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 _____ CVM Mediator_____

Semester & Year ___ Fall 2010_____

Moderator (Faculty / Industry Sponsor): ___Peter J. Clarke_____

Evaluators: ___Peter J. Clarke_____

_____

_____

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

____ 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

__X__ 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

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

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

_X___ 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)

__X__ Project utilizes an appropriately selected database system

__X__ Project design utilizes conceptual and/or relational schema

__X__ 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

____ 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

____ OTHER: _____

____ OTHER: _____

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

_X___ 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

_X___ Project identifies and addresses any relevant privacy issues

____ 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

_X___ 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

_X___ 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)

_X___ 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"*: