THE BRAILLISTS FOUNDATION

BRAILLECAST PODCAST EXTRA 39

Braille on iOS, Part 2

15th February 2022

Matthew Horspool: Hello, my name's Matthew Horspool, and welcome back to Braillecast Extra. Coming up this time, the second part of our series talking about braille with iOS with Scott Davert. This presentation was recorded on Tuesday, 15th February 2022 and we're going to go straight into Scott's presentation today and after Scott's presentation, the hosting of the event will be by Dave Williams and the moderation by Ben Mustill-Rose.

Scott Davert: Hello, everybody, and welcome to the second of three sessions in the Masterclasses on using iOS devices with braille displays.

 I first want to start out by thanking everyone for all of the interactivity and the feedback that you've sent to the Braillists. I hope for an equally interactive session here in Part 2.

 This is again a recording. I'm not going to hide that fact. But I'm also going to tell you that, just like last time, when I had issues with pairing, if I have issues with editing text, and undoubtedly I will, I'm not going to edit that out either and it's possible that this entire thing can fall flat on its face and if it does, I'll do my best to recover.

 I did want to cover a couple of other things real quickly before we get into today's class. Number one, iOS 15.3.1 was released a week ago today and it appears that it addresses the bug where the braille display would cause your phone to lock up and both would freeze, requiring you to reset them both. I've been testing it for about a week and I've been checking in with people who have done the upgrade to see how it's going for them and they largely say that, yes, this bug does appear fixed. I've waited a week to say that, because it's one of those that doesn't always present itself. We hope it never presents itself again. But in iOS 15.2.1, 15.2 and 15.3, a lot of people had that frustration. So, hopefully you should be able to update your devices now. If you're running 15.2, 15.3 or 15.2.1, it's hard to keep all these numbers straight in my head, but if you're running one of those three iOS releases, I would strongly recommend going ahead and upgrading to 15.3.1. I have not found any new issues in this public release, even though it didn't go through beta testers. Although there are certainly bugs remaining, there are no new unwanted features in iOS 15.3.1.

 In Part 1, of course, we covered navigation around the home screen. We went through the VoiceOver slash Braille menu and we talked about some of the specific settings and why you might want to enable one or another, and a little bit on navigating around your home screens and in apps and how to highlight stuff.

 So, in this session, we're building on that and we're going to take a look at a few more basic commands and then we're going to get into text editing.

 So, let us now take a look at some other commands. By the way, once this trilogy of Masterclasses ends, the Braillists will be distributing a handout which will contain links to articles, also links to keyboard shortcuts and I remember I talked about the Lightning camera adapter, and being able to connect certain braille displays through USB that way and I will also provide a link to that.

 There is one other very basic thing I want to cover. Once you have your braille display paired and you've locked the screen, the order in which you will most likely have a successful connection, and this doesn't seem to really matter which display you use, it seems to be a generic thing, and that is, before you unlock your phone, put your braille display into discoverable mode or put it on the channel of the device before you attempt to unlock it. For whatever reason, and I don't know the exact reason, but the connection seems to happen a lot more quickly and reliably when you do things in that order.

 The other thing that I recommend doing is locking your screen and then turning the braille display off. Again, I can't tell you exactly why that seems to help, but sometimes it really does.

 So, anyway, let's go ahead and get into this. I'm going to go ahead and unlock my screen. I'm using the Brailliant BI 20X from HumanWare. It has a unique feature, along with the Mantis and the Brailiant BI 40X and the Chameleon, that allows you to hit a cursor routing button on the braille display, once it's already connected, and it will wake up your phone. I don't know if Orbit Research is going to do this. I know that they have implemented the HID standard into the Orbit itself, but I don't believe it's supported yet through USB and you certainly can't unlock your screen or wake it up with a cursor routing button.

 So, I'm on the channel for this iPhone. I'll go ahead and hit a cursor routing button and hope and pray it works.

Synthesised Voice: 12: 44, 12:44pm.

Scott Davert: It does. So, now I'm going to hit space with H for Home.

Synthesised Voice: DotWatch 2.

Scott Davert: And because this is not my daily driver phone, I don't have a passcode on it. The passcode entering process is not always successful either, by the way. There are some VoiceOver issues with the feature called Quick Nav and, well, we probably won't be able to get into that too much, but sometimes hitting space with Q to toggle Quick Nav on and back off, then you'll be able to enter your passcode.

 Anyway, I said we were going to talk about some other basic navigation commands and I don't want to make a liar out of myself, so here we go. From anywhere within the operating system, of course, depending on your phone model, you can swipe up from the bottom once to go to your Home screen and if you wait for the second click or haptic feedback to go to the apps. But you don't have to do anything with your touchscreen. In fact, I haven't touched it since this Masterclass has started and I don't think I will be this time either.

 So, let's say, for example, you wanted to go to the App Switcher. Just like on the older phones or the SE 2, you can press the Home button twice to get into the App Switcher, just like that function on the iPhone itself. You can do space with H, which, as we already know, takes you to the Home screen and if you do it twice quickly.

Synthesised Voice: App Switcher, Notes, active, actions available.

Scott Davert: We are now in the App Switcher and, of course, space with dot 1 will take me to the previous item.

Synthesised Voice: Mail, active, actions available.

Scott Davert: Space with dot 4 will take me to the next item.

Synthesised Voice: Notes, active, actions available.

Scott Davert: Another review from last time, to get out of here, how do we hit Escape? Space with E is wrong. You need to go back and listen to that class. Or I'll give you the answer. I'm pretty easy like that. Space with B.

Synthesised Voice: Page one of two, adjustable.

Scott Davert: And that gets me out of there and back to my Home screen.

 Now, in this particular instance, when you hit space with B, it doesn't always return you to where you want to go. Space with H will also take you back to the Home screen, if you prefer to use that.

 So, we've talked about the App Switcher. Now, for accessing the Control Centre, you can do that by hitting space with dots 4 and 6.

Synthesised Voice: Notification Centre, no older notifications. 12:47pm.

Scott Davert: And, well, you see the time there and that's because it returned me to the upper left of the screen. I don't have any notifications.

Synthesised Voice: 12:48pm.

Scott Davert: And if I don't get away from the time within the next minute, we're going to hear it again. So, how do I move to the next item? Space with dot 4.

Synthesised Voice: Sunday, February 13th.

Scott Davert: I can do space with 4 again.

Synthesised Voice: No older notifications.

Scott Davert: And we have no older notifications. Again, space with B.

Synthesised Voice: DotWatch 2.

Scott Davert: That time, it took me to the upper left corner of the first page of my Home screen.

 Let's say we want Control. Who doesn't want control over their iPhone, right? You can get into the Control Centre with space and what some people call middle C, I just say space with dots 2 and 5.

Synthesised Voice: Control Centre, airplane mode, switch button off.

Scott Davert: Probably don't want to turn that on, because you have a Bluetooth device connected, or I do, but, again, space with dot 4 takes me to the next item.

Synthesised Vocie: Cellular data, dimmed, switch button off, actions available.

Scott Davert: Space with dot 1 takes me to the previous item.

Synthesised Voice: Airplane mode, switch button off, actions available.

Scott Davert: If I wanted to activate an item, again I can hit a cursor routing button, space with dots 3 6, or if I'm on an Orbit Reader 20 or 20 Plus, I can hit the Select button, located in the middle of the arrow pad.

 So, that's a brief review. Of course, we are going to add onto that and I'm done reviewing at this point and we're going to move into editing text, but, because iOS is a complex system, you'll find that the settings that you want might vary, which I think is a good thing. It's great that we have options for things in VoiceOver.

 So, what I want to do now is go into the VoiceOver settings and we'll talk about a few of the things that we might want to configure in specific ways, and I'm going to first get out of the Control Centre. How would I do that?

 No, I would not hit space with L. Come on. Ugh, people. Space with B, of course.

Synthesised Voice: DotWatch 2.

Scott Davert: And that takes me back to the upper left corner of my screen.

 Now, I have set up a customised keyboard command so that I can jump directly to VoiceOver settings. I don't know, we might have time in Part 3 to look at customised commands, we might not.

 Anyway, to get directly to VoiceOver settings, I can hit, on my device, dot 7 with V and space.

Synthesised Voice: Settings, Accessibility, back button.

Scott Davert: And I'm now in the VoiceOver menu.

 If I knew what I was looking for, depending on where it was, I could have entered that text into the Search box, but once you get beyond the VoiceOver main menu, if you will, I know it's a sub-menu, but there are sub-menus within those sub-menus, once you search for something, you can find it in the main Settings area. For example, if I type in "Feedback" into the Settings area, even though VoiceOver pulls it up and I'm able to select that, it only takes me into this menu. It will tell you it's there but it won't actually give you the option to navigate to that exact area.

 I am looking for "Typing Feedback" and it's time for us to learn a new command, but before I do that, I'm going to move a couple of options to the right.

Synthesised Voice: VoiceOver, Heading.

Scott Davert: That sometimes helps.

Synthesised Voice: VoiceOver, on.

Scott Davert: So, let's say I know what I'm looking for, which I do, it's "Typing", so if I want to find "Typing", I can hit space with the letter F for Find.

Synthesised Voice: Enter search text.

Scott Davert: And type "Typing", T-Y-P, I'll just do T-Y-P, and press dot 8.

Synthesised Voice: Typing, button.

Scott Davert: And it magically hopped me there.

 Now, I will say, that this does not work 100% of the time. I've found it works fairly reliably in later releases of iOS. It's great on the web, virtual find, or whatever your screen reader calls it. It's probably one of the greatest, most basic features.

 Anyway, so we want to go into Typing. I'll go ahead and hit space with 3 6, or a cursor routing button, or the Select key.

Synthesised Voice: Typing style, touch typing, button, typing, heading, typing style, touch typing, button.

Scott Davert: So ,now we are in this menu and we're going to continue moving along. Typing style doesn't apply to a braille display, it's your touchscreen. So, I'm going to hit, what? Space with dot 4. Very good.

Synthesised Voice: Phonetic feedback, phonetics only, button.

Scott Davert: Not necessary to adjust, but you can go in here and do that, if you want, especially if you're doing individual characters, but I have found that the phonetic feedback does not always work when I have it turned on. I have a hearing impairment also which means I prefer echo to the letter E, or, say, D for delta, because E and G and B and C, if you enunciate them fine, it's okay, but screen reader speech doesn't always do that.

 Anyway, let's keep going.

Synthesised Voice: Typing feedback, button.

Scott Davert: Typing feedback is what we want. I'll go ahead and select it.

Synthesised Voice: Software keyboards, heading.

Scott Davert: Not relevant to this demonstration, so I will hit space with dot 4 to keep going.

Synthesised Voice: Nothing, selected, characters, words, characters, hardware keyboards, heading.

Scott Davert: Again, just hitting space with dot 4.

Synthesised Voice: Nothing, characters, selected, words.

Scott Davert: I have mine set to words but you could have it set to characters, nothing, or characters and words.

Synthesised Voice: Characters and words, characters and words.

Scott Davert: That's the last option in the menu.

 So, let's think about this for a second. I'm going to go back to the upper left corner with space and L.

Synthesised Voice: Typing, back button.

Scott Davert: And I could go through and hit space with dot 4, all kinds of times, or I can hit space with 4 5 6.

Synthesised Voice: Characters and words.

Scott Davert: And we have there, the characters and words setting under the hardware keyboard, so that's sometimes a shortcut for you. You can use Find and that works a lot of the time, but if you know, for example, that what you're looking for is at the bottom of the screen, hit space with 4 5 6 and it'll drop you at the end of the menu.

 I'll get out of here with space and H.

Synthesised Voice: DotWatch 2.

Scott Davert: And we're at the Home screen.

 Now, before we get into editing stuff, I thought it would be a good idea to briefly cover how to utilise the rotor. If you're not familiar with the VoiceOver rotor, it allows you to move your cursor by different elements. It also allows you to control certain aspects of the operating system. I would recommend you go check out the iOS VoiceOver manual if you don't already know what the rotor is, or you can always check out the guide that Mike Fear put together.

