JavaFX and <u>Computer</u> Viruses

By: Joe K

What is JavaFX?

- Framework platform built on Java
- Functions as a GUI library for Java

JavaFX Examples

Creeper

- Known as the first computer virus

- .Developed in 1971

- .Displayed "I'm the creeper, catch me if you can!" and self replicated

Applications

- APIs can be referenced from any Java library
- Access to both native system capabilities and server based applications is permitted

Source:
https://docs.oracle.com/javafx/2/overview/jfxpub-overview.htm

Availability

- JDK is available for all major desktop platforms
  - JavaFX applications run on all major desktop platforms
- Consistent runtime experience

Source:
https://docs.oracle.com/javafx/2/overview/jfxpub-overview.htm

Elk Cloner

- Written by a high school student in 1982
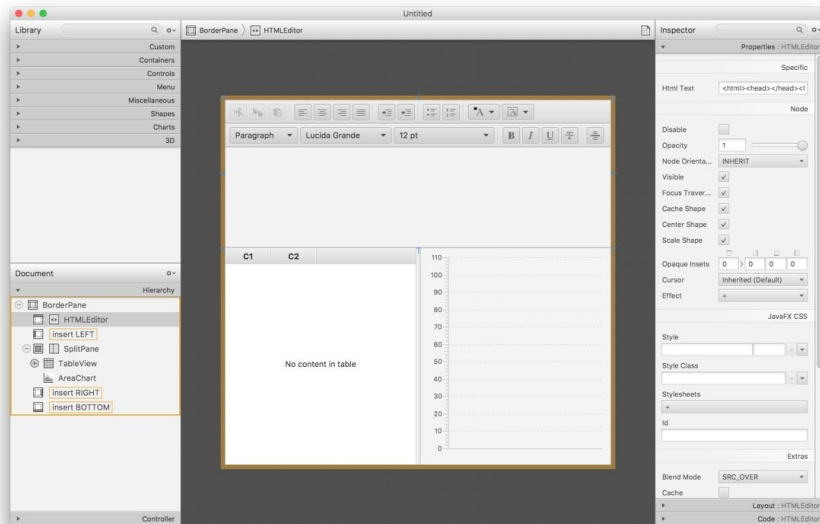- Attacked Apple II computers
- Displayed a poem every 50 boots

Key Features

- Java APIs
- Scene builder (codeless visual layout tool)
- Built in UI controls

Source:
https://docs.oracle.c
om/javafx/2/overvie
w/jfxpub-overview.h
tm
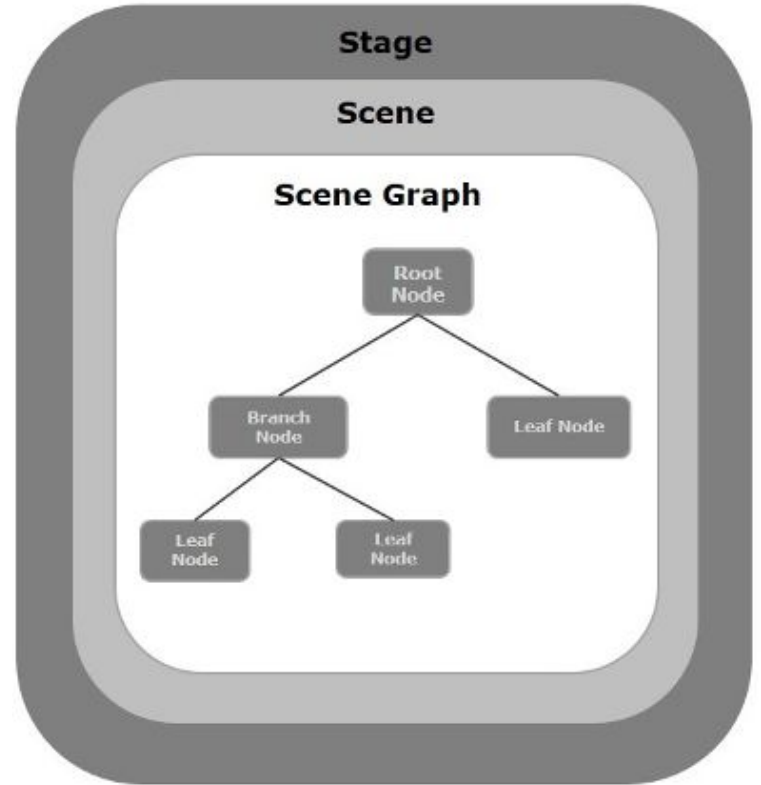
Structure

