Barrys Tricotagon Network Topology Special Project #4/Phd

By

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Introduction

Welcome ! This is my Ph.d thesis for Mechanical Engineering specifically Mechanotronics. In this work, I create a Network Topology Design onto a hard drive using a binded and unbinded sets of key's also using a 16 bit base system to create character encryption dynamically.

I am taking a theory and creating a practical application. The following features and or ideas are listed below:

1). Hard disk with own Network Topology.
2). Binded and partially binded sets of keys.
3). Logic Gate testing and or Boolean operators.
4). Mechanical Engineering Principles on Hard Disk Design.
5). Character Field and Encryption Methodologies.
6). Robotic Areas of Space and Internal keys with Visual Design.

Be Warned ! There is a lot of material being covered with complex ideas. Thank you for reading this work.

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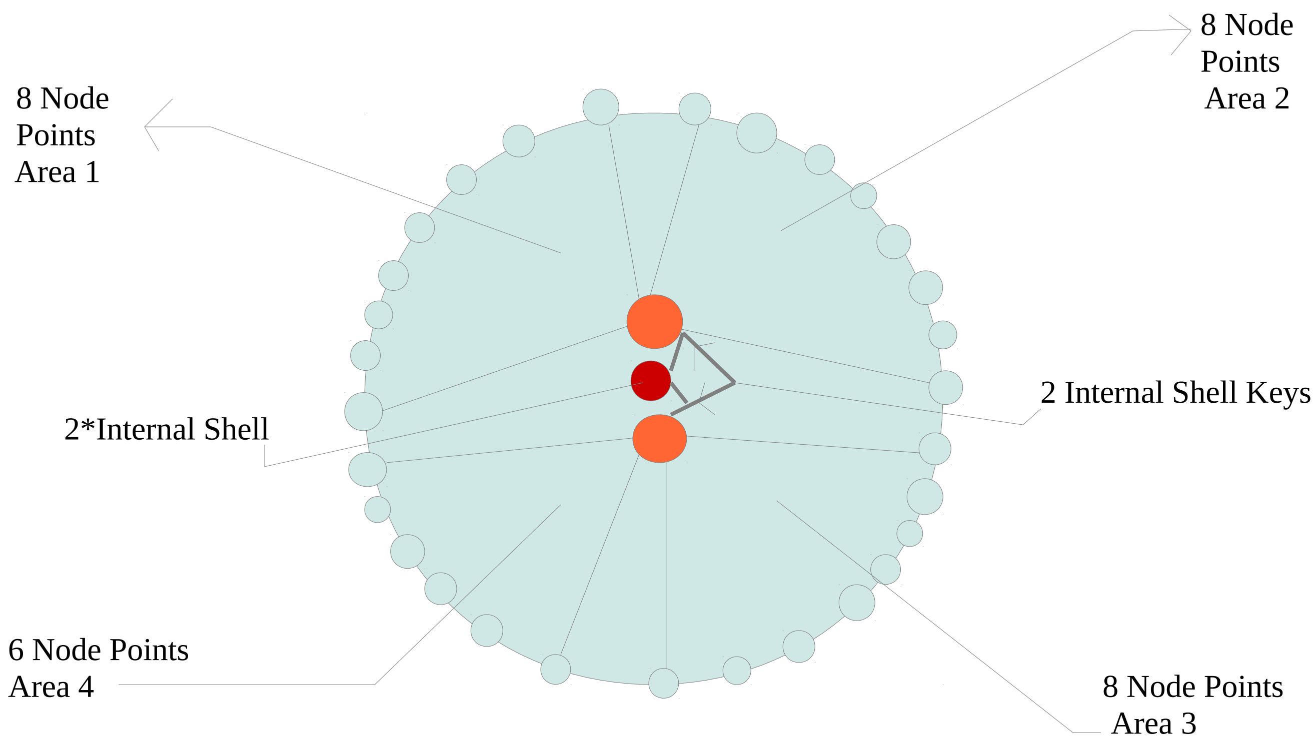
Chapter 1

