Comp 3020 – Human-Computer Interaction I
Assignment #1
Handed out on: September 19th 2012
Due on: October 10th 2012, midnight

PART I – Introduction to the MSDN library (10%)

Get familiar with the online MSDN library. Follow the link on the course website named "Windows Forms". Using your own words answer the following questions from these pages in the MSDN library:
(a) "Creating a simple form": what is the method for showing a message box.
(b) "Event Handling": what is an event handler.
(c) "Creating a Windows Application project": what are the necessary steps in creating an application project.
(d) "Keeping a windows form on top": (a) describe one approach for maintaining a form as the topmost window in an application. (b) When would such a form be useful.
(e) "Menus and context menus": what are menus, shortcut menus, status bars, and toolbars.

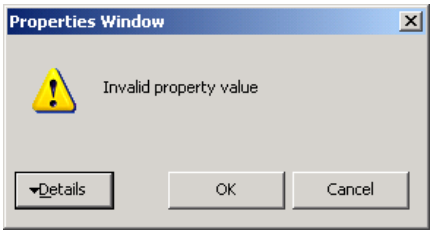
PART II– GUI components in .NET (30%)

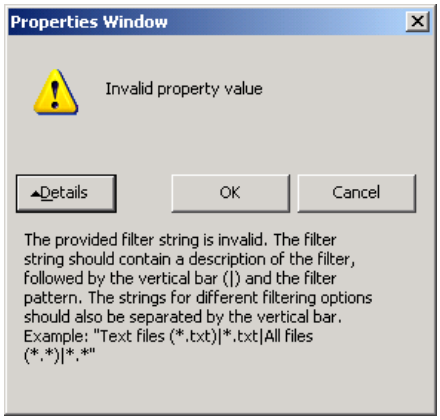
This part of the assignment is designed to get you familiar with .NET components. Treat each part separately by creating a separate .NET project (i.e. .exe) for each question.

(a) ListView
Use a list view control to show data (you should have at least 20 rows of data) in a tabular manner.

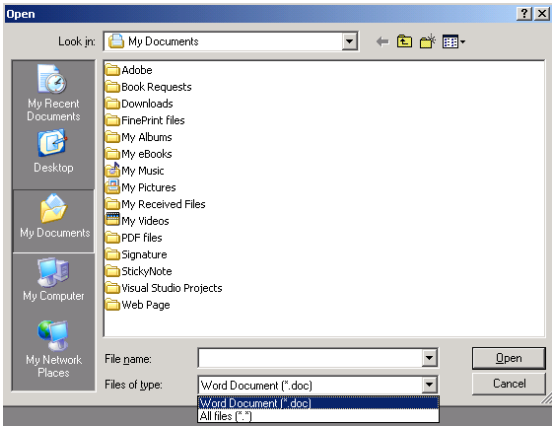
Course Number	Name	Instructor	# of Students
CS302	HCI	PPI	80
CS320	Database	MIA	95
CS255	Algorithms	NKA	45
…			

(b) Details Dialog Box
Implement a Form that behaves exactly like the Details Dialog Box shown below. It should have a "Warning" image and label, the same number and alignment of buttons. Upon requesting details, the form should expand as shown below. The user should also be able to close the detail view when done reading the message.





(c) Menu/Open Dialog
Design a menu as shown in the image below. Upon clicking on the Open item the Open Dialog appears. The Open Dialog should allow the user to select only "Word Documents (*.doc)" or "All Files (*.*)" (as depicted in the image below).



PART III – Scenarios and Task Analysis (60%)
Appendices I and II are provided to assist with your formulation of the answers of this part of the assignment. Using the problem given for the project, answer the following questions using the format suggested below:

(a) **User Profile:** provide a user profile or set of user profiles for your system. You should have more than one primary user.

(b) **Usability Criteria:** what are the most critical usability goals of the system? For each usability goal suggest at least two usability criteria.

(c) **User Experience Goals:** suggest two user experience goals for this system.

(d) **Identify Needs:** gather and identify the requirements for your system. A starting point will be to envision what your users may require of your system. You are required to identify and contact at least 2 primary users for this system. You could choose to use structured questionnaires, interviews, observations, or any other method and combination of methods discussed in class. Provide the rationale for choosing the methods used for requirements gathering.

(e) **Scenarios:** based on your set of user requirements, choose two different user profiles and produce 1 scenario for each one, capturing how the user is expected to interact with the system.