- Stage
  - The window
  - Takes parameters Width and Height
- Scene
  - Physical contents of a JavaFX application
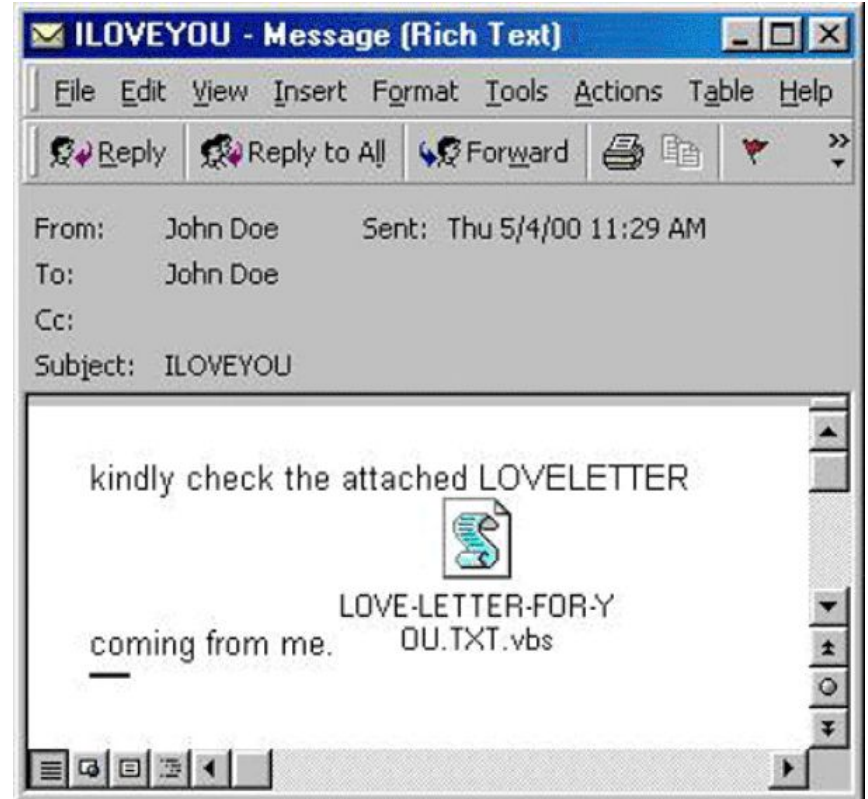- Nodes
  - Scene objects

Source:
https://www.tutorialsp
oint.com/javafx/index.
htm

ILOVEYOU

- Spread through email
- 50 millions computers were infected in 9 days
  - The CIA and Pentagon had to go offline

Source:
https://www.popsci.com/scitech/article/2009-04/top-10-computer-viruses/

ILOVEYOU - Message (Rich Text)

File Edit View Insert Format Tools Actions Table Help

Reply   Reply to All   Forward

From: John Doe   Sent: Thu 5/4/00 11:29 AM
To: John Doe
Cc:
Subject: ILOVEYOU

kindly check the attached LOVELETTER
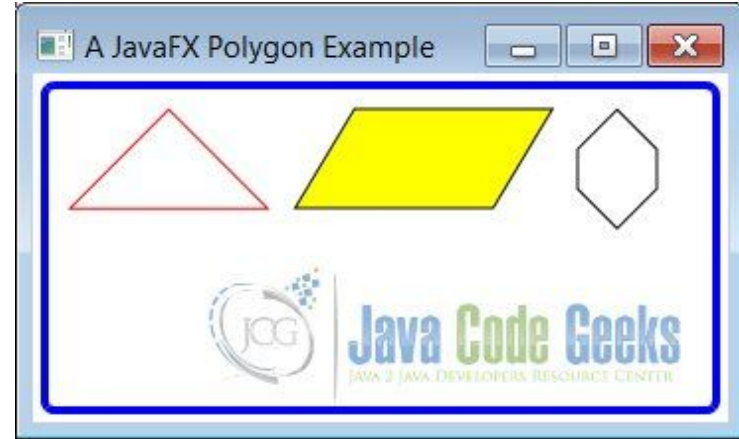
LOVE-LETTER-FOR-Y
coming from me.   OU.TXT.vbs

