



SONG Match

with **Cozmo**

Robotic Music Game

Programmers

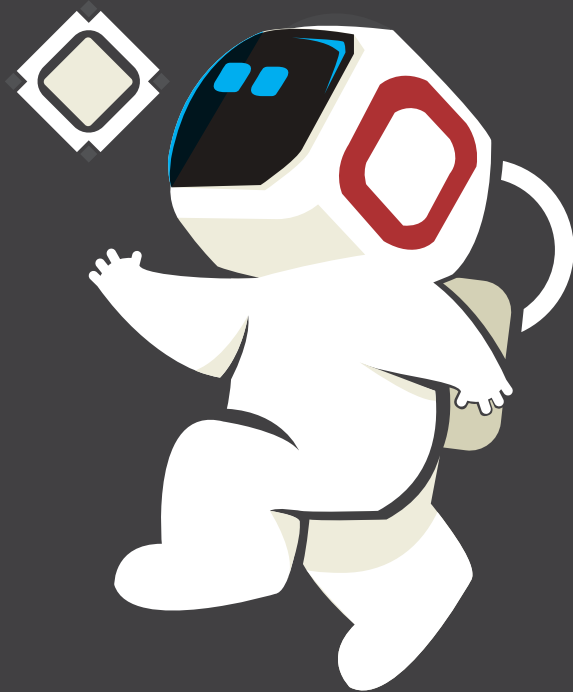
Team Members:

Kevin Blank

G Roques

Ricky Wilson

Briton Powe



Index



Programmers - 1



Getting Started - 3

What is Needed - 3

Basic Set-up - 4

Set-up Instructions - 5



Playing Song Match - 6

Song Match Game Flow - 6

Rules of the Game - 7

Game Start

Player's Turn

Cozmos Turn

Game End



Troubleshooting - 8

Common Issues - 8

Problems with Cozmo

Problems with Cubes

Problems with Application

Additional Help

Common Questions - 9



What is Needed



Cozmo Robot

1



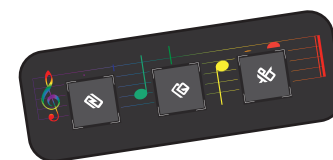
3 Cozmo Cubes

2



Smartphone

3



Game Mat

5



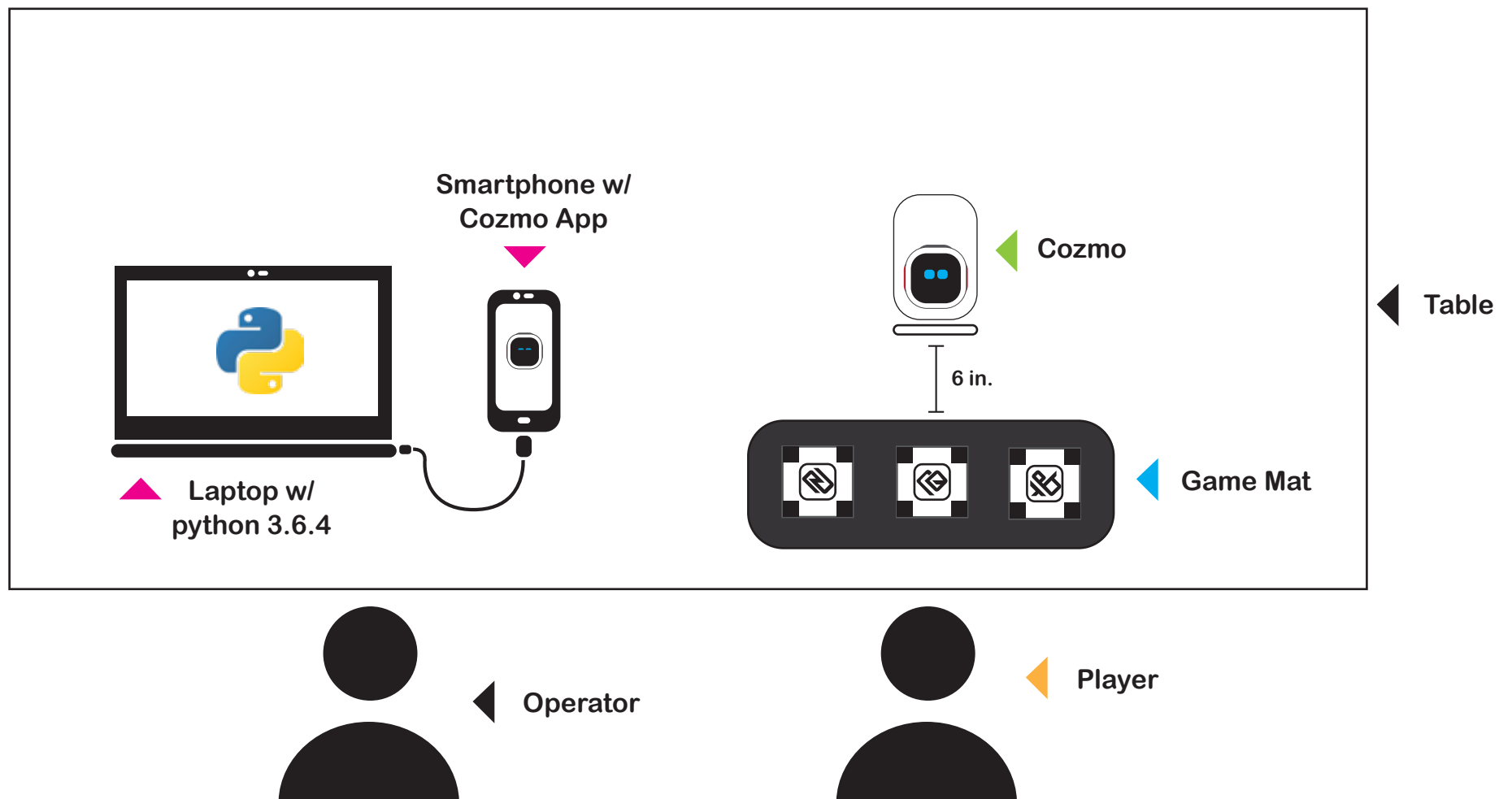
Computer

4

In order to play Song Match, you will need the following items:

- The phone will need the cozmo app installed.
- The computer needs python 3.6.4 installed

Basic Set-up



Set-up Instructions

1

Start by connecting your smartphone (or tablet) to the computer. The computer provided will be set-up according to instructions in the programmer's guide. The programming instructions are available at:

<http://cozmo-song-match.readthedocs.io/en/latest/setup.html>

2

Start the SDK on the smartphone. To do this, open the Cozmo app, and click "Connect" on the home page. Once the app connects to Cozmo, select settings and navigate to the "SDK" section and select "Enable SDK". A black screen should appear with a big green button on the bottom of the screen.

For additional information on the SDK, you can check out:

<https://developer.anki.com/blog/learn/tutorial/getting-started-with-the-cozmo-sdk/>

3

Open a command window (Windows) or terminal (Linux/Mac) and navigate to the Song Match folder. Type the command "python3 main.py"(without quotes).

4

In front of the player, place the cubes on the game mat.