 When I do put the handout together, which will be for all three Masterclasses, I will make sure that a link to this guide is included, because it does give you a very thorough explanation of many VoiceOver concepts, including the rotor and I highly recommend, if you haven't invested any time in the rotor, looking at that will help, and, again, I'll provide that link in the handout that we have at the end of this course.

 So, I can't spend a lot of time on what the rotor is. My point is to show you how to utilise it or access it with a braille display.

 Of course, on the touchscreen, you can spin to the left or right while using the dial gesture on the touchscreen. With the braille display, you also have the ability to change the rotor. If I hit space with dots 5 6, we are now in characters.

Synthesised Voice: Characters.

Scott Davert: I can hit space and dot 5 6 again.

Synthesised Voice: Words.

Scott Davert: And it will go through all of the things that are enabled in my rotor. To go backward, so I'm on words now, let's say I wanted to go back to characters, I can hit space with dots 2 3.

Synthesised Voice: Characters.

Scott Davert: One more time.

Synthesised Voice: Actions, activate.

Scott Davert: So, in this particular instance, that's going to allow you to edit your Home screen. If I hit space and dots 2 3 again.

Synthesised Voice: Headings.

Scott Davert: No headings on this page, and VoiceOver is usually pretty intelligent about not including rotor items that aren't active, but for whatever reason, it decided it's going to do that. Let me do space with dots 2 3 again.

Synthesised Voice: Braille table, default.

Scott Davert: You get the idea.

 But I want to demonstrate changing a rotor option, so let's do space with dots 2 3 again.

Synthesised Voice: Speaking rate, 55%.

Scott Davert: There we are. We have speaking rate. So, to flick up on the touchscreen, of course, you would flick up with one finger. On the braille display, it's space with dot 6.

Synthesised Voice: 50%, 45%.

Scott Davert: I don't want to go too much slower. If you guys aren't sleeping already, you certainly will be.

 So, if I hate space with dot 3, that’s the equivalent of flicking down with one finger and that will increase my speech rate, so let's go back to 55%.

Synthesised Voice: 55%.

Scott Davert: I hit it twice. It seems to be the most acceptable level that everybody can understand but it isn't too slow, so that's why I usually go with that.

 So, that's how you get around using the rotor and that is going to possibly be important, depending on how you wish to edit your text.

 Let us now go into the Notes application. I'm going to go into the-- nah, you know what, I'm not going to go into the App Switcher, I'm going to do a Find on the Home screen, because I know it's here.

 So, let me do, what is it? Space with F, yes, you're correct.

Synthesised Voice: Enter search text.

Scott Davert: I'll type Notes, Enter.

Synthesised Voice: Notes.

Scott Davert: There it is. I did go to it. I was talking over it so you might not have heard the speech, sorry about that.

 And what do I want to do to activate it? I'm not even going to tell you. If you haven't figure it out at this point, it's time you go back and relisten.

Synthesised Voice: Notes locked, notes, note, text field is editing, insertion point at start.

Scott Davert: I have here an empty note and you can easily do a new note. This is going to involve two keyboard commands, but you can easily create a new note. It won't work for me right now, because I am in a new note, but you can do that with the Bluetooth keyboard command, the command key with the letter N.

 On a braille display, you can emulate the command key. You don't have a whole lot of time to do this, to hit whatever letter you want to go with it, but let's say I wanted to hit Command N for New. I would do space with dots 1 7 and then quickly follow that with the letter N.

Synthesised Voice: Command.

Scott Davert: If I was in the email app, that would take me to a new message area to compose a new email. We might get the joy of doing that here. We'll see.

 In the Notes app, it creates a new note. I believe in Reminders, it also creates a new reminder and it's a pretty common command. Command N also works for a new email in Outlook.

 So, anyway, here we are with a new note. I'm going to type something very brief. "Hello, comma, I am not very creative, so this note will be boring. Since I'm editing, space, space," I'll leave the comma out and go back and fix it, "I ned N-E-D," let's see, "I need to make some airs." I don't know. Whatever. So, there's a basic note and if I want to go to the top of the note, I can do so by pressing space with dots 3 6.

Synthesised Voice: Insertion point at start.

Scott Davert: And indeed, the cursor is showing up with dot 6 for capital H in Hello.

 Now, before we actually do any editing, there's one other feature I want to discuss and that is the ability to have your input and output set differently. So, your output is what you're reading and your input is what you're typing. You might, for example, want to read contracted braille but maybe you're not comfortable typing in it, or maybe you want to avoid some of these iOS bugs that have come into being because of translation. You can set your input and output in a different code. To set your output, you would use space with the letter G. I guess, you could say Grade, that's what it toggles.

 So, if I hit space with G.

Synthesised Voice: Braille output, six dot.

Scott Davert: I'll do it again.

Synthesised Voice: Braille output, eight dot. Braille output, contracted.

Scott Davert: Those are your options.

 Now, for input, you would press space with dots 2 3 6, or a lower H and you'll have the same options. I'll go ahead and press that command now.

Synthesised Voice: Braille input, six dot. Braille input, eight dot. Braille input, contracted.

Scott Davert: Now, if you're using a Mantis, I strongly recommend that you put your input on eight dot, because you're typing on a standard keyboard, so there's really no point for translation to even happen, and I've found that that actually increases the ability for accurate typing with the Mantis, because, again, there's no translation occurring and that's where several of our bugs here are happening.

 Anyway, I have this note and I'm leaving everything uncontracted braille for now. It says, "Hello, comma, I am not very creative," we knew that, "so this note will be boring since I'm editing I ned," okay, so I'm going to go ahead and fix this. I'm going to put a comma after the g in "editing". I hit the cursor routing button, located above the ING sign. I'll hit comma. And there is no speech confirmation, because of the way I have my typing feedback set. I have it set to words.

Synthesised Voice: Comma.

Scott Davert: Oh, okay, well, I guess it decided to tell me that anyway. You never know. But when I hit dot 2, it did pop up for me on the braille display. So, the comma is now there. "I ned," okay, so I need to put the cursor routing button above the "ed" and then add an e to that. In braille, it shows "n-e-e-d" now.

Synthesised Voice: Need.

Scott Davert: And it voiced it. "I need to make some airs." I should have made some spelling errors but we'll get into that in a minute. There are multiple ways I can delete "airs" and, well, write "errors". I can put the cursor with the cursor routing button after the period in "airs". That's where it's at now. And I can simply hit dot 7, or if I'm in eight dot braille, I have to also add a space to that command so it'll be space with dot 7, and I could simply backspace out the word "airs".

Synthesised Voice: [inaudible]

Scott Davert: That was earlier parts of the note that you just heard VoiceOver speak. I did backspace out "a-i-r-s period" and it shows that accurately on the braille display. So, now I'm free to type "errors period" and space.

Synthesised Voice: Err-- space.

Scott Davert: And it was in the process of saying the word before I hit space. That is probably one thing that might annoy a few people, is I'm not normally a speech user, so I don't always pay attention to what it's speaking.

 Let's go ahead and do a couple of spelling mistakes.

 "My n-a-m, my nam, i-s-s," I don't know if "i-s-s" will come up or not, because that's the acronym for the International Space Station. But, anyway, "s-c-o-t-t-t, Scottt" and let's say I don't realise that I made a spelling mistake. We all do that from time to time. One of the options available in the rotor is to, of course, spell check or to find misspelled words in your document. So, I'm going to go to the top of the document now. I don't hit space with L, because that would take me to the upper left corner of the screen, but I can hit space with dots 3 6.

Synthesised Voice: Insertion point at start.

Scott Davert: That takes me to the top. Now, if I wanted to go to the bottom, I wouldn't hit space with dots 4 5 6. That would take me to the lower right corner of the app. But I would hit space with dots 3 6 again.

Synthesised Voice: Insertion point at end.

Scott Davert: And I see that the cursor is blinking after "t-t-t period". That is how you would change your insertion point if you want to quickly jump to the top or the bottom. Again, space with L, well, I'll go ahead and do it.

Synthesised Voice: Notes, back button.

Scott Davert: Took me to the back button. Now if I hit space with 4 5 6.

Synthesised Voice: Hide toolbar.

Scott Davert: We are able to hide the toolbar. To get back to the text, I don't really have a quick way of doing that without hiding the toolbar, but I can easily hide that with all the other ways that we would activate something.

Synthesised Voice: Show toolbar.

Scott Davert: Now, I'll go with space and dot 1.

Synthesised Voice: Note, text field is editing, "Hello, I am not very creative so this note will be boring since I'm edit--"

Scott Davert: I'll tell you the command that I used to shut it up in a second. And now I'm back in the note, I can hit space with dots 3 6, and nothing happened. Let me hit it again. And nothing happened. So, that's fun. Let me do space and dot 1. Oh, I see what happened. The braille display is no longer taking keyboard input. Alright, well, let me go into the Brailliant menu and go to Reconnect. [chime]

Synthesised Voice: Keyboard visible.

Scott Davert: You just heard it disconnect, because it's deactivating Bluetooth. We'll wait for it to come up. Hopefully we'll here a bonk pretty soon. [chime]

Synthesised Voice: Keyboard hidden.

Scott Davert: Beautiful. So, now I'll go back into my list of connected devices and pick the correct iPhone. Now, let's see if space and dots 3 6 does anything.

Synthesised Voice: Insertion point at start.

Scott Davert: It does indeed. We are at the start of the document.

 Now, let's say I want to spell check this. There is a rotor option called "Misspelled Words" and it's mostly reliable. I believe if I hit space and 2 3.

Synthesised Voice: Misspelled Words.

Scott Davert: Yep, there it goes. And now if I want to find the first spelling mistake that it finds, I can do space with dot 6. Remember, we're using the rotor.

Synthesised Voice: "Iss" selected.

Scott Davert: "I-s-s" is not in the dictionary. Now, I have several options here. "I-s-s" is what I'd found and that is highlighted on the braille display. Let's see if "is", which is what I was attempting to write, is one of our choices. I can go through the available choices by pressing space with dot 1 or space with dot 4, so let's do space with dot 4, I don't know, just because.

Synthesised Voice: Is.

Scott Davert: There is "is", and if I say "is" one more time, you could feel free to smack me.

 So, what happened on the braille display is-- I just said it again. The word "is" flashed up, the correct spelling of "is" and if I wanted to not take that suggestion, I could hit space with dot 4 again.

Synthesised Voice: It.

Scott Davert: It.

Synthesised Voice: Sis.

Scott Davert: Sis.

Synthesised Voice: Is. [knock]

Scott Davert: And back around to "is". And you heard it made a little noise there, once it circled around. So, if I wanted to change "i-s-s" to "is", which I do, I can then press space with dots 3 6, cursor routing button doesn't seem to work here, so you have to typically hit space with dots 3 6.

Synthesised Voice: "Iss" unselected.

Scott Davert: "I-s-s" is unselected and on the braille display, I have "i-s" with the cursor under s and then the space bar.

 Now, let's see if it picked up on the fact that my name was spelled wrong. Because the rotor has moved, I have to hit space with 2 3 again.

Synthesised Voice: Edit.

Scott Davert: Okay, I guess I didn't that time. We'll hit space with dots 5 6.

Synthesised Voice: Misspelled words.

Scott Davert: Space with dot 6.

Synthesised Voice: "Scottt" selected.

Scott Davert: And Scot-t-t is highlighted. I can do what I did before. I can hit space with dot 4, dot 1.

Synthesised Voice: Scott.

Scott Davert: It did find it as "S-c-o-t-t", but the interesting thing about this is that it doesn't actually voice the spelling and there's no way to make it do that, the suggestion, I mean. So, if you're not seeing it, for lack of a better word, on your braille display, you're not going to actually know how the word was correctly spelled, which for a word like "there" or the word "to" is kind of a problem, but because I'm on a braille display, I know that it's what I want. I can hit space with dot 3 6 and that will once again replace the word with the correct one.

Synthesised Voice: Scott, unselected.

Scott Davert: And it has been done.

 Now, you can also edit a spelling mistake if you want, but that's usually the way I do it, but you might want to edit it manually if, for example, the word that you want is not available.

 I can't really think of a good way to trick the spell check, because, again, I'm not creative, but that's how you can spell check ad that's how you can do basic editing.

