje se nalaze u sučelju i **imaju tijelo** koje sadrži **default implementaciju**
 - zadržan **backward compatibility**
 - **default metode stream i parallelStream** dodane u sučelje **Collection**
- Sučelje **Splitterator** u metodama **stream** i **parallelStream**
 - za podjelu **collectiona** na dijelove kako bi **više threadova** moglo raditi na njemu



Compact Profiles

- Potreba za **podjelom Java** u zasebne **module**
 - **uključivanje** po potrebi u vlastita (optimirana) rješenja
- **Potpuna** implementacija
 - planirana u **Javi 9** – projekt **Jigsaw**
- **Compact Profiles**
 - **privremeno** rješenje
 - dostupno već i u **Javi 8**
 - **tri profila** s određenim skupovima paketa





Type Annotations

- Poboljšana analiza Java programa kroz **strogu provjeru tipova**
- Anotacija **@NonNull String str;**
 - onemogućava postavljanje **null** reference objekta **str**
- Moguće korištenje postojećih modula (**Checker Framework**) ili pisanje vlastitih



Date & Time API

- Značajno **poboljšanje** u korištenju klasa **Date** i **Calendar** (oduvijek) prisutnih
 - zbog tih mana mnogi koristili vanjski *library* **JodaTime**
- Intuitivnije računanje s datumima
 - u paketu **java.time**
 - nema konflikata sa „starim” **javax.time**



Projekt **Nashorn**

- Novi **JavaScript engine** na **JVM-u**
 - omogućava izvođenje (interpretiranje) JavaScript koda korištenjem JVM-a
- Performansna poboljšanja
 - **5x** brži od prethodnika **Rhino**
- Implementira protokol koji **pojednostavnjuje** pozivanje Java API-a iz JavaScripta



JDBC 4.2

- Nove **setter/update** metode za klase **ResultSet**, **PreparedStatement** i **CallableStatement**
 - updateObject, setObject ...
- Ugrađena podrška za **REF_CURSOR**
 - preko metode **registerOutParameter**
- Proširenje metode **DatabaseMetaData.getIndexInfo** parametrima **CARDINALITY** i **PAGES**



Java 9 ... and **beyond**

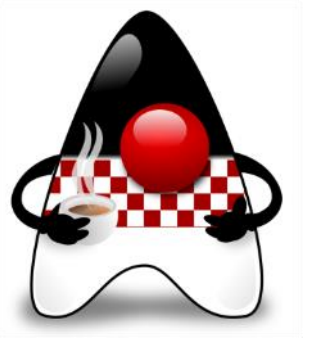
- **Budućnost je **svijetla** ...**
 - **Modularity** – projekt **Jigsaw**
 - **Java on GPU** – projekt **Sumatra** na OpenJDK
 - **Language Interoperability**
 - **Unified Type System** – no more primitives
 - **JNI 2.0**
 - **Memory-efficient data structures**
 - **Security Enhancements**
 - ...



