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BLUETOOTH SECURE SIMPLE PAIRING USER TERMINOLOGY

Usability Expert Group

ABSTRACT: This document contains recommended User terminology for Secure Simple Pairing devices. This document will be localized into multiple languages for worldwide distribution.



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1 Foreword

Consistent and simple to use interfaces lead in the adoption of new technology. Bluetooth wireless technology faces unique user experience challenges as products with a wide variation of end uses and human interfaces enter the market. Some products will offer a rich varied user interface; other more simplified devices may offer none.

Users will need to be able to discern if two products are interoperable and can together accomplish a task without the benefit of physical cues such as plugging-in a wire. Furthermore Bluetooth technology enabled devices must be designed for peoples of many languages and cultures. Thus additional efforts are needed to ensure that common Bluetooth technology terms and user actions are implemented consistently among manufacturers.

This document provides the user lexicon for Secure Simple Pairing. The terms defined in this document are used in the Bluetooth Secure Simple Pairing User Interface Flow and Metrics documents.

NOTE: If there is a discrepancy between the definitions and procedures within this document and the underlying *Bluetooth* specifications, the *Bluetooth* specifications override any definition or procedure herein.



2 User Terminology

2.1 SCOPE

The following table summarizes a set of user terms for Secure Simple Pairing in Bluetooth applications. The terms selected do not provide an exhaustive list for application development; rather the selection criteria included the uniqueness of the concept to Secure Simple Pairing and the need for brief terms to express complex concepts.

These terms are not proposed to be used for *Bluetooth* technical communication (e.g. specifications, profiles). However, developers may wish to use these terms to avoid confusion in their own documentation. The proposed terms are intended to be used in consumer audience materials: marketing materials, press releases, packaging, user manuals and documentation, help desk training, user interface software, hardware labeling.

2.2 LOCALIZATION

Translations can vary a great deal depending on the context provided to the translators. Therefore it was determined that localized versions of the proposed terminology would be of value to the *Bluetooth* development community. Consultation with linguists and translators will be performed by the BT SIG once this document has been reviewed and accepted. Upon completion of the various translations these translations will be added to the document following the English User Terms section.

2.3 GENERAL TERMINOLOGY USAGE

The term *Bluetooth* shall always be used consistently with the Bluetooth Word Mark specification given on page 14 of the Bluetooth Brand Guidelines. If clarification on type of connection is required to aid the user in making an informed decision, the English term *Bluetooth* should be used. This can be done as a qualifier with a prompt or through the design of the user interface screen depending upon the design of the user interface.

Developers are encouraged to provide additional information in the user interface to clarify the meaning of the terms, if allowed by the specific implementation.

If a term is listed in square brackets (e.g. [Bluetooth]), this refers to an optional term that may be used for clarification.



3 User Terms

3.1 ENGLISH

If an item is contained within square brackets [] then it is considered an optional qualifier that may be used for clarity.

Bluetooth User Interface Term	Bluetooth Core Specification Term	Description	Usage
Access		The right to obtain or make use of data via a Feature [Set].	Access is granted during establishment of trust which indicates that the user has high confidence in the integrity of the service and, or, the user controlling the device. Device level access is granted based upon device authorization and service level trust is granted based upon service authorization.
Add Device	Dedicated Bonding or General Bonding	Initiates the Bonding process which includes initiating the security procedures and authenticating the device.	Used in the User Interface when a user wants to form a connection to a device without invoking a specific service. Thereafter, services may be authorized.
Allow Connections	Page Scan Enabled, Connectable, Bondable	Indicates a <i>Bluetooth</i> device is ready for connections and able to send or receive data.	Used when a user would like to perform a task that requires other devices to be allowed to connect and/or bond to the user's device.
Authenticated		Status of a device following the Device Authentication step.	Used when displaying the properties of a device for which Device Authentication has taken place.
Blocked Device List		User selected devices that are prevented from connecting.	Devices that are viewed as unwanted by the user. Devices in this list have no link keys associated with them and cannot connect to the user's device. Can be shortened to Blocked Devices or shown as Blocked List if required by the UI.
Compatible		Indicates whether the Bluetooth Initiator and the Bluetooth Responder's Feature Sets are interoperable.	Used when two devices have the required overlap of feature sets.



