

UNIVERSITY OF PUERTO RICO AT MAYAGÜEZ
DEPARTMENT OF ELECTRICAL AND COMPUTER ENGINEERING



Panda Code Review

A PROJECT PROPOSAL SUBMITTED AS A PARTIAL REQUIREMENT OF THE COMPUTER
ENGINEERING PROJECT DESIGN COURSE ICOM-5047

by:

Nelián E. Colón Collazo - Project Manager
Samuel A. Rodríguez Martínez
Daniel A. Santiago Rivera



For: Professors Nayda Santiago and José Fernando Vega
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Abstract

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Table of Contents

1	Executive Summary - <i>Samuel Rodríguez</i>	1
1.1	Project Overview	1
1.2	Deliverables	1
1.3	Milestones	1
2	Problem Statement - <i>Samuel Rodríguez</i>	1
3	Project Antecedents - <i>Daniel Santiago</i>	1
3.1	Previous Work Experience	1
3.2	Similar Projects	1
4	Objectives - <i>Samuel Rodríguez</i>	2
4.1	Objectives Outcomes and Metrics	2
4.2	Deliverables	2
5	System Overview - <i>Daniel Santiago</i>	2
6	Managerial Approach - <i>Nelián Colón</i>	2
6.1	Meetings and Work Hours	2
6.2	Team Management	2
6.3	Testing Restrictions	3
6.4	Schedule	3
7	Personnel - <i>Nelián Colón</i>	3
7.1	Skills Required	3
7.2	Consultancy Resources	3
8	Resource Requirements - <i>Samuel Rodríguez</i>	3
8.1	Required Resources	4
8.2	Resources Provided	4
9	Budget - <i>Samuel Rodríguez</i>	4

9.1	List of Components	4
9.2	Project Cost	4
10	Assessment Methods - Nelián Colón	4
11	Risk Management - Daniel Santiago	4
12	Impact and Other Issues - Daniel Santiago	4
12.1	Commitments	4
12.1.1	Project Scope	4
12.1.2	Legal Issues	4
13	Market Overview - Daniel Santiago	5
13.1	Potential Customers	5
13.2	Current of Potential Competition	5
13.3	Competitive Advantages	5
14	References	6
	Appendices	7
A	Schedule - Nelián Colón	7
B	Team Aguacate Members Biographies - Nelián Colón	7
B.1	Nelián E. Colón Collazo	7
B.2	Samuel A. Rodríguez Martínez	7
B.3	Daniel A. Santiago Rivera	7
C	Progress Assessment - Daniel Santiago	7
D	Documentation Standards - Daniel Santiago	7
D.1	Web Application	8
D.1.1	General Standards	8
D.2	Minimum Browser Standards	8
D.3	Application Testing	8

D.4 Database Standards	8
E Project Cost Details - <i>Samuel Rodríguez</i>	8
F Required Skills - <i>Nelián Colón</i>	8

1. Executive Summary

1.1 Project Overview

1.2 Deliverables

1.3 Milestones

2. Problem Statement

3. Project Antecedents

3.1 Previous Work Experience

The members of Team Aguacate have known each other for several years, many of which have been spent developing project for several courses and extracurricular activities, such as programming competitions. These previous experiences have allowed the team to build their teamwork abilities.

Since there are several online judges for programming competitions, and since they have been through the experience of having to submit code for programming labs, the team came up with the idea of using something similar to an online judge to facilitate not only their lives by making an easier tool to turn in programming assignments and getting grades faster, but also the instructor's that have to grade hundreds of these.

3.2 Similar Projects

In 1994, University of Maryland presented Kassandra: The Automatic Grading System [1]. As the title suggests, Kassandra is an automatic grading system that is used for grading assignments in scientific computing. This system is used by students to check the correctness of his/her program assignments. This is achieved by comparing the program output with the expected result.

A few years ago, a teaching assistance (TA) for the Data Structures course and former student at our University, José Santuche, developed a small script that would checkout his

students' code, run some tests and compare the results.

Panda Code Review (PCR) differs from the previous efforts because it is web based instead of a desktop application. PCR aims to provide a complete grading tool that, in addition of correctness checking, it will include code quality checking, in-line commenting capabilities for the TA to put comments if needed, an easy way to upload code, among other distinctive features.

4. Objectives

4.1 Objectives Outcomes and Metrics

4.2 Deliverables

5. System Overview

6. Managerial Approach

6.1 Meetings and Work Hours

Team Aguacate will have meetings every Tuesday and Thursday from 3:00 pm to 4:00 pm to discuss progress reports and project details. In each meeting, each member will state their progress, any needs he/she might have and if their schedule has changed. Work hours on assigned tasks will occur every Monday, Wednesday, and Friday from 9:30 am to 11:20 am unless there is a seminar scheduled for that day. Other work hours will be everyday, is possible, from 6:00 pm to 9:00 pm minimum.

6.2 Team Management

The meetings will be as described above and other meetings will be scheduled when needed. One of the purposes of these meetings is to make sure that each team member is aware of the other members' progress and concerns. Changes to these hours are to be discussed and decisions will depend on majority vote and team leader opinion. Each member will work in at least two modules.

6.3 Testing Restrictions

6.4 Schedule

A Gantt chart showing the project schedule is included in Appendix A

7. Personnel

7.1 Skills Required

Table 1: Work Distribution Table

Skill Required	Nelián	Samuel	Daniel
Project Management and Team Organization	Lead	Assist	
Repositories Creation			Lead
Code Result Checker	Lead		
Code Quality Checker		Lead	
In line comments	Lead		
Web Front End			Lead
Database Design?		Lead	
Diff tool		Lead	

For a more detailed list of requirements and task distribution see Appendix F as well as the Gantt Chart included in Appendix A.

7.2 Consultancy Resources

- Front-End Web Development
 - Consultant Expert: César Andreu

8. Resource Requirements

8.1 Required Resources

8.2 Resources Provided

9. Budget

9.1 List of Components

9.2 Project Cost

10. Assessment Methods

To help manage the project and collect information on each member's individual progress on their tasks, the project manager decided to use Zoho Projects. This tool allows to divide tasks. It also helps to know which tasks are still to be completed, and lets each user specify how much they have progressed in a specific task. The team will also have a Git repository where all the code that has been written will be stored, so that progress can also be measured from the amount of code already written. Project reports will also reside in a Git repository.

11. Risk Management

12. Impact and Other Issues

12.1 Commitments

12.1.1 Project Scope

12.1.2 Legal Issues

13. Market Overview

13.1 Potential Customers

13.2 Current of Potential Competition

13.3 Competitive Advantages

14. References

- [1] urs von Matt, “Kassandra: the automatic grading system,” in *ACM SICUE Outlook*, vol. 22, pp. 26–40, jan. 1994.

Appendices

A. Schedule

B. Team Aguacate Members Biographies

B.1 Nelián E. Colón Collazo

Nelián E. Colón Collazo was raised in Orocovis, Puerto Rico. She is a senior student currently pursuing her bachelor's degree in Computer Engineering at the University of Puerto Rico at Mayagüez. Nelián has a passion for programming, that's why she is currently specializing in Software and is always participating in programming competitions. She has been involved in undergraduate research both in her University and in the University of Texas at El Paso, and has done two summer internships at Honeywell Aerospace and Harris Corporation. Nelián also likes to be involved in leadership positions. She is currently the ACM-ECE's treasurer and the Tau Beta Pi - PR Alpha's Computer Engineering Representative. Appart from being a programmer, Nelián is also a musician. She plays the Puerto Rican Cuatro and Tiple with her well-known father, Edwin Colón Zayas.

B.2 Samuel A. Rodríguez Martínez

B.3 Daniel A. Santiago Rivera

C. Progress Assessment

D. Documentation Standards

D.1 Web Application

D.1.1 General Standards

Application must meet the following general standards:

- Must be easy and intuitive to use for the targeted audience.
- Must use styles that are consistent throughout the application and with the associated website.
- Must function in a logical manner for the targeted audience.
- Must adhere to industry best practices.

D.2 Minimum Browser Standards

Web application must function and display properly in the x browser versions.

D.3 Application Testing

Web applications and sites must be thoroughly tested in all required browser versions. They must be thoroughly tested in screen resolutions of 800 x 600 and 1024 x 768.

D.4 Database Standards

?

E. Project Cost Details

F. Required Skills