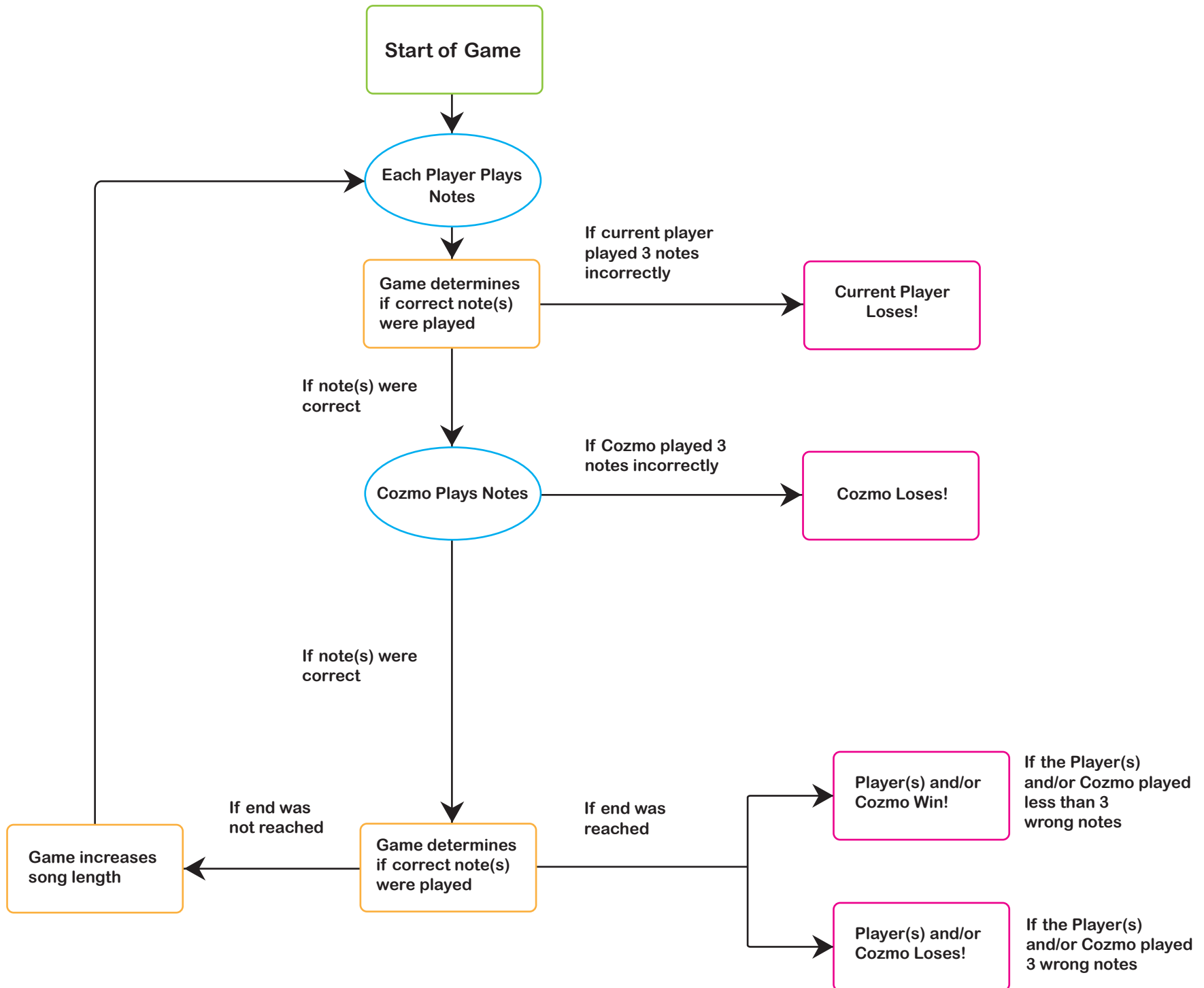
5

Place Cozmo roughly 6 inches in front of the cubes facing the player. If Cozmo is too close, he cannot see all the cubes and the game will not start. Make sure that Cozmo's face isn't blocked. If his arm bar is raised, lower it. Make sure there is appropriate lighting. If the lighting is too bright, it is hard to see the color of the cubes. If it is too dark, Cozmo will not be able to see the cubes.

6

Cozmo will prompt the player to select between 1-3 players by turning to the corresponding cubes. Select the number of desired players. The game will begin once the number of players is selected.

Song Match Game Flow



Rules of the Game

Game Start

1

The cubes start the game by playing three notes of a song. The player(s) must then mimic the notes in the order that the cubes played them. After the player(s) has finished, Cozmo tries to play the same order of notes. If the player(s) or Cozmo play the correct order of notes, the cubes flash green and the length of the sequence will increase for the next round. If the player(s) or Cozmo play a wrong note, the cubes will flash red. The cubes will repeat the previous sequence plus the next note(s).

Player's Turn

2

On each player's turn, the player must repeat the notes played by the cubes. To play a note, the current player must tap the corresponding cube. When tapped, the cube will light up and sound. Each round, the game will increase the notes needed to be played. This will continue until the game reaches the end of the song, or the player plays the wrong note 3 times and is out of the game.

Cozmo's Turn

3

On Cozmo's turn, he will try to repeat the correct sequence of notes. Cozmo plays a note by turning towards the cube and tapping his lift bar. Same with the player(s), the game will increase the notes needed to be played each round. This will continue until the game reaches the end of the song, or Cozmo plays the wrong note 3 times and is out of the game.

Game End

4

If a player and/or Cozmo complete the entire song with less than 3 wrong notes, they win the game. If a player and/or Cozmo played 3 wrong notes, then they lost the game.

Common Issues

Problems with Cozmo

If Cozmo becomes out of alignment with the cubes, place him roughly 6 in. from the center cube, facing the last cube he played.

If Cozmo becomes unresponsive, close the instance of the application and re-run the bat file to restart the game.

Problems with Cubes

If the Cubes are not detected by Cozmo, the game will not begin. Try moving Cozmo slightly further away from the cubes as mentioned in the [Basic Set-up Instructions](#) on page 5.

If the batteries in the cubes are low, refer to the Anki Cozmo guide book to change them.

Problems with the Application

If the program encountered an error and unexpectedly stops, close any instance of the program still open and re-run the application.



Additional Help

Additional information for this game, can be found online at:

<http://cozmo-song-match.readthedocs.io/en/latest/index.html>

The code for this game can be found on the project's GitHub page:

<https://github.com/gbroques/cozmo-song-match>

Additional information on Cozmo can be found on Anki's website at:

<https://www.anki.com/en-us/cozmo>

Common Questions

1

Q: How long does Cozmo run on a single charge while playing Song Match?

A: approximately 45 minutes.

2

Q: How long does it take to fully charge Cozmo?

A: approximately 30 minutes.

3

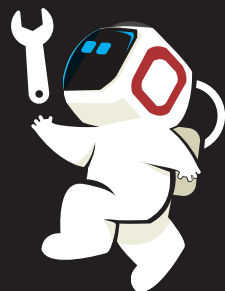
Q: How do you envision an entire session with Song Match?

A: With the Operator running the app, the player plays each sequence with Cozmo following. Play time approximately 5 - 10 minutes.

4

Q: How is Cozmo really playing the game?

A: Cozmo turns to each cube based on the sequence. Each round, he will have a chance to make a mistake (increasing as the game goes along). His reaction is synched to whether he played correctly or not.



COZMONAUTS
CODING