

A
Seminar report
on

Smart Note Taker

Submitted in partial fulfillment of the requirement for the award of degree
Of Electronics

SUBMITTED TO:

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Preface

I have made this report file on the topic **Smart Note Taker**; I have tried my best to elucidate all the relevant detail to the topic to be included in the report. While in the beginning I have tried to give a general view about this topic.

My efforts and wholehearted co-corporation of each and everyone has ended on a successful note. I express my sincere gratitude towho assisting me throughout the preparation of this topic. I thank him for providing me the reinforcement, confidence and most importantly the track for the topic whenever I needed it.

Introduction

The Smart Note Taker is such a helpful product that satisfies the needs of the people in today's technologic and fast life. This product can be used in many ways. The Smart Note Taker provides taking fast and easy notes to people who are busy one's self with something. With the help of Smart Note Taker, people will be able to write notes on the air, while being busy with their work. The written note will be stored on the memory chip of the pen, and will be able to read in digital medium after the job has done. This will save time and facilitate life.

The Smart Note Taker is good and helpful for blinds that think and write freely. Another place, where our product can play an important role, is where two people talks on the phone. The subscribers are apart from each other while their talk, and they may want to use figures or texts to understand themselves better.

It's also useful especially for instructors in presentations. The instructors may not want to present the lecture in front of the board. The drawn figure can be processed and directly sent to the server computer in the room. The server computer then can broadcast the drawn shape through network to all of the computers which are present in the room. By this way, the lectures are aimed to be more efficient and fun. This product will be simple but powerful.

The product will be able to sense 3D shapes and motions that user tries to draw. The sensed information will be processed and transferred to the memory chip and then will be monitored on the display device. The drawn shape then can be broadcasted to the network or sent to a mobile device.

There will be an additional feature of the product which will monitor the notes, which were taken before, on the application program used in the computer. This application program can be a word document or an image file.

Then, the sensed figures that were drawn onto the air will be recognized and by the help of the software program we will write, the desired character will be printed in the word document.

If the application program is a paint related program, then the most similar shape will be chosen by the program and then will be printed on the screen.

Features of Smart Note Taker

- With the help of smart note taker handwritten notes will be instantly converted into editable text.
- It is good and helpful for blinds that think and write freely.
- Another place, where our product can play an important role is where two people talk on the phone. The subscribers are apart from each other while their talk, and they may want to use figures or texts to understand themselves better.
- It's also useful especially for instructors in presentation. The Instructors may not want to present the lecture in front of the board. The drawn figure can be processed and directly sent to the server computer in the room. The server computer then can broadcast the drawn shape through network to all of the computers which are present in the room. By this way lectures are aimed to be more efficient and fun.
- It recognize up to 22 Languages : English – Canada , English - GB, English-US , German , Simplified Chinese, Traditional Chinese , Korean Danish, Spanish, Spanish - Mexico, Finnish, French , French-Canada, Greek, Italian, Japanese, Dutch, Norwegian, Portuguese , Portuguese- Brazil, Russian, Swedish.

SYSTEM OVERVIEW

CONSTRUCTION

Since, JAVA applet is suitable for both the drawings and strings, all these applications can be put together by developing a single JAVA applet program. The java code that we will develop will also be installed on the pen so that the processor in the pen will be able to draw desired text on the display panel.

Applet:

Applet is a function of java which for example, is a kind of container (file) which contains a set of programs made in java. Java is a high level language. It is widely used in making various application Based on java. It is one of the best features of java. The various strings, drawings etc will be made using a class file and this file will not be a single file. It will be a set of files linked together in a single

Database:

The system installed in the pen will consist of a database which will help the processor to recognize various words made visually in the air. Each word written in the air will resemble to a word in the database and the word present in the database will be printed. This will remain the basic principle of the working of a smart note taker.

Working:

Smart note taker will be simple but powerful. The product will be able to sense 3D shapes and motions that user tries to draw. The sensed information will be processed and transferred to the memory chip and then will be monitored on the display device. The drawn shape then can be broadcasted to the network or sent to a mobile device.

