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Assignment: M11

***JavaFX: HBox and BorderPane***

When you build apps with JavaFX, it’s really important to arrange buttons, labels, and other controls in a neat way. If everything is messy or crowded, users can get confused or frustrated. That’s why JavaFX gives you tools called layouts to help organize your app’s parts. Two very popular layouts are called HBox and BorderPane.

An HBox arranges all the items in a single row, from left to right. Imagine a line of buttons or labels all side by side; that’s what HBox does. Here are some reasons why HBox is helpful. According to Geeks for Geeks (JavaFX HBox Class <https://www.geeksforgeeks.org/java/javafx-hbox-class/>), things are put in a straight horizontal line. You can add space between the items, so they don’t look squished. You can set how everything is lined up, for example, all in the center or pushed to one side. It’s simple and easy to learn, so it’s great for beginners. You might use HBox for things like toolbars, menus, or any place where you want a row of buttons or icons.

A BorderPane divides your app window into five sections: top, bottom, left, right, and center. It’s like putting your screen into pieces and putting different controls in each piece. According to Geeks for Geeks (JavaFX BorderPane Class, <https://www.geeksforgeeks.org/java/javafx-borderpane-class/> ), BorderPane is useful because it helps you organize your app into clear areas. You can put a menu or title at the top, buttons or info at the bottom, navigation on the left or right, and your main content in the center. Each section can have its own alignment, so everything looks balanced. It’s great for making traditional app layouts that users are familiar with.

When should you use HBox or BorderPane?

HBox arranges everything in a single horizontal row. It is best used for toolbars or rows of buttons lined up side by side. You can add many items in one line, and all the items share the same alignment. HBox is easy to learn and use. BorderPane divides the window into five different sections: top, bottom, left, right, and center. It works well for creating the whole window layout, like having a header, footer, sidebar, and main content area. Usually, you put one item in each section, and each section can have its own alignment. BorderPane is a bit more complex to learn compared to HBox.

Why is using layouts important?

(Oracle, <https://docs.oracle.com/javafx/2/layout/builtin_layouts.htm>)

Good layouts make your app look neat, professional, and easy to use. If you don’t use layouts, buttons and labels can overlap or be scattered all over the screen. This makes the app hard to understand and frustrating to use. Using HBox is great when you want a simple row of controls, like buttons or icons, lined up nicely. Using BorderPane is best when your app needs different sections, like a title at the top, a menu on the side, and content in the center. It gives your app a clean and organized look.

In short, HBox lines up things in a single row and lets you control spacing and alignment easily. BorderPane splits the window into five parts so you can organize different controls in each area. If you want a simple row of buttons, go with HBox. If you want a full window layout with different sections, BorderPane is a better choice. Understanding how and when to use these layouts will help you build JavaFX apps that look good and are easy for people to use. As you practice, you’ll get better at choosing the right layout for your needs.

References:

“JavaFX HBox Class.” Geeks for Geeks. 7 Sep. 2018. <https://www.geeksforgeeks.org/java/javafx-hbox-class/>

“JavaFX BorderPane Class.” Geeks for Geeks. 1 Sep. 2021. <https://www.geeksforgeeks.org/java/javafx-borderpane-class/>

Gordon, Joni. “Working with Layouts in JavaFX.” Oracle. June. 2013. <https://docs.oracle.com/javafx/2/layout/builtin_layouts.htm>