Rubric (Spring 2011)

Senior Project

Assessment of Student Outcomes of the BS in Computer Science of the School of Computing and Information Sciences Florida International University

The School of Computing and Information Sciences evaluates the Senior Projects of its graduating seniors for the purpose of assessing the level of attainment of the Student Outcomes of the BS in Computer Science program.

Your responses to this survey will be used solely for the purpose of assessing the Student Outcomes of the BS in Computer Science program of the School of Computing and Information Sciences at FIU. This survey is expressly NOT for assessment of student performance in the SCIS Senior Project course for assignment of letter grade, nor for assessment of the instructor(s).

Rating Instructions

For each program outcome, you are provided with a check-list of 7 or more criteria that evidence attainment of that outcome. Please check all criteria that are presented in this project. You may include additional criteria that are not explicitly listed; if so, please record the additional criteria in the spaces provided. Unless noted otherwise, the number of criteria checked, up to a maximum of 5, should be recorded as your rating of attainment of that outcome evidenced in the project.

Project Title __PantherCare2_____

Semester & Year ___Spring 2011_____

Faculty / Industry Sponsor: __Dr. Peter Clarke, Mr. Steve Luis, Mr. Tom M Gomez

Team Members: Felipe Diep, Jaime Soto, Yoaime Hernandez, Raymond Chang-Lau, Paul Perez

Student Outcome *(a)*: *Demonstrate proficiency in the foundation areas of Computer Science including mathematics, discrete structures, logic and the theory of algorithms*

_X___ Project incorporates elements of mathematical reasoning or proof
(**e.g.** Lemma, Theorem, Propositional Logic, First Order Logic, Mathematical Induction)
Section 3.3 Project Cost of final deliverable

____ Project utilizes elements of discrete mathematics
(**e.g.** Set Theory, Boolean Algebras, Combinatorics, Graph Theory)

____ Project utilizes some statistical procedure(s) to represent or summarize test data
(**e.g.** Mean, Standard Deviation, Stem Plot/Histogram, Box Plot/Percentile-Graph)

____ Project utilizes some statistical measure(s) of system behavior or performance
(**e.g.** Probability Distributions, Confidence Intervals, Hypothesis Testing)

__X__ Project design utilizes finite state diagrams to model system behavior
Section 9.5 Design Models of final deliverable

__X__ Project utilizes some aspect(s) of formal computer science
(**e.g.** Automata, Turing Machines, Recursive Function Theory, Recursive Unsolvability)
Final Presentation Slide 17

____ Project utilizes some technique(s) of numerical analysis
(**e.g.**Error Estimation, Interpolation, Numerical Calculus, Linear Systems, Matrix Algebra)

____ OTHER: _____

____ OTHER: _____

Student Outcome (b): *Demonstrate proficiency in various areas of Computer Science including data structures and algorithms, concepts of programming languages and computer systems.*

Data Structures & Algorithms

____ Project utilizes an advanced data structure, (**e.g.** search tree, hash table, priority queue)

____ Project utilizes some graph algorithm, (**e.g.** shortest path, minimum spanning tree)

__X__ Project documents runtime analysis of selected algorithms
Section 6.3 Algorithm Descriptions

Concepts of Programming Languages

____ Project utilizes knowledge of programming language syntax
(**e.g.** Context-Free Grammars, Parse Trees, Ambiguity, Recursive Descent)

____ Project utilizes knowledge of programming language semantics
(**e.g.** Natural Semantics, Interpreters, Expressions, L- and R- Value, Environments)

____ Project demonstrates familiarity with programming language design issues
(**e.g.** Scoping Rules, Dynamic Type Checking, Static Type Checking)

Computer Systems (Database)

____ Project utilizes or designs an appropriate database management system

____ Project utilizes conceptual and/or relational schema

____ Project utilizes a database query language such as SQL

Computer Systems (Operating Systems)

____ Project implementation utilizes knowledge of memory management

____ Project implementation utilizes knowledge of process synchronization

____ Project documents analysis of tradeoffs in selection of system characteristics

____ OTHER: _____
____ OTHER: _____

Student Outcome *(c)*: *Demonstrate proficiency in problem solving and application of software engineering techniques.*

__X__ Project demonstrates knowledge of the Software Development Life Cycle
Section 1.3 Design Methodology of final deliverable

__X__ Project deliverables include Project Specification
Section 1.2 Scope of the System of final deliverable

__X__ Project deliverables include Feasibility Study and/or Project Plan
Deliverable 1 Feasibility Study

__X__ Project deliverables include Requirements Documentation
Deliverable 2 Requirements Document

__X__ Project deliverables include Design Documentation
Deliverable 3 Design Document

__X__ Project documents testing and/or evaluation of the implementation
Section 7 System Validation of final deliverable

_X___ Project incorporates system walkthroughs
Application User Guide

____ OTHER: __We have included the application installation guide_____

____ OTHER: _____

Student Outcome (d): *Demonstrate mastery of at least one modern programming language and proficiency in at least one other.*

