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 ___Team 1: PT Tool_____

Semester & Year __Fall 2010_____

Moderator (Faculty / Industry Sponsor): ____Joseph Cutrono_____

Evaluators: _____

_____

_____

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

_1___ Project incorporates elements of mathematical reasoning or proof

_1___ Project utilizes elements of set theory, Boolean algebras

_1___ Project utilizes statistical procedures to summarize test data

_1___ Project utilizes statistical measures of system behavior or performance

_1___ Project design utilizes finite state machines or automata to model system behavior

_0___ Project utilizes some graph theoretic knowledge

_0___ 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

_1___ Project utilizes an advanced data structure, e.g. balanced search tree, hash table

__1__ Project utilizes some graph algorithm, e.g. shortest path, minimum spanning tree

_1___ Project documents runtime analysis of selected algorithms

Concepts of Programming Languages

__0__ Project utilizes some functional programming language (e.g., ML, Lisp)

__0__ Project utilizes aspects of context-free grammars

_1___ Project demonstrates familiarity with design issues such as scoping rules or dynamic type checking

Computer Systems (Database)

_0___ Project utilizes an appropriately selected database system

_0___ Project design utilizes conceptual and/or relational schema

__0__ Project demonstrates understanding of physical database design

Computer Systems (OS)

__1__ Project implementation utilizes knowledge of memory management

__1__ Project implementation utilizes knowledge of process synchronization

__0__ 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.*

__1__ Project demonstrates knowledge of the Software Development Life Cycle

__1__ Project deliverables include Project Specification

__1__ Project deliverables include Feasibility Study and/or Project Plan

__1__ Project deliverables include Requirements Documentation

_1___ Project deliverables include Design Documentation

__1__ Project documents testing and/or evaluation of the implementation

__1__ 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.*

__1__ Project is implemented using an appropriate high level language

__1__ Project implementation is reasonably efficient rather than "brute force"

__1__ Project implementation is modular and/or re-usable

__1__ Project implementation uses a modern API or Tool-Kit

__0__ Project implementation utilizes recursion

_1___ Project implementation utilizes some advanced features, e.g. polymorphism

_1___ 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*

__1__ Project documents sources and references

__0__ Project identifies and addresses any relevant social issues

__0__ Project identifies and addresses any relevant ethical issues

__0__ Project identifies and addresses relevant legal issues

__0__ Project identifies and addresses any relevant privacy issues

__1__ Project documents anticipated impact on users/clients

__1__ Project documents and addresses any anticipated technology impact issues

____ OTHER: _____

____ OTHER: _____

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

__1__   Project completion evidences equitable participation by team members

__1__   Project presentation(s) included all team members

__1__   Project team activity is documented

__1__   Project team set out and followed a schedule for timely completion

__1__   Project team negotiated consensus when needed

__1__   Team members roles were clearly defined and executed

__1__   Team members shared responsibility for success and failure

_____   OTHER: _____

_____   OTHER: _____

Program Outcome _(g)_: _Demonstrate effective communication skills_

__1__   Presentations described the essential features of the project

__1__   Presentations utilized good quality slides and presentation aids

__1__   Presenters utilized their time effectively

__1__   Presenters spoke directly to the audience

__1__   Technical features were communicated clearly

__1__   Project artifacts clearly document all project features

__1__   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*

__1__   Project utilized contemporary design tools

__1__   Project implementation utilized a modern IDE(s)

__1__   Project utilized appropriate validation/testing tools

__1__   Project was demonstrated using appropriate presentation tools

__1__   Project utilized appropriate project management tools (e.g., MS Project)

__1__   Project utilizes appropriate version control/document sharing tools

__1__   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*":