 Now, if you want to know where the cursor is and maybe you're on an Orbit Writer, for example, or the Hable. Not sure how that's pronounced. Let's say I want to find out where in the heck the cursor is. I can do that with space and dots 3 4.

Synthesised Voice: Title, system font regular, 28 point, dark grey, bold, natural alignment, indentation level zero, character mode, insertion point between "t" and "period" at the 123rd position.

Scott Davert: So, there's no title on it. The regular font at 28 point and it's dark grey and it's bold and natural alignment, indentation level zero, character mode, insertion point between "t" and "period" at the 123rd position. No, don't worry, I did not memorise all that. But what you'll notice on your braille display is that when certain things happen, dots 1 through 8 on the first and last cell will quickly show that information and then go away.

 You can use a command and you will not get this in speech, it's only available in braille, that's actually what I did to read this particular message that we just received on where the cursor was, I can press space with the letter N. Why N, I don't know, but that's what they used. When I hit space with N, I get the last ten announcements, or flash messages, whatever you want to call them. So, I just read you the one that was on there most recently, but if hit space with dot 1, "Scott" was the thing before that, that came up and that was when it offered me the spelling suggestion.

 I'll press space with dot 1 again [click] and it says "Misspelled Words", because the rotor also communicates its information through flash messages.

 You did hear a little clicking noise, but the information is not actually presented in speech. Now if I hit space with N again, I'm returned to where I was previously.

 I really wish we had more time to get into greater detail, but what I do want to quickly show you before we wrap up this particular session is when we have major problems.

 Now, I did not have major problems in Notes and I typically don't, but let's go compose an email. This'll be fun. I'm going to use the App Switcher.

Synthesised Voice: App Switcher, Notes, active, settings, active, mail, active.

Scott Davert: There's mail.

Synthesised Voice: Message content, message body, text field is editing, sen--

Scott Davert: So, I already have an empty message there, but I don't know where my cursor is, because it's not blinking anywhere, and I hit space with P to pause speech, by the way, but unless I have speech on, I have no idea where I am in this area. So, again, this is to compose a new message.

 So, I need to hit space with dot 1.

Synthesised Voice: Cc slash bcc from.

Scott Davert: I hit it twice, because the first time didn't respond right away, so now I'm in the message composition area of iOS and, again, you see dot 1 chord will move you to the previous item, or space with dot 1.

Synthesised Voice: [inaudible]@gmail. com.

Scott Davert: Yeah, go ahead and email me, I don't care. It's okay. So, if I continue to hit space with dot 1 now.

Synthesised Voice: To, text field.

Scott Davert: Let's say I want to write myself an email. I can hit a cursor routing button to start interacting with this text field.

Synthesised Voice: Insertion point at end.

Scott Davert: I have a blinking cursor. By the way, VoiceOver does not say, "Insertion point at end." In this case it doesn't matter, because the insertion point is not really relevant. It's a blank area.

 So, let's say I want to email myself. I'm going to type scott.davert.

Synthesised Voice: scottdavert, scott.davert@hknc.org, org.

Scott Davert: Now you have two ways to contact me. If I want to accept that, I can hit space with dot 4 to get there, but I can also just press dot 8 which is the equivalent for Enter. it's dot 4 5 6, followed by dot 3 5 6. It’s a bullet. I don't know why they do that, but that's their way of communicating that you have an address. I can confirm that by hitting space with dot 1.

Synthesised Voice: At contact, button.

Scott Davert: Then space with dot 4.

Synthesised Voice: To, text field, is editing, scottdavert, scott.davert@hknc.org, character model, insertion point at end.

Scott Davert: And there you go. Now, I'm going to go back to the Subject.

Synthesised Voice: scottdavert, sco-- kcpnl, cc slash bcc, subject text field.

Scott Davert: And again, I have to hit space with 3 6, a cursor routing button or the Select button.

Synthesised Voice: Insertion point at end.

Scott Davert: And write "Test", t-e-s-t. I did that already. Space with dot 4 again will take me to the message body.

Synthesised Voice: Message content, message body, text field, sent from my iPhone.

Scott Davert: Message body is the only thing I see here on my braille display. So, again, space with 3 6, select a cursor routing button.

Synthesised Voice: Insertion point at start.

Scott Davert: And I have a blinking cursor, so I'll type, "Hello".

Synthesised Voice: Hello.

Scott Davert: I did that followed by a space. "This will work fine for now."

Synthesised Voice: This will work fine for now.

Scott Davert: Let's say, though, that I wish to insert a line break.

Synthesised Voice: New line.

Scott Davert: Now, in speech, it said "new line" and you would think that we are still ready to write, but we're not. The VoiceOver cursor is actually where it's supposed to be. On my braille display though, I see the words, "Hello period this will work fine." So, according to braille, my focus is at the very top of the message. It isn't, but that's where it says it is. I'm going to ignore this and I'm going to keep typing. "This is a message about nothing at all."

Synthesised Voice: This is a message about noting that all.

Scott Davert: And again the cursor decided, for whatever reason, to show me that I am back up at the top where it says "Hello". "I am proving."

Synthesised Voice: Space roving.

Scott Davert: Yeah. Yep. It broke. "That this is broken period"

Synthesised Voice: This is broke.

Scott Davert: Oh, boy, is it ever. So, again, my braille display says, "Hello, this will work fine," even though I wrote a bunch of stuff underneath that.

 The only way I've found to make this work is to hit space with dot 1, to go back to the subject.

Synthesised Voice: Subject, test, text field.

Scott Davert: Space with dot 4.

Synthesised Voice: Message contact, message body, text field, is editing, hello, this will work fine for now.

Scott Davert: Space with P to shut it up. I find out that "broke", b-r-o-k-e, before the four periods that I wrote is where the cursor is actually located and because it's kind of in a random place, I'll pan backward now and you heard what I wrote, but here's what it came up with, just for this. "A-m period r-o-v-i-n-g-t-h-a-t space this is," and then if I pan forward, "broke dot dot dot dot."

 So, that's annoying and what you can sometimes do, if you happen to be looking down at the braille display, if you go back to your subject and then go to the composition area, you'll find that this will continue to function as it should, but if you don't catch it, you see there what happens. There's all kinds of nonsense. I'll just let you hear it. Let me go back to the top here.

