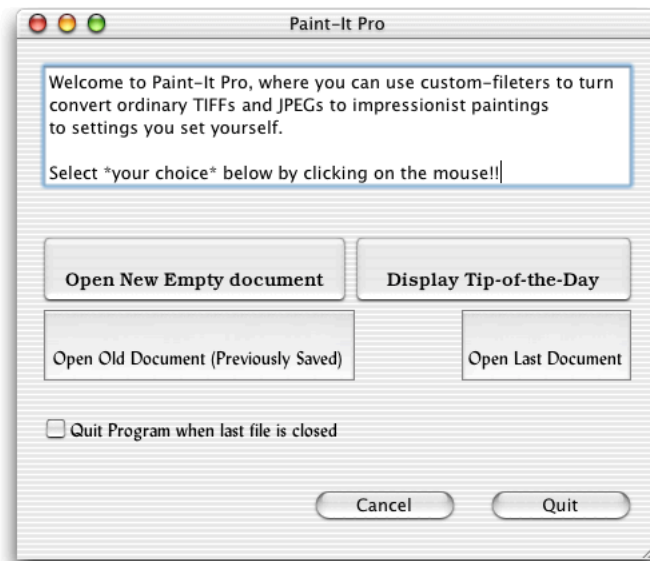


Assignment 2

Due: 1:15 PM, Thursday, October 31, 2002

Written Questions

1. Robin has developed a new application, Paint-It Pro. When the application is started, it displays the following dialog:



Assuming that the Cancel button hides the application (when unhidden, the dialog will reappear), critique this interface. You should use appropriate terminology as learned in the course. Structure your answer so that related issues are described together.

2. For each of the categories below, give a clear example from your own experiences or those of friends not in this course (i.e., not from a textbook, the web, or covered in class) of an artifact that:
 - (a) Showed lack of affordance
 - (b) Obeyed physical constraints
 - (c) Exhibited an unnatural mapping
 - (d) Provided inadequate feedback
 - (e) Suggested an incorrect conceptual model
 - (f) Exhibited cultural constraints
 - (g) Had a gulf of execution
 - (h) Had a gulf of evaluation
 - (i) Was prone to mode errors
 - (j) Was prone to capture errors

3. Examine the vending machine in the corridor outside the computer-science machine room (*not* the pop machine, the machine *next to* the pop machine).
 - (a) List its affordances, including any sources of potential confusion.
 - (b) List its mappings, including any sources of potential confusion.
 - (c) List its constraints.
 - (d) Describe the feedback it gives.
 - (e) Describe the process of obtaining a candy bar from the vending machine according to Norman's Seven Stages of Action. (Assume that the machine contains at least some candy.)
 - (f) Draw a state-transition diagram to describe its operation.

(Your state-transition diagram can be somewhat abstract in its handling of money—you don't need to consider every possible combination of coins as leading to separate states. You should also consider what happens when the machine is sold out of a particular kind of candy.)

4. People often need to stop a task partway through and resume it later. Your company is developing a piece of software which will enable users to store the state of several applications (what files were open, which windows were where, etc.) and restore it later. After the state is stored, the applications are automatically closed. Double-clicking the icon representing the stored state will restart the applications, reload the files, and arrange the screen as it was at the time of storage. A possible future extension might be to, on restore, allow users to see the last few actions they did in the applications to help regain their context.

Suggest three possible metaphors this system could use. Rank and critique these metaphors.

5. Windows XP™ is the first version of Windows™ where buttons on the task bar (including the "Start Menu") can be successfully pressed when the mouse is at the very bottom of the screen (i.e., where visually the mouse is not over the buttons being pressed but just beneath them). Use Fitt's law to explain this change and calculate how much time a user switching from Windows 2000™ to Windows XP™ might save per day, assuming that they use the task bar fairly regularly. You will need to make various assumptions, which you should explain.