NetBeans

NetBeans IDE

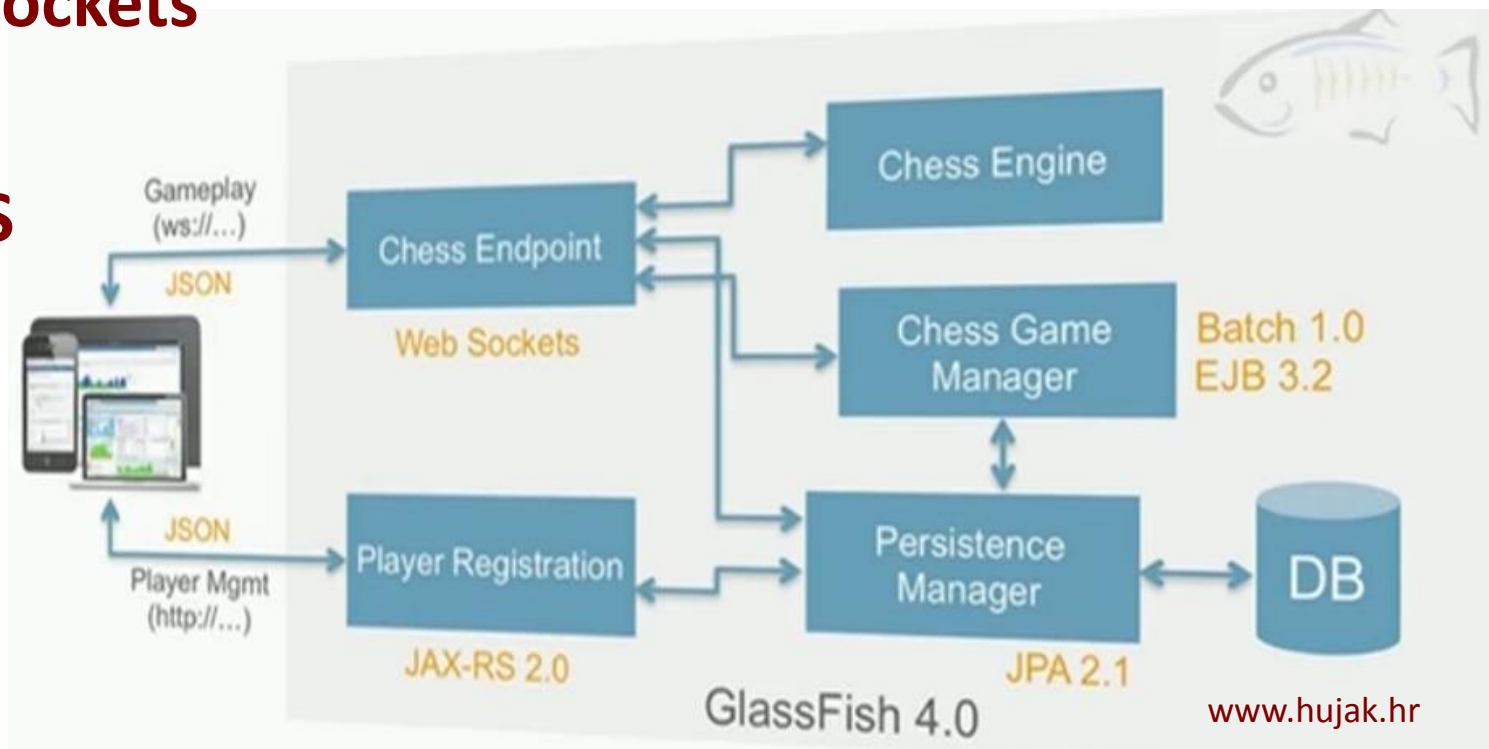
- **NetBeans 7.4 (2013-10-11)** ima podršku za:
 - **HTML5, Maven Web i Java EE Web** projekti
 - **JavaScript framework** – AngularJS, jQueryJS i Knockout
 - **mobile support** – Android and iOS
 - **budući Java SE 8**
 - **redizajnirani JavaFX** (prema JDK 8)
 - **PHP** aplikacije



Šah s Java EE 7

- **Proof of Concept** - raznorodni klijenti i poslužitelj
- **Nove tehnologije**

