Smart Quill and its Specifications

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Abstract-This paper illustrates the electronic pen which is easy to read the data and also capturing of data. It is an easy handling and portable devices. It is also a user friendly prototype. It was invented in Sam bridge UK lab by Lyndsay Williams. This pen will make our work easy and in a comfortable manner and its quite interesting one.

INTRODUCTION

Smart quill is a digital pen which reduces our work and makes it caption. It uses multiple of softwares and that makes everything in a simple manner. Since it is portable it can be taken with us wherever we want. It doesn't need of any paper or note. It itself capture the images and also we can share it

Its also has same security which protects our pen from other issues. Since it is a wireless medium it has plenty of applications in this digital world. This pen will make everyone to be got amazed and interested to work with it.

TECHNOLOGIES INVOLVED

Display technology:

For displaying the captured images it have been constructed with the display screen. The display screen used in digital pen is cyber display 1/4 inch LCD. Since it has its own display screen it display the captured images in it and it will be like hand written material.

Accelerometer Technology:

It uses a device called accelerometer. It could be used to detect start and stop of handwriting and converting into textual information. It can also be viewed in LCD screen.

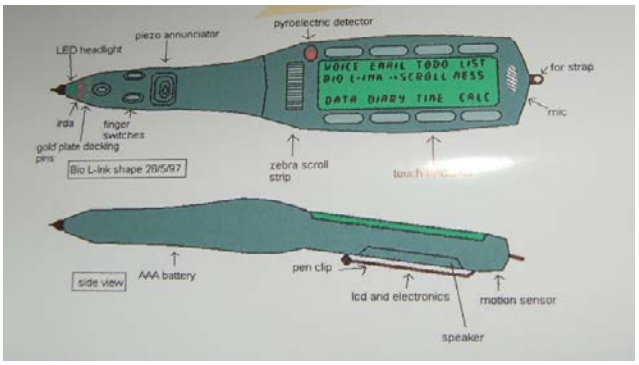

Figure 1: Parts explaining the Smart Quill.

It has two types of accelerometers.

1. **Two access accelerometer**

It measures in two axes. It uses ADXL202 to measure in two axes.

2. **Three axes accelerometer:**

It measure in three axes. It uses +/-2G accelerometer to measure it in three axes.

Active Pens:

Since it have been already mentioned this pen is an electronic one so when the signals have been received it must be get to know to the user. So it has been provided with same active sources which are commonly used source. Source button is pressed that will alert the user if we receive the signals.

Walcoms Penabled Technology:

This technology will help the user to identify the tip if the pen where it actually lies in. It also helps to identify the current position. So that user can easily identify the position or line where they need to continue of capturing.

Anato Technology

This technology is one of the well known technology by other name is camera.

It records or picks up the images as we tends to do with the digital pen.

WORKING

It is slightly larger than the normal fountain pen. In this, user can enter the information simply by pressing the push buttons in the pen. It does not need any screen while working with the pen. It can read the information from the pen and also can store it for further queries. It cal also share it hand written notes are stored in hard disk of the pen.

Its plugged into a “INKWELL” the text document is automatically get converted into the digital data . It can store up to 10 pages of notes. Since its electronically plugged in at the same time it records it also can share it with all.

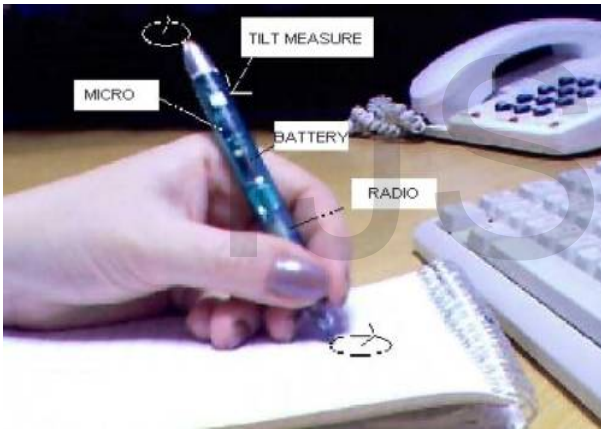

Figure 2: Devices in smart quill.

This electronic pen can also be used in dark places too. When a pen is idle for few minutes it get automatically off. It uses of multiple technology to make this effective pen in an appreciable manner. It is very classy and absolutely its entirely different from other pens which is are in the market. Since it is user friendly, a user can train it with an handwriting till it constraint with a single style of handwriting. It’s a most wanted and very useful pen in this fast moving world.

CONSTRUCTION:

Smart quill get constructed with the help of few components:

- ACCELEROMETER
- MICROPROCESSOR
- LED HEADLIGHT
- TOUCH BUTTON
- AAA BATTERY
- SPEAKER
- MIKE

Figure 3: Components present inside.

ARCHITECTURE

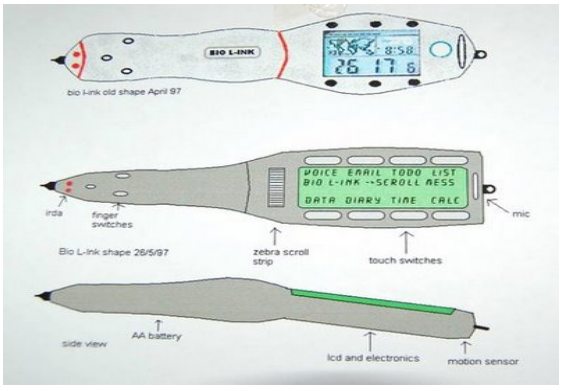

Figure 4: Architecture

SPECIAL SOFTWARE

Handwriting Recognization Software:

This software identifies the handwriting of the user. It translates movement into texts. This software helps the user to install the handwriting. It will be very useful in security purposes.

Two major phases in handwriting software:

1. Handwriting transcription
2. Handwriting recognition

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DRAWBACKS:

1. Bigger in size than the normal one.
2. It has accelerator errors.

SUGGUESTIONS:

1. We have to know the pen's spatial orientation in order to withdraw the earth gravity component to the measured accelerations.
2. We have to succeed in double integration, in order to solve all derivation problems.

APPLICATIONS:

1. Security is higher.
2. Since it has special recognition technique, it can train in particular handwriting style.
3. Password can be given in the form of signature.
4. Less power consumption
5. It requires less battery power
6. It is a portable one.

CONCLUSION

Smart quill will rule the future because of its excellence capability. It is easily portable. It is a smart handset.

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