CS 3194 Design Project

Due on or before April 25, 2001, 5:00 p.m.

This problem is to be done on a group basis following the Trinity University Academic Integrity Policy. Laboratory problems should be submitted electronically (e-mail to cs3194@ariel.cs.trinity.edu) on or before the due date and should contain a problem write-up, source code to any programs and data sets used in solving the problem. The submitted files should be ASCII text files having Unix end-of-line characters (please convert all Windows and Mac text files to Unix format–I have found that Emacs or the Stone Text Tool seem to do a reasonable job of such conversions). If several files need to be submitted, put them in a directory having name *your-last-name-problem-set-number* and create a tar archive of this file system and attach it to your e-mail problem submission.

Introduction

The third year design project is a user interface design problem which has constraints (in comparison to user interface design for programs run on desktop workstations). The problem is to design a user interface and produce a prototype implementation for a program which runs under the PalmOS on a handheld computer.

The constraints are:

- Program must run on a variety of PalmOS compatible computers.
- Program must be able to run on machines with only 1M memory.
- Program must have a well designed user interface even though the PalmOS screen size is 160 by 160 pixels.
- Input is constrained (no mouse, keyboard, buttons, etc.) so user interface designs must avoid unnecessary inputs.
- Program must run equally well on machines with color and grey-scale displays.

Design Groups

There are 48 third year students, so the class must divide itself into eight 6 person teams and each team must organize itself with a team leader and any other structure the team desires. Teams must be formed before the beginning of the second class period (January 17, 2001) and each team leader should e-mail to the instructor cs3194@ariel.cs.trinity.edu the team membership and organization.

Teams must make a problem selection and notify the instructor by e-mail cs3194@ariel.cs.trinity.edu before the beginning of the third class period (January 24, 2001).

Teams must submit preliminary design documents to the instructor by e-mail cs3194@ariel.cs.trinity.edu before the beginning of the fourth class period (February 7, 2001).

Design Problems

Following are a list of possible PalmOS user-interface design problems:

- One-handed input. Handicapped individuals having but one hand need to be able to hold the PalmOS machine and input information.
- Text File Browser.
- User interface for a *better* calculator.
- User interface for an interactive programming language such as Scheme or J.

Design Project Solution [HTML] [PS] [PDF]