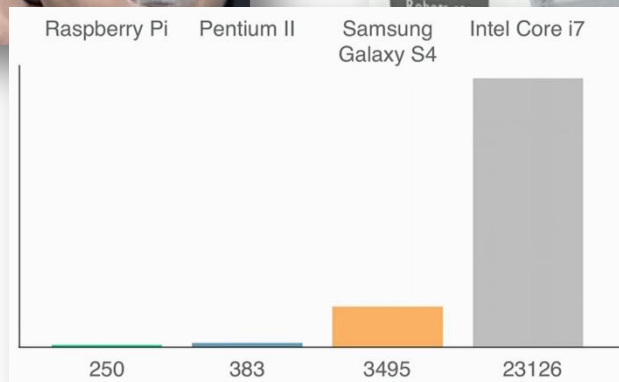
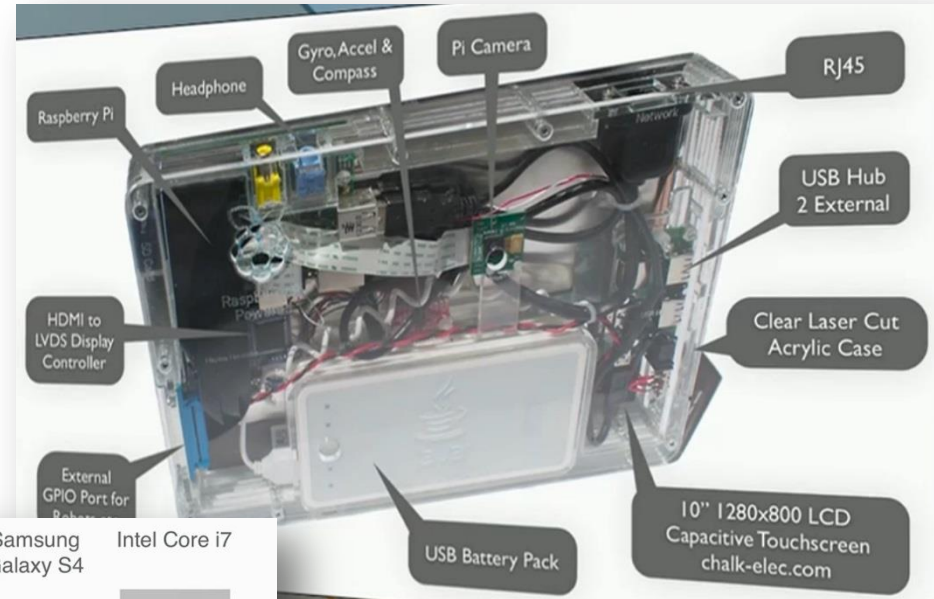
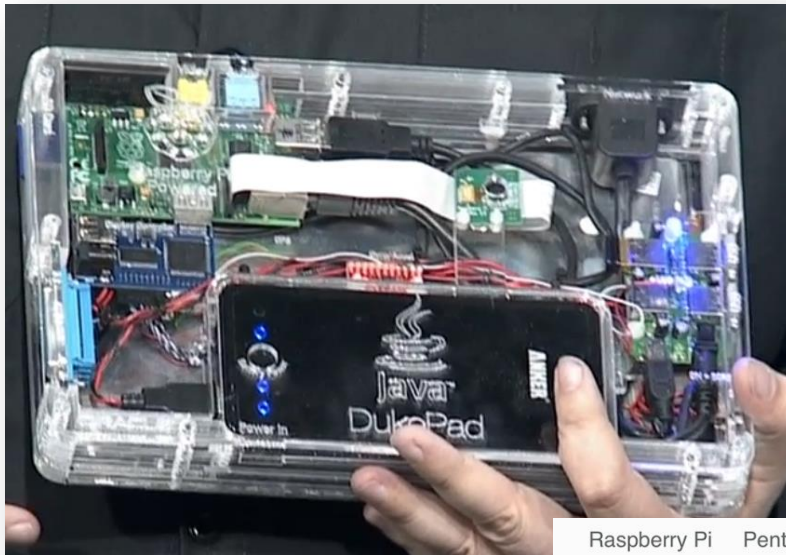
- **Web Sockets**
- **Batch**
- **JAX-RS**
- **JSON**
- **JPA**
- **EJB**





