

## Livescribe Smartpen Open Paper test suite

Test Case ID	Test Case Description/Steps	Expected Result
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<b>User Interface</b>		
<b>INT.LIVESCRIBE.UI.01</b>	Launch application, NavPlus	
	1. Use the Nav Plus to highlight application from the Main Menu.	
	2. Tap right arrow to launch application.	Application launches without issue.
<b>INT.LIVESCRIBE.UI.02</b>	Double Tap Center while in application, NavPlus	
	1. Within the application, double tap the Center of the Nav Plus.	User is returned to the main menu.
	2. Repeat in other screens of the application.	User is returned to the main menu.
<b>INT.LIVESCRIBE.UI.03</b>	Right Tap while in application, NavPlus	
	1. Within the application, locate a menus/lists where the user can scroll right to view sub menus/lists.  Tap the Right Arrow of the Nav Plus in these menus/lists.	For Menus: Slides the display text to the left to reveal a submenu.  For example, right tapping on the Paper Replay application menu will slide the menu to the Record Session submenu.  For Lists: Slides the display text to the left to show the first item in a selectable list.  For example, right tapping on the Play Sessions function of Paper Replay will slide the menu to show the first in a series of recorded sessions.
	2. Within the application, locate functions that can be launched by tapping the Right Arrow.  Tap the Right Arrow of the Nav Plus in each located function..	Function is started when the Right Arrow is tapped.  For example, right tapping when Record Session is on the display will start recording and display an audio timeline. Similarly, right tapping when Time is on the display will run that application and display the time.
	3. Within the application, locate lists where the user can select an item (does not lead to sub lists).  Tap the Right Arrow of the Nav Plus in each located area.	Right tapping selects an item that is on the display.  For example, in Play Session mode, right tapping on a displayed session will select it and start playing it.
	4. Within the application, locate the areas of the application that ask the user if they wish to perform a specific action.  Tap the Right Arrow of the Nav Plus in each located prompt.	Command is confirmed. Applications should consider right tapping as a Yes response from the user.  For example, right tapping when "Delete this session?" is on the display will delete the session and slide the text to the left to display a confirmation message such as "Session Deleted".
<b>INT.LIVESCRIBE.UI.04</b>	Left Tap while in application, NavPlus	
	1. Within the application, locate a sub menus/lists where the user can scroll left without leaving the application.  Tap the Left Arrow of the Nav Plus in these menus/lists.	Left tapping on the Nav Plus slides the display text to the right to return to the parent menu.  For example, left-tapping when the Record Session submenu is on the display will slide the menu to show Paper Replay on the main menu.
	2. Within the application, locate the areas that launch functions of the application when scrolled to the right.  Tap the Left Arrow of the Nav Plus in each located function.	If the application or one of its functions is running, left tapping out to the Main Menu exits the application or function.
	3. Within the application, locate the areas of the application that ask the user if they wish to perform a specific action.  Tap the Left Arrow of the Nav Plus in each located prompt.	Command is cancelled. Applications should consider left tapping as a No response from the user.  For example, left tapping when "Delete this session?" is on the display will not delete the session and slides the text to the right to show the parent function or application.
<b>INT.LIVESCRIBE.UI.05</b>	Up Tap while in application, NavPlus	
	1. Within the application, locate a menus/lists where the user cannot scroll up.	Upon reaching the top of the menu/list, a Bracket displays in place of the scroll arrow.
	2. Tap the Up Arrow of the Nav Plus in these menus/lists.	Nothing occurs. There is no menu/list wrap. There is a "Can't Do That" tone played when attempting to scroll up.
	3. Within the application, locate areas/menus where the user can scroll up.	Scroll arrow displays indicating to user that they can scroll up.
	4. Tap the Up Arrow of the Nav Plus in these menus/lists.	User scrolls 1 item up within the area/menu.

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<b>INT.LIVESCRIBE.UI.06</b>	Down Tap while in application, NavPlus	
	1. Within the application, locate a menus/lists where the user cannot scroll down.	Upon reaching the bottom of the menu/list, a Bracket displays in place of the scroll arrow.
	2. Tap the Down Arrow of the Nav Plus in these menus/lists.	Nothing occurs. There is no menu/list wrap. There is a "Can't Do That" tone played when attempting to scroll down.
	3. Within the application, locate areas/menus where the user can scroll down.	Scroll arrow displays indicating to user that they can scroll down.
	4. Tap the Down Arrow of the Nav Plus in these menus/lists.	User scrolls 1 item down within the area/menu.
<b>Display Area</b>		
<b>INT.LIVESCRIBE.DISPLAY.01</b>	Graphics/Truncation	
	1. Verify that there is no truncation of text or graphical errors in each area of the application.	There is no truncation or graphical errors in each area of the application.
<b>INT.LIVESCRIBE.DISPLAY.02</b>	System Area (N/A if application cannot be launched during Record Session)	
	1. Begin recording a session in Paper Replay.	
	2. Launch the application under test. - Verify application under test gracefully handles system status. - Verify that the display is never blank during the test suite.	Application gracefully handles system status graphics displaying.  Blank screen on display is not permitted.  Application may write to the full display. However, the system may use some of the space to show system status. The space reserved for status is the System Tray. Its dimensions are 6 pixels wide x 18 pixels high, always on the right of the display.  An example of the System Tray is when you are recording in Paper Replay and go back to the Main Menu to run another command, such as Time. Paper Replay continues to record in background mode. However, instead of showing the usual audio timeline, the System Tray.
<b>Functional</b>		
<b>INT.LIVESCRIBE.FUNC.01</b>	Prompt and Believe - For applications that have areas/functions requiring user input and does not confirm or analyze requested input.	
	1. Locate areas within the application that require user input.	
	2. Enter the required data, per the application instructions. Verify that the data was accepted and functions as expected when activated.	Application accepts user input and functions as expected.  For example, an application might prompt a user to create a circle and put a letter "r" in it to create a "Reminder" button. Instead of using character recognition to determine that users actually enter an "r", the application trusts that they always do. The application simply notes the area the user wrote in and assigns the entire bounding area of their strokes to the "Reminder" function. The user can write a circled "r" as directed, or could write the word "Reminder" or draw a picture of a finger with a string tied around it. From then on, the application treats whatever the user drew as the button and invokes the proper code when the user subsequently taps on it
<b>INT.LIVESCRIBE.FUNC.02</b>	Modes and Difficulty Levels	
	1. Launch the application and operate it in each level of difficulty or mode of play.	Each level of difficulty or game mode should function as expected. Verify there is a noticeable difference between the levels of difficulty (i.e. easy, medium, and hard).
<b>Providing Instructions</b>		
<b>INT.LIVESCRIBE.INSTRUCT.01</b>	Text Instructions	
	1. Verify the application provides text instructions for the functions of the application.	Application provides text or graphics based instructions for each function of the application. There are no spelling/grammar errors.  Text/graphic instructions are mandatory because users may choose to mute their Pulse smartpen or disable audio instructions. All instructions need to be complete.
<b>INT.LIVESCRIBE.INSTRUCT.02</b>	Audio Instructions	
	1. If the application provides audio instructions, verify the audio instructions match the detailed functions and playback without error.	Audio instructions are correct and playback without error.  Text and audio instructions do not need to be identical, but they each need to provide all the information a user needs to know to use the application or complete a specific command.

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<b>INT.LIVESCRIBE.INSTRUCT.03</b>	<b>Audio Punctuation Marks</b>	
	1. If the application has Audio Punctuation Marks, locate each APM and verify that the APMs play without issue.	APMs playback without issue.  The system uses audio punctuation marks (APMs) to convey success or failure of a command. APMs also indicate transitions from one state to another or from one menu to another. APMs are usually short beeps or chimes.
<b>INT.LIVESCRIBE.INSTRUCT.04</b>	<b>Scrolling</b>	
	Verify application adheres to system scroll speed. 1. Check current scroll speed in settings  - Use app and see if anything is clearly outside of the current scroll speed.	Application adheres to system scroll speed.