_X___ Project is implemented using an appropriate high-level language
Chapter 6.4 Code Specification of final deliverable. Use of Java and Android SDK

__X__ Project implementation is reasonably efficient rather than "brute force"
Section 6.4 of final deliverable. Use of methods and libraries

_X___ Project implementation is modular and/or re-usable
Section 6.4 of final deliverable. Shows classes that can be used by other classes (email class)

__X__ Project implementation uses a modern API or Tool-Kit
Use of Eclipse and Android SDK

____ Project implementation utilizes recursion

____ Project implementation utilizes some advanced features, e.g. polymorphism

_X___ A project sub-system or module utilizes an appropriate programming language other than the primary implementation language, e.g. SQL, ML, assembly language
'HL7 and Style sheet' folder inside 'Deliverable4' folder contains the 'CCd.xsl' and 'HL7heart_rate.xml' files written in different language from main application

____ OTHER: _____

____ OTHER: _____

Student Outcome *(e)*: *Demonstrate understanding of the social and ethical concerns of the practicing computer scientist*

__X__ Project documents sources and references
Section 10 of final deliverable

__X__ Project identifies and addresses any relevant social issues
Section 1.1 of Final deliverable

__X__ Project identifies and addresses any relevant ethical issues
Section 1.1 of Final Deliverable (Problem definition helping users with disabilities)

_X___ Project identifies and addresses relevant legal issues
Copyright section of final deliverable

____ Project identifies and addresses any relevant privacy issues

_X___ Project documents anticipated impact on users/clients
Section 1.2 Scope of system of final deliverable

____ Project documents and addresses any anticipated technology impact issues

____ OTHER: _____

____ OTHER: _____

Student Outcome (f): *Demonstrate the ability to work cooperatively in teams*

_X___ Project completion evidences equitable participation by team members
Appendix H Diary of meetings of final deliverable

__X__ Project presentation(s) included all team members
Cover page of every deliverable and presentation stated the roles

__X__ Project team activity is documented
Appendix H Diary of meetings of final deliverable

__X__ Project team set out and followed a schedule for timely completion
Appendix A Project Schedule of final deliverable

_X___ Project team negotiated consensus when needed
Appendix H Diary of meetings of final deliverable

_X___ Team members roles were clearly defined and executed
Cover page of every deliverable and presentation stated the roles

____ Team members shared responsibility for success and failure

____ OTHER: _____

____ OTHER: _____

Program Outcome *(g)*: *Demonstrate effective communication skills*

__X__ Presentations described the essential features of the project
Final presentation. Docs, Input, Test

__X__ Presentations utilized good quality slides and presentation aids
All project presentations

__X__ Presenters utilized their time effectively
All project presentations/Videos from Dr. Clarke

_X___ Presenters spoke directly to the audience
All project presentations/Videos from Dr. Clarke

_X___ Technical features were communicated clearly
All project presentations/Videos from Dr. Clarke

__X__ Project artifacts clearly document all project features
All artifacts included for Final deliverable CD

__X__ Project reports are well organized and written
Final deliverable and documents included

____ OTHER: _____

____ OTHER: _____

Program Outcome (j): *Have experience with contemporary environments and tools necessary for the practice of computing*

_X___ Project utilized contemporary design tools
Deliverable 1, Section 3.1.2 (StarUML)

__X__ Project implementation utilized a modern IDE(s)
Deliverable 1, Section 3.1.2 (Eclipse with Android SDK)

____ Project utilized appropriate validation/testing tools

__X__ Project was demonstrated using appropriate presentation tools
All presentations and video included in deliverable4 folder

__X__ Project utilized appropriate project management tools (e.g., MS Project)
Section 9.1 Project Schedule of final deliverable

__X__ Project utilizes appropriate version control/document sharing tools
The documents were shared by the team, through DropBox

__X__ Project documents consideration of trade-offs in selection of tools
Deliverable 1 Feasibility Study

____ OTHER: _____

____ OTHER: _____

ABET Student Outcome

The program must enable students to attain, by the time of graduation:
(j) An ability to apply mathematical foundations, algorithmic principles, and computer science theory in the modeling and design of computer-based systems in a way that demonstrates comprehension of the tradeoffs involved in design choices. [CS]

Please comment on how this project "*demonstrates comprehension of the tradeoffs involved in design choices"*: