

2.– 5. September 2013
in Nürnberg



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Wissenstransfer
par excellence

Ausgeswingt

JavaFX 2.0

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@deprecated

Swing ist (nicht) Tod
nur demnächst @deprecated

JavaFX ist wie Swing, nur anders

JavaFX Vergangenheit

- F3 (Form Follows Function)
 - Chris Oliver
- @Deprecated
JavaFX 1.0 bis 1.3.1
 - Desktop, Web, Handy, TV, ...
 - JavaFX Script



```
import javafx.stage.Stage;
import javafx.scene.Scene;
import javafx.scene.text.Text;
import javafx.scene.text.Font;
```

```
Stage {
    title: "Hello World"
    width: 250
    height: 80
    scene: Scene {
        content: Text {
            font : Font {
                size : 24
            }
            x: 10, y: 30
            content: "Hello World"
        }
    }
}
```

JavaFX Gegenwart

- JavaFX 2.2.25
- JavaFX 2.0 ist Java mit Java API
 - Gewohnte Entwicklungstools
 - Benutzung von existierenden Bibliotheken
 - Benutzung JVM basierender Sprachen (Groovy, JRuby, Scala, ...)
- FXML
 - Scriptbare XML Beschreibungssprache für die Definition von Benutzeroberflächen
 - Einfache Entwicklung von Benutzeroberflächen
- Web rendering engine (WebKit)

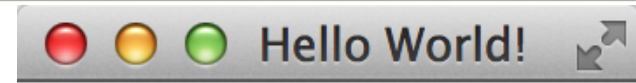
JavaFX Gegenwart

- Nahtlose Integration in Swing oder SWT
 - Einbindung von JavaFX Features, wie Videowiedergabe, Webinhalte, Animationen, Diagramme, ...
 - **Keine** Integration von Swing in JavaFX (kommt mit JavaFX 8.0)
- High-performance hardware accelerated graphics pipeline
- High-performance media engine
 - Wiedergabe von Video und Audio
- Über 60 Diagrammarten , Eingabe- und Layout Komponenten
- Styling über Cascading Style Sheets (CSS).

JavaFX Gegenwart

- JavaFX 2.0
 - Java API
 - Back to Java
 - FXML
 - Properties, Collections
 - Binding
 - Shapes
 - Controls
 - Concurrent
 - Transformation, Effekte
 - Charts
 - Animationen
 - Multimedia
 - Web
 - ...

JavaFX Gegenwart



Hello World

```
public class JavaFXApplication
    extends Application {

    @Override
    public void start(Stage primaryStage) {
        Text text = new Text("Hello World");
        text.setFont(new Font(24));

        HBox root = new HBox();
        root.getChildren().add(text);

        Scene scene = new Scene(root, 250, 80);

        primaryStage.setTitle("Hello World!");
        primaryStage.setScene(scene);
        primaryStage.show();
    }
}
```

JavaFX Zukunft

- JavaFX 8.0
 - JDK 8
 - März 2014
 - @Deprecated Swing
 - ARM Prozessor (Handy - Android, iPhone?)
 - 3D
 - Mehr HTML5 Unterstützung
 - Drucken
 - API für eigene Komponenten
 - RTL
 - Accessibility - Barrierefreiheit
 - Lambda
 - ...