2D Shapes

- The JavaFX library includes things like lines, rectangles, circles, etc.
- Most of the shapes belong to the package "javafx.scene.shape"
- The "Shape" class is where all the 2D shapes in JavaFX stem from

Text

- Text is represented by nodes
- Text comes from the "Text" class
- Also belongs to the package "javafx.scene.shape"

Source:
https://www.tutorialspoint.com/javafx/index.htm

Effects

- Effects are applied to nodes to enhance their appearance
- Color adjustment, bloom, glow, blur, etc.
- "setEffect()" is used to apply the effect

Bloom! – Default threshold

Bloom! – Threshold 1.0

Blaster

- Exploited an error in Windows XP code
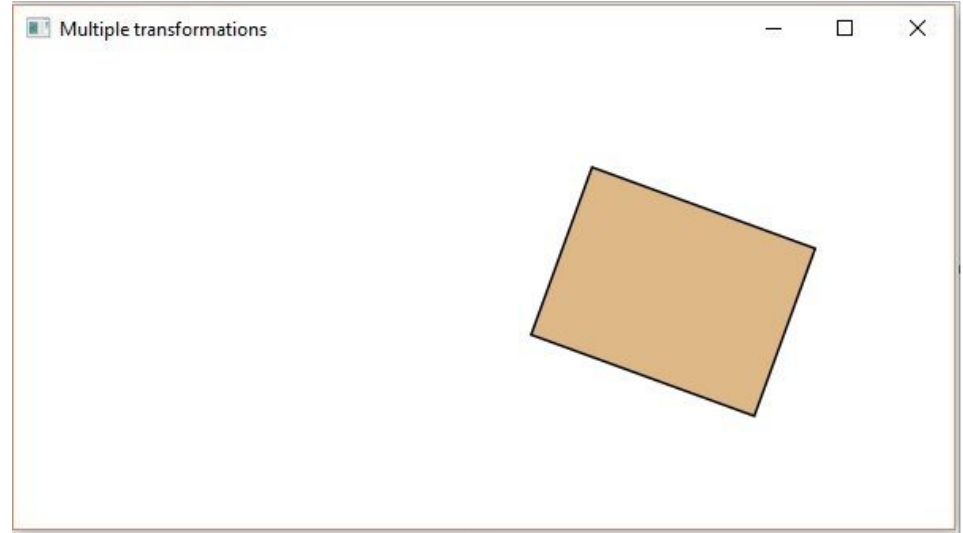- "billy gates why do you make this possible? Stop making money and fix your software!!"
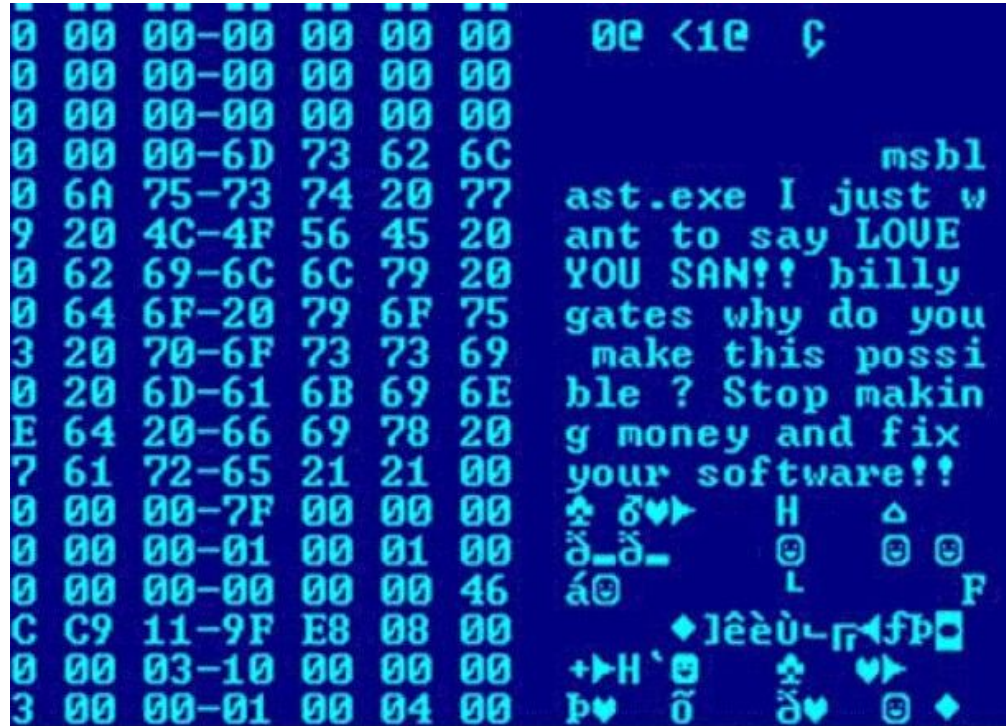
Image Copyright © F-Secure Corporation