There will be an additional feature of the product that will monitor the notes, which were taken before, on the application program used in the computer. This application program can be a word document or an image file.

Then, the sensed that were drawn into the air will be recognized and with the help of the software program software we will write the desired character will be printed in the word document. If the application program is a paint related program, then the most similar shape will be chosen by the program and then will be printed on screen.

TECHNICAL DEFINITION OF THE PRODUCT

In order to meet the technical requirements of the product we need Operating System Like Windows or Linux in order to implement software part of the project, Displacement Sensors to recognize the displacement of the pen in three dimensions, parallel cable to communicate with computer, software to solve the displacement data and finds the individual coordinate displacements in three axes and transform the data into text format, analog to digital converter to process analog displacement data and convert them into digital format, switch to control the pen and Rechargeable battery.

- Operating System
- Software program to convert data into text or string format
- Displacement Sensor
- Parallel cable
- Analog to digital converter
- Switch
- Rechargeable battery

OPPORTUNITIES IN THE MARKET

In the current market there are many similar products that are trying to convert handwritten documents into digital typed documents. In these products, optical sensors are being widely used to perceive the motion. Ink is also used on these products to be

functioned as an ordinary pen. There are optical sensors on the pen. However, they have some lacks and imperfections such as being wired, limited in work space, non-practical and limited in 2D.

Treats in the Market

Companies had succeeded to make similar products and put them in the market . Putting a newly invented, innovative product in the market is not easy. The prices in the market must be well observed for similar products. The prices of 2-D digital pens are about 50 dollars to 90 dollars. The new product is 3-D Smart Note Taker that has a memory chip on it in addition to the features that the previous pens have.

SMART NOTETAKER'S CONSUMER PROFILE AND PURCHASE POWER

Smart note taker is incompatible among the other products. It has some significant differences from its potential competitors. This plays crucial role in the marketing strategy and attractiveness of product in the segmented mark.

The prior market is educational services and schools. In today's fast and information based life; the faster and easier you get information, the more successful you are. The customers are going to be generally teachers and indirectly students. While lecturing the usage of the board for teachers and note-taking for students cause dilute of time and sometimes it is embarrassing.

In order to utilize the time and to take more attention of students smart note taker is a great solution, which transfers the notes of the teacher on the board to software directly. It optimizes efficiency of time that is used during the lecturing and it is desirable for the educational.

CURRENT PRODUCTS

MOBILE NOTE TAKER

The Ultimate Handwriting Capture Device Mobile Note Taker TM is the world's first portable handwriting capture device based on natural handwriting as an input. Attach plain paper of any kind and use Pegasus the electronic pen to capture, store and share handwritten drawings, sketches, notes, and memos at meetings, lectures, and conferences.

Mobile Note Taker TM has a built-in LCD to confirm input. The on-board flash memory can store up to 50 pages (size A4).

Mobile Note Taker works in two modes: - mobile mode and Connected mode. In mobile mode note taker receiver unit is not connected to a PC via USB cable. In connected mode the base unit is connected to a PC through USB cable.

Features and Benefits

Uses standard paper - no special paper required Stores up to 50 A4 pages Includes LCD to view and confirm input Operates both in mobile mode and when connected to PC, notebook or other device Connects to PC/Notebook via USB cable (included) Includes software for synchronization and management of stored files Writes directly into MS® Office applications (in Connected mode) Allows file transfer over LAN, email, and instant messaging application (in connected mode).

Capture, Organize, and Share Your Notes Digitally-Anywhere, Anytime!

Mobile Mode Enables capture and storage of notes and sketches digitally at meetings, lectures, and conference.

Connected mode Synchronizes the Mobile NoteTakerTM and a PC/Notebook via USB cable (included). You can upload, organize, move, edit or add to handwritten notes, ideas, sketches, phone numbers, or reminders. The included software also enables

memos, notes, and sketches to be sent via e-mail or over the LAN network. It is also possible to write directly into MS® Word or Outlook, and add a personal touch to ICQ® instant messages. Based on Pegasus' successful PC Notes Taker, Mobile NoteTaker™ is the ultimate handwriting capture device. Everything you need to get started is right in the box. Even if you don't have standard size paper or piece of paper with you - you can use anything - an envelope, an old receipt, a tear-off from a paper bag and best of all in your own natural and writing. As long as you have the Mobile NoteTaker™, you can jot down your most inspired ideas and be sure that you'll never lose them again.