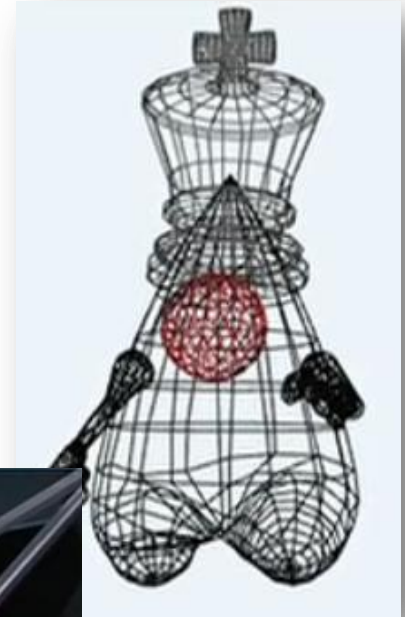
DukePad na JavaFX

- Homemade „Dukepad” tablet on **Raspberry Pi**





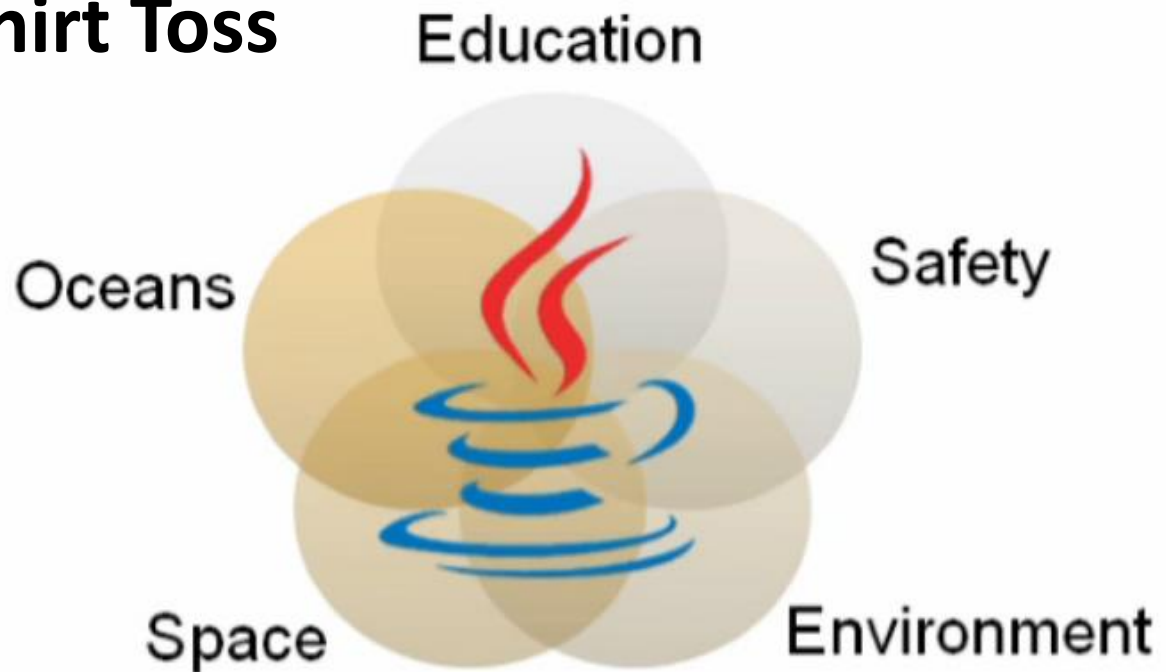
3D vizualizacija i robotika





Priče iz zajednice

- Java 6 → 7 migration www.jcountdown.com
- **Raspberry Pi** – image s Java SE
- Tradicionalni **T-Shirt Toss**
- Oracle **Academy**





DEVOXX™
[4KIDS]



2018
hroug

- Programiranje za djecu

- 10-14 g.

