A Technical Seminar report on

SMART NOTE TAKER

A Seminar Report submitted to JNTU Hyderabad in partial fulfilment
of the academic requirements for the award of the Degree.

Bachelor of Technology

In

Computer Science and Engineering

Submitted by

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CERTIFICATE

This is to certify that the technical seminar report entitled "**SMART NOTE TAKER"** being submitted by **B. MANICHANDANA (20H51A05N0)** in partial fulfilment for the award of **Bachelor of Technology in Computer Science and Engineering** is a record of bonafide work carried out his/her under my guidance and supervision.

The results embodied in this technical seminar report have not been submitted to any other University or Institute for the award of any Degree.

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ABSTRACT

Smart Note Taker is 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 note making to people who are busy with one's self.With the help of Smart Note Taker, people will be able to write notes in air, while being busy with their work. The written note will be stored in the memory chip of the pen, and will be able to read in digital medium after the job is done. This saves time and facilitate life.This product is simple but powerful. It has the ability to sense 3D shapes and motions that the 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 shape that is drawn can be broadcasted to the network or sent to a mobile device.

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CHAPTER-1

INTRODUCTION

INTRODUCTION

Smart note taker is one of useful product which can satisfy the needs of people in today's technological and fast life. It is a pen that provides taking fast and easy notes to people who are busy one's self with something. The written notes will be stored in the memory chip of the pen and will be able to read in digital medium after the job is done. Note taking is more essential component for educational and professional career.

The Smart Note Taker is good and helpful for the blind who can't see but can think and write freely. It is also useful especially for the instructors during their presentations. The instructors may not want to present the lecture on the board. The product can also sense 3D shapes and motions that the 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. Smart Note Taker is the technology that satisfies the needs of people who want to take fast and easy notes.

The Smart Note Taker is that facilitative product that satisfies the needs of the people in 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. 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 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 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. In this way, the lectures are aimed to be made more efficient and fun.

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 shown 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.

HISTORY

Note-taking has been an important part of human history and scientific development. The Ancient Greeks developed hypomnema, personal records on important subjects. In the Renaissance and early modern period, students learned to take notes in schools, academies and universities, often producing beautiful volumes that served as reference works after they finished their studies. Philosopher John Locke developed and published a popular indexing systemwhich served as a model for commonplace books and inspired at least ten different published editions of commonplace book templates in Europe and the Americas as well as Bell's Common-Place Book, Form'd Generally upon the Principles Recommended and Practised by Mr Locker LIVESCRIBE SMART PEN, invented by Jim Margraff in Oakland which was one of the smart note taker.

FEATURES

❖ It is good and helpful for blinds that think and write freely.

❖ With the help of smart note taker handwritten notes will be instantly converted into editable text.

❖ 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 recognizes 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, PortugueseBrazil Russian, Swedish.

CHAPTER- 2

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 and type the able to draw desired text on the display panel.
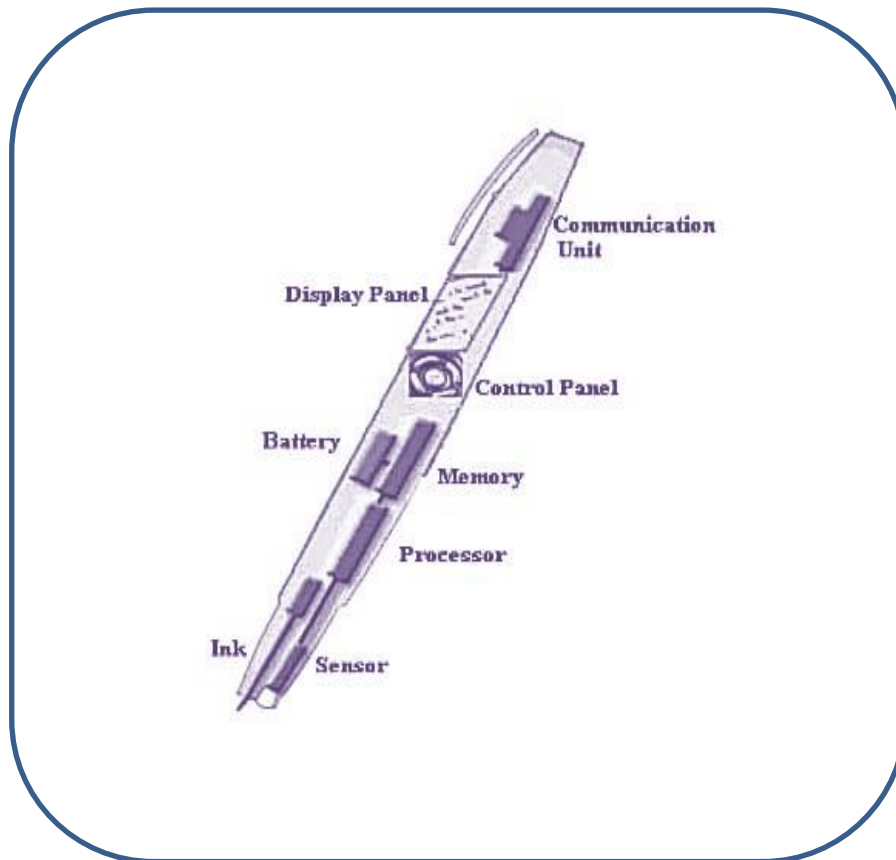
Applet: Applet is a function of java which for example, is a kind of container (file) which contains a set of programs made in java. Java is a high level language. It is widely used in making various application Based on java. It is one of the best features of java. The various strings, drawings etc. 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 file

