Rubric

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 checked criteria, up to a maximum of 5, should be recorded as your rating of attainment of that outcome evidenced in the project.

Project Title _____PantherCare_____

Semester & Year ___Fall 2010_____

Moderator (Faculty / Industry Sponsor): __Peter J. Clarke/ Steven Luis, Tom Gomez (Director of Program Management - Health Information Technology Initiative, FIU) _____

Evaluators: __Peter J. Clarke_____

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

_____   Project incorporates elements of mathematical reasoning or proof

_____   Project utilizes elements of set theory, Boolean algebras

_____   Project utilizes statistical procedures to summarize test data

_____   Project utilizes statistical measures of system behavior or performance

__X_   Project design utilizes finite state machines or automata to model system behavior

_____   Project utilizes some graph theoretic knowledge

_____   Project utilizes some techniques of numerical analysis

_____   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. balanced search tree, hash table

_____ Project utilizes some graph algorithm, e.g. shortest path, minimum spanning tree

_____ Project documents runtime analysis of selected algorithms

Concepts of Programming Languages

_____ Project utilizes some functional programming language (e.g., ML, Lisp)

_____ Project utilizes aspects of context-free grammars

_____ Project demonstrates familiarity with design issues such as scoping rules or dynamic type checking

Computer Systems (Database)

_____ Project utilizes an appropriately selected database system

_____ Project design utilizes conceptual and/or relational schema

_____ Project demonstrates understanding of physical database design

Computer Systems (OS)

_____ 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

__X_ Project deliverables include Project Specification

__X_ Project deliverables include Feasibility Study and/or Project Plan

__X_ Project deliverables include Requirements Documentation

__X_ Project deliverables include Design Documentation

__X_ Project documents testing and/or evaluation of the implementation

__X_ Project incorporates system walkthroughs

____ OTHER: _____

____ 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

__X_   Project implementation is reasonably efficient rather than "brute force"

_X__   Project implementation is modular and/or re-usable

_X__   Project implementation uses a modern API or Tool-Kit

____   Project implementation utilizes recursion

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

____   A project sub-system or module utilizes an appropriate programming language other than the primary implementation language, e.g. SQL, ML, assembly language

____   OTHER: _____

____   OTHER: _____

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

___   Project documents sources and references

__X_   Project identifies and addresses any relevant social issues

__X_   Project identifies and addresses any relevant ethical issues

__X_   Project identifies and addresses relevant legal issues

____   Project identifies and addresses any relevant privacy issues

__X_   Project documents anticipated impact on users/clients

____   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

__X_   Project presentation(s) included all team members

_X__   Project team activity is documented

__X_   Project team set out and followed a schedule for timely completion

_____   Project team negotiated consensus when needed

__X_   Team members roles were clearly defined and executed

__X_   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

__X_   Presentations utilized good quality slides and presentation aids

__X_   Presenters utilized their time effectively

__X_   Presenters spoke directly to the audience

_____   Technical features were communicated clearly

__X_   Project artifacts clearly document all project features

__X_   Project reports are well organized and written

_____   OTHER: _____

_____   OTHER: _____

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

_X__   Project utilized contemporary design tools

_X__   Project implementation utilized a modern IDE(s)

____   Project utilized appropriate validation/testing tools

_X__   Project was demonstrated using appropriate presentation tools

_X__   Project utilized appropriate project management tools (e.g., MS Project)

____   Project utilizes appropriate version control/document sharing tools

____   Project documents consideration of trade-offs in selection of tools

____   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*":