[TechWithTyler intro music]

Tyler: Hi! My name is Tyler Sheft. Today, I want to show you how you can code in Swift Playgrounds while using VoiceOver. VoiceOver is Apple’s screen reader that speaks what’s on the screen. This video will cover writing and running your code.

[iPad “screen recording started” beep]

On the home screen, with VoiceOver on, swipe left or right with 3 fingers to get to the page Swift Playgrounds is on.

VoiceOver: News. Page 2 of 2. Voice Dre-

Tyler: Then move a single finger around to find the app or the folder it’s in.

VoiceOver: Ma- Education fold- Education folder.

Tyler: Double-tap to open.

VoiceOver: Opening Educa-

If in a folder, repeat this step to open the Playgrounds app.

VoiceOver: Playgrounds

Tyler: You should now be on the My Playgrounds screen. If not, drag your finger to the top left corner until it says “Close,” then double-tap.

VoiceOver: Close. Button. Top-left cor-

Tyler: Move your finger around to explore your playgrounds as well as additional playgrounds you can download.

VoiceOver: Blu’s Adv- Battleship. Button.

Tyler: Double-tap to open one.

VoiceOver: Learn to Code 1. Learn to Code 1. Swift 5- Challenge: Evaluate options and pick- The world is 9- The wo-

Tyler: Once in a playground, move your finger until you hear “Enter code here” in an empty playground, or the line of code you want to edit if the playground has code in it.

VoiceOver: toggleSwitch(). Text field. func doSomething(input: String)- Inserti- Spell. Men-

Tyler: Double-tap, and then use the bar at the bottom of the screen to enter code quickly.

VoiceOver: moveForward() collect- move- toggle- tur- turnLeft()

Tyler: To use the keyboard and manually type code, move your finger until you hear “Show keyboard,” then double-tap to show the keyboard. Or connect an external keyboard to your iPad.

VoiceOver: Show keyboard. Button. Show keyboard. Hide keybo-

Tyler: Use the keyboard like you would in any other app. Swipe up or down while on a line of code to hear other actions such as selecting the code you’re editing, or while on a keyboard key to hear additional characters.

VoiceOver: m- Select moveFor- Activate. Default. Return. L. Quotation- Activate. K. J. (. ).

Tyler: For example, if editing a function declaration, lines of code that begin with “func,” one of the actions you’re offered is “Select function.”

VoiceOver: Select function.

Tyler: You’re also offered a “Select function parameter list” action in the actions for a function.

VoiceOver: Select function parameter list.

Tyler: The former will select all the function’s code, from func all the way to the closing brace, and the latter will select the parentheses that follow the function name, where you define the arguments, or input data, for the function. A confirmation message is heard once the action is performed.

VoiceOver: Select function. Selected fu- Selected function- func doSometh-

Tyler: In maze and world playgrounds where you need to plan a path and then write the code to move a character on that path, such as Learn to Code 1, it’s a great idea to keep track of the coordinates once you familiarize yourself with the path the character should take. Then, you can use those coordinates to help with writing the code.

VoiceOver: Square-shaped portal at height 1 connected to column 8, row 0 at height 0, column 2, row 5.

Tyler: Moving the cursor in the code area is tricky with VoiceOver on, depending on the VoiceOver keyboard typing mode. As long as you aren’t on a placeholder or a }, you should be able to double-tap and drag to move the cursor.

VoiceOver: Indent 4. moveForward(). Text field. moveForward(). Space. M. eForward. W. Speak sentence. Menu item.

Tyler: An easier way is to open the keyboard using the button in the bottom right and use the space key to move the cursor.

VoiceOver: Space.

VoiceOver: A (). Do- M- N. c doSomething(input: String)- Space. Ove-

Tyler: If using direct selection, the cursor must not be on a }, otherwise you’ll end up moving the brace.

Tyler: If an exercise involves rearranging code, make sure the keyboard is visible before using the drag-and-drop gesture to rearrange the code, otherwise VoiceOver won’t tell you where the code will drop. You cannot drag and drop code inside code blocks while VoiceOver is on.

VoiceOver: turnLeft(). Text field. oveForward(- Select turnLeft. Selected turnLeft. moveForward(- moveForwar- moveForwar- turnLeft(). Space. collect- }. }. Space. turnLeft()-

Tyler: Swipe up or down until you hear “Select” followed by the piece of code to be selected, then double-tap. Then, double-tap and hold to drag.

VoiceOver: Select turnLeft. Activ- Select turnLeft. turnLeft(). turnLeft(-

Tyler: Using cursor movement mode on the space key or selecting alternate characters on the letter keys is done by double-tapping and holding while VoiceOver is focused on that key. How to do this depends on which typing mode you’re using. If in standard typing mode, tap, and then double-tap and hold, the key and drag. If in touch-typing or direct touch-typing mode, tap and hold the key until you hear a rising sound, and then drag.

VoiceOver: collectGe- move- Insertion poi- {. moveForward(). The world is 9 coll- Show keyboard. Hi- J. K. Kilo. Swipe up or down to select a custom action, then double-tap to activate. :. :.

Tyler: When dragging to select a symbol, if a key contains symbol pairs, drag diagonally down-right to enter the symbol on the left, or down-left to enter the symbol on the right.

VoiceOver: G. F. Foxtrot. Swipe up or down to select a custom action, then double-tap to activate. {. 1 new issue. F. F. {- F. Foxtrot. Swipe up or down to select a custom action, then double-tap to activate. }- Dele- }.

Tyler: When VoiceOver is reading your code, it will read all punctuation regardless of the VoiceOver punctuation setting. This is to ensure you hear important symbols such as parentheses, braces, brackets, and colons, which need to be entered correctly in order to have working code.

VoiceOver: func doSomething(input: String) -> String {. Text field.

Tyler: When you’re ready to run your code, hide the keyboard, then move your finger until you hear “Run my code.”

VoiceOver: Hide keyboard. The world is 9-

Tyler: Double-tap to press the button and run your code.

VoiceOver: Run my co- Run my co-

VoiceOver: Byte walked to column 4, row 0.

VoiceOver: Byte tried to toggle switch, but no switch was found. The level-

Tyler: In some cases, VoiceOver will speak movements in the live view that appears on the right of most playgrounds. For example, in Learn to Code 1 and 2, VoiceOver tells you the movements your character makes. Depending on the type of UI elements displayed in the live view, VoiceOver will recognize them just like a UI element in any other app.

VoiceOver: The- Sound off. Button. Poss- Background music. On. Off. Close. Button. Previous page.

Tyler: Using VoiceOver while coding in Swift Playgrounds is a great way to experiment with making parts of apps accessible with VoiceOver since you can apply much of the same code to making real apps.

Tyler: I hope this has inspired you to start writing your own code in Swift Playgrounds while using VoiceOver.

[TechWithTyler outro music]