DRAFT

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Draft: for Discussion

Identification

Login Procedure in [illegible] the Overseer Process

Carla Marceau

Purpose

Login is an Overseer procedure which controls the user's access to Multics

References

The following discussion assumes that the reader is familiar with MOO- ("User Definition" by Karolyn Martin), which presents an overview of the processes - Overseer, ~~D.M., and W.P.~~ Device Manager, and Working Process. - which serve the user; in particular it describes the operation of the Overseer process, and the position of login ~~w/in~~ within it.

not allowed in final version

Introduction

Immediately after dialup 2 processes are created by whom? to serve the user: the Device Manager and the Overseer. Before the user can be served by a Working Process and the Multics shell (see BX.2.00), he must pass through the login procedure in the Overseer process, which controls access to Multics.

The login procedure is called by ? when the Overseer reads and recognizes a login input line typed from the user's console immediately after dialup. The functions of login are three:

1) to identify the user;

2) to grant or deny the user access to Multics;

2 → 3) to introduce this user to whom it may concern.

past tense

When login has completed its action and returns, the Overseer called Process Control to create a ~~W.P.~~ Working Process. and wakes up the newly-created process. The Overseer then calls parens the shell in the Working Process ~~W.P.~~, passing to it the command prolog with the same arguments as were given in the login input line. Prolog will future print out invaluable messages to the new user: it informs him that he is logged in, tells him the message of the day, and notifies him of the presence of mail in his mail box.

If a user types a login input line at a console where someone is already logged in and at command level (cf BX.0.00), the line is interpreted not by the Overseer but by the current user's shell, which calls the login command. The login command is a dummy: its job is to create the situation which would have obtained had the new user just dialed up. It sends a "logout" wakeup (cf. BJ.7 ~~[illegible]~~ ~~[illegible].~~) to the Overseer and sets a switch to indicate that after logging out the current user, the Overseer should call login to ~~by~~ log in the new user.

Note

As part of the Overseer process, the login procedure cannot be interrupted by a quit. However, the prolog command can be interrupted. during inter-talk?

Usage

login name - projno- -acctno- -wfd-

name is the name (or other ~~some~~ unique mnemonic) of the person desiring to log in. use the term process

projno name is the project number name under which he wishes to log in. If the person user types no project number, login will assign to him the default project number in his entry in the personnel list.

acctno name is the number name of the account to which the person ~~user~~ wishes to charge this console session. If he ~~the user~~ types no account number, this session will be charged to a default account number for that user kept in the user profile. process wfd is the path name (starting from the root directory) of a directory which the user wishes to be his WFD. [illegible] As with accno, a default WFD for that user is kept in the user profile in the user list.

Options have no meaning for the Overseer login procedure, but will take effect in the prolog command (see below).

An alternative login input line is

how distinguished? for is not an allowed projno? could use a special char.

login proxy for name -projno- -accno- -wfd-

proxy is the name (or some unique mnemonic) of a person desiring to log in as a substitute for the person signified by name.

This alternate type of login might be used by a secretary, for example, whose job requires her to update files for her boss. Or one user may ask another to update files while he is on vacation. The proxy, by this type of login, gains access to all of the user's files, but uses his own password. Thus the secrecy of the user's password is preserved.

Note: Unless project numbers, account numbers, and file directories have distinct and recognizable formats in Multics, it will be necessary for the user to indicate the absence of projno or accno with "--", signifying a null argument. only if wfd is provided

is this a standard convention?

Identifying the User

Login first assures itself, through the use of a secret password, that the person at the console has a right to be represented by name. Login then has to make sure that the contents of name and projno represents a legitimate user of Multics. It then ~~updates the~~ incorporates the ~~agency copy of the~~ user profile into the user-wide data base.

