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History of GUI in Java

GUI, Graphical User Interface, in Java is a visual tool that is designed to help visualize and add components to the software for Java applications. GUI in Java basically includes all the graphical components that are used in user interface such as buttons, labels, texts, windows, and so on. The original GUI library for Java was the Abstract Window Toolkit, also known as AWT. But as other technologies advanced, the GUI library needed development but rather than expanding the current structure, Swing library was implemented in Java to support dynamic operation of GUI – thus it became the primary Java GUI technology. Swing is similar to AWT and is part of Java Foundation Classes, or JFC. It is an application programming interface (APT), that provides graphical user interface. “Swing was developed to provide a more sophisticated set of GUI components than the earlier AWT. Swing provides a look and feel that emulates the look and feel of several platforms, and also supports a pluggable look and feel that allows applications to have a look and feel unrelated to the underlying platform…Swing provides several advanced components such as tabbed panel, scroll panes, trees, tables, and lists. Unlike AWT components, Swing components are not implemented by platform-specific code. Instead, they are written entirely in Java and therefore are platform-independent” (Wikimedia). However, as the competitors such as Adobe Flash and Microsoft Silverlight were developing, in 2008 Sun Microsystems (acquired by Oracle in 2010) released JavaFX 1.0 which has more dynamic structure and is becoming the future of Java’s GUI and multimedia API.

Lately, there are many technologies that can be used to create user friendly and interactive GUIs in Java. Among many, they included the primary Java GUI, Swing and JavaFX. Again, there are many other approaches one may use. Depending on the circumstances if one wants to appeal to the standard way, Swing has always been the most fundamental approach that most people are comfortable with. Or, if they would prefer to stick to the native OS components, they could use SWT, or Standard Widget Toolkit. “Standard Widget Toolkit is a Java based user interface library for developing desktop applications. The native widgets of the OS are accessed by the SWT framework via the Java Native Interface (JNI) framework” (Vogel). However, if they want their users to experience something new and advanced to interact with then JavaFX is the way to do it – because of its flexibility or dynamic and its more modern approach. JavaFX is the latest graphical user interface framework such that it has contemporary visuals and more advanced components and operations within its structure. JavaFX’s most advantageous element is its ability to “create rich internet application that can run in various devices, for example, mobile phones, TVs, tablets, etc.” (*Java GUI framework and other applications of Java*). It features – Library, FXML, Scene Builder, Web View, Make in UI controls, CSS like styling, Canvas API, Graphics Pipeline, and High-performance media engine.

Works Cited

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