<b>Termination Events</b>		
<b>INT.LIVESCRIBE.TE.01</b>	<b>Termination Event Types</b>	
	1. If the application requires user input and uses the Timeout termination event, verify that the timeout termination event functions as expected.	Timeout termination event functions as expected.  Timeout assumes the user is finished responding when there is no smartpen activity on paper for a certain timeout period.  Example: In the Piano application, the user is prompted with "Write the letter 'I'. This is your instrument icon." Once the user begins writing on OP, a pause of one second constitutes a TE, and the application then moves on to the next request. Whatever the user has drawn before the timeout will be used as the instrument icon going forward.
	2. If the application requires user input and uses the double tap Termination event, verify that the termination event functions as expected.	Double tap termination event functions as expected. The application should accept double tap Termination events.
	3. If the application requires user input and uses the special character termination event, verify that the termination event functions as expected.	Special character termination event functions as expected.  For example, the Calc Quick Command application assumes the user has finished entering numbers when the user writes "=" (the equals sign).
<b>Application Deactivation</b>		
<b>INT.LIVESCRIBE.APPDEACT.01</b>	<b>Application switching</b>	
	1. While the application under test is running, switch to another application on the Livescribe device.	User is able to switch to another application.
<b>INT.LIVESCRIBE.APPDEACT.02</b>	<b>Notes Mode</b>	
	1. Launch the application under test.	
	2. Enter a screen where there are no application data results (e.g. calculator app showing results) are in the display and any screen that doesn't require any user input (e.g. help screen).	
	3. Write in the open area. Repeat in several areas of the application.	User is switched to Notes Mode. Time is shown in the Display Area.
<b>INT.LIVESCRIBE.APPDEACT.03</b>	<b>Self deactivation</b>	
	1. While the application under test is running, exit the application.	User is able to exit the application.
<b>INT.LIVESCRIBE.APPDEACT.04</b>	<b>System shutdown</b>	
	1. While the application under test is running, turn off the Livescribe device.	Livescribe device is powered off without issue.
<b>INT.LIVESCRIBE.APPDEACT.05</b>	<b>Exit application ≤ 4 second</b>	
	1. Launch calculator.	
	2. Launch application under test.	
	3. Launch calculator. Verify that exiting the application takes less than four seconds and does not prompt user for any interaction before exiting.	Application under test exits with a 4 seconds maximum delay. Application under test exits without any user interaction upon exiting.
		The calculator should load in less than 4 seconds.
<b>Data on Display</b>		
<b>INT.LIVESCRIBE.DOD.01</b>	<b>Verify that the application handles displaying data specifically for the application without quickly switching to Notes Mode when the user writes down results.</b>	
	1. Perform a function in the application that will result in data being displayed in the display area.	
	2. When the data is seen in the display area, begin writing in the Open area of the Livescribe tab.	Notes Mode is not immediately run in the display. Data from application continues to display for a short period of time before defaulting back to Notes Mode.

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<b>Background Recording/Snapback</b>		
INT.LIVESCRIBE.BRSNAP.01	If application has audio-centric functions (recording or playback), verify that application under test does not override Paper Replay session.	
	1. Start recording a Paper Replay session with the Livescribe pen.	
	2. Attempt to launch application under test on the Livescribe pen. Verify that application gracefully handles having Background Recording active.	If the application does not allow Background Recording, the user is instructed to turn off Paper Replay session before running application.  If the application allows Background Recording, then the application launches without issue while Background Recording is happening in the background.
	3. If the application launches while Background Recording is active, verify that display area displays text for any audio instructions that is muted due to the Background Recording process.	Application does not show a blank display when any audio instructions of the application are played. Application shows text form of the audio instructions in the display for these instruction when Background Recording is active.
INT.LIVESCRIBE.BRSNAP.02	Fixed Print Paper Replay control (N/A if application does not launch during Background Recording)	
	1. Start recording a Paper Replay session with the Livescribe pen.	
	2. Launch application under test on the Livescribe pen.	
	3. On the Livescribe notebook, tap on any Fixed Print Paper Replay control.	Tapping on a Fixed Print Paper Replay control brings Paper Replay to the foreground with no issue.
