

Higher Information Systems

2007P q.24 Expert Systems Development Stages

www.camerasforu.co.uk is Web site that advertises and sells digital cameras and digital video cameras from a number of different manufacturers. The site provides an on-line expert system that provides customers with advice on the camera that best suits their needs. The expert system was developed using an expert system shell.

Marks

- a. Describe two limitations of the camerasforu expert system described above. **(2)**

 - b. The components of any expert system include a knowledge base, inference engine and user interface.
 - (i). Explain the purpose of the inference engine.

 - (ii). Explain the use made of a knowledge representation language during the development of the camerasforu expert system. **(2)**
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2007P q.28 Expert Systems Development Stages

REHAB is a rule-based expert system that is being developed for use in social security offices. The expert system will be used to refer recipients of social security disability allowance to employment rehabilitation services.

- a. Identify a suitable domain expert for the development of the REHAB expert system and describe their role during system validation. **(2)**

 - b. Errors could occur at any stage of the development of the REHAB expert system.
 - (i). Describe an error that could be attributed to inferencing.
 - (ii). Describe one other source of error. **(2)**
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2008 21c Expert Systems Development Stages

MBV Car Repairs operates a number of garages in the UK. The company uses a car fault diagnostic expert system to identify faults with car engines.

A customer brought in his sports car for repair. The engineers used the expert system to diagnose the problem with the car and, based on the advice given, they carried out the repair. However, the customer brought the car back the next day complaining that the car was still not operating correctly.

- (i). State **two** stages of the development process of this expert system where an error could have occurred. **(2)**
- (ii). For each stage in c. (i) describe how the error could have occurred in this situation. **(4)**

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2008P q.27c Expert Systems Development Stages

As the expert system is being developed, it is possible that errors could occur at each stage of its development. Describe one source of an error that could occur during each of the following stages of development:

- (i). Knowledge acquisition **(1)**
 - (ii). Knowledge representation **(1)**
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2009P q.24d Expert Systems Development Stages

CallsforYou sell mobile telephones and call plans. The company recently introduced an expert system to assist customers in selecting the call plan to best suit their needs.

- d. A programmer was one of the personnel involved in the production of this expert system. Name two other personnel involved in the production of expert systems and describe the role performed by each. **(6)**
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2009P q.25d Expert Systems Development Stages

Doonbrae Fitness operates a chain of 5 fitness centres and gyms. The company is considering having an expert system developed to help with the organisation of fitness classes and allocating instructors to these classes.

- d. State **four** features of an expert system which may be used to evaluate the system. **(4)**