Topic: JavaFX and Swing Overview

JavaFX is a set of graphics and media packages that enables developers to design, create, test, debug, and deploy rich client applications that operate consistently across diverse platforms (Oracle, n.d.). As the name suggests, it is fully integrated into the Java API and as such can reference the full Java library. This also means that it should be able to run on any of the major operating systems (Windows, Mac OS X, and Linux). Key features as described by Oracle are:

1. Access to Java APIs
2. FXML and Scene Builder – This is a markup language used to create user interfaces.
3. WebView – Allows you to imbed Webpages in the JavaFX application. JavaScript in the WebView can call from Java APIs and vice versa.
4. Swing interoperability – Swing applications can be updated with JavaFX features
5. Built-in UI controls and CSS – JavaFX includes UI controls so you do not need to create your own. CSS integration allows for custom skins.

(Oracle, n.d)

Java Swing is a foundational library and an extension of the Abstract Window Toolkit (GeeksForGeeks, 2023). Like JavaFX, Swing has access to the Java API. Swing is the older of the two, which brings some advantages and disadvantages. Its biggest advantage of JavaFX is its maturity and stability. That is not to say that JavaFX is unstable, but it changes far more often than Swing. Many also argue that Swing provides an easier out-of-the-box experience than JavaFX.

These days web integrations are very important, which has driven JavaFX forward to be the more supported of Oracle’s GUI tools. It has its own team of developers, which allows them to quickly adapt to market needs. Swing is still widely used in legacy applications and when Web interoperability is not needed.

Reference(s):

Oracle. (n.d.). *JavaFX Overview*. Oracle Java Documentation. <https://docs.oracle.com/javase/8/javafx/get-started-tutorial/jfx-> overview.htm#A1141718

GeeksforGeeks. (2023, March 29). *Introduction to java swing*. GeeksforGeeks. https://www.geeksforgeeks.org/introduction-to-java-swing/#

Response 1:

Anitha,

Java has been continuously improving its GUI products over the last few decades. Java AWT is the foundation upon which more modern tools are build. Swing is built directly on top of AWT and as you mentioned provides a variety of modern tools for developers to use. Other GUI tools like JavaFX take direct inspiration from what worked well with AWT, while modernizing some of what no longer works.

Response 2:

Christopher,

MVC has become the de facto best way to develop applications, so it is implementation to Java via Swing was critical. These days most applications are web-based, but for those who still use Gui applications, Swing is a good choice.