Transformations

- Another way to enhance graphics
- Transformations include translation, scaling up/down, rotation, shearing, etc.
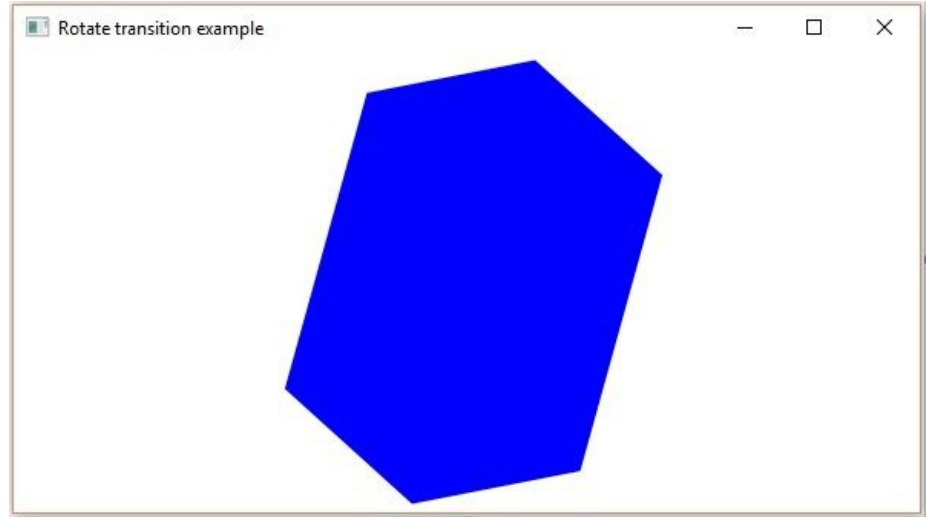- Also applied to nodes

Source:
https://www.tutorialspoint.com/javafx/index.htm

Animations

- Rapid display gives the illusion of motion
- Nodes are animated via the classes contained in the "javafx.animation" pack
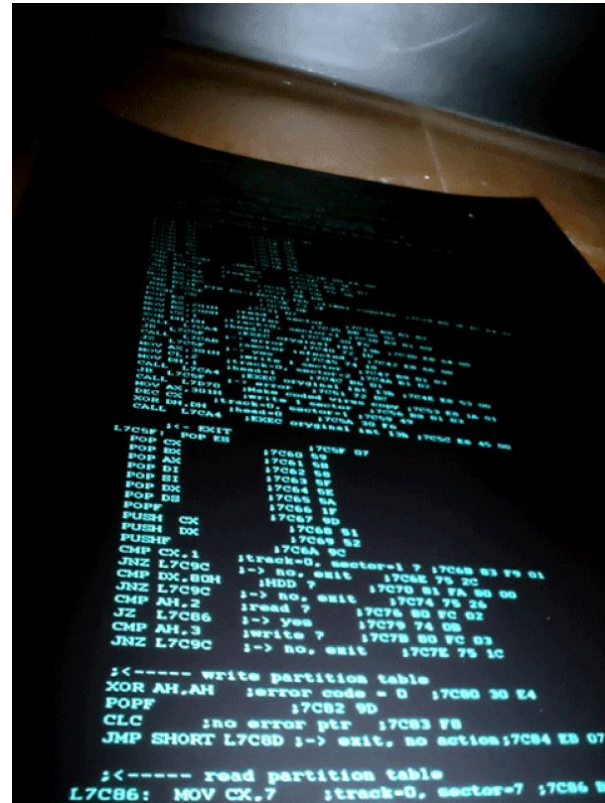- The "play()" method runs the animation

Source:
https://www.tutorialspoint.com/javafx/index.htm

Welchia

- A benevolent worm
- Infected computers to clear out the Blaster worm

Event Handling Part 1

- Every user interaction with the nodes is an event
- Common events include the Mouse Event, Key Event, Drag Event, and Window Event
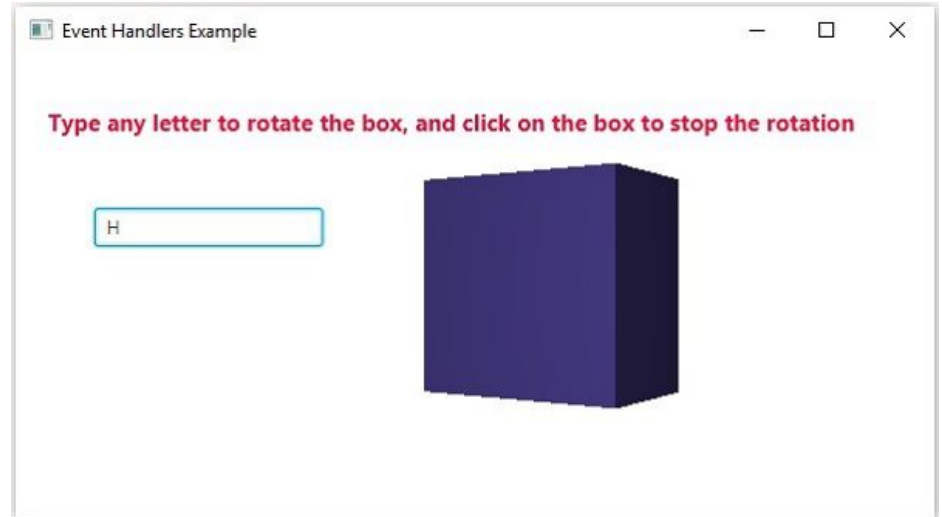 - The "Event" class is the basis for these

Source:
https://www.tutorialsp
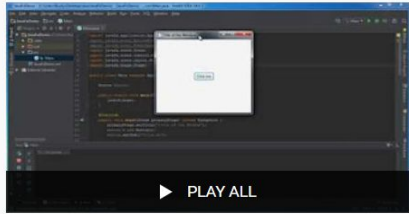oint.com/javafx/index.
htm

Event Handling Part 2

- 3 characteristics of an event
  - **Target** - The node being acted on
  - **Source** - The source of an event (mouse, key input, dragging, etc.)
  - **Type** - The type of event (mouse pressed and released)

Source:
https://www.tutorialsp
oint.com/javafx/index.
htm

Video Tutorial

JavaFX Java GUI Design Tutorials

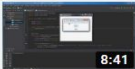35 videos • 2,296,508 views • Last updated on May 2, 2015
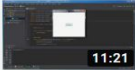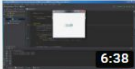
This is the official playlist for thenewboston JavaFX Java GUI Design Tutorials!

thenewboston

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   thenewboston — 8:26

5. JavaFX Java GUI Tutorial - 5 - Creating Alert Boxes
   thenewboston — 10:54

6. JavaFX Java GUI Tutorial - 6 - Communicating Between Windows
   thenewboston — 8:41

7. JavaFX Java GUI Tutorial - 7 - Closing the Program Properly
   thenewboston — 8:22

Link:
https://www.youtube.com/playlist?list=PL6gx4Cwl9DGBzfXLWLSYVy8EbTdpGbUIG