MEMORY GAME
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DESIGN BRIEF

Primary Objective

Design and develop a memory game using python and its modules. I will be using Python 3 and the Pygame module since it is easy to make simple games like this memory game.

Target Audience

The target audience is for everyone. The game can be played by people of any age.

Program Specifications

My memory game generates 6 random characters and the player is given a time frame in which they will have to remember the characters generated. The time frame will be different depending on which difficulty has been chosen. Some limitations of the program are that the timer functions in Pygame causes the game to freeze until the timer is finished.
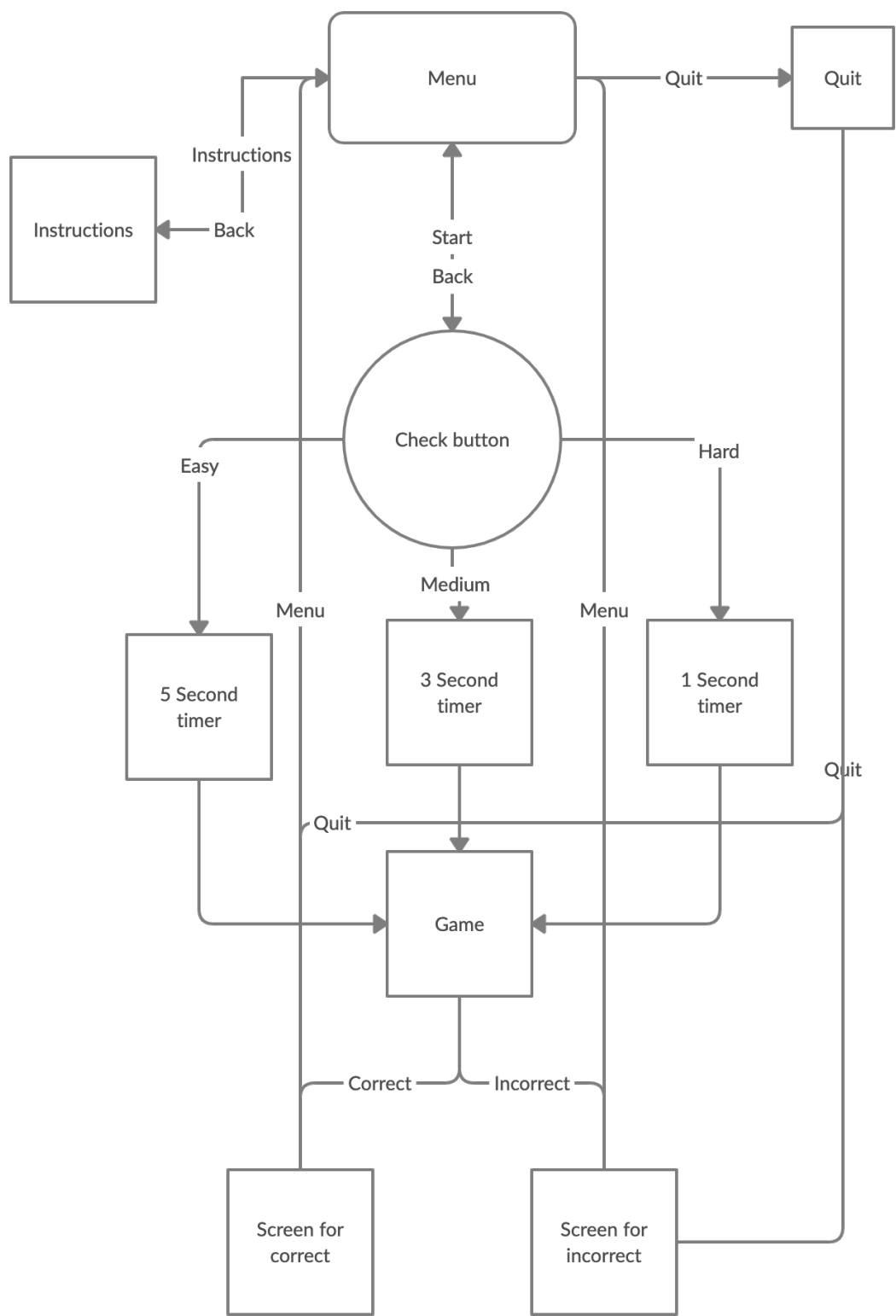
SKETCHES

Look at "Sketches.pptx"

IPO DIAGRAM (INPUT PROCESS OUTPUT)

Input	Process	Output
Quit button	Calls quit function	Quits game
Start button	Calls select difficulty function	Shows difficulty selection screen
Instructions button	Calls instructions function	Shows instructions
Back button	Calls the previous screen's function	Shows the previous screen
Easy button	Calls the timer function that lasts 10 seconds then calls the game screen	Shows game screen
Medium button	Calls the timer function that lasts 5 seconds then calls the game screen	Shows game screen
Hard button	Calls the timer function that lasts 5 seconds then calls the game screen	Shows game screen
Enter button: With correct answer	Calls a function that checks if the user's input is equal to the answer then calls the screen for correct	Shows correct screen
Enter button: With incorrect answer	Calls a function that checks if the user's input is equal to the answer then calls the screen for incorrect	Shows incorrect screen
Menu button	Calls menu function	Shows menu screen

DATAFLOW

Menu

Quit → Quit

Instructions

Instructions ← Back

Start
Back

Check button

Easy

Hard

Menu

Medium

Menu

5 Second timer

3 Second timer

1 Second timer

Quit

Quit

Game

Correct

Incorrect

Screen for correct

Screen for incorrect

ALGORITHM DESIGN

Pseudocode

Look at "Pseudocode.pdf"

PROGRAM TESTING

Input	Expected Output	Actual Output
Quit button	Quits game	Quits game
Start button	Shows difficulty selection screen	Shows difficulty selection screen
Instructions button	Shows instructions	Shows instructions
Back button	Shows the previous screen	Shows the previous screen
Easy button	Timer then shows game screen	Timer then shows game screen
Medium button	Timer then shows game screen	Timer then shows game screen
Hard button	Timer then shows game screen	Timer then shows game screen
Enter button: With correct answer	Shows correct screen	Shows correct screen
Enter button: With incorrect answer	Shows incorrect screen	Shows incorrect screen
Menu button	Shows menu screen	Shows menu screen

CODED PROGRAM

Game Code

Included in "Game" folder

Game Code Screenshots with explanation

Look at "Game Screenshots.pdf"

DOCUMENTATION

User Manual

Look at "User Manual.pdf"

Technical Manual

Look at "Technical Manual.pdf"

Copy of Code

Look at "Copy of Code.pdf"

LOG BOOK

Look at "Log Book.pdf"