- 10 tak zemalja

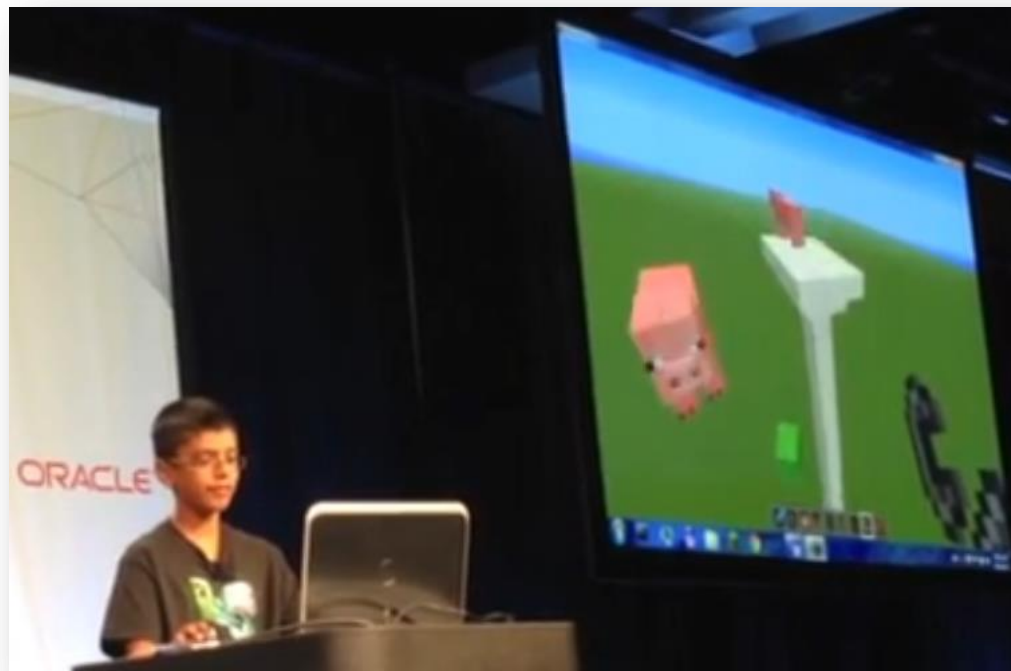
- 100% girls 😊





Minecraft modding

- Aditja Gupta – godina 10
 - po zanimanju **programer** 😊
 - kako u Minecraft dodati **leteće krave** i **TNT**





Roboti i samonavigirajući automobili

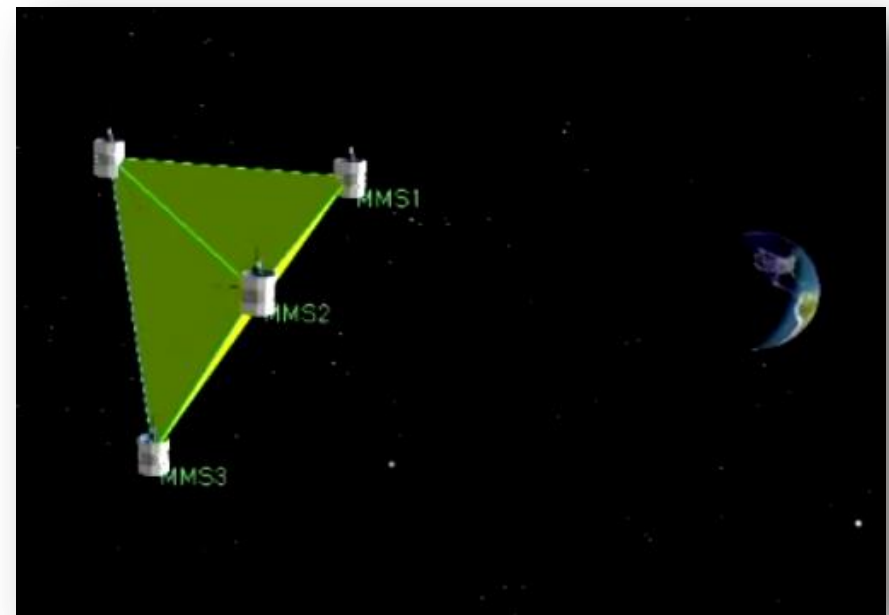
- Roboti (Lego)
 - Duke Segway & R2D2 Java
- Automobili (Perrone)
 - iz običnog u samonavigirajući auto u <30 minuta



