Expert Systems

[Fundamentals of Expert Systems](http://zimmer.csufresno.edu/~sasanr/Teaching-Material/MIS/ES/fundamentals-of-expert-systems.pdf)

<http://zimmer.csufresno.edu/~sasanr/Teaching-Material/MIS/ES/Expert%20Systems-Handouts.pdf>

Sample interview/dialog between the user and the expert system:

User: I am experiencing a problem with my printer.

System: What kind of a problem?

User: The lights keep blinking.

System: What kind of printer do you have?

User: HP DeskJet 920C.

System: Do all lights keep blinking?

User: No; the power light blinks but the cartridge & resume lights are off.

System: Does this happen when the printer is processing a print job?

User: No

System: What you need to do is: ……………………………

All knowledge that CAN be articulated (explicit knowledge) MAY be stated in rules of the form: **IF X, THEN Y**

Knowledge-Base

(Domain Rules)

IF

<Acrobat Reader 6 does not display large images>

THEN

<click Edit/Preferences/Page Display and check the box labeled "*Display large images*">

* symptoms
* conditions
* circumstances
* prescription
* action
* solution

How are Knowledge-Based Systems different from Expert Systems?

**Knowledge-Based Systems: Less Structured**

Knowledge-Base

(Free-Form Text)

** search**

 **knowledge**

 **response**

Expert/

Specialist

User

**Expert Systems: More Structured**

Knowledge-Base

Domain Rules

“IF …, THEN …”

****

User

Inter-face

** interview knowledge rules**

 **advice**

User

Expert/

Specialist

Knowledge Engineer

Inference Engine

Logic Rules

IF X, THEN Y

IF Y, THEN Z

IF X, THEN Z



