

Rubric (Fall 2015)

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

Project Title: **Addigy Ver4**

Semester & Year: **Fall 2015**

Moderator (Faculty / Industry Sponsor): **Jason Dettbarn, Addigy**

Evaluators: **Juan Caraballo**

Student Outcome (a): *An ability to apply knowledge of computing and mathematics appropriate to the program's student outcomes and to the discipline.*

4

Enter n/a if this Knowledge Area is not significantly represented in this project. Otherwise, please record the number of checked criteria, up to a maximum of 5.

 X Students used math expressions in their project.

 X Students used logical expressions in their project.

 Students used statistics to characterize and interpret data in their project.

 X Students used models to solve problems in their project.

 Students performed data analysis in their project.

 X Students developed mathematical algorithms in their project.

 Students analyzed complexity and efficiency in their project.

 Students developed model for some processes in their project.

 Students used formal verification and formal proofs in their project.

Student Outcome (b): *An ability to analyze a problem, and identify and define the computing requirements appropriate to its solution.*

5

Enter n/a if this Knowledge Area is not significantly represented in this project. Otherwise, please record the number of checked criteria, up to a maximum of 5.

Students casted a real-world problem to a computing problem in their project.

Students modified problem definition as new information arrived in their project.

Students elicited requirement from users in their project.

Students developed requirements specifications in their project.

Students conducted feasibility studies in their project.

Students formulated solution strategies in their project.

Students estimated resources required for their proposed solution.

Students evaluated the space, time, and financial demands of their solution.

Students mapped identified appropriate languages, platforms, and hardware in their project.

Student Outcome (c): *An ability to design, implement, and evaluate a computer-based system, process, component, or program to meet desired needs.*

5

Enter n/a if this Knowledge Area is not significantly represented in this project. Otherwise, please record the number of checked criteria, up to a maximum of 5.

X Students applied software engineering principles to produce their solution to the problem in their project.

 Students considered alternatives technologies and development methodologies in their project.

X Students developed design documents in their project.

X Students used two or more high level languages in their project.

 Students developed metrics for testing and verifying their solution in their project.

X Students created a set of tests and use them to verify their solution.

X Students measured system performance and quality of service in their project.

Student Outcome (d): *An ability to function effectively on teams to accomplish a common goal.*

5

Enter n/a if this Knowledge Area is not significantly represented in this project. Otherwise, please record the number of checked criteria, up to a maximum of 5.

To be completed by an evaluator

All team members contributed equally to the project.

All team members activities were appropriately and adequately documented.

To be completed from the data obtained from team members' peer evaluations

Each team member rates each of the other members of their team individually on each criterion listed below on a scale of 1 to 5. The mean of all ratings for each criterion is recorded.

The rubric item is checked only if the project (mean) score ≥ 4.0 for each of the 2 criteria.

Team members' roles were clearly defined and executed

<u>Criterion</u>	<u>Mean Score</u>
1: <i>Team members had clear understanding of expectations.</i>	5.0
2: <i>Team members maximized the use of their individual skill sets.</i>	5.0

Project team set out and followed a schedule for timely completion

<u>Criterion</u>	<u>Mean Score</u>
3: <i>Team members complied with mechanisms to track progress.</i>	5.0
4: <i>Team members completed assignments in a timely fashion.</i>	5.0

Project team negotiated consensus when needed

<u>Criterion</u>	<u>Mean Score</u>
5: <i>Team members showed respect for other team members opinions.</i>	5.0
6: <i>Team members were able to negotiate and compromise.</i>	5.0

Project completion evidences equitable participation by team members

<u>Criterion</u>	<u>Mean Score</u>
7: <i>Team members contributed ideas and viewpoints.</i>	5.0
8: <i>Team members did their fair share of the work.</i>	5.0

Team members shared responsibility for success and failure

<u>Criterion</u>	<u>Mean Score</u>
9: <i>Team members actively sought & shared information from each other.</i>	5.0
10: <i>Team members were adaptable to changing requirements.</i>	5.0

Student Outcome (e): An understanding of professional, ethical, legal, security and social issues and responsibilities.

4

Enter n/a if this Knowledge Area is not significantly represented in this project. Otherwise, please record the number of checked criteria, up to a maximum of 5.

X Students demonstrated understanding of intellectual property issues in their project.

 Students demonstrated working knowledge of a code of ethics in their project.

 Students recognized situations where discrimination arose in their project.

X Students demonstrated proper etiquette and proactive social behavior in professional situations in their project.

 Students suggested remedies for specific situations which create a hostile work environment in their project.

X Students properly cited documents sources and references in their project.

 Students identified and addressed some relevant legal issues in their project.

 Students identified and addressed some relevant privacy issues in their project.

X Students identified and addressed some relevant security issues in their project.

Program Outcome (f): *An ability to communicate effectively with a range of audiences.*

5

Enter n/a if this Knowledge Area is not significantly represented in this project. Otherwise, please record the number of checked criteria, up to a maximum of 5.

