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UNIVERSITY OF PORTSMOUTH

BACHELOR OF SCIENCE (HONS) IN COMPUTING

APRIL 2005 EXAMINATION

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IT359: HUMAN COMPUTER INTERACTION DESIGN

TIME: 3 HOURS

☞ **INSTRUCTIONS:**

- ❑ Read the attached case study carefully before attempting any of the questions.
- ❑ Answer all the three questions.
- ❑ Each question carries equal marks.
- ❑ Please start every question on a new page.
- ❑ Answers will not be marked if they are illegible.
- ❑ Enter the question numbers (in the order you have attempted) in the boxes provided in the answer script.
- ❑ Write your INDEX NUMBER and MODULE NUMBER on the cover page of the answer script. answer booklet(s).

Appointment Booking System

The University of Erewhon has many academic staff, and due to worries about security (particularly theft of laptop computers and other expensive, portable items), many staff offices are in 'secure' areas. Students can visit academic staff in their rooms, but need to ring beforehand to gain access to staff office areas. Often academic staff are not in their rooms. This might be because they are teaching, or attending one of the many meetings that seem to happen in a University, or off-campus, attending a conference. As a result students will often get no reply on the phone, and so will email staff in order to arrange a meeting.

One of the problems with this is that students often ask to visit at an inappropriate time (the following is a typical exchange:

> --
> *Dear Dr Smith,*
> *I would like to see you tomorrow before 10am, as I wanted to ask you about GOMS task analysis.*
> *Diane*
> --
> *Dear Diane,*
> *I am afraid I am lecturing in the morning until 11am, and then have a Faculty meeting until 2pm. Could we meet at about 2.15pm?*
> *John Smith*
> --
> *Dear Dr Smith,*
> *Alas I have a two hour lecture starting at 2pm which is followed by a tutorial, so I won't be finished until about 5.10 pm. Will you be in your office then?*
> *Diane*
> *-- (and so it continues)*

…So the new staff appointment manager application is designed to enable staff to indicate periods during the week when they will be available, and for students to book meetings during those periods. Since students often want to visit staff just after lectures, once a student has booked an appointment a second student cannot book an appointment at the same time.

Here is a typical usage scenario: Dr Smith decides that he will be available to see students on Monday afternoon, on Tuesday for two hours after his lecture, and on Friday morning. He knows he will not be available on Wednesday because of staff meetings in the morning, at lunchtime, and because a Board of Studies meeting in the afternoon. He is planning to visit an industrial placement student on Thursday so does not expect to be available. Dr Smith opens a web browser, and logs on to the Appointment Manager. He ticks checkboxes on a web form that show the times he will be available. At 6pm a student called Diane loads the Appointment System to book an appointment, the system shows her a list of days and times when Dr Smith is available. Diane selects a meeting at 5pm so she can spend some time shopping as she walks back from her 3pm-4pm tutorial in a building at the other side of the city shopping centre. She completes a form, with her email address, and a brief description of why she wants to meet Dr. Smith. Dr Smith receives an email from the

Appointment System at home, and replies to Diane to confirm that he will see her at 5pm.

Rubric

Closed Book.

You must answer the following questions in the context of the scenario (above). Your answers should demonstrate the application of HCI theories and techniques to the problem described in the scenario.

You should answer TWO out of the THREE questions.

The questions are each out of 50 marks. The number of marks does not indicate the number of 'points' that you are expected to describe in your answer.

Q1: User Population

Identify one groups of users who could not use this system easily, and describe why (20 marks) Is there anyway the system could be redesigned to facilitate its use by these groups? (15 marks) Identify any disadvantages the redesign may have (15 marks).

Q2: Task Allocation

Identify a different task allocation for part of the system (15 marks). You should discuss the trade offs that this design decision would have, in terms of user and task issues (15 marks). You should use the Task Action Cycle in your analysis of the new design (20 marks).

Q3: Cognitive Task Analysis

Analyse the suitability of Cognitive Walkthrough to describe the task of a new student user booking an appointment (25 marks). Why may the CE+ model useful for understanding the system's design (25 marks)?