CS3283 Assignment #1

21st January 2004

Due by 5pm on Tuesday, February 10, 2004
Delivered to Hugh, in both paper and electronic form

You may work in groups of (upto) three students. Do not bother asking for a group of four. The group members do not have to be from your tutorial group, and it is up to you to ensure that everyone contributes equally. Email Hugh with your group members before Friday 30th January 2004.

This assignment is worth 33% of your assignment mark (about 12% of your final mark). It consists of the development of a design/analysis document, with some modelling of the proposed design.

Your task...

Your task is to develop the overall design of a system with a GUI interface, intended to assist in the early identification and tracking of disease in Singapore. You can assume that your system has (fast) access to a database which has current and historical information about people. For example: it may contain

- People's home locations (Address/GPS location) and public personal information

- Each person's recorded temperature readings, and the date, time and location of each reading (perhaps derived from SARS declaration information)

- Movement and contact information (perhaps derived from contact/appointment information)

- Medical information about each person, derived from medical reports. You can assume that the medical information is in a searchable form - that is, if you wanted to identify all people with Flu-like symptoms you could search for this.

Your design might include screens to assist in

- identifying regions with a large number of infections per head of population

- identifying regions with large numbers of a particular symptom per head of population

- tracking down people who have possibly been exposed to a suspected disease

- identifying people who might possibly be infecting others

You may also consider other functionalities that you think are appropriate[1].

Your submission will include a description of the overall system architecture briefly (1-3 pages), but the bulk of the submission will be a GUI design/analysis document concerned with the GUI interface.

---

[1] I am aware that this is a very small outline for what might be a very large application. I hope you take this as an opportunity to try out some ideas - to aim for the sky, rather than the second floor...

Deliverables

- A title page containing your names and matriculation numbers.
- Table of contents...
- A one page introduction describing the application, including assessments of load, access to databases (which ones?), size of databases, ease of use... all in a brief non-technical style.
- A one to three page section describing the overall system architecture. Give a brief justification for the architecture chosen, and be as specific as you can about the chosen system components. You can invent plausible systems if you do not have the genuine technical details.
- A final section consisting of a five to fifteen page GUI design/analysis document containing

  - A brief summary of the user requirement, user profile and environment
  - An overview of the GUI interface design.
  - A more detailed description of the interface design, including
    * Prototype screens given as screenshots
    * Functional specifications (that is - say what the interface intends to accomplish - and include sensible constraints, such as timing)
    * Behavioural specifications (that is - show the flow of operation of the interface - you may use words, or UML activity diagrams, or ad-hoc diagrams)
    * Any justifications you can make for design decisions made - relating a particular design decision back to a particular user requirement.
  - A testing methodology for the interface (that is - how can you show that the interface is successful?)

Note that this assignment does not require you to implement the application, just to design one, and to model the design with prototype screens (You could use Java/Visual Basic/a graphics editor/coloured pens... anything as long as you show screenshots.)

Assessment

The assessment will be graded with the following weightings:

Introduction	10%
System architecture	15%
GUI design	60%
Extra	15%

- The "Extra" component of the assessment is for submissions which show clear evidence of extra thought or care.

- In evaluating the "GUI design" component, I will also be looking for "justifications you can make for design decisions".

Try to achieve clarity in your writing and take care in the structuring of the document.

COOPERATING VERSUS CHEATING

You are allowed to discuss the problems with your friends, and to study any background material with them, but the assignment *should be your own group's work*. **Copying** and **cheating** will be grounds for failing the assignment. **Do not cut-and-paste from web sites or any other document.**