	4. Launch application under test.	User is able to launch the application again with Paper Replay displaying in the background.
INT.LIVESCRIBE.BRSNAP.03	Fixed Print Paper Area control (N/A if application does not launch during Background Recording)	
	1. Start recording a Paper Replay session with the Livescribe pen.	
	2. Launch application under test on the Livescribe pen.	
	3. On the Livescribe notebook, tap on any Fixed Print area that is associated with Paper Replay.	Tapping on a Fixed Print Area brings Paper Replay to the foreground with no issue.
	4. Launch application under test.	User is able to launch the application again with Paper Replay displaying in the background.
INT.LIVESCRIBE.BRSNAP.06	Writing on paper when application is not expecting any more Open Paper input (N/A if application does not launch during Background Recording) (N/A if application is always expecting paper input)	
	1. Start recording a Paper Replay session with the Livescribe pen.	
	2. Launch application under test on the Livescribe pen.	
	3. Complete the application's requirements for using the Open Paper such that the application will no longer be expecting Open Paper input.	
	4. Write on the Open Paper.	Writing on the Open Paper brings Paper Replay to the foreground.
	5. Launch application under test.	User is able to launch the application again.
INT.LIVESCRIBE.BRSNAP.07	Snapback - Idle for longer than 10 seconds (N/A if application does not launch during Background Recording)	
	1. Start recording a Paper Replay session with the Livescribe pen.	
	2. Launch application under test on the Livescribe pen.	
	3. Remain idle for more than 10 seconds.	Remaining idle for longer than 10 seconds brings Paper Replay to the foreground.
	4. Launch application under test.	User is able to launch the application again.

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Test Case ID	Test Case Description/Steps	Expected Result
<b>Handwriting Recognition</b>		
<b>INT.LIVESCRIBE.HWR.01</b>	Handwriting Recognition	
	1. Verify if the application utilizes handwriting recognition, other than to launch the application.	If the application includes functionality which converts written strokes to alphanumeric characters, it is highly likely that HWR usage is present.
<b>Mature Content</b>		
<b>INT.LIVESCRIBE.MC.01</b>	Mature Content	
	1. Verify if the application has mature content. Titles rated mature have content that may be suitable for persons ages 17 and older. Titles in this category may contain intense violence, blood and gore, sexual content and/or strong language.	Include mature content (Yes/No) in test results. Application does not pass or fail for mature content.
<b>Launch Line and Tap Around</b>		
<b>INT.LIVESCRIBE.LLTA.01</b>	For apps that exit to Notes mode on Open Paper input, confirm that Launch Line can be invoked from within the app and that the app quits quickly enough that the Launch Line command is picked up by the system and executed.	
	1. Launch app and complete any set-up	
	2. On unused Open Paper, draw a horizontal line, approximately 1"-2" and doubled back on itself	The app under test should exit Launch Line is invoked
	3. Directly above the line, write the name of an app or function on the pen (e.g. "Piano")	The written app name displays on the screen The written app (e.g. Piano) is launched
<b>INT.LIVESCRIBE.LLTA.02</b>	All Open Paper apps should be capable of being launched via Launch Line, and their menus should be accessible via the tap-around menus.	
	1. Turn the pen on and leave it in Notes mode (i.e. with the time displayed)	
	2. Draw a Launch Line (on unused Open Paper, draw a horizontal line, 1"-2" long and doubled back on itself)	
	3. Write the name of the app above the line. If it does not launch automatically, double-tap on the page	The written app name displays on the screen The app should launch
	4. Tap below the line to scroll down through the application menu (if one exists)	The application menu should respond the same as if a Nav Plus was being used to navigate it
	5. Tap to the right of the written app name to select an item from the application menu	The application menu should respond the same as if a Nav Plus was being used to navigate it
	6. Tap to the left of the written app name to return to the top level of the application menu	The application menu should respond the same as if a Nav Plus was being used to navigate it
	7. Tap to the left of the written app name again to exit the app	The app should exit