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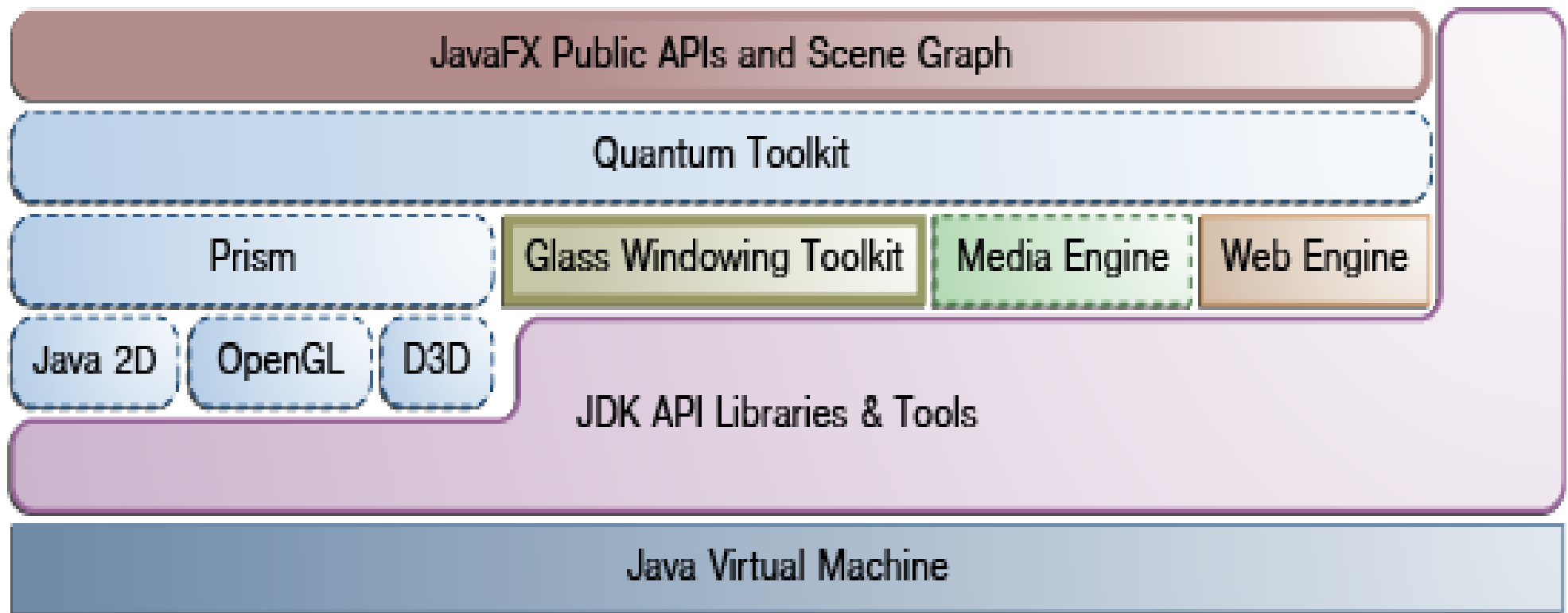
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Werbung

