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Intro to Programming Java
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# Project Game-Frame

## Game Frame: a frame for games

Our program presents a simple interface for playing and experimenting with multiple games easily without necessity of an emulator or other secondary system. Anyone interested in the beginning of video games may enjoy this program, which entails Pong, The Museum, and Color Wheel, all of which is seamlessly integrated into a cohesive menu. This would allow switching between games to be simple and intuitive.

## In depth description:

Our project Game-Frame includes our first game PONG, along with other games such as The Museum and Color Wheel. We designed these three games to be unique amongst themselves, for instance Pong is a more action-based game, The Museum is a text-based interactive game, while Color-Wheel utilizes colorful graphics. We use many different classes to split up and properly organize specific functionalities and methods into each class, associating them with different relationships of each other as shown in the UML Diagram. By separating different mechanics such as textures and sprites in one class and hitboxes and game mechanics in separate classes, it makes our project more organized since specific mechanics are easier to locate. The main interface you'll be interacting with is the GameFrame.java class.

Once you run the Starter.java program, you are presented with the main menu, which is an intuitive interface with the default game selected as Pong. Simply press "PLAY" to begin playing, or you can select other games by pressing the orange gear button. This would bring you to the game selection interface. From the interface, you can always go back to the main menu or you can select any of the three available games GameFrame has to offer.

## How to play:

### **Pong**:

For this game, you are going against a computer. You control the left paddle with the "W" and "S" keys, which moves the paddle up and down respectively. The computer is designed to follow the ball's position, so try your best to beat the computer by blocking the ball from scoring on your side.

### The Museum:

You are prompted to answer the questions presented by the Museum operator, feel free to ask anything you desire! Once you progress into the game, you will be presented with multiple options or scenarios. Choose any scenario to your liking to grant a desired outcome

### Color-Wheel:

This colorful little game has simple rules. You are prompted a screen that displays a color in text, with four color options, You'll have to click the color rectangle according what is displayed in text, but act fast! You only have a couple seconds to make you selection. Wrong selections would go against your score. The game gets progressively harder so try your best to achieve a high score before you lose.

## Class List:

Ball: Is a ball object for Pong. This class provides the textures for the ball object

Blank Template: Is a blank template for creation of objects

Constants: Is a class holding all project wide variables for testing purposes

Coordinates: Is a class containing coordinates so it can remains a constant for the entirety of the class project.

Game: Is the superclass of all game objects.

Game Frame: Is the frame for all graphics games

Graphics Game: Is a superclass of all graphics based game objects

Menu: Provides an interactive menu interface for the user. It contains all of the buttons inside the menu and is the main control panel of the program, as the user is free to choose any of the three available games to play. This program would run the selected game program accordingly.

Moveable Sprite: Is the superclass of all moveable sprite objects

Paddle: Is a paddle object for the pong class

Pong: Is a pong ball object

Sprite: Is the superclass for all sprite objects

Starter: The object containing the main for the project

Text Based: Is a text-based game object for The Museum

## Responsibility List:

**Elwin He (Graphics Guru) -** Worked on the entire menu interface, helped on color wheel classes and fixed bugs in The Museum and Pong. He was also dubbed as the Graphics Guru for the team because he created all of the beautiful art graphics in the menu interface and some of color wheel from Photoshop. Other than that, he also was the only one to work on the slides and also played a major role in the creation of the ReadMe.

**Krishan Patel (Fix-it-legend) -** Worked on the game mechanics of Color-Wheel and looked over the ReadMe. He also created the Pong-Physics code and attempted the menu program. Other than that, he did try to fix errors on the code, thus he is dubbed the Fix-It-Legend in our team.

**John Whitney  (Game Artist Master Extraordinaire) -** Truely a **GAME** artist, he was arguably the most knowledgeable person in our group and created almost the entirety of Pong and The Museum. He also made the UML diagram, contributed to the making of the ReadMe, and taught other members of the various class functionalities.

Note: Although we all started out strong, the group started to fall apart towards the end of May. Every member had preassigned tasks to complete before a certain deadline, but it turns out one or two members had trouble getting their work done, despite the constant reminders on the group chat.

## Credits:

Mr. Taylor - Example code

Stack overflow - Concept explanation

The Java API - Syntax and capabilities