Visual Design

Chart 1- A Topology Chart



Network Topology Chart

Area Space	# of Node Points
1	8
2	8
3	8
4	6

Chart 2 Topology Design within the Hard Disk Front View

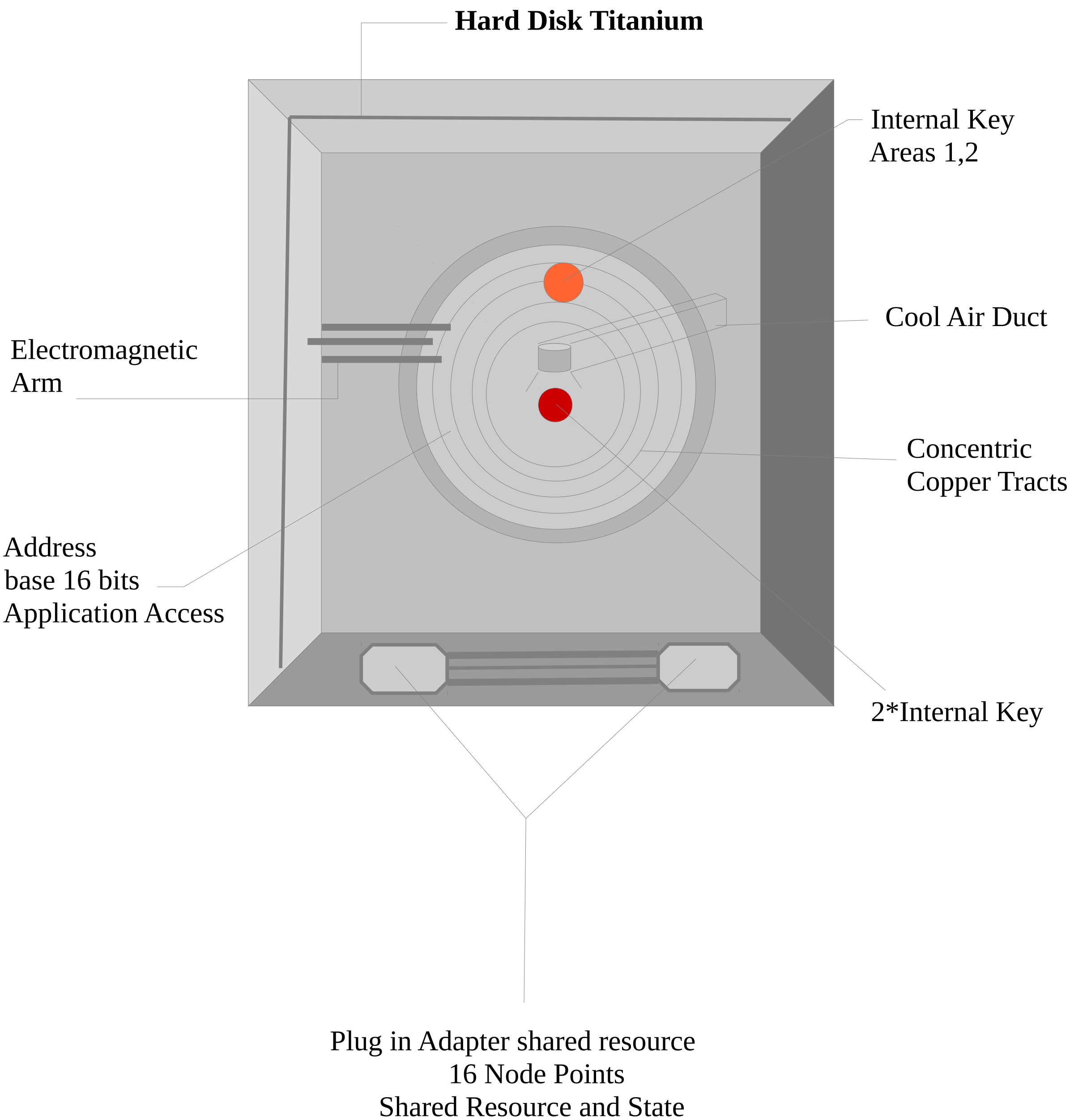


Chart 3 Topology Design within the Hard Disk Overall View

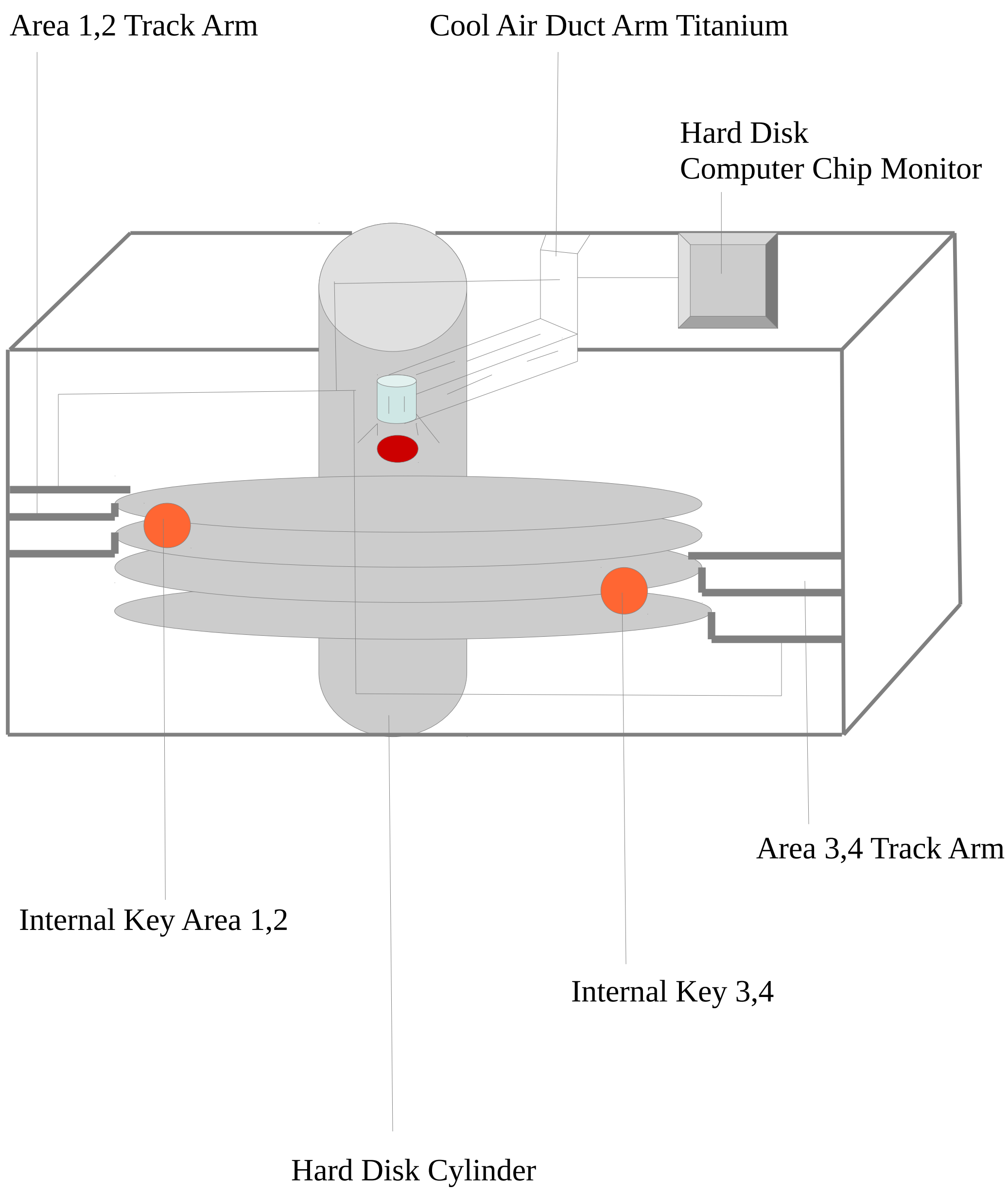
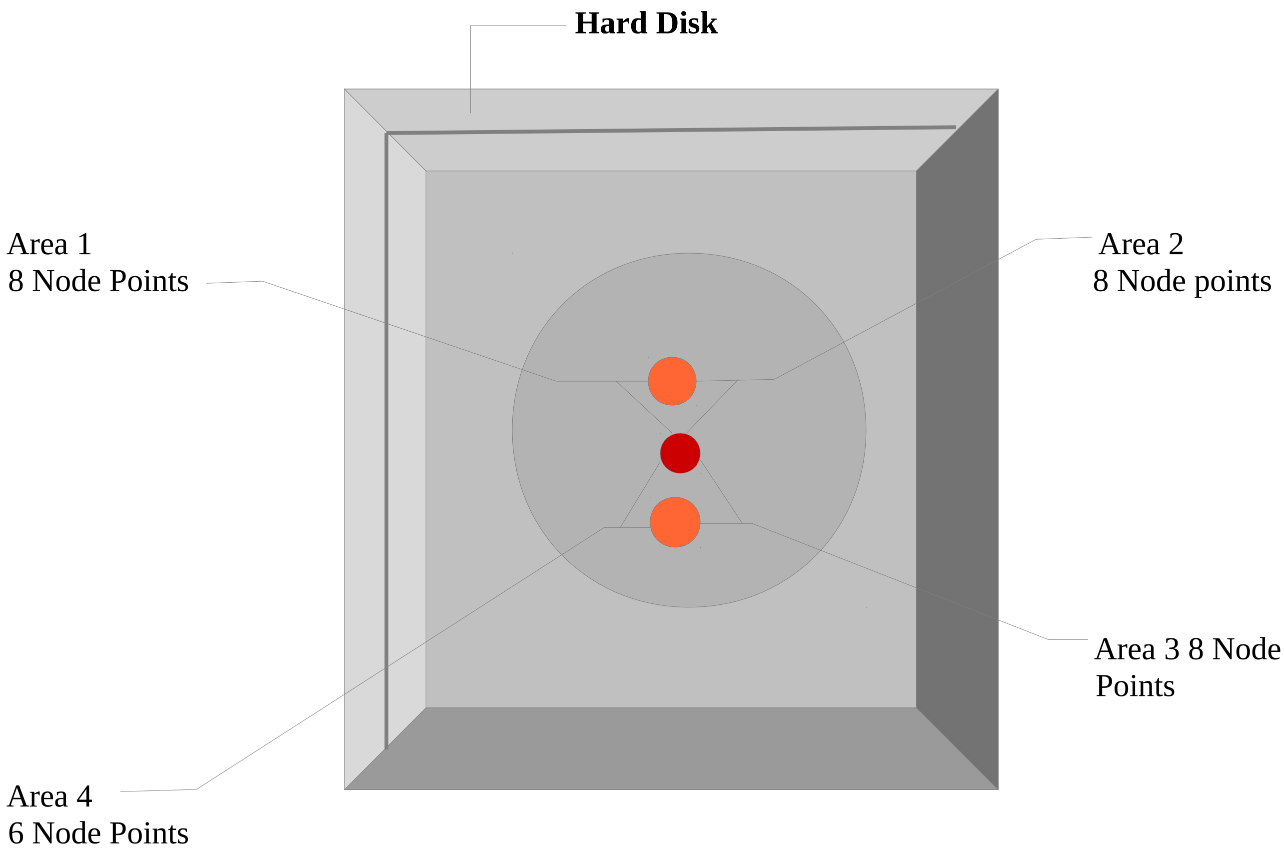


Chart 3 Hard Disk Topology View



Area of Space	# of Internal Key	2*Internal Key shared
1	1	no
2	1	no
3	1	no
4	1	no

Logic Gates

Area	Internal key	2*Internal Key	Shared States
1	0	0	0
1	1	1	0
2	0	0	0
2	1	1	0
3	0	0	0
3	1	0	0
4	0	0	0
4	1	1	0
1/2	0	0	0
1/2	1	1	1
3/4	0	0	0
3/4	1	1	1
1/3	0	0	0
1/4	0	0	0
2/3	0	0	0
2/4	0	0	0
3/2	0	0	0
3/1	0	0	0
4/1	0	0	0
4/2	0	0	0

0 = off

1 = on

Review

As you can see, I have built a Network Topology within a Hard Disk and is dependent on Areas of space which in turn pulls out the application placed within the area of space. Most hard disk have 1 Mechanical Arm to read the data. I have utilized 2 mechanical arms with 4 platters to unlock Internal Keys in relation to Areas of Space.

The Network Topology has a total of 30 Node Points, 2 Internal Keys. The Internal Keys are used to access areas of space. The Internal Key can share within the limits of it's space example I may share the Internal key within Area 1 and 2 but I cannot share the same key that request Areas of space 1 and 3 because I crossed the boundaries in this case I would compromise my Internal keys and encryption methods.

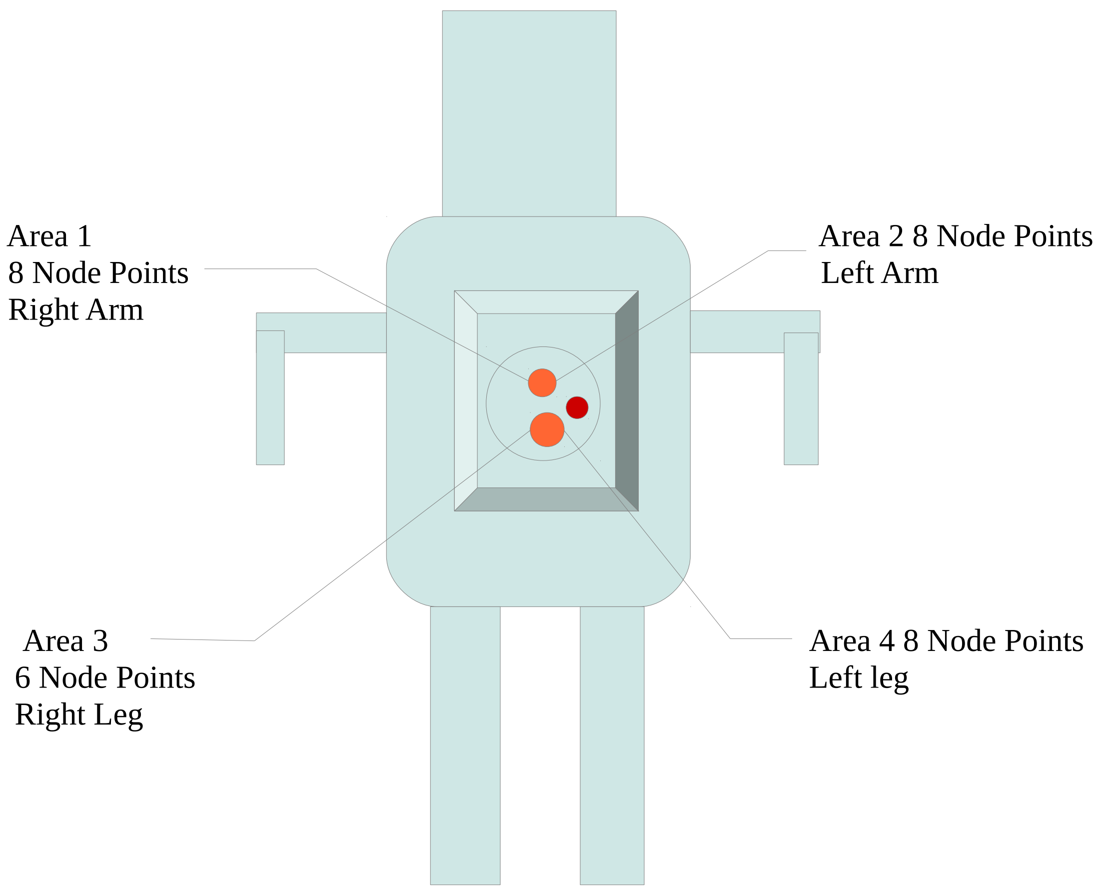
There is a 2*Internal key this is not binded to time and space thus it is used to unlock the Internal keys. This provides a safety procedure. The way to unlock the key is to employ cooling Air that causes it to decrease in temperature once that is achieved the 2*Internal key begins to choose a path to decay and thus time and space are formed in the 2 Internal Keys.

The 2* Internal Key is non sharable and is used to unlock the two Internal keys that are sharable within it's logic gates as outlined above.

The process is as follows:

Cool air is injected into the duct than the 2 * Double Internal Key Bios can check temperature to decide to either decay or not than it decides to either go to the first Internal key to access Areas 1 or 2 or both it can also go to Area 3 or 4 to access the other Internal Key. These keys are than unlocked and accesses the Node points within the topology and thus applications can than be accessed. In Mechanatronics, This can be useful for programming a right/left arm right/left leg to make it perform special task because the Internal Instructions are built within the Network Topology Design.

Network Topology within the Robotic Machine Front View



Area of Space	Body Part
1	Right Arm
2	Left Arm
3	Right Leg
4	Left Leg

I wanted to provide a practical application for the Network Topology Design using it inside a Robot that has a Internal Network Topology Design within the hard disk. Go ahead and have a good laugh at the Robot ! I do it as well. In the next Chapter, I will provide the Specifications of the Cryptographics used in the process.

Chapter 2

Charts and Specifications

The first specification is the node points and number of bits/encryption. Areas one, two, and four have 8 node points while area 3 has 6 node points. Please read field specifications below.

Areas 1,2,4

Node Point #	Encrypted Bits
1	4096
2	8192
3	12288
4	16384
5	20480
6	24576
7	28672
8	32768

Area 3

Node Point	Encrypted Bits
1	12288
2	16384
3	20480
4	24576
5	28672
6	32768

The next specification is the two **Asymmetrical Internal keys** that are shared between areas.

Internal Key	Areas of Space	Encrypted Bits
1	1-2	65536
2	3-4	131072

The last Internal key is named 2* Internal Key this is non-sharable

2 * Internal Key

Internal Key	Encrypted Bits
2*Internal key	262144

As you notice, The Network Topology Design is highly secured within the Hard Disk. I will now provide the node point specifications for Bits-Bytes-Character Representation using a base of 16 rather than 8 bits-bytes

Node Point	**Bits**	**Bytes**	**Characters**	**Areas of Space**
1	4096	256	16	1,2,4
1	12288	768	48	3
2	8192	512	32	1,2,4
2	16384	1024	64	3
3	12288	768	48	1,2,4
3	20480	1280	80	3
4	16384	1024	64	1,2,4
4	24567	1536	96	3
5	20480	1280	80	1,2,4
5	28762	1792	112	3
6	24567	1536	96	1,2,4
6	32768	2048	128	3
7	28762	1792	112	1,2,4
8	32768	2048	128	1,2,4

As you may have notice or not, The Node points for Areas one,two, and four increment to 4096 bits. Area 3 uses 6 Node points and begins at 12288. I use a 16 base instead of 8. The field specifications have been set and I will now discuss in the next chapter describing the process of unlocking shelled keys.

If you will notice on the charts regarding the Hard Disk I provided some newly designed features such as two mechanical arms that unlock the Internal Keys to the Applications within the Areas of Space. The Hard Disk has a built in Chip that monitors the temperature so that the proper key is unlocked in the Area of space which brings us to the next chapter in which I will now set up the logic gates to unlock the keys.

Chapter 3

Logic Gate programming and testing Conditions

I will now begin to set up the process of the Hard Disk and Key Operations.

0 = “off”

1 = “on”

a = 2-Internal-key

b = internal key-1-65536

c = internal-key-2-65536

d= internal-key-3-131072

e= internal-key-4-131072

Array-1-Harddisk

80	85	90	99
1	2	3	4

Array-2-nodepoints

1	2	3	4	5	6	7	8
4096	8192	12288	16384	20480	24576	28672	32768

Array-3-assymetricalnodepoints

1	2	3	4	5	6
12288	16384	20480	24576	28672	32768

Rem the array is matched against temperature to areas of space.

If a < 100-degrees

goto Module-1

else

goto

exit

Module-1

set Array-1-harddisk
load Array-1-harddisk

If 1 < 81 and < 86
“Share Key “ “y” “n”
if “y”
goto module-2-sharable
if “n”
Load b
set 1=”on”
load array-2-nodepoints
rem check temperature turn switch on load 1st internal key at 65536 bits

else
if 2 < 86 and
1 > 80
“Share Key “ “y” “n”
if “y”

```
goto module-2-sharable
if “n”
load  c
set 1=”on”
load array-2-nodepoints
rem check temperature turn switch on load 2nd internal key at 65536 bits


else


if 3 < 91 and
> 85
“Share Key “ “y” “n”
if “y”
goto module-3-sharable
if “n”
load d
set 1=”on”
load array-3-assymetricalnodepoints
rem check temperature turn on switch load 3rd internal key at 131072 bits
else

if 4 < 100 and
> 90
“Share Key “ “y” “n”
if “y”
goto module-3-sharable
if “n”
load e
set 1=”on”
load array-2-nodepoints
rem check temperature turn switch on load 4th internal key at 131072

else

goto module-2-sharable


module-2-sharable

if 1 < 81 or  2 < 86
load b
load c
```

```
set 1 = “on”
load array-2-nodepoints
else
goto module3-sharable

module-3-sharable
if 3 < 91 or 4 < 99
load d
load e
set 1 = “on”
load array-3-assymetricalnodepoints
load array-4-nodepoints

else
set 0=”off”
exit
```

I will now discuss the 16 bit character representation in the next chapter.

Chapter 4

Character Field Representation

I will now discuss the following by setting up a table for Character representation. The Standard code for characters is 8 bits equal 1 byte and 2 bytes equal 1 character with truncation of the header byte in my presentation I utilize 16 bits equal 1 byte. I can pad the character with some encryption.

Bits	**Bytes**	**Character**	**Encrypted Characters**
4096	256	16	8
8192	512	32	16
12288	768	48	24
16384	1024	64	32
20480	1280	80	40
24576	1536	96	48
28672	1792	112	56
32768	2048	128	64

The fields are set up by dividing the number of bytes into 16 to encrypt the character on a individual basis I take the character and divide it into 2 thus I have a field of 8 with a 8 character field. Examples below:

Bits	**Bytes**	**Character/Encryption**	**Characters=1**
4096	256	16	8
8192	512	32	16

Example 1). I have a character “A” being represented I create a field of 16 characters

A M N J 9 8 6 4 | 7925142B

A = 7925142B|AMNJ9864

Encrypt Character Field=4096

Example 2). I have a character “F” being represented I create a field of 32 Characters

B 5 6 1 7 D g h 7 5 4 f v b j i | 35789B568Kl67894

B = 35789B568Kl67894 | 5 6 1 7 D g h 7 5 4 f v b j i

Encrypt Character Field=8192

The fields are reversed to encrypt the character than I place the character field itself last. This is a example. If I wanted to compress the Characters I would have to create a table for the letters and square root it in this case a perfect square of 16 could be reduced to 2 Characters providing the “A” letter and set up a table that can access and or match the 2 characters against the table. I can compress 32 characters with a 6 square with a padding of 4 Characters 32 characters plus 4 zeroes to form a perfect square as you will notice I have showed Symmetrical and Asymmetrical cryptography filling the vacuum of the 32 characters with a binary number “0” -hint off.

In Mechanical Engineering, One of the biggest problems is heat tolerance metal deformation over time. In my Visual Chart, I have used Titanium metal for my hard disk along with copper concentric circles on the platters also the plug in has two Octagon shaped adapters that has 16 node points which can be shared. The mechanical components of this hard disk are designed for mission critical jobs that require Data Security, Precision, and highly specialized fields. I will now present my final thoughts on this project.

Chapter 5

Final Thoughts

Final Thoughts

This project incorporated Mechanical Engineering with Computer Sciences utilizing Logic Gates, Boolean Operators, Cryptography, and Hardware Design. One of the key points in this project was how to overcome heat deformation of a metal to allow more bits to be represented and by demonstrating a knowledge of Materials in using Electro-Mechanical Devices and hopefully I demonstrated this.

The Hard Disk uses two Electro mechanical Arms to access a copper concentric circle with 4 platters coupled with a air duct that allows the heat to be brought down. A Computer Chip monitor is placed on the hard disk to test conditions for access into the areas of space via Internal keys and to allow access into the Areas of space as outlined in the 1st chapter. This is a common concept called “load balancing” insuring Input and Outputs I/O's are better distributed within the object Harddisk.

This is a complicated project that has many faces and problems associated with it and solutions were presented along with theory to present a practical application to theoretical designs. I would like to hopefully after obtaining a Ph.d in Mechanical Engineering set up a design patent that would utilize Internal Crypto processes using Dynamic Energy.

Product Information

If you like this work, You may like other work located at Barrys Scientific Based Products at www.barrysscientificbasedproducts.com.

Thank you for reading this Work !

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