Synthesised Voice: Insertion point at start.

Scott Davert: Now if I want to read the contents of this message, I can hit space and the letter R, and this will voice what is there and I'm not that bad of a braillist, I promise, but let's hear what it came up with. I'll hit space with R.

Synthesised Voice: Message body, text field, is editing, hello, this will work fine for now, this is a message about noting that all roving that this is broke four periods, sent from my iPhone, insertion point at start.

Scott Davert: Isn't that great? So, what I do a lot of the time is, I'm just going to clear this entire thing out, I'm going to hit space with L.

Synthesised Voice: Sheet grabber, button, minimise draft, cancel, button.

Scott Davert: Hit space with dot 4 a couple of times to get to cancel.

Synthesised Voice: Cancel, alert, delete draft, button.

Scott Davert: Let's delete that draft.

Synthesised Voice: Sheet grabber, button, messages, unread, home, notes.

Scott Davert: Now I'm back on the Home screen, with the Notes app in focus, which is good, because guess what we're going to use? Yes, we are going to use the Notes app. By the way, with the current version of iOS, 15.3.1, I'm finding that oftentimes the flash message, which in this case is "Home" sits there, even though the iPhone hasn't frozen and speech is telling where I'm at on my Home screen, it's not conveying that with the braille display. So, just another thing to be aware of.

 Anyway, I'm on Notes and I'll hit a cursor routing button. Again, on the braille display, I would never know I'm there. I can of course figure that out by hitting space with dot 1.

Synthesised Voice: Reminders.

Scott Davert: And then 4.

Synthesised Voice: Notes.

Scott Davert: Or I could press space with 3 4.

Synthesised Voice: Group, notes, row three, column one, home, page one of two, centre of screen, double tap to open.

Scott Davert: If I wanted to read all that, it is in a flash message. Anyway, let's go ahead and select Notes.

Synthesised Voice: [chime] Notes, note, text field, is editing, hello, I--

Scott Davert: I hit space with P to shut it up. And we're going to learn another command. Yes. There's never enough commands. That command is going to select all, because I'm just going to delete this note.

 I can do that, first, by hitting space with dots 2 3 5 6, or lower g. In some applications right now, it doesn't appear to be consistently working, but you can typically hit space with dots 2 3 5 6, to select all and then hit backspace to clear it.

 However, that is not working right now. It worked earlier today and then it stopped working.

 Oh, that's interesting. Now it's showing that everything is selected. I don't know when that happened or why that happened. So, I guess it is selected now. It was very slow. So, if I hit dot 7.

Synthesised Voice: Selection deleted. Hello, I am not very creative, so this note will be bo--

Scott Davert: Space with P to shut it up. That entire note has gone. So, let's say, I'm going to do a really quick email and unfortunately we don't have time to get into the more advanced editing and I'm weighing with class three, do we go with advanced editing or do we go with some of the other things, and I'll figure that out within the next few days.

 So, hello, period.

Synthesised Voice: New line.

Scott Davert: Drop down to a new line. Nothing wrong happened. This is Scott comma emailing myself period how boring.

Synthesised Voice: This is Thecott emailing myself period how boring.

Scott Davert: Now, I made a typo in there, under my name. Let me go to the top with space and dots 3 6.

Synthesised Voice: Insertion point at start.

Scott Davert: Hello period new line, this is Thecott. The dot 6 merged with the letter S, so that's why we have that. I can go, hit a cursor routing button, backspace the "the". There it goes. And then insert S and there it goes. Let's see how long it takes VoiceOver to speak it. Longer than we have.

Synthesised Voice: T, comma.

Scott Davert: And it didn't even tell us the right thing anyway. And that is a common bug, by the way. I really feel bad for people on Orbit Writers because you don't have the braille there, to even tell you that it's messed up.

 So, let's say, for example, I would like to email this to myself.

 I'm going to try to hit space with dots 2 3 5 6, to select all.

Synthesised Voice: Hello. This is Scott emailing my--

Scott Davert: And I hit space with P to make it be quiet, because it's going to voice everything all over again, but I do see dot 7 and 8 under the entire text as I pan through it. If I want to copy it to the clipboard, which I do, I can hit space with dots 1 4, or C.

Synthesised Voice: Hello, this is Scott emailing myself, how boring.

Scott Davert: Space with P again to shut it up.

 Now, it also took the line break away, for some reason.

 Anyway.

Synthesised Voice: Notes.

Scott Davert: Going back to my Home screen, and now I'm going to find Mail.

Synthesised Voice: Safari, phone, page one, settings, home, health, TV, one, podcast, app store.

Scott Davert: See, this is why space with F is your friend. Let me go to the top.

Synthesised Voice: DotWatch 2.

Scott Davert: Space with F.

Synthesised Voice: Enter search text. Mail, 34 unread emails.

Scott Davert: And then Enter, and it did land on it. Let me go in here.

Synthesised Voice: Mail, kcpln@gmail.com, back button.

Scott Davert: And let me do command, which again is dots 1 7 with space, and then quickly followed by the letter N.

Synthesised Voice: Command, to, text field, is editing, character mode, insertion point at start.

Scott Davert: Now, I'm not going to bother filling out all this other stuff. I'm going to hit-- what am I going to hit? I want to go to the lower right corner for the last item on this screen. I'm going to hit space with 4 5 6.

Synthesised Voice: Message content. Message body, sent from my iPhone. Text field.

Scott Davert; I'm not currently in the text field where I can write so I need to hit space with 3 6.

Synthesised Voice: Insertion point at start, message body, text field, is editing, sent from my iPhone, character mode, insertion point at start.

Scott Davert: This is why I don't like using speech. It really slows everything down.

 Anyway, so, if I wanted to paste what I just wrote, from Notes, I can hit space with the letter V.

Synthesised Voice: Hello. This is Scott, emailing myself. How boring.

Scott Davert: And it is here, as it should be.

 You can try to make minor edits in the Mail app. I've had some success with that and some failures.

 Now, if I wanted to send this, and it won't work because I didn't fill out all the other fields in the interests of time, which we're running out of, but if I wanted to send it, there's a keyboard command for that, that is command, shift with the letter D.

