

TABLE 8.2
LEVELS OF AUTOMATION IN MAN-COMPUTER DECISION-MAKING
for a single elemental decisive step

DESCRIPTION OF INTERACTION	HUMAN FUNCTIONS	COMPUTER FUNCTIONS
1. human does the whole job up to the point of turning it over to the computer to implement.	(GETS options from outside) ↓ SELECTS action ↓ STARTS action	
2. computer helps by determining the options	(REQUESTS options) → GETS options ↓ SELECTS action ↓ STARTS action	
3. computer helps determine options and suggests one, which human need not follow.	(REQUESTS options) → GETS options (REQUESTS SELECT action) → SELECTS action ↓ SELECTS action (can be different) ↓ STARTS action	
4. computer selects action and human may or may not do it.	(REQUESTS options) → GETS options (REQUESTS SELECT action) → SELECTS action ↓ APPROVES SELECT action ↓ STARTS action if HUMAN APPROVES	

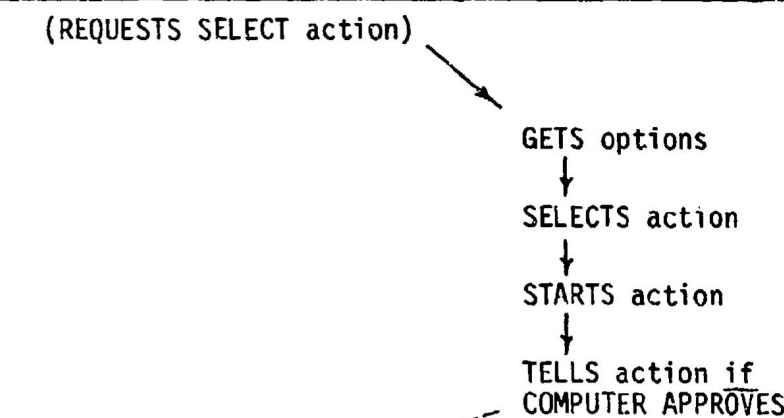
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DESCRIPTION	HUMAN	COMPUTER
5. computer selects action and implements it if human approves	(REQUESTS options) (REQUESTS SELECT action) APPROVES START action	GETS option ↓ SELECTS action ↓ STARTS action if HUMAN APPROVES
6. computer selects action, informs human in plenty of time to stop it.	(REQUESTS options) (REQUESTS SELECT action) APPROVES START action	GETS options ↓ SELECTS action ↓ STARTS action if HUMAN APPROVES or if $t > T$ and HUMAN HAS NOT DISAPPROVED
7. computer does whole job and necessarily tells human what it did.	(REQUESTS SELECT action)	GETS options ↓ SELECTS action ↓ STARTS action ↓ TELLS action
8. computer does whole job and tells human what it did only if human explicitly asks.	(REQUESTS SELECT action) (REQUESTS TELL action)	GETS options ↓ SELECTS action ↓ STARTS action ↓ TELLS action if HUMAN REQUESTS

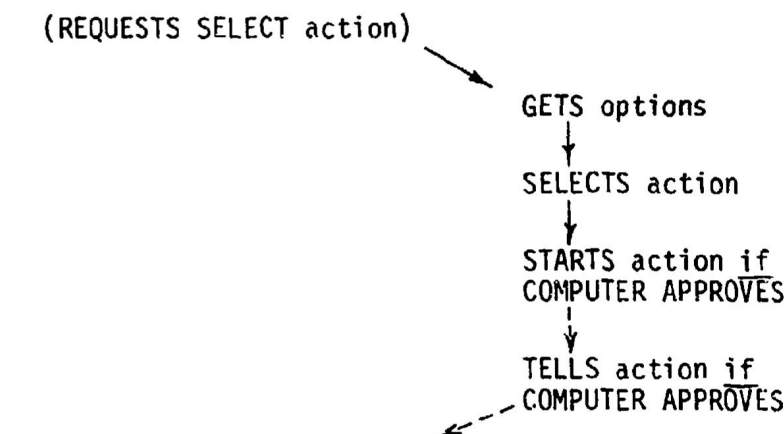
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DESCRIPTION

9. computer does whole job and tells human what it did and it, the computer, decides he should be told.



10. computer does whole job if it decides it should be done, and if so tells human, if it decides he should be told.



Note: There are other variations possible. For example, in each of the ten steps the original human request may either not be necessary or be ignored by the computer. Step 10 can have several variations where it tells the human necessarily, or on his request, or etc.

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