IIT BOMBAY, CS101 2013

Carrom GUI

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1 OBJECTIVE

Program allows 2 users to play a game of Carrom.

2 INPUT

1. Through Canvas- Input through mouse on initCanvas which provides direction and speed to goti.
2. Through Terminal- At starting of game name of players is taken as input through terminal.

3 OUTPUT

1. Canvas Output The output(game) comes on initCanvas.
2. File Output File output goes to a log file (Previous_game.txt) which consists information about each turn of previous game.

4 PROCEDURE

STEPS

1. Enter names of the two players.

2. Set the striker by first click.

3. By second click give power and direction to striker.

4. Power(speed) is directly proportional to distance of click from position of striker.

5 MAJOR CLASSES/FUNCTIONS

5.1 CLASSES

1. Velocity : Stores the x and y components of velocity.

2. Acceleration : Stores the x and y components of acceleration.

3. Goti : Stores the attributes of goti its circle,velocity,acceleration and address of next goti.

4. List : Stores address of the starting goti.

5.2 MAIN FUNCTIONS

1. structure : this creates the board of the game.

2. set : Theese functions are used to set values for velocity and acceleration.

3. time_till* : These functions give time till a particular event. Example - time_till_collision_with_wall.

4. min : This function takes input from the several time_till function and return the value of time till the first event.

5. collision_with* : These functions Change the velocity according to the type of collision. Example - collision_with_wall.

6. Function of goti and list class. Example - stop(goti),add(list).

6 ALGORITHM

1. Two lists l_mov,l_stat are created l_mov contains all moving gotis l_stat contains all stationary gotis.

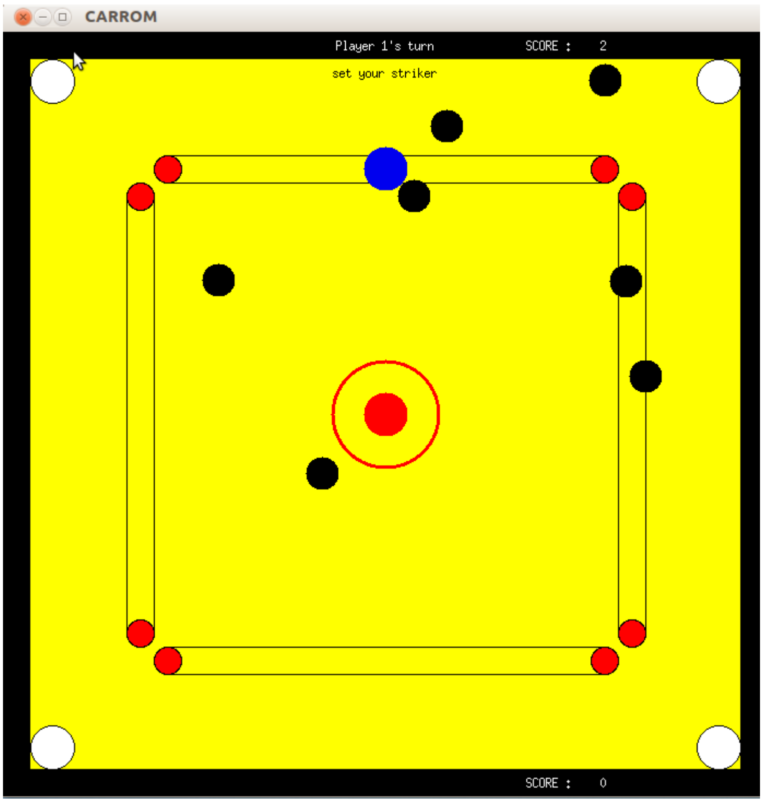
2. min function is called which takes input from : time_till_stop,time_till_collision_with_wall, time_till_collision_with_ball_stationary, time_till_collision_with_ball_moving, time_till_going_in_the_pocket for every goti.

3. From these inputs it returns the type of event and the minimum time and goti corresponding to event of minimum time are stored through pointers p and q.

4. The gotis are moved till the minimum time returned by min function.

5. The corresponding changes to the velocity and acceleration of gotis (in cases of collision) and changes to l_mov and l_stat (in cases like stopping) are applied using the type of event and pointers (p and q).
6. The turn is considered to be at end when no goti is moving.
7. This procedure is repeated till all the gotis go in the pockets.

7 IMAGE



8 HOW TO RUN THE CODE

Configure the simplecpp folder given in the folder (project will not run on default simplecpp due to lack of getX and getY functions). Compile the carrom.cpp file using the above mentioned simplecpp. Execute a.out using terminal.