 I already told you that space with 1 7 gives you the command key. You can emulate the shift key with space and dots 4 7.

Synthesised Voice: Shift.

Scott Davert: And then you would hit the letter D very quickly. Unfortunately we are about out of time, so I'm afraid I have to end it here. I'll thank everybody again for tuning in and we'll go ahead and take questions. I'm going to use another command I set up to lock my screen. I did dot 7 with L. [chime] There it goes.

 So, that's the end. Let's take some questions.

Dave Williams: Scott Davert there, navigating what can be quite a bumpy and complicated experience writing on an iDevice using your braille display, but obviously, Scott, you find that worth the effort, because you continue to do it, and you've been willing to share that information with us and we very much appreciate that.

 We've got around about 20 minutes, just over 15 minutes, for your questions. We would love to hear those about anything to do with braille on iOS. Obviously tonight we've been focused on the input experience, but of course, if you've got any questions still arising from last time when we talked about connecting braille displays with iDevices, I'm pretty sure we can probably get across those as well.

 We'll try and cover as many of your questions as we possibly can. Assisting us with the moderation of hands this evening, it's Ben Mustill-Rose.

Ben Mustill-Rose: Thank you, Dave. Thank you, Scott. We already have one person with their hand raised, so we're going to come to Richard Jemmet first and after Richard, we're going to come to Kawal.

Richard Jemmet: I have an Orbit Reader 20. I wanted to know if all the commands apply to all braille displays.

Dave Williams: I think the answer is yes, but Scott can speak to that.

Scott Davert: Yes. The only differences on iOS with different displays are the buttons and keys that are different. So, the Braille Edge, as an example, has eight rectangular buttons on the top, underneath the keyboard. Obviously the Orbit Reader doesn't have those as options, so those commands would be different, but everything else is the same. Space with H to go Home, space with B to Escape, all that stuff is the same on iOS regardless of the display and use.

 The only exception, that I can think of off the top of my head, is the BrailleNote Apex from 2009, I think, that did not let you work with space with H. That would take you to the internal Help file and you had to hit the middle two thumb keys then to go to your Home screen.

Dave Williams: I think you also mentioned, Scott, that the newer HumanWare displays have this feature when you can use a cursor routing button to wake the phone and obviously on the Orbit Reader 20 and 20 Plus, they do not have cursor routing keys, so that isn't available at this time.

Scott Davert: Correct. The one thing I will say, I don't know if that's coming or not.

Dave Williams: Okay, watch this space.

Scott Davert: I know that the Orbit Reader has HID support, but it hasn’t been integrated into VoiceOver yet, so when that happens, maybe Orbit Research will get on board with doing that. Obviously the Orbit Reader 20, you can add a cursor routing button, but what about Select or another button, that might be a suggestion to contact them about, if you're interested.

Dave Williams: You've also been careful, I think, Scott, in your material, to use the chorded commands, so you've quite often referred to space and dots 3 6, for example, to activate an item, which will be transferrable to any braille display with a braille Perkins style keyboard.

Scott Davert: Correct. As with the Focus, that's another one where you have all these different things on the front, all these buttons that you can use to do various commands, all those commands are available certainly but most of them are repeats of everything that's already been done in the keyboard command set. We'll have to figure if next time we want to go into things like assigning keyboard commands or if we want to continue along with text editing. I'll leave that up to you guys as to which direction you'd like to.

Ben Mustill-Rose: We're going to Kawal next and then Barbara.

Kawal Gucukoglu: Assigning commands is exactly what I want to ask. Is it very easy to do? I've been trying to do it on the Mac, although it's not about the Mac, I find that really hard, but I haven't tried it on iOS yet.

Scott Davert: It's easier, I would say, on iOS than Mac OS. There's a lot of issues on Mac OS. I haven't even looked at it.

Kawal Gucukoglu: Also the modify keys. It seems that the space and dot 8 are a little bit like the Focus, like you do on a computer, is the same as what you do on iOS. Is that right?

Scott Davert: Some of it, yes. If I understand your question correctly, my hearing is off a little more than the last time we did this, so a lot of the commands are the same, yes, but like space with H, for example, isn't going to work on the Mac because there's no Home screen, so there are a lot of similarities but there are also differences.

Dave Williams: Kawal, would that be a vote from you for Part 3 to look at customising the braille commands?

Kawal Gucukoglu: Yes, it is. Thank you.

Dave Williams: Okay. Appreciate the feedback. Thank you very much. So, you've got one vote there, Scott, for custom braille commands and I like the one that you had there in the demonstration, that took us straight to the VoiceOver settings. That certainly would be helpful.

Scott Davert: Okay.

Ben Mustill-Rose: We're going to come to Barbara next.

Barbara Harrison: I wanted to know, the presentation, does it connect to the Focus 40 or the Polaris?

Dave Williams: Yes, you can use the Focus 40 or the Polaris with iOS. I think that's right, Scott?

Scott Davert: Yes. The pairing process on the Polaris is a little different from the rest of them, but it does work, as long as you follow what's in the manual.

Barbara Harrison: Oh, okay, because I didn't see the first presentation, so this is my first one. Is there any way that you can demonstrate with the Polaris on the third session, somehow, or can I ask that?

Dave Williams: It's different for every device and we would be here all night if we demonstrated every single device and how you go about the steps to pair it but there are basically two approaches as I understand it. One is within your VoiceOver braille settings and the other one is in the Bluetooth settings. So, Scott, do you want to elaborate?

Scott Davert: Sure. For the Polaris, you would go to Settings, Accessibility, VoiceOver, Braille. After that you go into Terminal Mode, I think it's called, if I remember correctly. I don't have a Polaris or a BrailleSense 6 in front of me.

 That's what you want to do first, is put the Polaris into Terminal Mode, I believe that's what it called. Then on your iOS device, go to Settings, Accessibility, VoiceOver, Braille and the Polaris should show up.

Barbara Harrison: What I want to know, is the iOS that you're speaking of, is it with the iPhone or a computer?

