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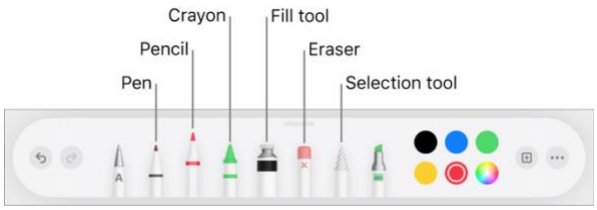
Interaction Breakdown

An interaction breakdown occurred while I was writing notes with the draw feature on my iPad. The draw feature allows the user to draw, sketch, or write notes with a finger, stylist, or mouse. In this instance, I was utilizing a stylist when performing the activity. The specific devices that contributed to this breakdown were a 9th Generation iPad and a first-generation Apple Pencil. I was taking my notes on an application called Microsoft One Note, this is a digital note taking app that organizes the user's work in different notebooks and pages. The interface's that I utilized for this performance included the Bluetooth, touchscreen, Touch ID home button, and Apple Pencil. When I was writing my notes on my iPad, my hand accidently hit the home button and it caused the application to breakdown by exiting the current screen that it was on and going to the home screen. This is frustrating because it occurs frequently, and it interrupts the user while they are writing notes. This can be problematic because it causes the user to lose their train of thought. Also, when a student is in class taking notes that a professor is presenting on, it makes it much harder for the student to copy down the information that they are being given before the professor proceeds to the next slide. This can cause students to miss information, resulting in confusion and no possibility to reference notes when it is time for them to study for their exams and when they are doing homework. For general users, this can be very annoying and can discourage users from buying Apple iPad products.



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Analysis

Based on the interaction breakdown that occurred while using the iPad and Apple Pencil to take notes, one can conclude that the interface had a few design issues that did not factor in usability principles. The usability principles help designers to determine what elements need to be added to their product for the user to have a successful experience when carrying out tasks. The most common ones include: visibility, feedback, constraints, mapping, consistency, and affordances. In this instance, there is a problem with constraints and visibility. Constraints are a type of design concept that restricts the kind of user interaction that can take place at a given moment. On the other hand, visibility is making sure that the user can clearly see and identify all the functions on the interface. There is a problem with the user being able to see the home button while having their hand down on the screen to take notes with the Apple Pencil. This causes the chance of the user hitting the button and having an interaction breakdown occur to increase. Also, there is no constraint in place to stop this from occurring. The iPad automatically assumes that each time the user hits the home button, it was intended.

Alternatives

Two alternatives to combat this design that hinders the usability would be either adding a constraint feature to the iPad that allows the user to lock the home button while in certain applications or completely redesigning the iPad to not have a home button. Adding a constraint feature that disables the lock button while taking notes would improve the usability of the iPad because it would allow users to turn this feature on and off. As a designer, I would put this button in the control center of the iPad so that the user can easily click on it when they are ready

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to disable and enable the home button. This would be accompanied with feedback for the user, letting them know when the home button is going to and not going to work. This added design indicates to the iPad when the interaction of pressing the home button was purposely done. Secondly, completely redesigning the iPad to not have a home button would make the interface a lot better, because it would give the user more space to write, and it would eliminate the possibility of the user having this type of interaction breakdown when using the iPad. This can be seen in the newest version of iPads. The iPad Pro has eliminated Touch ID home buttons and implemented an interface that includes Face ID. Because the home button is gone on this version, it makes the experience more enjoyable. Both of these changes in design would improve the overall interaction that users have with iPads, especially when they are trying to take notes or draw while simultaneously using the Apple Pencil.