Bluejacking Technology

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Abstract:- **This research paper is about one of the new mobile phone technology called Bluejacking . Mobile phones were adopted as everyday technology, and they are widely used in social situations, as users carry them around as they move to different places during the day. One such provision is BlueJacking, the practice of sending short, undesirable messages by using the functionality of the business card to other Bluetooth-enabled phones. We used mobile as a channel for communication in the early days , but today it developed tremendously .Bluejacking can be done in Bluetooth enable devices.But the range of Bluetooth is very limited**.

Keywords:- Bluejacking, Bluejacker, Bluetooth, OBEX, vCard.

I. INTRODUCTION

Bluejacking is sending of unsolicited messages over Bluetooth –compatible devices such as laptops,smartphones and PDAs.Bluejacking is done by an attacker termed as Bluejacker.Bluejacker chooses one of the available devices and sends a message to a recipient, and remains close to observe the reaction expressed by any recipient.Recipient does not have any information about bluejacker, name and model of your mobile phone. Bluejacking was first conducted by a Malayasian IT consultant named 'Ajack' for the advertisement of Sony Ericsson.He did a Bluetooth search and discovered a Nokia 7650 .Then he created a new contact as 'Buy Ericsson' to send the business card to Nokia phone.A 13-year-old girl named Ellie from Surrey, UK has created a website called 'bluejackq' where people can share their bluejacking experiences.

II. BLUEJACKING TECHNOLOGY

The Bluetooth port of the mobile phones is subject to threat of Blue jacking attack. Bluejacker carefully crafts the identification that devices exchange during association and then transmits short, deceitful text messages into authentication dialogs. Thus,bluejacker tricks the user and gains access to user's phone book. Blue jacking is based on following technologies:

(A)Bluetooth:

Bluetooth is a standard wire-replacement communications protocol primarily designed for low-power consumption, with a short range based on low-cost transceiver microchips in each device .It is designed for very short range: around 10 meters on mobile phones and 100 meters on laptops with powerful transmitters.. The effective range varies due to propagation conditions, material coverage, production sample variations, antenna configurations and battery conditions. Most Bluetooth applications are for indoor conditions, where attenuation of walls and signal fading due to signal reflections make the range far lower than specified line-of-sight ranges of the Bluetooth products. Bluetooth networking transmits data via low-power radio waves. It communicates on a frequency of **2.45** gigahertz (actually between **2.402 GHz** and **2.480 GHz**, to be exact). The 2.4 GHz radio frequency used by Bluetooth is strongly absorbed by water.

(B) OBEX Protocol:

OBEX is a compact, efficient, binary protocol that enables a wide range of devices to exchange
data in a simple and spontaneous manner. OBEX is designed to fulfill the following major goals:

1. *Application friendly - provide the key*

1. tools for rapid development of applications.
2. Compact - minimum strain on resources of small devices.
3. Cross platform.
4. Flexible data handling, including data typing and
5. support for standardized types - this will allow
6. devices to be simpler to use via more intelligent handling of data inside.
7. 5. Maps easily into Internet data transfer protocols.
8. 6. Extensible - provide growth path to future
9. needs like security, compression, and other extended
10. Features without burdening moreconstrained implementations.
11. Testable and Debuggable.

It is a session protocol defined by IrDA. This protocol is also utilized by the Bluetooth technology, making it possible for applications to use either the Bluetooth radio technology . However, even though both IrDA and Bluetooth are designed for short-range wireless communications, they have some fundamental differences relating to the lower-layer protocols. OBEX will therefore be mapped over the lower layer protocols which are adopted by Bluetooth
The OBEX protocol follows a client/server request-response paradigm for the conversation format. Devices supported by OBEX protocol includes the following:

1. All Palms since Palm III, except the Palm Pre, Palm Pre Plus, Palm Pixi and Palm Pixi Plus.
2. Most Sharp, Motorola, Samsung, Sony Ericsson, HTC and Nokia phones with infrared or Bluetooth port.
3. LG EnV Touch (VX11000)
4. Many other PDAs since 2003.
5. Android devices in version 2.1 and above.
6. Windows Phone 7.8 and 8 devices (limited to the transferring of pictures, music and videos via a 'Bluetooth Share' app).

(C). vCard Functionality:

vCard is a file format standard for electronic business cards. vCards are often attached to e-mail messages, but can be exchanged in other ways, such as on the World Wide Web or instant messaging. They can contain name and address information, phone numbers, e-mail addresses, URLs, logos, photographs, and audio clips.

vCard was developed by a consortium founded by Apple, AT&T, IBM, and Siemens, which turned the specification over to an industry group, the Internet Mail Consortium (IMC) in 1996.To open (look at) a vCard that someone has attached to an e-mail note, your e-mail program needs to support vCards and not all such programs do yet. However, if you have an online address book or personal information manager that supports vCards, you can move it to that program for viewing or for addition to that program's database.

A promising future use of a vCard will be as a way to quickly fill in application forms on the Web. Just drag-and-drop your own vCard to the form and you won't have so many blanks to fill in. For software developers, there is a Personal Data Interchange (PDI) Software Development Kit (SDK).

(D)How Bluejacking can be done:

Bluejacking is a fun way to send messages to other people using bluetooth, and without their pairing.The steps involved in Bluejacking:

1. Select an area with plenty of multiple users.
2. Go to contacts in your Address Book.Create a new contact.
3. Enter the message into the name part like "Bluejacked !!".Save the new contact.
4. Choose "send via Bluetooth". These searches for any bluetooth device within range.
5. Choose one phone and send the contact.You will get the message "card sent" and then listen for the SMS message tone of your victim's phone.Look out for the reactions in your victim.

fig (1):sending through Bluetooth

Fig(2):At receive's phone when it is bluejacked.

III. APPLICATIONS OF BLUEJACKING

Bluejacking can be widely used in the different spectrums of marketing also.some of the cases are given below:

1. viral interaction: Bluejacking can be utilized to exploit the communication paradigm between consumers and producers to share content such as text, images, videos and Internet references. Certain brands have already created multimedia content that has very rapidly been circulated around using bluejacking technology.

2. Community Activities: Social Networking or gaming events can be facilitated using Bluetooth as a channel for potential participants to converse.

IV.CONCLUSION

Bluejacking does not delete or change any data from the device. Bluejackers often look for reception of the phone user . It can be said that bluejacking is not at all harmful. By it, we can interact with new people. The only thing it can do at worst is to irritate you or annoy you by sending unsolicited messages but you can still prevent yourselves from these messages by changing the visibility of your Bluetooth to invisible or non-discoverable mode. It can be helpful as well by providing you with lots of useful information as well. So, use this technology properly as it is intended and get best of it, rather than just making wrong use of it and irritating others.

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