Verlosung Raspberry Pi

am Stand von MATHEMA

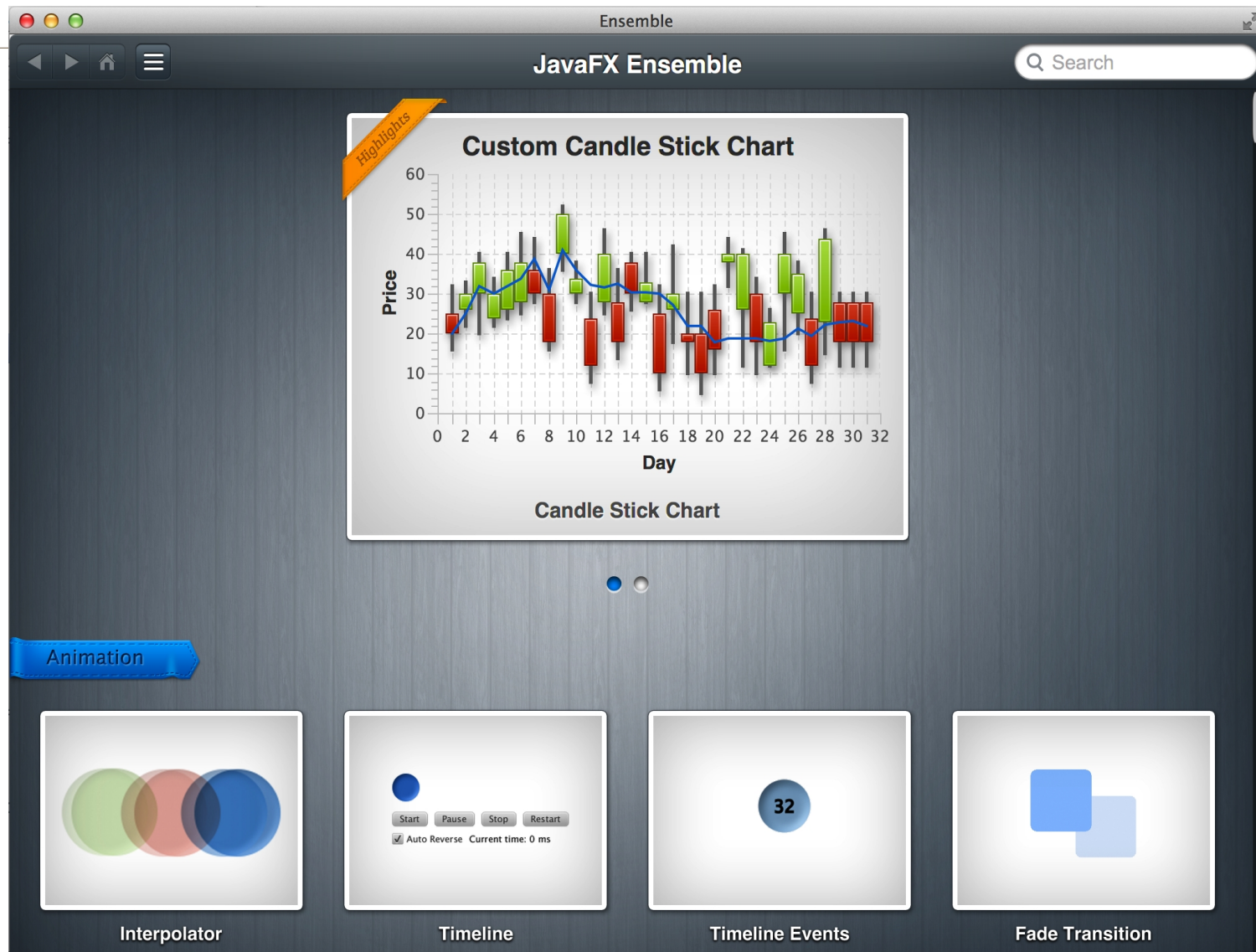
JavaFX Architektur Diagramm



JavaFX Ensemble 2.2



JavaFX Ensemble 8.0



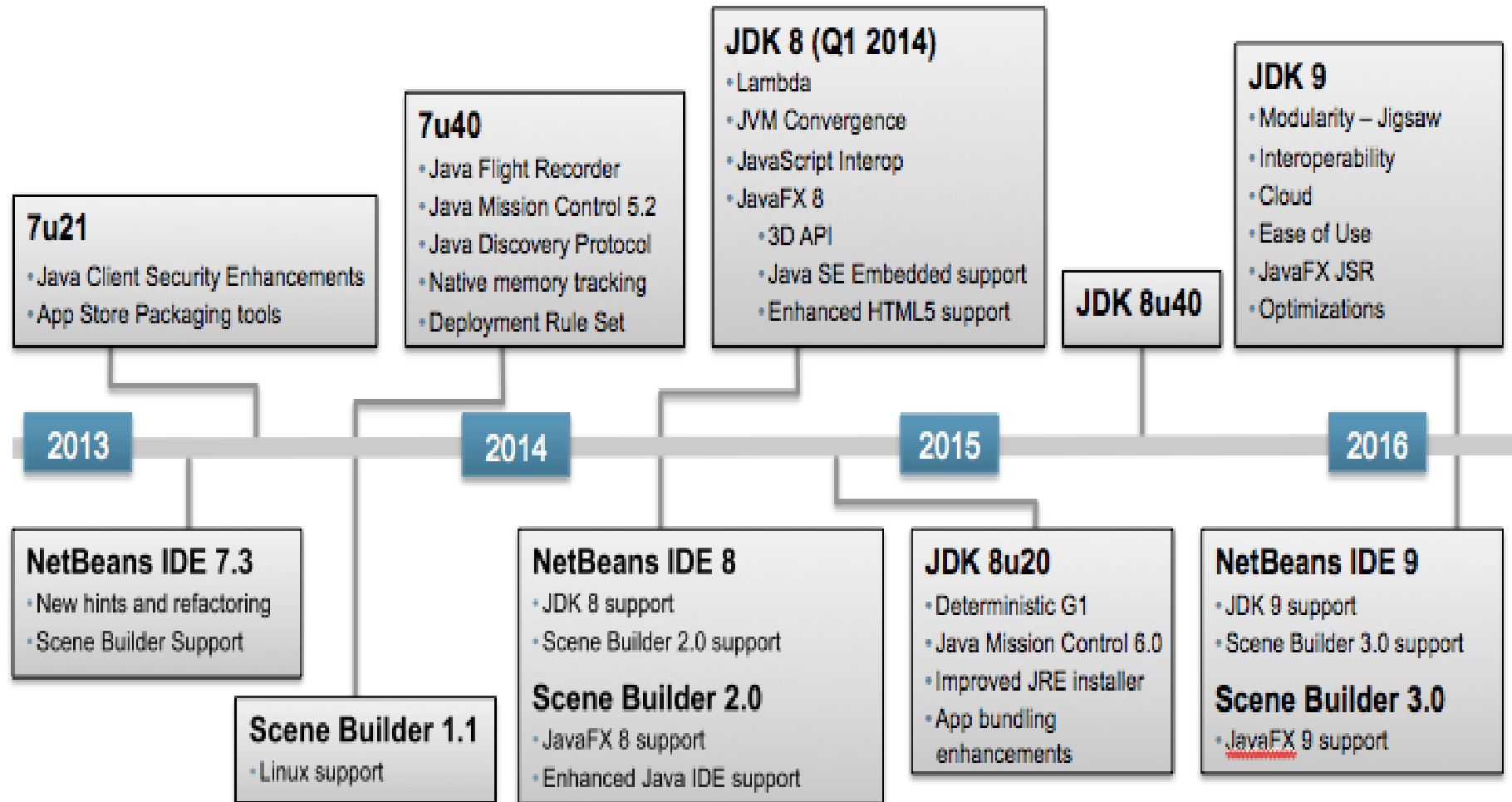
JFXtras – <http://jfxtras.org/>



IDEs

- NetBeans IDE
 - <https://netbeans.org>
- Eclipse mit e(fx)clipse
 - <http://www.eclipse.org/> <http://www.efxclipse.org/>
- IntelliJ IDEA
 - <http://www.jetbrains.com/idea/>
- Scene Builder
 - <http://www.oracle.com/technetwork/java/javafx/overview/index.html>

Roadmap



The Java roadmap as of May 2013

<http://www.oracle.com/technetwork/java/javafx/overview/roadmap-1446331.html>

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Demo – Livecoding

Build

- Ant
 - Ant Task sind bei JavaFX enthalten
 - Unterstützung der IDE
- Maven
 - <https://github.com/zonski/javafx-maven-plugin>
- Gradle
 - <https://bitbucket.org/shemnon/javafx-gradle>

Doku - <http://docs.oracle.com/javafx/>



Getting Started

What is JavaFX?

Get Started with JavaFX



Scene Builder

Scene Builder Overview

Get Started with Scene Builder

Scene Builder User Guide

Use with Java IDEs ← **NEW**



User Interface

Work with Layouts

Add Text

Work with UI Controls

Build UI with FXML

Handle Events

Create Charts

Add HTML Content

Skin Applications with CSS

Drag and Drop Data

Work with Canvas

Use Image Ops



Effects, Animation, and Media

Create Visual Effects

Add 2D & 3D Transformations

Add Transitions & Animation

Incorporate Media



Application Logic

Architecture and Framework

Work with the Scene Graph

Use Properties and Binding

Work with Collections

Concurrency and Threads

Implement Best Practices



Reference

API Documentation

CSS Reference Guide

Introduction to FXML



Deployment and More

Packaging and Deployment

JavaFX in Swing

Interoperability with SWT

Use a Doclet

Ressourcen

- JavaFX bei Oracle
 - <http://javafx.com>
<http://www.oracle.com/technetwork/java/javafx/index.html>
- JFXtra