Bluetooth User Interface Term	Bluetooth Core Specification Term	Description	Usage
Compatible Device		A device that is capable of interoperating and supports at least one of the same feature sets.	Could be used to differentiate devices in the device list from devices that have no feature sets in common
Complex Input / Output [I/O] [Interface]		A device having multiple types of rich user interface Input / Output capabilities	Used to describe devices with multiple buttons and a rich display for flows with Passkey Comparison and Passkey Entry.
Connect	<i>Bluetooth</i> Link Establishment, <i>Bluetooth</i> Channel Establishment	Describes the action of establishing a connection between devices.	
Connected	<i>Bluetooth</i> Connection Establishment,	Describes the state of a device with a single connection or multiple connections.	Used to describe the state of the device within the UI.
Connection Request		A request that comes into a Bluetooth Responder from a Bluetooth Initiator asking for permission to connect.	May be displayed to the user on the [Bluetooth] Responder device with options to allow or deny a connection if the device is not already trusted.
Device Address	<i>Bluetooth</i> Device Address	<i>Bluetooth</i> device address (BDADDR), which consists of a unique identifier assigned to a specific device.	Recommend that this not be used in the user interface. If used <i>Bluetooth</i> Device Address term should be used. Prefer <i>Bluetooth</i> Device Name be used in user interface.
Device Authentication	<i>Bluetooth</i> Authentication	The step in either the Secure Simple Pairing or Pairing connection process where the user confirms the correct device has been connected by performing a Numeric Comparison, Passkey Entry or using an Out Of Band mechanism.	Manual step to confirm that the device you are connecting to is the actual device the user intended to connect with.
[Device] Confirmation		The step in the Secure Simple Pairing connection process where the user establishes a connection.	Used after the user pairs to the device to inform the user that a connection has been established.
Device List		A list of Discovered and/or Trusted devices	Displayed to present the user with a list of devices they may choose to connect to or pair with. Can be shortened to Devices if required by the UI.



Bluetooth User Interface Term	Bluetooth Core Specification Term	Description	Usage
Device Name	<i>Bluetooth Device Name</i>	The friendly name assigned to a device, either by the manufacturer or by the user.	Typically displayed in a list of devices presented to the user.
Device Type	<i>Bluetooth Device Type</i>	Common term that describes a set of features and Class of Device provided by a <i>Bluetooth</i> device.	Sometimes used in the description of a device displayed to the user. Can be used as a filter of capability during the connection process. The Device Type is sometimes used to control the icon displayed for a device in any device list. Device Type is a superset that could span multiple classes of devices as defined in the Class of Device field in the assigned numbers.
Disconnect		Describes the action of terminating a connection.	If a device is connected this option could be presented to a user such that they can choose to disconnect a device that is displayed in a device list.
Discoverable	Connectable and Discoverable, General Discoverability Mode, Limited Discoverability Mode, Inquiry Scan ¹	Indicates the state in which a device Allows Connections and is Visible for a limited or infinite amount of time.	Presented to the user when the user wants to allow connections to their device.
Discovered		Indicates a Device responded.	Used when a device responds to a device discovery.
Discovered Device List		A list of Devices that were Discovered.	This list is displayed to the user when searching for devices. This list may be ordered by Known Devices and devices that are Trusted. Furthermore, the list may be filtered based upon Feature [Set]. Can be shortened to Discovered Devices or shown as Discovered List if required by the UI.
Encrypted		The transmission of data using encryption.	This term could be presented to the user in a context menu displaying the properties of a connection.

¹ Not defined as a Core Spec UI term, but added for clarification



Bluetooth User Interface Term	Bluetooth Core Specification Term	Description	Usage
Encryption		Used in cryptography to convert plain-text into cipher-text in order to prevent anyone other than the intended recipient from reading that data.	
[Bluetooth] Factory Default(s)		The initialized condition for the Bluetooth setting of a Device.	This term could be presented in a manual or in a system menu offering an option to reset a device's Bluetooth settings to the factory default(s).
[Bluetooth] Initiator		The role of a device that initiates a connection, pairing or bonding request.	Term used in the manual to define the device initiating a connection.
Known Device List		A list of Devices that are known by some means.	A list presented to the user of devices that have been previously discovered but not necessarily paired with or added to the Trusted Device List. Can be shortened to Known Devices or shown as Known List if required by the UI
Limited Discoverable		Indicates a device Allows Connections and is Visible for a limited amount of time and the limited discoverable bit is set in the Class Of Device field of the FHS packet.	Presented to the user when the user wants to allow connections to their device.
Multi-Function		A device that supports multiple applications.	Potentially a term presented to the user to describe a device with more than one core function.
My Device List		A special category of Trusted Devices to support devices owned by the user and provide for reconnect of the users devices when Bluetooth turned on. This category of devices may allow for automatic reconnect.	May be used within a UI to allow a special class of Trusted Devices and provide for automatic reconnect of the device.
NFC		Near Field Communication. A 13.56 MHz short-range (<10 cm) transmission technology that may be used to simplify the <i>Bluetooth</i> Secure Simple Pairing process and aid in enhancing man-in-the-middle security.	Potentially displayed in the manual or in a list of capabilities of a Bluetooth device.
Not Authenticated		Status of a device prior to the completion of Device Authentication.	Used when displaying the properties of a device for which authentication has not taken place.