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

INTERIOR STRUCTURE

Interior Structure of Smart Note Taker

TECHNICAL DEFINATION OF 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

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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.

- ❖ Software program to convert data into text or string format
- ❖ Displacement Sensor
- ❖ Operating System
- ❖ Parallel cable
- ❖ Analog to digital converter 5
- ❖ Switch
- ❖ Rechargeable battery

OPPORTUNITIES

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 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.

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 student's 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.

CHAPTER- 3
CURRENT PRODUCT

MOBILE NOTE TAKER

The Ultimate Handwriting Capture Device Mobile Note Taker 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 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.

Mobile Note Taker

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.

Adds Handwriting Input to any Computer 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 evolutionary 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.

PC Note Taker

SMART PEN

The Smart Pen is a device that resembles a fat pen or stylus, but contains a tiny computer and a set of sophisticated sensors that record and analyze every motion, and then transmit this information to a nearby computer via infrared, radio or direct electric signal. A Smart Pen helps a computer to recognize handwritten or drawn input. A computer is treated as 1 level of Complexity higher in its ability to recognize the handwriting of anybody who uses a Smart Pen. Costs $50, weight is negligible.

SOLO PEN

This is a progressive development of the Smart Pen: a pen with sufficient processing power to recognize handwriting on its own with the equivalent of Complexity 1. It can also be used as a Smart Pen. Every Solo Pen has a long, narrow screen that displays the writing for the user to check. The user of a Solo Pen can write on a regular writing surface, as the Solo Pen has a normal writing tip.

CHAPTER-4
MERITS & DEMERITS

MERITS

- ❖ With the help of smart note taker, we can write notes on any surface even in air. That is, we can write notes any time without using a paper.

- ❖ we get information in very fast and easy way. Hence it is time saving.

- ❖ 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.

- ❖ Can be used as standard pen and can carry anywhere without stressing mind to carry it.

- ❖ With the help of smart note taker, we can write notes on any surface even in air. That is, we can write notes any time without using a paper. It is used along with paint and JAVA graphics so we can say this product is compatible with all graphics software.

- ❖ Light weighted and easily portable.

- ❖ On phone talks or for instructor.

- ❖ Useful for any person, any institute.

DEMERITS

- ❖ Expensive
- ❖ No templates and other sophisticated formats available.
- ❖ Can't drag items to other tabs directly.
- ❖ Awareness requires.

CHAPTER-5
APPLICATIONS &FUTURE SCOPE

APPLICATIONS

The applications of this technology in various fields are as:

❖ With the help of smart note taker handwritten notes will be instantly converted into editable text

❖ Another place, where this product can play 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 text to understand themselves better.

❖ Can be used by teachers directly and indirectly by students, too.

❖ 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.

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. Future models could receive e-mails and pager messages via a wireless messaging system and could use digital signature recognition for security purposes. Working on improving the handwriting recognition software and expects it to understand cursive.

CHAPTER-6
CONCLUSION

CONCLUSION

The system will try to improve a pen, which helps people get rid of typing problems on computer by the technology, which converts our handwriting to text format on our PC. However, the technology provides opportunity to write on air, which means it, needs no any item to convert the typing to our 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 we 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.

CHAPTER- 7

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