 - <http://jfxtras.org/>
- JavaFX News, Demos & Insight
 - <http://fxexperience.com/>

Properties & Bindings

```
private StringProperty url = new SimpleStringProperty();

public final void setUrl(String value) {
    url.set(value);
}

public final String getUrl() {
    return url.get();
}

public final StringProperty urlProperty() {
    return url;
}
```

Properties & Bindings

```
IntegerProperty num1 = new SimpleIntegerProperty(1);  
IntegerProperty num2 = new SimpleIntegerProperty(2);
```

```
NumberBinding sum = num1.add(num2);
```

```
System.out.println(sum.getValue());
```

```
num1.set(2);
```

```
System.out.println(sum.getValue());
```

Properties & Bindings

```
final DoubleProperty a = new SimpleDoubleProperty(1);
final DoubleProperty b = new SimpleDoubleProperty(2);
final DoubleProperty c = new SimpleDoubleProperty(3);
final DoubleProperty d = new SimpleDoubleProperty(4);

DoubleBinding db = new DoubleBinding() {
    {
        super.bind(a, b, c, d);
    }

    @Override
    protected double computeValue() {
        return (a.get() * b.get()) + (c.get() * d.get());
    }
};
```

Properties & Bindings

```
sum.addListener(new InvalidationListener() {  
    @Override public void invalidated(Observable o) {  
        System.out.println("The binding is now invalid.");  
    }  
});
```

```
sum.addListener(new ChangeListener() {  
    @Override changed(  
        ObservableValue<? extends T> observable,  
        T oldValue, T newValue) {  
        System.out.println("Value changed");  
    }  
});
```

Collections - javafx.collections

- `ObservableArray`
- `ObservableFloatArray`
- `ObservableIntegerArray`
- `ObservableList`
- `ObservableMap`
- `ObservableSet`

- `FXCollections`
 - ähnlich `java.util.Collections`

- `Listener`
 - `ArrayChangeListener`
 - `ListChangeListener`
 - `MapChangeListener`
 - `SetChangeListener`

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Vielen Dank!

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