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transform an unruly cluster of confusing features into a structured, understandable experience: modularization, mapping, conceptual models. There are numerous other important design principles, but these will make the point.

Modularization means taking an activity and dividing it into small, manageable modules. That's how well-designed multifunction printers, scanners, copiers, and fax machines do it: Each function is compartmentalized by grouping and graphics, so each is relatively simple. HP invented a common control mechanism (their "Q" control) so the same principles governed usage of all functions. Learn to do one function and you then know how to do all of them.

Good mapping is essential to ensure that the relationship between actions and results is apparent.

But most important of all is to provide an understandable, cohesive conceptual model so the person understands what is to be done, what is happening, and what is to be expected. This requires continual, informative feedback, which can also be done in such a way as to be pleasurable; see any Apple product.

Emotional design is critical to a person's enjoyment of a product, the most critical variable here being the need to feel in control. This is especially important when things go wrong. The key is to design factoring in that things go wrong, thereby ensuring that people will understand what is happening and know what to do about it.

Even complex activities can be supported with proper design in such a way that the person never even realizes the complexity of the task or the device. With the proper conceptual model

and with the proper compartmentalization—so that only the displays and controls relevant to the current task are in central focus—the device always looks simple, regardless of its inner complexity. Good design to the rescue.

The argument is not between adding features and simplicity, between adding capability and usability. The real issue is about design: designing things that have the power required for the job while maintaining understandability, the feeling of control, and the pleasure of accomplishment.

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