1. Login will in most cases have to have at least one argument. Some users who ~~has~~ have exclusive access to one console, may make arrangements to have login accept an argumentless login input line from his console. Other users who type no arguments will be tactfully reminded:

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login format:
login name -projno- -acctno- -wfd-
```

2. Login will look for name in the personnel user list. If name does not appear, an error message is printed:

```
name not a user
Please retype name
```

or whole command?

It will repeat this game for three tries, then type "no login". and hang up in disgust. (See explanation of hang-ups in MOO--.) The same is true for an incorrect project number, account number, wfd name, could be more forgiving or password, as indicated below. Login waits ~~five~~ two minutes for a response each time before hanging up.

Suppose I wish to retype whole command, or go to default case?

3. Having ascertained the user's name, login next asks for a password by printing

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password
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Login attempts to turn off printing at the user's console to ensure the privacy of his password. If it cannot turn off printing it will render the password line illegible (.e.g, it may black over n spaces with random symbols, where n is some number greater than the maximum numbers of characters in a password). Login then reads the password which the user types, turns on the console printer, and checks to see if the password agrees with that in the personnel list. If not it says:

```
password incorrect
please retype password
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and again turns off the console printer or renders input illegible.

A person who logs in for another person (using the proxy for name convention) types his own password. In this case login checks the personnel list to see that proxy has permission to log in for name and that his password is correct.

4. Can name use projno? Login checks the ~~user~~ project list. If the answer is no:

name may not use projno

please retype project number.

5. Now that the user at the console has been identified, his user profile can replace the dummy profile in the user-wide data base (MOO,--) and his account number and wfd may be updated using information from the login input line. First login checks to see if name and projno may use accno (if one was specified). If he may not: how? talk to Tom V.V.

name may not use accno

please retype account number

A correct account number replaces the user's default account number in the user profile.

6. Finally login checks to see that this user may be attached to wfd (if one is specified). If he may not:

wfd incorrect

please retype directory name

as usual in all input requests, login gives the user three guesses and waits only a finite length of time (two minutes) for input. A correct WFD replaces the user's default WFD in his user profile. wisl.

should check as soon as account # is known for sure?

Login Permission

After the user has been identified, login must find out whether he should be allowed to use Multics at this time.

1. The number one consideration in granting permission to use Multics is whether the user has sufficient funds to log in. A call to accounting asks for information about his solvency. Accounting will return a simple answer - Yes or No - after its own more or less complicated deliberations. (Accounting might take this opportunity to charge the user for his attempted login, or to allow him to negotiate, via the Transactor, for more money if he has none.) If accounting declares the user insolv~~a~~ent, login prints:

    user insolvent. no login

and hangs up.

in Transactor?

2. Are any more users allowed on the system? Login calls a procedure which compares the number of current users to the number of possible users and returns an answer - Yes, No, or Maybe. (Only money is absolute.) Yes - more users are allowed on the system. No - the system is completely full. Maybe - the system is almost full. If the answer is yes, the user is logged in without delay. If the answer is Maybe, he receives this warning:

    on by the grace of God
    prepare to fall from grace ...

erk....

this requires little more thought

3. If the system is full, login looks in the user list to see if the newcomer is a VIP who can always log in.

not by login

4. Login also calls the Transactor to ask if the user has a reservation within the next 15 minutes, (cf. BT.1.00). If so he may log in.

5. If the new user is to replace some current user, login calls the bump procedure to pick out some poor slob. Bump sends a logout wakeup to the Overseer of the poor slob.

6. If the newcomer is denied permission to log in, login prints its regrets:

    sorry, computer is busy

    please try again later

It also calls accounting to inform it of the failure.

Introducing the New User

If the user is still with us, he is now introduced to any part of Multics that cares.

1. First login calls the signon entry in the accounting module. One accounting data segment serves the Overseer, the Device Manager, and the ~~W.P.~~ Working Process When the accounting data segment is first created, at the creation of the Overseer, it charges all costs to overhead. Now signon modifies this segment, charging costs to the user's account number. Depending on administrative decision, signon can charge to the user the entire logging-in operation since the creation of the Overseer.

2. Login notes in the User Log that so-and-so logged in when. from where which log?

This completes the action of the login procedure in the Overseer. The Overseer now creates a W.P. Working Process and passes a prolog command line as input to the shell. Prolog will inform the new user of his success.

a little flip, maybe