SED Mid-Semester Test Information Sheet

A mid-semestet test for CITS2200 will be held on
Thursday 14th April 2011 at 9am in the
General Purpose Building 2

TEST FORMAT & VENUE

The paper will contain FIVE short answer questions. You should answer all questions.
There are 10 marks in total for the paper, each question will be marked out of 2.
The paper is worth 10% of the overall mark for SED.
You will have 30 MINUTES to complete the test. There is no separate reading period.
Bring a pen (or two!) to write with. Paragraph answers will be written directly on to the test paper.

MATERIAL TO BE EXAMINED & HOW TO STUDY FOR THE TEST

The test will be based on material in SED lectures and practicals from weeks 1 to 6 (inclusive), covering
requirements analysis and software design.
When studying for the test, you should review the objectives and key points of each lecture. Test
questions (and examination questions) are designed to test whether you have achieved the objectives and
understood the key points. Also review the core reading listed for each lecture, as well as the lecture notes,
and browse the suggested further reading.

Attempt the 5 sample questions below under test conditions (30 minutes, no books). Each answer should
be a short paragraph. Then mark your answers by consulting your text book, lecture notes and other
references. You can also study by inventing and answering your own questions for other material covered
in SED and using the questions at the end of relevant text book chapters.

There will be a revision consultations during the practical times in the lecturers’ offices (Wednesday
9-11 in room 2.14 and Wednesday 3-5 in room 1.22) to discuss any questions about the material in
lectures 1 to 10 and about the sample test.
SAMPLE TEST QUESTIONS

1. Identify the objects in the following use case for an automatic teller machine, and describe the associations between the objects using a class diagram.

A session is started when a customer inserts an ATM card into the card reader slot of the machine. The ATM pulls the card into the machine and reads it. The customer is asked to enter his/her PIN, and then selects withdraw from the menu items. The system asks the customer to choose a type of account to withdraw from (e.g. checking) from a menu of possible accounts, and to choose a dollar amount from a menu of possible amounts. The system verifies that it has sufficient money on hand to satisfy the request before sending the transaction to the bank. (If not, the customer is informed and asked to enter a different amount.) If the transaction is approved by the bank, the appropriate amount of cash is dispensed by the machine before it issues a receipt. (The dispensing of cash is also recorded in the ATM's log.)

2. Describe four non-functional requirements for the system described in question 1, and rank them according to the priority you would give them. Briefly justify this ranking.

3. Identify objects involved in the system description in question 1. Classify the objects as entity objects, boundary objects and control objects, and identify associations between the objects using a class diagram.

4. Describe the purpose of the bridge design pattern and contrast it with the adapter design pattern.

5. Explain the main principles of the Waterfall software development model, and the Spiral software development model and give a relative advantage of each.