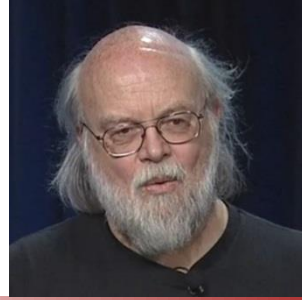


Ekologija i **svemir**

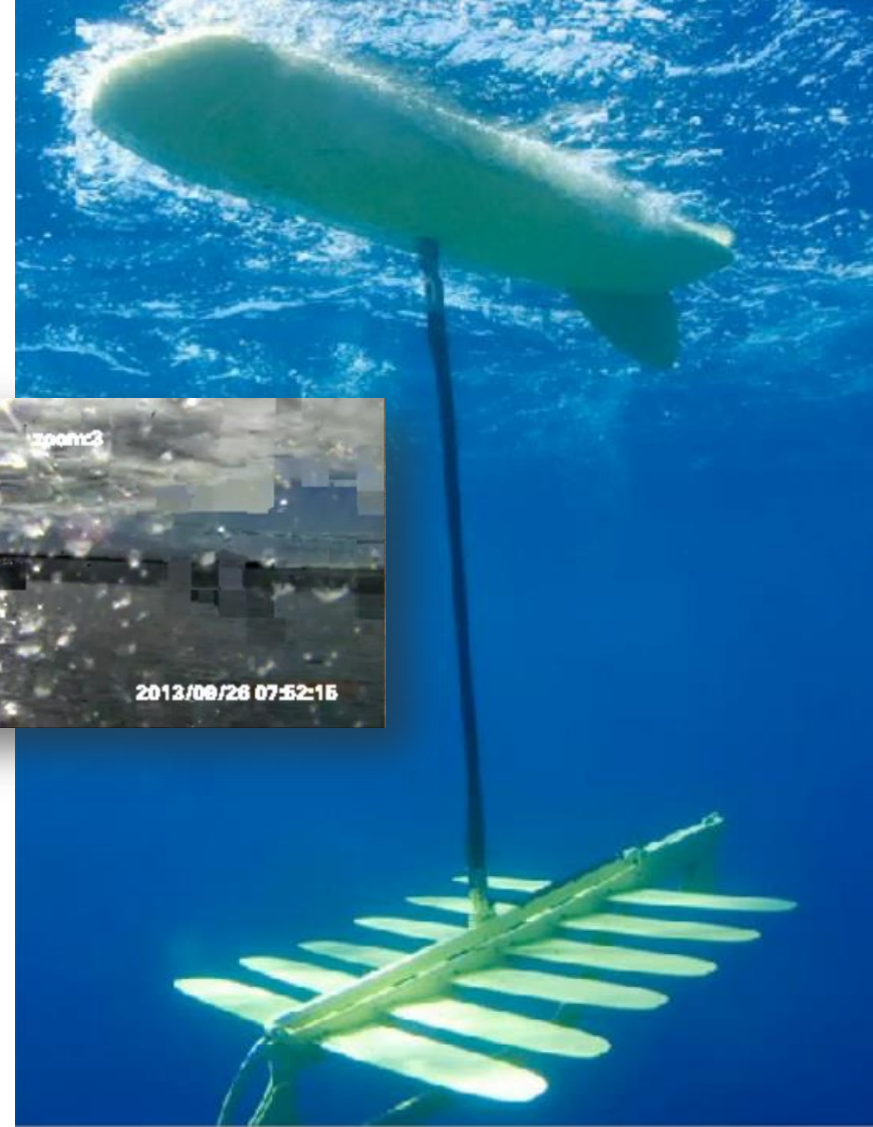
- **Ušteda energije (Opower)**
 - 90 partnera u 8 zemalja
 - ušteda **350 milijuna USD**
 - **2 milijuna tona CO₂ manje**
- **Kontrola orbite satelita (NASA)**
 - magnetsko polje



Oceani



- **James Gosling**
(Liquid Robotics)
 - „*NetBeans is the new PowerPoint*” 😊
 - ARM – Java SE
 - JavaFX maps
 - AnnotationDetector