PC NOTE TAKER

PC Notes Taker is the world's first device that captures natural handwriting on any surface onto a PC in real time. Based on a revolutionary electronic pen, PC Notes Taker displays the user's handwritten notes, memos or drawings on the computer, and stores the image for future use. PC Notes Taker is ideal for markets where handwritten input is essential, such as health, educational and financial sectors. Supplied with user-friendly software, PC Notes Taker is compatible with PCs and notebooks.

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I-PEN

Product Features

- Write or draw over any application screen.
- Save your inputs and e-mail it.
- Compact and light: perfect for laptop users.
- Convert handwriting to text.
- Annotate Web Pages.
- Pen-on-paper feeling: Natural handwriting by sensing contact pressure.
- No special pad or tablet required: Free to use on almost any surface
- Ergonomic design: fits comfortably on your hand
- Standard USB connection: Just plug and play
- Includes four application software's: Finger IE Memo (Web-Memo, Finger White, rite Pen, rite Mail)
- Instantly recognizes any handwriting accurately.
- Send hand-written notes and emails.
- Create memos and highlight within any application
- No conflict between regular mouse and i-Pen (have both plugged in at the same time)
- Create professional designs
- Extremely simple and natural to use
- Works with all graphics software for both PC and Mac. (Adobe, Corel, etc.)

How to Use

- Install the driver and application software.
- Plug-in the USB connector of into your computer's available USB port.
- After successfully installing driver software begin testing by moving it around.
When navigating, have it in an upright position for best accuracy and ease.
- Switch between Mouse mode and Pen mode.

Applications

- Write a letter or take note. It converts your handwriting into text. Any handwriting is recognized 99.9% accurately. Write in cursive or print, even a combination!
- Tired of Printing, then signing, then faxes documents just to add a signature? You can input your signature on any document.
- Mark and highlight a document for changes in any application. Add handwritten captions on photographs. Write a note right on a web page as if you were marking a newspaper. Then save and send.
- Make a point of importance on any Presentation.
- Art / Graphics Pen Mouse - compatible with all graphics software for both PC and Mac.

Advantages:

- Smart note taker is reliable and powerful.
- It is helpful for blinds that think and write freely.
- Smart note taker is used for instructors in presentations.
- It is used along with paint and JAVA graphics so we can say this
- Product is compatible with all graphics software.
- Easy-to-use wireless connection.
- Drawer (Contents outline, library, history).

It is used in presentation also.

It is reliable and powerful.

Disadvantages

Cost of note takers is very high.

Only high class people can afford this type of note takers.

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FUTURE SCOPE

Companies had succeeded to make similar products and put them in the market. Putting a newly invented, innovative product in the market is not easy. The prices in the market must be well observed for similar products. The prices of 2-D digital pens are about 50 dollars to 90 dollars. So the price of smart note taker will be high. But this disadvantage definitely is eliminated in near future.

CONCLUSION

The system will try to improve a pen, which helps people get rid of typing problems on computer by the technology, which converts your handwriting to text format on your PC. However, the technology provides opportunity to write on air, which means it, needs no any item to convert the typing to your computer such as 3D view. Beside this, it can also be used like all other classical pens. Therefore, this device will increase the capacity of noting the texts, lessons and projects you work on. One other fact that appears is similar products generally works in a way that they store the writing by memory systems and direct the data to computer. We will vanish this time lag by using a technology that the data will be sent to PC directly not by stored. It is sure it will be hard to eliminate the other products as our rivals, but our advantage in this market will be the properties of the device, which come to be its high mobility, versatile design and its ideal weight.

The device takes a practical extent since it offers high mobility. This property may seem useless at first side but the high mobility will help the teachers or individuals, who have dynamism as they do their jobs, by giving them opportunity to write anywhere. . On the other hand, the price of innovation will be reasonable for the sectors that can use it effectively in their business or lessons.