Scott Davert: Well, the terminal part will be for any device that you want to connect to the BrailleSense Polaris and use it to display what's on that device. So, if you're running a Mac or a Windows machine or an iOS device, any time you want to connect to Bluetooth, this is partially how it will work.

 You'll have to find it in the list of devices, probably it's the only one, but you might have the Focus in there too and then double tap the name and then what's going to happen is, and this is only a BrailleSense thing, you'll have to match the code on the BrailleSense with the same pairing code on your iOS device. Now, this might have changed, it's been a little bit, but when I last did it, you had to enter the pin code, I just do 1111, because it's really easy, but you had to do it in computer braille on the BrailleSense, which would be dot 2, so dot 2 four times, followed by Enter, and then you will have to enter 1111 as the authentication code when it comes up on your iOS device. Then double tap "Pair", which is in the upper right quadrant. I'm not going to say upper right corner, but the upper right section of the screen.

Ben Mustill-Rose: Hope that helps, Barbara.

Dave Williams: I was going to add to that, you might want to reach out to HIMS International as well who can probably give you a little bit of extra support if you need somebody to walk you through that, because I appreciate it can be a little bit complicated.

Ben Mustill-Rose: We're going to come to Debora next and then Iain.

Debora Thomas: I'm new to iOS and iPhones. I have a Braille Edge. It's still hanging in there. It's about seven years old. I was hoping that I could pair it with my iPhone. What I have found though is when I push the Bluetooth button, in the position, it doesn't stay on Bluetooth. Now, this happens of course when I was just in a regular file reading a book or something like that. I was just interested to see how it worked because in the seven years I've had the Braille Edge, I've never actually used Bluetooth at all, but I'm just wondering, because of the age of Braille Edge and because of the way it's functioning now, if I can't get actually set the Braille Edge itself on Bluetooth, I would imagine my iPhone, which is a refurbished Apple phone, would have Bluetooth. Would that make any difference? Could I still use the Braille Edge?

Scott Davert: The short answer is I don't even believe HIMS is working on the Braille Edge anymore. I have also had connectivity problems with the Braille Edge with iOS 15. So it's not just you, but it might be, because I know the Bluetooth chip in there has some issues over time. As far as what to get, well, maybe what I'll do is include in with the handout a link to all of the braille display reviews that I've done fairly recently. So, I did a comparison of five different 40 cell braille displays. Those are all the ones on the US market. I go through all the features and the prices, which have changed a little since then. The pandemic has made prices go up and this was published in October, November, something like that.

 So, I can include that link and then the links to the more thorough reviews, if you’d like, in the handout and then you'll have lots to read.

Ben Mustill-Rose: We're going to come to Iain and then Gregory.

Iain Lackie: I was interested that Scott is using a Brailliant BI 20 and he had assigned key strokes to commands. Now, I have a Brailliant BI 20 but the only keys that it is letting me reassign are the panning keys. Is this because I got my Brailliant at the end of last year and Scott did this a while ago or is there something I can do so that it will allow me to assign the key strokes?

Scott Davert: I'm sorry, I'm having a hard time hearing.

Dave Williams: Yes, the question is about reassigning keys and he's saying the only keys that he's able to reassign are his panning keys and that you had been able to reassign keys on your device. So, maybe that's another vote for covering that in the next session.

Scott Davert: I believe so. I know that there were issues earlier on. I don't know but you might want to check for software updates on the Brailliant. It could also be that you didn't go into the correct area for assigning commands.

Iain Lackie: I certainly went into the correct area. I'll have another look, but the only key strokes it would allow me to reassign were the left and right panning keys and their chord equivalents.

Dave Williams: Okay, so maybe we'll cover this in more depth in the next session then about how we go about assigning keys on devices.

Scott Davert: Yep. We have no votes for advanced editing and quite frankly I don't enjoy it anyway.

Dave Williams: I can't imagine why.

Ben Mustill-Rose: Lastly, we have Gregory.

Gregory Hinote: I hate to be a killjoy but I have to ask, when these bugs occur, are they fixed in a good time or do a lot of them linger? Do they get broken when the iOS gets updated? It sounds like a lot of bugs and I'm trying to decide what to do, what device to get. I have an Orbit Writer which has a lot of bugs, as far as I'm concerned. I'm just wondering if you think this will ever get to a point where we won't have to worry about all these bugs.

Scott Davert: Sadly, no. There are always bugs, lots of them are happening now. That seems to be the problem. We have a whole hive of them, at least one big hive, probably two. That's sometimes the challenge with merging mainstream technology with assistive technology. You don't necessarily get the attention to the bugs that you want fixed. It's not paid the attention you'd like, because Apple, for example, is a very large company and unfortunately braille displays and the braille display market is extremely small, when you compare it to your average sighted user that's just using the touchscreen. They might enlarge their text or something like that, but that's about as far as they go.

 I don't like that. I'm sure nobody here does, but the only thing we can do is keep reporting this stuff to Apple. I wish I could say, oh, yeah, 15.4 is going to come along and it's going to fix everything, but, well, we know I'd be lying then because that will never happen.

 So, will there be bugs? Yes, there always will be and they will be on any operating system you use. Like I often tell people, humans aren't perfect. Humans are designing these pieces of software and hardware, thus the software and hardware are not perfect either.

 If you really want to be frustrated, I encourage you to try to use that thing on Android.

Ben Mustill-Rose: Well, on that note.

Dave Williams: On that bombshell.

Ben Mustill-Rose: Shots fired, and we'll hand over to Dave.

Dave Williams: Wow, Scott, you've put the cat amongst the pigeons now.

 Thank you so much and, yes, we do need to keep reporting the bugs to Apple. I'm sure there will be resolutions at conventions and things like that and this will run and run because we all want a better braille experience on iOS and it's certainly usable, but are there challenges? Well, that's why we're doing these sessions, to show you how to work around some of those.

 Scott, thank you again, and I know you'll be back in a couple of weeks and it sounds like we're going to be looking at how to customise braille commands from your device in that third part, and anything else that you feel that we need to know about as well.

 From me, Dave Williams, Chair of the Braillists Foundation, and the rest of the team, have a great week. Bye for now.

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 In the meantime, on behalf of everyone at the Braillists, thanks for listening and bye for now.

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