

# SCENEBuilder AND FXML

SWING APPLICATIONS HAVE LARGE SWATHES  
OF CODE THAT CREATE AND LAYOUT UI ELEMENTS  
(BUTTONS, LABELS, PANELS, SCROLLBARS ETC)

THESE PROGRAMMATIC UI SPECIFICATIONS  
ALSO CONTRIBUTE TO CODE BLOAT, AND OFTEN  
OBSCURE THE LOGIC OF THE PROGRAM

## FXML

IS AN XML FILE FORMAT SPECIFICALLY  
MEANT TO SPECIFY USER INTERFACES

JAVAFX SUPPORTS THIS TOO, BUT IN ADDITION,  
IT IS ALSO POSSIBLE TO SPECIFY THE USER  
INTERFACE USING XML FILES

## SCENEBuilder

IS A NICE USER-INTERFACE WITH WHICH  
FXML FILES CAN BE CREATED AND MODIFIED

SWING IS IN THE PROCESS OF BEING  
REPLACED BY

**JAVAFX**

PROPERTIES  
& BINDINGS

**3D** ANIMATIONS

CSS SCENE BUILDER AND FXML

TOUCH DEVICE SUPPORT **CHARTS**

**MEDIA (AUDIO/VIDEO)**

**EACH OF THESE REPRESENTS A SIGNIFICANT  
IMPROVEMENT IN JAVAFX OVER SWING**

# CHARTS

EVEN THOUGH CHARTS ARE A REALLY  
COMMON SPECIAL-CASE OF USER  
INTERFACES, SWING HAD NO BUILT-IN  
SUPPORT FOR CHARTING

JAVAFX HAS VERY POWERFUL CHARTING  
APIS, WHICH APPROACH EXCEL IN THEIR  
POWER AND FUNCTIONALITY

NOT NEEDING TO DEAL WITH THIRD-PARTY  
LIBRARIES - NOT STANDARD, AND OFTEN  
NOT VERY GOOD - IS A BIG WIN IN JAVAFX

# ANIMATIONS

IT WAS POSSIBLE TO INCLUDE ANIMATIONS  
IN SWING, BUT THIS INVOLVED DOING IT ALL  
YOURSELF.

IN CONTRAST, JAVA FX HAS VERY POWERFUL  
BUILT-IN ANIMATION SUPPORT, SO THAT  
PROGRAMMERS DON'T NEED TO BOTHER  
WITH VERY LOW-LEVEL OPERATIONS

SIMPLE GEOMETRIC OPERATIONS SUCH  
AS ROTATE, TRANSLATE ARE BUILT-IN

SO ARE SPECIFIC BUILT-IN ANIMATIONS  
FOR PATHS, FADE-INS, SEQUENCES,...

KEYFRAMES AND TIMELINES ARE AVAILABLE  
FOR PROGRAMMERS TO BUILD CUSTOM  
ANIMATIONS WHERE THE BUILT-IN CLASSES DON'T CUT IT

# AUDIO/VIDEO MEDIA

JMF ("JAVA MEDIA FRAMEWORK") WHICH  
WAS THE OLD WAY OF HANDLING MEDIA FILES  
IN JAVA, HAS NOT REALLY BEEN UPDATED  
IN YEARS (OR DECADES)

BEFORE JAVAFX, MANY FOLKS RECKONED  
THAT MEDIA SUPPORT IN JAVA SUCKED.

JAVAFX PROVIDES EXCELLENT SUPPORT  
FOR WORKING WITH AUDIO AND VIDEO,  
AND IN A VARIETY OF DIFFERENT FORMATS

IT ALSO ALLOWS MEDIA TO BE TIGHTLY  
INTEGRATED INTO USER INTERFACES

**3D SUPPORT**

**ILLUMINATION**

**MATERIAL TEXTURES**

SUPPORT FOR THESE AND  
OTHER 3D EFFECTS ARE  
BUILT INTO JAVAFX

**CAMERA EFFECTS**