2013 Duke's Choice Awards

- **Contrast Security** – plugin that invisibly monitors applications and automatically identifies security vulnerabilities
- **DEVOXX** – Devoxx4Kids program, DEVOXX
- **The Dutch Java User Group** – community and JFall conference
- **ISBAK** – ISIM, a traffic planning, simulation, and analysis tool
- **JFrog** – cloud-based social networking platform Bintray, JFrog
- **jCardSim** – JavaCard tools and simulators, Licel
- **a.i. solutions** – GEONS Ground Support System for NASA
- **Neuroph** – brain activities simulation, project
- **openHAB** – open Home Automation Bus, project
- **OpenSim** – modeling human body and movement, Stanford Uni
- **Robotswim** – the world's smallest robot fish Jessiko, startup



Duke's Choice Award 2013





Projekt Neuroph

- Predstavljamo jednog od dobitnika nagrade **2013 Duke's Choice Awards**
- **Neuroph** – lightweight Java neural network framework (Zoran Sevarac i ekipa)

NEUROPH

Java Neural Network Framework

org.neuroph.netbeans

Neuroph Studio - a Java Neural Network IDE

Neuroph Library

org.neuroph.nnet

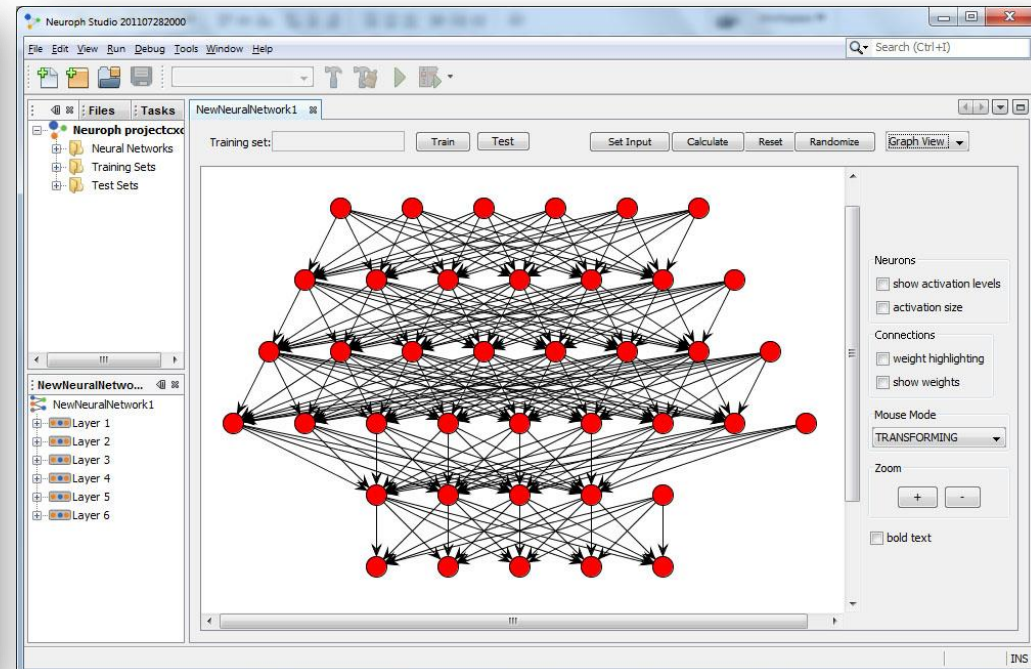
Implementation of specific Neural Networks

org.neuroph.core

Base Classes

org.neuroph.util

Utility Classes





Hvala i pozdrav od HUJAK-a!

- Web stranice **hujak.hr**

- www.hujak.hr

- LinkedIn grupa **HUJAK**

- www.linkedin.com/groups?gid=4320174

- Facebook grupa **HUJAK.hr**

- www.facebook.com/HUJAK.hr

- Twitter profil **@HUJAK_hr**

- twitter.com/HUJAK_hr