Written presentation

 X **Completeness** Students documented all essential project features.

 X **Organization** Students provided a well-organized final document.

Oral Presentation

- 1) Rate each presenter individually using the oral presentation rubric provided
- 2) Record the presenters' ratings of each presenter in each rubric item
- 3) Calculate the mean presenter rating for each rubric item
- 4) **For each rubric item, check only if the mean score ≥ 3.0**

 X **Domain Knowledge:**

Presenter 1	Presenter 2	Presenter 3	Presenter 4	Presenter 5	Mean
4	3				3.5

 X **Organization:**

Presenter 1	Presenter 2	Presenter 3	Presenter 4	Presenter 5	Mean
4	4				4

 X **Presentation Aids:**

Presenter 1	Presenter 2	Presenter 3	Presenter 4	Presenter 5	Mean
4	4				4

 X **Elocution:**

Presenter 1	Presenter 2	Presenter 3	Presenter 4	Presenter 5	Mean
4	4				4

 X **Audience Contact:**

Presenter 1	Presenter 2	Presenter 3	Presenter 4	Presenter 5	Mean
4	3				3.5

Student Outcome (g): *An ability to analyze the local and global impact of computing on individuals, organizations, and society.*

n/a

Enter n/a if this Knowledge Area is not significantly represented in this project. Otherwise, please record the number of checked criteria, up to a maximum of 5.

___ Students demonstrated understanding of various ways in which computing technology impacts individuals in their project.

___ Students demonstrated understanding of various ways in which computing technology impacts organizations in their project.

___ Students demonstrated understanding of various ways in which computing technology impacts societies in their project.

___ Students identified key concepts, definitions, and facts associated with positive impacts of computer technology in their project.

___ Students identified key concepts, definitions, and facts associated with negative impacts of computer technology in their project.

___ Students demonstrated appropriate and comprehensive critical thinking skills and habits of mind to analyze, evaluate and synthesize evidence in their project.

___ Students recognized and suggested appropriate remedies for activities involving computing technology which affect adversely users of computing technologies in their project.

Student Outcome (h): Recognition of the need for and an ability to engage in continuing professional development.

4

Enter n/a if this Knowledge Area is not significantly represented in this project. Otherwise, please record the number of checked criteria, up to a maximum of 5.

 Students identified the competencies and knowledge required by particular application domains in their project.

 Students demonstrated knowledge of the history of computing and the rapidly evolving nature of the computing discipline in their project.

 X Students showed an understanding of what skill sets are currently desired by employers in their project.

 Students showed knowledge of computer-related professional organizations (ACM, IEEE), publications, and conferences.

 Students showed knowledge of various avenues for professional development past the undergraduate college experience.

 X Students demonstrated learning of a new development tool without instructor guidance in their project.

 X Students demonstrated the ability to research topics using the web, library, and professional publications in their project.

 X Students demonstrated ability to reflect on their learning process and their own understanding in their project.

Program Outcome (i): *An ability to use current techniques, skills, and tools necessary for computing practice.*

5

Enter n/a if this Knowledge Area is not significantly represented in this project. Otherwise, please record the number of checked criteria, up to a maximum of 5.

Self-ratings of competency are provided by the student project-team on the following scale:

5: Expert, **4:** Advanced, **3:** Competent, **2:** Intermediate, **1:** Novice

Check-mark is earned if the team's competency rating is 2 or higher.

 X Students used contemporary presentation and demonstration tools in their project.

 X Students developed artifacts using modern document preparation tools in their project.

 X Students employed management and/or version control software in their project.

 X Students utilized modeling software in their project.

 X Students utilized contemporary database management systems in their project.

 X Students performed web-based programming (server, web-page, etc.) in their project.

 Students performed testing using contemporary validation/testing software in their project.

Student Outcome (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.*

Mathematical Foundations

3

Enter n/a if this Knowledge Area is not significantly represented in this project. Otherwise, please record the number of checked criteria, up to a maximum of 5.

Students used math expressions in their project.

Students used logical expressions in their project.

Students used statistics in their project.

Students performed formal proofs.

Students implemented mathematical algorithms.

Students developed models in their project.

Students demonstrated the use of design trade off in their project.

Student Outcome (k): An ability to apply design and development principles in the construction of software systems of varying complexity.

5

Enter n/a if this Knowledge Area is not significantly represented in this project. Otherwise, please record the number of checked criteria, up to a maximum of 5.

Students contributed in the design and development of a small-, medium-, or large-scale software system in their project.

Students demonstrated understanding of the Software Development Life Cycle in their project.

Students developed Project Specification in their project.

Students performed Feasibility Study and/or develop Project Plan in their project.

Students developed Requirements Documentation in their project.

Students developed Design Documentation in their project.

Students performed and documented testing and/or evaluation of the implementation in their project.

Students performed system walkthroughs in their project.