

Automatic Pen Writer With Voice Sensor

Research paper

Reshma Laxman Katkar

Student

Vivekanand Education Society Institute of technology
Chembur, Mumbai-74

Sunny Nahar

Asst.Professor

Vivekanand Education Society Institute of technology
Chembur, Mumbai-74

Abstract - A new concept of pen is coming now that is **Automatic Pen Writer With Voice sensor**. Automatic writing is an alleged psychic ability allowing a person to produce written words without consciously writing. The words are claimed to arise from a subconscious, spiritual or supernatural source. [1] Automatic writing machine is a mechanical hand which is used to write the characters, words from document. Pen is used to write the document stored in hard-disk through voice sensor. This automatic pen writer concept features all the traditional elements like auto writing machine, pen, hard-disk, voice sensor, battery, etc all in an innovative manner.

Automatic pen writer with sensor is designed for two main purpose, first is to listen the voice of a user and search the document in the hard-disk and start writing that document and the other purpose is to just listen the user voice carefully and write it accordingly.

Keywords- plates, Voice sensor, Auto writing machine.

INTRODUCTION

Gakken introduces a large mechanical hand! The Gakken Auto-Writing Machine is the new monthly kit from the folks over at Gakken. It's a hand that, when you stick a pen into its holder, will write either the Japanese character for 'A', a peace sign, or the name 'Tosa.' Our research is to use auto pen writer for writing document written in English. The auto-writer works by having a hard disk for storing a large amount of data and three plates that rotate and are caught by two sliders that then pull the spring-loaded hand to draw the desired shape. It's a really cool design and a lot of fun to get working.

The main advantage of this research is to sense the voice of user and search the particular document from plates or hard-disk and start writing it on the page. Another advantage of this research is to sense the voice of user and if the document is

not exist in plates or hard-disk then it will write new document on page and store it into plates or hard-disk.

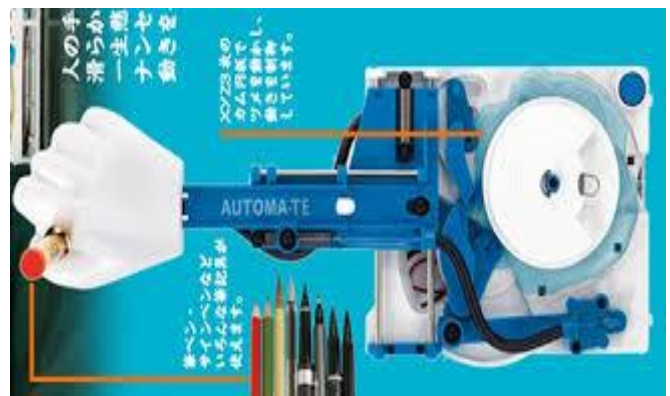


Fig. Automatic Machine With Pen [3]

ELEMENTS OF AUTOMATIC PEN WRITER

There is a need for a method and apparatus for authoring, marketing, and/or distributing title materials automatically by a computer." "further, there is a need for an automated system that eliminates or substantially reduces the costs associated with human labour, such as authors, editors, graphic artists, data analysts, translators, distributors, and marketing personnel." Therefore automated pen is used to complete work rapidly.



Fig. Auto Writing Machine [4]

A mechanical hand is used to hold the pen and all the documents are stored in plates. Plates have limited space therefore hard disk is used to store large amount of data. We can use any pen for writing.



Fig. Components of Auto Pen Writer [5]

VOICE SENSOR:

The most common approaches to voice recognition can be divided into two classes: "template matching" and "feature analysis". Template matching is the simplest technique and has the highest accuracy when used properly, but it also suffers from the most limitations. As with any approach to voice recognition, the first step is for the user to speak a word or phrase into a microphone. The electrical signal from the microphone is digitized by an "analog-to-digital (A/D) converter", and is stored in memory. To determine the "meaning" of this voice input, the computer attempts to match the input with a document that has a known meaning. This technique is a close analogy to the traditional command inputs from a keyboard. The program contains the input template, and attempts to match this template with the actual input using a simple conditional statement.

Speaker-dependent System

Since each person's voice is different, the program cannot possibly contain a template for each potential user, so the program must first be "trained" with a new user's voice input before that user's voice can be recognized by the program. During a training session, the program displays a printed word or phrase, and the user speaks that word or phrase several times into a microphone. The program computes a statistical

average of the multiple samples of the same word and stores the averaged sample as a template in a program data structure. With this approach to voice recognition, the program has a "vocabulary" that is limited to the words or phrases used in the training session, and its user base is also limited to those users who have trained the program. This type of system is known as "speaker dependent." It can have vocabularies on the order of a few hundred words and short phrases, and recognition accuracy can be about 98 percent.[3]



Fig. Voice Sensor

WORKING OF AUTOMATIC PEN WRITER WITH SENSOR

Following are the steps of how the automatic pen writer with sensor works:

1. All the required documents are first stored in hard disk or plates of auto writing machine.
2. Now, the user can search for a document via voice sensor technology. The speech dependent system is used for sensing a voice.
3. The sensor recognizes the user and fetches user input with stored document and returns the result and starts writing it on the page.
4. This sensor is more efficient than a speech-independent system. Speaker-independent speech recognition has proven to be very difficult, because pattern matching would fail to handle accents, and varying speed of delivery, pitch, volume, and inflection.
5. One more use of this invention is that if the user wants to write a fresh document which does not exist in the hard disk or plates, then the automated pen allows this by sensing voice and then writes.
6. And stores the new document in the hard disk for future use.

In this way, an automatic pen writer with a sensor works to automate a writing system for saving time, money, etc.



ADVANTAGES OF AUTOMATIC PEN WRITER WITH SENSOR:

- It is portable
- Can use any type of calligraphic pen
- Useful for writing documents
- These uses voice recognition for fetching document
- It uses auto writing machine.
- Stores large amount of data.

DISADVANTAGES OF AUTOMATIC PEN WRITER WITH SENSOR:

- Auto writing machine need a battery
- It stores only document and not any other type of data such as image type.

REFERENCES

- [1] http://en.wikipedia.org/wiki/Automatic_writing
- [2] <http://www.japantrendshop.com/>
- [3] http://www.hitl.washington.edu/research/knowledge_base/virtual-worlds/EVE/I.D.2.d.VoiceRecognition.html
- [4] <http://www.adafruit.com/products/2032>
- [5] <https://threestepsoverjapan.wordpress.com/2014/07/28/kit-41-the-auto-writer/>

AUTHORS

First Author – Reshma Katkar

V.E.S Institute of Technology, Approved by AICTE & Affiliated to Mumbai University, Hashu Advani Memorial Complex, Collector colony, Chembur-400074,

Second Author – Sunny Nahar

V.E.S Institute of Technology, Approved by AICTE & Affiliated to Mumbai University, Hashu Advani Memorial Complex, International Journal of Scientific and Research Publications, Volume 5, Issue 5, May 2015 4 ISSN 2250-3153 www.ijsrp.org Collector colony, Chembur-400074,