"DAMPY: Damath in Python | Documentation

In Partial Fulfillment of the Requirements in the Major Subject

Modeling and Simulation

Submitted by:

Buenconsejo, Gian Paolo

Famoso, Nina Grace D.

Gavino, Bien D.

Malabanan, John Russelle B.

Masarque, Andy D.

Velano, John Kenneth M.

Submitted to:

Prof. Angelica P. Payne, LPT

Modeling and Simulation Adviser

Polytechnic University of the Philippines
1016 Anonas, Sta. Mesa, Maynila, Kalakhang Maynila
College of Computer and Information Sciences
December 2022

TABLE OF CONTENTS

Polytechnic University of the Philippines
1016 Anonas, Sta. Mesa, Maynila, Kalakhang Maynila
College of Computer and Information Sciences

PROJECT DESCRIPTION

'Dampy' is a game essentially based of off "Damath", a math board game that comes from the Philippine checkerboard game called "dama" and mathematics. This game allows two players to compete seamlessly in one device without the limitation of needing an actual board game before the users are able to play.

I.   Rules

Short introduction for the Dampy game. Etymology, origin, etc.

a. Board

Describe board, the numbers on the side, size, and symbols used.

Fig. 1: Game board

b. Pieces

Describe pieces along with their values.

Fig. 2: Pieces used with numbers

c. King Pieces

Describe king pieces, how they are attained, and what they do.

Fig. 3: King pieces

d. Scoring

Describe how players score, and how the scoreboard is used.

Fig. 4: Sample scoring

3

Polytechnic University of the Philippines
1016 Anonas, Sta. Mesa, Maynila, Kalakhang Maynila
College of Computer and Information Sciences

e. Winning Condition

Describe winning conditions.

Polytechnic University of the Philippines
1016 Anonas, Sta. Mesa, Maynila, Kalakhang Maynila
College of Computer and Information Sciences

PROJECT SCOPE

WORK TO BE ACCOMPLISHED

A game for desktop computers made for entertainment and numeracy exercise in mind, "Dampy," as compared to the conventional "Damath" game, is integrated with digital technology, making it convenient and easily accessible at any time of the day.

PURPOSE

The chief purposes for which this game is made are to entertain the users by engaging them into a 2-player game of combined strategy and mathematics, thereby enhancing their grasp of the four fundamental operation of integers, as well.

STAKEHOLDERS/USERS

Having a wide spectrum of potential users, this game is primarily intended from those who fancy mathematics and want to hone their basic skills even more, to people who just wants to play a quick virtual board game with their friends.

Polytechnic University of the Philippines
1016 Anonas, Sta. Mesa, Maynila, Kalakhang Maynila
College of Computer and Information Sciences

OBJECTIVES

SCHEDULE

Introduction.

1: to be able to fully develop and implement a "Damath" PC video game within Prof. Angelica Payne's given timeframe.

TECHNICAL

Introduction.

(1) to develop a pc game with little to no bugs,

(2) to fully build a functional playable math PC game, and

(3) to allow two players to seamlessly compete with each other in the game.

Polytechnic University of the Philippines
1016 Anonas, Sta. Mesa, Maynila, Kalakhang Maynila
College of Computer and Information Sciences

DELIVERABLES

INTERNAL

Introduction**.**

1. Initial system code in ".py" format

2. Testing & debugging results

3. Final system code in ".py" format

4. Executable file

5. Documentation

6. Flowchart

7. System logo

EXTERNAL

Introduction**.**

1. Toss coin

2. Two players take turns in moving a piece

3. The game ends either after the 20-minute game period or when a player has no more chips to move or when an opponent's chip is cornered.

4. The player with the greater accumulated total score becomes the winner of the game.

Polytechnic University of the Philippines
1016 Anonas, Sta. Mesa, Maynila, Kalakhang Maynila
College of Computer and Information Sciences

SUCCESS FACTORS

Introduction.

(1) the schedule and technical objectives is satisfied and are met on time,

(2) the game is fully developed and to be played without the occurrence of any bugs and errors, and

(3) the end-users are all satisfied after having played the game.

Polytechnic University of the Philippines
1016 Anonas, Sta. Mesa, Maynila, Kalakhang Maynila
College of Computer and Information Sciences

CLIENT/USER REQUIREMENTS

Introduction.

(1) two players willing to compete with each other, and

(2) a desktop computer on the Windows operating system.

Polytechnic University of the Philippines
1016 Anonas, Sta. Mesa, Maynila, Kalakhang Maynila
College of Computer and Information Sciences

IMPLEMENTATION

TASKS/ACTIVITIES

Task (produce system), Design, Development, and Presentation.

PROCEDURES

Lorem.

TOOLS/TECHNOLOGY

Introduction.

1. Microsoft Visual Studio Code
2. Python 3.11 with the following libraries:
   a. Pygame
   b. Put other libraries here <<
3. GitHub Desktop
4. Adobe Photoshop CC
5. Adobe Illustrator CC
6. Paint Tool SAI Ver. 2
7. Canva
8. Ableton Live
9. Audacity

PROJECT CHANGE CONTROL PROCESS

What in the crazy section?

Polytechnic University of the Philippines
1016 Anonas, Sta. Mesa, Maynila, Kalakhang Maynila
College of Computer and Information Sciences

FLOWCHART

Polytechnic University of the Philippines
1016 Anonas, Sta. Mesa, Maynila, Kalakhang Maynila
College of Computer and Information Sciences

INSTRUCTIONAL MANUAL

Short introduction for Dampy, the game inspired by Damath.

I.   Program

Introduce program specifications, language used, operating system, etc.

  a. Interface

    i.   Title Screen

Describe what is on the title screen.

Fig. 5: Main title screen

    ii.   Start

Describe what the start button does.

Fig. 6: Start button

    iii.   Options

Describe options screen.

Fig. 5: Options button

  b. Game Scene.

    i.   Scoreboard

Describe.

Fig. 5: Scoreboard

    ii.   Resume

Describe.

Polytechnic University of the Philippines
1016 Anonas, Sta. Mesa, Maynila, Kalakhang Maynila
College of Computer and Information Sciences

Fig. 6: Resume button

iii.　Restart

Describe.

Fig. 5: Restart button

iv.　Quit Game

Describe.

Fig. 6: Quit Game button

Polytechnic University of the Philippines
1016 Anonas, Sta. Mesa, Maynila, Kalakhang Maynila
College of Computer and Information Sciences

PROJECT TEAM

PROJECT MANAGER

Buenconsejo, Gian Paolo

    Responsibility.

TECHNICAL WRITERS

Masarque, Andy D.

Famoso, Nina Grace D.

    Responsibility.

LEAD PROGRAMMER

Velano, John Kenneth M.

    Responsibility.

TECHNICAL ARCHITECT

Gavino, Bien D.

    Responsibility.

SYSTEM ANALYST

Malabanan, John Russelle B.

    Responsibility.

Polytechnic University of the Philippines
1016 Anonas, Sta. Mesa, Maynila, Kalakhang Maynila
College of Computer and Information Sciences

PROJECT MILESTONES

- Project Identification: December 9, 2022
- Project Design: December 12, 2022
- Project Development: December 13, 2022
- Project Presentation:

Polytechnic University of the Philippines
1016 Anonas, Sta. Mesa, Maynila, Kalakhang Maynila
College of Computer and Information Sciences

ACKNOWLEDGEMENT

We, as a group, would like to acknowledgment each and every member of our team as they have contributed significantly to the "Dampy: Damath in Python" project. Without them, this project would not have been possible.

We also like to extend our thanks to John Paul M. Beltran for providing our program with two (2) musical scores. These tracks are used in the program's Title Screen, and Game Scene, and are named "x" and "y" respectively.

Polytechnic University of the Philippines
1016 Anonas, Sta. Mesa, Maynila, Kalakhang Maynila
College of Computer and Information Sciences

REFERENCES

https://www.youtube.com/watch?v=vnd3RfeG3NM

http://nebula.wsimg.com/1928d6652163924ff1bc8212f9ef1d0f?AccessKeyId=2E307E195F801D332374&disposition=0&alloworigin=1

https://www.academia.edu/44629148/Mobile_DaMath_a_game_for_basic_numeracy_exercise