BS-CS Program Outcomes Check-List (Fall 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.

Please complete once per project/team. Your responses to this survey will be used solely to assist evaluators in locating assessment indicators in the documentation of your project.

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).

Project Title PSEUDONEXUS : SCIENTIFIC WORKFLOW SYSTEM

Semester & Year Fall 2011

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Team: Roberto Aleman
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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*

Discrete Mathematics

- Does the project incorporate elements of mathematical reasoning or proof?
  E.g. Theorem, Mathematical Induction, Propositional Logic, First Order Logic

Mathematical Reasoning / Proof	Deliverable	Page#
No	—	

- Does the project utilize other elements of discrete mathematics?
  E.g. Set Theory, Boolean Algebras, Combinatorics, Graph Theory

Discrete Math	Deliverable	Page#
No	—	

Probability & Statistics

- Does the project utilize some statistical procedure(s) to represent or summarize test data?
  E.g. Mean & Standard Deviation, Stem Plot/Histogram, Box Plot/Percentile-Graph

Data Summary	Deliverable	Page#
No	—	

- Does the project utilize some statistical measure(s) of system behavior or performance?
  E.g. Probability Distributions, Confidence Intervals, Hypothesis Testing

Statistical Measure	Deliverable	Page#
No	—	

Theory of Algorithms

- Does the project utilize finite state diagrams to model system behavior?

Finite State Machine	Deliverable	Page#
No	—	

- Does the project utilize some aspect(s) of formal computer science?
  E.g. Automata, Turing Machines, Recursive Function Theory, Recursive Unsolvability

Automata, etc.	Deliverable	Page#
No	—	

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

- Does the project utilize an advanced data structure, e.g. search tree, hash table, priority queue?

Data Structure	Deliverable	Page#
Yes	4	Source Code

- Does the project utilize some graph algorithm, e.g. shortest path, minimum spanning tree?

Algorithm	Deliverable	Page#
No	—	

- Does the project implement some other (non-trivial) algorithm?

Algorithm	Deliverable	Page#
No	—	

- Does the project analyze run-time complexity of any algorithms?

Algorithm	Deliverable	Page#
Yes	Presentations	3 & 4

Concepts of Programming Languages

- Does the project utilize knowledge of programming language syntax/parsing?
  E.g. Context-Free Grammars, Parse Trees, Recursive Descent

Syntax/Parsing	Deliverable	Page#
No	—	

- Does the project utilize knowledge of programming language semantics?
  E.g. Natural Semantics, Interpreters, Expressions, L- and R- Value

Semantics	Deliverable	Page#
No	—	

- Does the project utilize knowledge of design issues such as scoping rules, type checking?

Design Issues	Deliverable	Page#
No	—	

Computer Systems (Operating Systems)

- Does the project utilize knowledge of memory management techniques?

Memory Management	Deliverable	Page#
No	—	

- Does the project utilize knowledge of process synchronization?

Process Synchronization	Deliverable	Page#
No	—	

- Does the project utilize knowledge of distributed processing?

Distributed Processing	Deliverable	Page#
No	—	

- Does the project utilize knowledge of device management?

Device Management	Deliverable	Page#
No	—	

Computer Systems (Database Systems)

- Does the project utilize knowledge of information storage and/or retrieval?

Information Management	Deliverable	Page#
Yes	All	Any System Design Chapter

- Does the project utilize conceptual or relational database schema?

Schema	Deliverable	Page#
Yes	All	Any System Design Chapter

- Does the project utilize a database query language, e.g. SQL?

Query Language	Deliverable	Page#
Yes	All	Any System Design Chapter

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

- Where does the project document license/copyright, sources/references?

1 & 2	Trademarks and Copyrights Chapter	3 & 4	Trademarks and Copyrights Chapter
Deliverable	Page#	Deliverable	Page#

- Where does the project identify and address any relevant social issues?

1	Current System Chapter	4	Current System Chapter
Deliverable	Page#	Deliverable	Page#

- Where does the project identify and address any relevant ethical issues?

N/A		N/A	
Deliverable	Page#	Deliverable	Page#

- Where does the project identify and address any relevant legal issues?

N/A		N/A	
Deliverable	Page#	Deliverable	Page#

- Where does the project identify and address any relevant privacy issues?

N/A		N/A	
Deliverable	Page#	Deliverable	Page#

- Where does the project document any anticipated impact on users/clients?

N/A		N/A	
Deliverable	Page#	Deliverable	Page#

- Where does the project document any anticipated technology impact issues?

N/A		N/A	
Deliverable	Page#	Deliverable	Page#

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

To be completed by the team. List the tools and IDE's that you used at any stage of your project
Competency Rating Scale **5**: Expert, **4**: Advanced, **3**: Competent, **2**: Intermediate, *1*: Novice

____ **Presentation Aids** (MS PowerPoint, Adobe Acrobat, etc.)

Domain	Software / Tool	Competency
Presentation	Power Point	5
Demonstration	Chrome	5

____ **Document Preparation** (MS Word, MS Visio, LaTeX, UMLet, etc.)

Domain	Software / Tool	Competency
Document Editing	Microsof Word	5
Diagramming	Omnigraffle	5

____ **Programming Languages & IDE's** (Java, C, C++, C#, SQL, PhP)

Domain	Software / Tool	Competency
Programming Language	Java, perl, Python, JavaScript	4, 3, 3, 3
IDE or OS	Netbeans, vim	5, 4

____ **Project Management** (MS Project, AtTask, version control tools, etc.)

Domain	Software / Tool	Competency
Project Management	MS Project	3

____ **Modeling** (StarUML, Rational Rose, etc.)

Domain	Software / Tool	Competency
UML Modeling	Omnigraffle	5

____ **Database Management** (MS Access, Oracle RDBMS, Apache Cassandra, etc.)

Domain	Software / Tool	Competency
DBMS	Postgres	4

____ **Web Servers** (Apache Tomcat, Windows server, etc.)

Domain	Software / Tool	Competency
Web Server	Apache	4

____ **Software Testing Tools** (JUnit, Cobetura, etc.)

Domain	Software / Tool	Competency
Testing	JUnit	5

____ **Other:**

Domain	Software / Tool	Competency
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