

Access Control Procedures

Each person using the computer is given a ^{unique} operator code with which to identify himself when he logs on to the system. ~~At~~ This operator code ~~identifies~~ corresponds to a record stored on disk which controls ~~what~~ the actions that operator may take. The fields on this record are:

1. operator code: A unique code, identifying the operator
2. current password: A code, specified by the operator, which he uses to insure others may not use his operator code. This password is requested of the operator at ~~the~~ log-on time.
3. READ CLASSES: A series of ^{class} codes, indicating the classes of data this operator is allowed to see. see "Authorization ~~Security~~ classes."
4. write classes: A series of class codes, indicating what classes of data this operator

(2)

is

is allowed to create
or change. see "authorization
classes."

5. NAME

The operator's name, to
be used when identifying
the operator on miscellaneous
reports, etc.

(3)

Authorization ~~Security~~ CLASSES

Each operator is assigned a ~~sequence~~ sequence of ~~the~~ ^{Authorization} ~~Security~~ classes at sign-on time. Programs may check the operator's ~~security~~ authorization classes at strategic times to insure that the operator has the authority to do what the program expects to do with the data.

The authorization classes are pieces of the variable "DUZ":

\$P(DUZ↑1) = READ CLASSES

\$P(DUZ↑2) = WRITE CLASSES.

to read data of
~~the~~ Any operator is said to be authorized CLASS X if:

$\$P(DUZ↑1) [X$

where X is a single character authorization class.

~~If more than a single class must be checked, then the following code will check all of IF more than~~

If more than one class authorization code is to be required, then the variable 'x' becomes a string of two or more characters, each of which must appear in the operator's ~~security~~ authorization.

```
FOR I=1:1:$L(x) IF $P(DU2↑1)'[ $E(x,I) GOTO 5
— OK —
```

(BAD) ↗

BAD W! "INVALID AUTHORIZATION CODE"

Terminal Access Control

Each terminal port may be assigned authorization classes which are to be allowed from that port. These authorization classes ~~are~~ override whatever is given the operator as an individual. If an operator logs on to the system ~~with~~ on a port with limited authorization, his read and write authorization classes are restricted to that of the port.

Therefore, a user may only access or write data which is authorized both for his operator code and the terminal port he is using.

Sample Authorization Codes

<u>CODE</u>	<u>Authority</u>
A	Psychological test results
B.	In patient ATU treatment plans
C	out patient ATU " "
D	in patient psychiatric " "
E	OUT " " " "
F	
X	programmer

up to 255 Authorization codes are usable

~~For example, someone who has~~

Examples

A person having Access to:	would have Access codes:
----------------------------	--------------------------

- | | |
|--|--------|
| 1. Psych tests, In Patient ATU plans. | AB |
| 2. ALL classes | ABCDEX |
| 3. ATU treatment plans, In & out patient | BC |

Terminal Access examples

<u>PORT</u>	<u>LOCATION</u>	<u>ACCESS</u>
1	Psych-test	A
2	Psych-test	A
3	Psych-test	A
4	INPATIENT ATU	CD
5	OUTPATIENT ATU	CD

Operator Authorization Examples

<u>SEC</u>	<u>operator code</u>	<u>password</u>	<u>Authorization:</u>		<u>NAME</u>
			<u>READ</u>	<u>WRITE</u>	
	1	ABC	ABCD	A	JOE
	2	XXXX	ABCDE	BD	DICK
	3	!!!	C	C	SUE

Security matrix:

terminal port	people Access with :
1	_____
2	_____
3	_____
4	_____
}	_____

~~Person~~
~~Person~~ may use port
~~Person~~ assigned Access class
write class

Person is given:

operator code

password

~~read~~ ~~Access~~ classes

write classes

NAME

TIME-OF-DAY?

DAY-OF-WEEK?

Portability:

Cost of software; per installation

$$(DC + IC * N) / N + MC / N + SMC$$

- DC = Development cost
- IC = Installation cost
- N = number of installations
- MC = maintenance cost systems
- SMC = site maintenance costs.

Assume Development cost = \$100,000 DC
 installation cost = \$10,000 IC
 maintenance cost = \$30,000 MC
 site maint. cost = 5,000 SMC

#installations site cost	initial site costs #installations	ANNUAL Maintenance
1	100,000	30,000
2	55,000	17,500
3	40,000	13,333
4	32,500	11,250
10	19,000	7,500
50	11,800	5,500
100	10,900	5,250