Pen Computing

The method of computer user interface using **Tablet** and **Pen** instead of mouse and key board is known as **Pen Computing**. Use of touch screen devices like Mobile phones, GPS, PDA etc using the Pen as input is also referred to as Pen Computing. Pen Computing essentially has a Stylus commonly known as the Pen and a hand writing detection device called Tablet. First Stylus called **Styalator** was used by **Tom Dimond** in **1957** as the computer input.

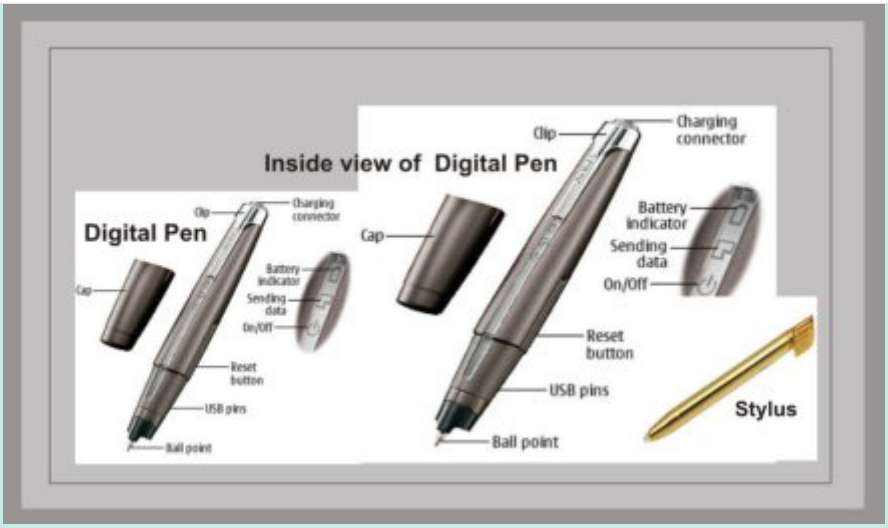
Stylus and **Digital Pen** are slightly different even though they perform the functions of Pointing. **Stylus pen** is a small pen shaped device used to give inputs to the touch screen of Mobile phone, PC tablet etc while Digital pen is somewhat larger device with **programmable buttons** and have**pressure sensitivity** and **erasing** features. Stylus is mainly used as the input device of PDA (Personal Digital Assistant), Smart phones etc. **Finger touch** devices are becoming popular to replace the Stylus as in **iPhone.**

The Digital pen is similar to a **writing pen** in shape and size with internal electronics. The

Digital pen consists of

1. **Pointer**- Used to make **markings** on the Tablet. This is similar to the writing point of a Dot pen.
2. **Camera device**- To sense the markings as inputs.

3. Force sensor with Ink cadridge – Detects the pressure applied by the Pen into corresponding inputs.



4. **Processor** – A microprocessor based system to analyze and process the input data.

5.**Memory** – To store the memory on input data.

6.**Communication system**- To transfer the data to the Mobile phone or PC through Bluetooth technology.

7.**Battery**- Long life Lithium battery

Pen Computing can be implemented in many ways but generally the system functions by the combination of several methods.

1. **Stylus input**

The stylus along with the tablet act as the **Pointing input** to replace the common pointing device like the Mouse which points the cursor on the screen. In **Pen computing**, the user should touch the Pen at the exact region of the tablet surface. But when compared to Mouse actions such as **double clicking** is difficult with Pen since it is difficult to point the pen twice exactly at the same point.

2. **Hand writing Recognition**

The Tablet is designed to recognize the pointing of the Pen on its screen. The Pen and Tablet works like the **Key board** and**Computer**. During each **key stroke**, the computer recognizes the**alphabet**. Similarly, during each **pointing** with the pen, the tablet recognizes the **handwriting**. In the Tablet, the **strokes** of the Pen are identified and analyzed an **Electronic Ink** and recognize the**markings** as the **hand written** characters. These characters are then recognizing as the **input text** by the software as in the Key board strokes of PC. The software

can identify the **points** and**writing characters** made on the tablet. The Pen has **Pointing mode** as well as **Writing mode** which can be selected by the button present in the Pen.

The Pen can be used for Touch, Press, write, drag on the Tablet. By using the **Gesture method**, the Tablet recognizes certain**shapes** using the special command. These gesturing methods will not consider such special shapes as hand writing. **Pen Point OS** is used as the **operating system** for the gesture recognition and Handwriting input.

Source : http://dmohankumar.wordpress.com/2013/01/20/pen-computing-2/