(f) **Task Analysis:** using the scenarios generated from your data gathering activities, perform a task analysis on 3-4 main tasks associated with your system. **Note:** Your main tasks should be something other than data management routines (adding/deleting/editing).

Hand-In: PART I, PART II & PART III: word document, source code and executable in one zip file named a1.zip per group. Delivery instructions will follow.

Appendix I – Sample guidelines for Part I

This appendix is provided to assist you with Part I of the assignment. Look at the assignment in chapter 7 on page 234. The scenario given requires that you design and evaluate an interactive website for booking tickets online for events like concerts, the theatre and the cinema. It further states that the current method for achieving this is inconvenient and requires that the user waits long hours in a queue.

For User Profile, Conceptual Model, Usability Criteria and User Experience Goals look at class notes. Below are samples for the remaining items of Part I.

1) Identify needs

The form of data gathering will depend on circumstances. There are plenty of people to talk to about how they obtain tickets for an event. You have to look closely at the intent, and not to be blinded by the way things are now. Also refer to the basic data gathering guidelines on page 216. Some basic considerations and example requirements from this scenario are given below. Note: I have not expanded on any of the following items. I would expect that you expand by justifying your answers. Your scenarios may be very different, and will hence yield very different requirements however they should be organized under the following headings:

Functional

The system should be able to offer alternative showing times if the one chosen is fully-booked.

Data

Film titles, showing times and ticket prices will be needed

Environmental (physical, social, organizational, technical)

The user might be in a variety of physical settings, and at different times of day, e.g. at home, in the street, in the rain, etc. In the scenario below Dan is probably sitting at a desktop computer but he could be using a cell phone.

User

There are potentially many different kinds of users. You must decide who your website is targeted for: children under 18? only adults with a credit card? What about visually impaired users, or the elderly who may have difficulties controlling their movement?

Usability

The website should be usable the first time, without any training.

The website should be memorable if users are only going to access it occasionally.

2) Scenarios

One user profile is a male student aged 17. A scenario for this user might be: "Dan enjoys taking part in virtual chat environments. Late one night, he is in conversation with someone who recommends that he go and see the latest James Bond movie that has just come out. It's too late to phone the local cinema to see if it's on there, so he decides to use the Internet to obtain some tickets for the following weekend. At the cinema website he looks for the film titles currently showing. The structure of the site is quite clear, and it's possible to go straight to the information about films and showing times. The James Bond movie is indeed showing. From this page, he can indicate the time of his choice and order the tickets. He chooses the 7pm performance, but the system tells him that this is fully booked and offers him alternatives: the

5.30pm and the 8pm showings both have available seats. The system displays the seating plan for the cinema, which shows the available seats for each showing, and how much each costs. Dan then chooses the seats and showing time that he wants and confirms the booking. Next year, when he has his own bank account, he'll be able to pay for tickets online too and they can be posted to him, but for now he must collect the tickets from the box office and pay for them an hour before the film starts. As he is partially deaf, he needs to double-check that the cinema is equipped with suitable sound amplification technology that links in to his hearing aid. Having completed his order, he returns to chatting with his friends."

3) Potential Tasks
The tasks Dan was involved with were:

- Finding if the film was on at the cinema
- Finding out the times of the showing
- Choosing the showing
- Choosing the seat
- Confirming the booking
- Checking for other facilities at the cinema
- If he had been able to pay then there would be a further task: Paying for the tickets.

NOTE: The above is not a task analysis, but simply a list of tasks that Dan could potentially perform.

Appendix II – Users and tasks

Step 1. Generating a list of potential users, and an initial list of tasks.
In this step, you interview knowledgeable people about their real-world tasks. Your goal is to generate an initial list of concrete task descriptions.

Get in touch with current or potential users. These users may now be using paper methods, competing systems, antiquated systems for doing their tasks. Interview them about why and how they do their work activities, and what they expect out of a system such as the one you propose, even if they are not currently using one. Ideally, this interview will occur while you are observing them do their work activities. These interviews and observations will give you some contact with users and give you a feel for the real situation. This will make you realize that 'the user' is not an abstract notion, but real people with real needs and concerns. It will help you put a face on the faceless, and will help you understand where they are coming from.

Step 2. Validating the tasks.
The next step is to get a reality check of your task list. Have end-users and/or representatives review your tasks. They should check to see if the tasks capture the variations of those done by real people, and if details are realistic. You should ask for details that were left out of the original task description, get corrections, clarifications, and suggestions, and then re-write the task descriptions.