Bluetooth User Interface Term	Bluetooth Core Specification Term	Description	Usage
Not Compatible		Bluetooth Initiator and Bluetooth Responder do not have an overlapping Feature Set.	Could be presented to a user when they try to pair with or connect to a device that has no Features in common
Not Connected		Describes the state of a device with no active connection.	Used to show the state of a device in a device list or the properties of a previously paired device.
Not Discoverable	Connectable and Not Visible	Indicates the state in which a device Allows Connections and is not Visible.	Presented to the user when the user does not want to allow new connections to their device.
Not Trusted		State of a device or the devices capabilities (“services” provided by the device) when reconnection to a device or a device’s capabilities is not allowed.	Used when displaying the properties of a device.
Off	Non-Connectable	All Bluetooth functionality of the device is off. Also defined as the state of not Visible and does not Allow Connections.	This term could be presented in a manual or in a system menu offering an option to disable <i>Bluetooth</i> or the <i>Bluetooth</i> device.
On		All Bluetooth functionality of the device is on.	This term could be presented in a manual or in a system menu offering an option to enable <i>Bluetooth</i> or the <i>Bluetooth</i> device.
[Secure Simple] Pairing	Pairing, Bonding	Pairing is the Authentication step in the process used to establish a new relationship between devices. Pairing should be used to refer to the entire process to establish the new relationship. Bonding is used to describe initial connections where the link information is stored so as to enable secure connections without requiring additional user involvement.	This term is used in the manual to describe the procedure for establishing a relationship between devices, or in help text on the device.
<i>Passcode</i>		Optional entry of a Personal Identification Number (PIN) to identify the user of a service.	Legacy term – Used when pairing with a device in a legacy pairing scenario.
[Numeric] Passkey	<i>Bluetooth Passkey</i>	Optional comparison or entry of a numeric string used in the process of identifying and validating a potential service user.	Presented to the user in the process of validating devices. “Accesskey” is an acceptable term for translation into Chinese.
[Numeric] Passkey Comparison	<i>Bluetooth Passkey</i>	Describes the operation of a user comparing the Numeric Passkey	This term may be used to describe the process of validating the Passkey.



Bluetooth User Interface Term	Bluetooth Core Specification Term	Description	Usage
[Numeric] Passkey Entry	<i>Bluetooth</i> Passkey	Describes the operation of a user entering the Numeric Passkey	This term may be presented when requiring the user to enter a passkey displayed on the remote device.
Range		Usable distance over which <i>Bluetooth</i> devices can operate. This distance can be affected by many different factors.	May be used in the manual when describing the capabilities of the product. May also be used when warning a user that a connected device has moved too far away from another device to carry on communication.
Receive		User Action for Responder to display list where the user can choose either to remain Connected, Connect, Allow Connections, or to enter Discoverable mode.	An option presented to the users when they wish to receive an item or stream or connection.
[Bluetooth] Responder		The role of a device that accepts a connection, pairing or bonding request	May be used in a manual to describe the roles that devices can take during communications.
Reject		The action of refusing a connection.	An option typically offered to a user at the start of a connection.
Search, Searching	<i>Bluetooth</i> Device Inquiry, <i>Bluetooth</i> Device Discovery	Inquiry performed to locate devices within the scanning device Range. Includes both locating and identifying the other devices by either device address or friendly name.	Option typically offered to the user to describe the process of locating other devices within range.
Select Device		User prompt associated with Device List.	Option offered to the user that will allow the user to choose the device for communication.
Send To		User Action for Initiator to display a list and potentially display an Add Device option	This option is usually offered as a context menu item for a file or item displayed in a UI. E.g. a context menu on a picture allowing it to be sent via Bluetooth.
Service[s]	<i>Bluetooth</i> Service Type	These functions or capabilities are provided by <i>Bluetooth</i> and non <i>Bluetooth</i> devices, they can be “profiles” or “services” like printing, internet access, etc.	Term typically used in the manual.
Signal Strength		Signal Strength is used to track the strength of the <i>Bluetooth</i> radio transmission at the <i>Bluetooth</i> receiver.	



Bluetooth User Interface Term	Bluetooth Core Specification Term	Description	Usage
Simple Input		A device having a single or no button associated with its user interface input capability	Used in the <i>Bluetooth</i> Secure Simple Pairing User Interface Flows Document to describe devices with a single or no button for flows without Numeric Entry or Passkey Comparison.
Single Function		A device that supports a single application.	
Trust[ed]	Authorize[d]	State of a devices services or Feature Set[s] following the affirming [Device] Confirmation by the user; the user has confidence in established Connection (the device connected to is known and the process of connecting was done with integrity).	Used when displaying the properties of a device during the Secure Simple Pairing connection process. See Trusted [Device, Service] List.
Trusted Device List		List of Authenticated Devices that the user has specifically Trusted Services or Feature Sets.	List may be shown to the user when managing devices previously connected to the user's device. Can be shortened to Trusted Devices or shown as Trusted List if required by the UI
Trusted Service List		List of Trusted Services that the user has specifically Trusted.	List may be shown to the user when managing services previously connected to the user's device. Can be shortened to Trusted Services or shown as Trusted List if required by the UI
User Action		An action performed by a user to initiate or affect or respond to a task or process or prompt.	Used in the manual to describe actions such as Button Push, Send To, Receive From, Voice Input, etc.
Visible	Discoverable	When searching the device will show up in the Device List but may not Allow Connections. The use of this state is discouraged.	This term should be used only when necessary within the design of a UI.