



| **İstanbul
Bilgi Üniversitesi**

LEARN WITH MONKEY

Game Design Document

CMPE 100 - HOMEWORK 02

122200116 Lara Doğan

123200078 Sahra Demir

122200088 Bekir Gündağ

Fall 2023

1. Preliminary Research

1.1. Learning about preschoolers

To decide on our game, we researched what preschool children need to know. As a result, we built our game to test and make learning fun for abilities like counting up to five, matching shapes, and matching colors.

2. Summary

2.1 Game Concept

Nature and cartoon themed game. In the jungle, the lion king drops his crown and the gems get lost. Main character monkey tries to find gems with the help of other animals such as Octopus and Frog. The player work together with friendly animals. There are four game backgrounds: jungle, lake, underwater and ground. In the jungle scene, the player selects game to play, view the story scenes and the game over scenes. In the lake scene, the player tries to choose the right amount of gems in the leafs with frog's directions. In the underwater scene, the player tries to find right shaped fishes (because fishes ate the gems) with octopus's directions. In the ground scene, the player tries to find right colored gems with the monkey's directions and lion's help.

With a fun story, children learn numbers, shapes and colors. Also they learn the importance of friendship, helping each other and loving animals.

2.2 Genre

Educational child game.

2.3 Target Audience

Preschool children who loves nature, animals and learning.

3. Gameplay & Mechanics

3.1 Game Controls

The player use mouse to click with left click.

3.2 Coding Language

DrRacket, Advanced Student Language.

4. Design of Code

4.1 Common Functions

ClickCoordinates: Find coordinates of objects to click at screen.

UpdateScore: Update score.

ChangeQ: change the counter and game score.

4.2 Home

drawHome: Draw the Home (Menu) Scene.

ClickHome: Click buttons to choose the game to play in the Home Scene.

4.3 Comics (Game Stories)

drawFrogComic: Draw the Frog Comic Scene which related to the game next.

drawOctoComic: Draw the Octopus Comic Scene which related to the game next.

drawLionComic: Draw the Lion Comic Scene which related to the game next.

ClickFrogComic: Click to skip the Frog Game.

ClickOctoComic: Click to skip the Octopus Game.

ClickLionComic: Click to skip the Lion Game.

4.4 Frog Game (Numbers)

NumberQuestion: Change the question based on counter randomly.

NumberText: To show the question what the game wants.

DrawFrogGame: Draw the Frog (Number) Game.

ClickFrogGame: Click to the leafs in the Frog Game.

4.5 Octopus Game (Shapes)

ShapeQuestion: Change the question based on counter randomly.

ShapeText: to show the question what the game wants.

drawOctoGame: Draw the Octopus (Shape) Game.

ClickOctoGame: Click to the fishes in the Octopus Game.

4.6 Lion Game (Colors)

ColorQuestion: Change the question based on counter randomly.

ColorText: To show the question what the game wants.

drawLionGame: Draw the Lion (Color) Game.

ClickLionGame: Click to the gems in the Lion Game.

4.7 Game Over Scenes

drawWin: Draw Win Scene.

drawLose: Draw Lose Scene.

ClickWin: Click in the Win Scene.

ClickLose: Click in the Lose Scene.

4.8 Game Functions

drawGame: Draw scenes related to the current scene.

ClickGame: Clicks for the right coordinates related to the current scene.

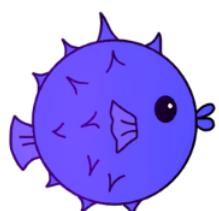
5. Game Elements

Clickable elements.

5.1 Fishes

Fish that swallow jewels and take the shape of the jewels.

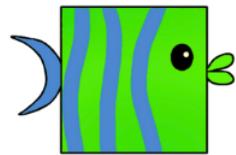
5.1.1 Circle Fish



5.1.2 Rectangle Fish



5.1.3 Square Fish



5.1.4 Triangle Fish



5.2 Gems

Precious gems falling from the lion's crown.

5.2.1 Red Gem



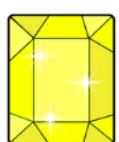
5.2.2 Blue Gem



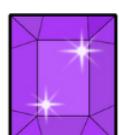
5.2.3 Green Gem



5.2.4 Yellow Gem



5.2.5 Purple Gem



5.3 Leaves

Leaves in the river with jewels on them.

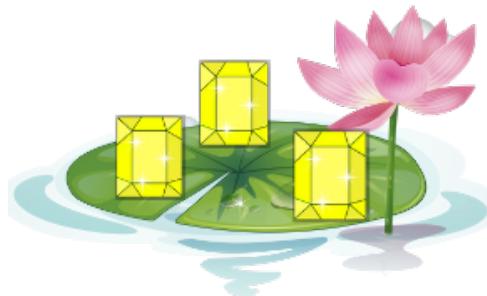
5.3.1 Leaf with one gem



5.3.2 Leaf with two gems



5.3.3 Leaf with three gems



5.3.4 Leaf with four gems



5.3.5 Leaf with five gems



6. Game Distribution

6.1 Lara Doğan

Lara took on the Lion game and the menu section of our game. She also wrote some functions like changing the questions. Additionally, she drew the fishes for the Octopus Game and designed the menu.

6.2 Sahra Demir

Sahra took on the Frog game and the comics section of our game. She also wrote the random function to select questions. Additionally, she designed the comics with Bekir.

6.3 Bekir Gündağ

Bekir took on the Octopus game and the game over section of our game. He also coded the logic of the screen replacement. Additionally he designed the comics with Sahra.

6.4 Conclusion

In general, the three of us have written the code together. Although we assigned tasks for three different games and scenes, we supported each other as a team. We wrote the general outlines of the code together and made decisions collectively.