

M E M O R A N D U M

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TO: John Reese

CC: C. B. Wilson

FROM: Will Alexander *WA*

SUBJECT: NEW FEATURES FOR FUTURE COMPUTERS (as per your request)

The Personal Computer demands activity from its user. In contrast, the TV and Hi-Fi are enjoyed passively. It seems important that the computer "Do Its Thing" without human help. In particular:

- 1) Computer games should play themselves. Sometimes watching a chess game is far better than playing.
- 2) The computer should play background music. With improved sound and composition algorithms, the computer music should be interesting, and occasionally great.
- 3) Light shows can be given by the computer. The color TV is the best and perhaps most demanding of all media for such a show.

The capability of the computer to do interesting things without human intervention is important for these additional reasons:

- 1) Allows machine to attract customers without help of sales personnel.
- 2) Solves the problem of who plays with the computer, everyone gets to watch. This is important for families with more than one child.
- 3) Makes the computer a valued "Guest" at a party or family gathering.

To accomplish these things requires a slight change in program definition, a DAC or two for sound, a bit mapped VDP for color and an A to D converter for sound input to drive the color display.

For those who refuse to use the Personal Computer in a passive way, the above mentioned hardware has several useful features.

The sound DAC:

- 1) Electronic organ with memory and programmable voicing.
- 2) Experimental music synthesis.

A bit mapped mode in the VDP:

- 1) Pictures from audio tape
- 2) Dense, good looking text. Processer controled N by 5 instead of 5 by 7 or 7 by 9 letters.
- 3) Easy use of the language LOGO.
- 4) Potential use of "PLATO" programs from CDC.
- 5) Possible up date to motion pictures from audio tape.

Analog to digital converter for sound input:

- 1) Voice commands
- 2) Voice recognition
- 3) Voice spectrum analysis for feedback to teach the deaf to speak.
- 4) Voice spectrum analysis to help learn foreign languages and remove accents.
- 5) Process ultrasonic burglar alarms to minimize false alarms.

One final feature, a clock, without battery backup. This would force the computer to be on at all times. This would provide:

- 1) A clock with day, date and time
- 2) A reminder of appointments, birthdays and anniversaries.
- 3) Input seed for improved random number generator.
- 4) An elapsed time clock for those who are into programming for speed. This we need, even if our customers do not.

Thank you,

Will Alexander

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