

**OLLSCOIL NA hÉIREANN, GAILLIMH  
NATIONAL UNIVERSITY OF IRELAND, GALWAY**

**SUMMER EXAMINATIONS 1999-2000**

**HUMAN COMPUTER INTERFACE DESIGN IE518**

**HIGHER DIPLOMA IN ENGINEERING / SOCRATES  
STUDENTS**

**Dr. E.J. Wright  
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Mr. E.F. Fallon**

**Time Allowed: 3 Hours  
Answer 4 Questions**

Question	Marks
<p><b>Q.1</b> Write short notes on <b>four</b> of the following:</p> <ul style="list-style-type: none"> <li>• Hierarchical Task Analysis (HTA)</li> <li>• Predictive Evaluation</li> <li>• Skill Acquisition</li> <li>• Organisational Aspects of HCI</li> <li>• Memory Constraints in HCI</li> <li>• Benefits of HCI</li> </ul>	<p><b>6.25</b> <b>x4</b></p>
<p><b>Q.2</b> (a) Distinguish between the two primary cognitive frameworks in HCI (b) What are the two main goals of the distributed cognition approach?</p>	<p><b>15</b> <b>10</b></p>
<p><b>Q.3</b> (a) Explain the meaning of the following terms in the context of HCI:</p> <ul style="list-style-type: none"> <li>• Activity Theory</li> <li>• Ethnomethodology</li> <li>• Sociotechnical Systems</li> </ul> <p>(b) Discuss the significance of the language / action approach when considering social aspects of HCI.</p>	<p><b>4x3</b>     <b>13</b></p>

- Q.4** (a) Outline the key principles of user-centred design put forward by Gould and Lewis (1985) and Gould et al. (1987). **12**  
(b) What are the barriers to successful incorporation of these principles into the systems development process? Use examples with which you are familiar to illustrate your answer. **13**
- Q.5** Preece (1994) identifies three categories of requirements and associated representational techniques in computer systems development: functional requirements, data requirements and usability requirements. Discuss the applicability and relevance of these in the development of object oriented systems. **25**
- Q.6** (a) Outline a number of prototyping techniques in HCI **13**  
(b) Discuss the role of prototyping in usability assessment. **12**
- Q.7** (a) Why use task analysis in HCI? **12**  
(b) Discuss the role of task analysis in usability assessment. **13**