GMI Project - Tetris touch

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TETRIS
TOUCH

BRAINSTORMING

Classic Tetris game

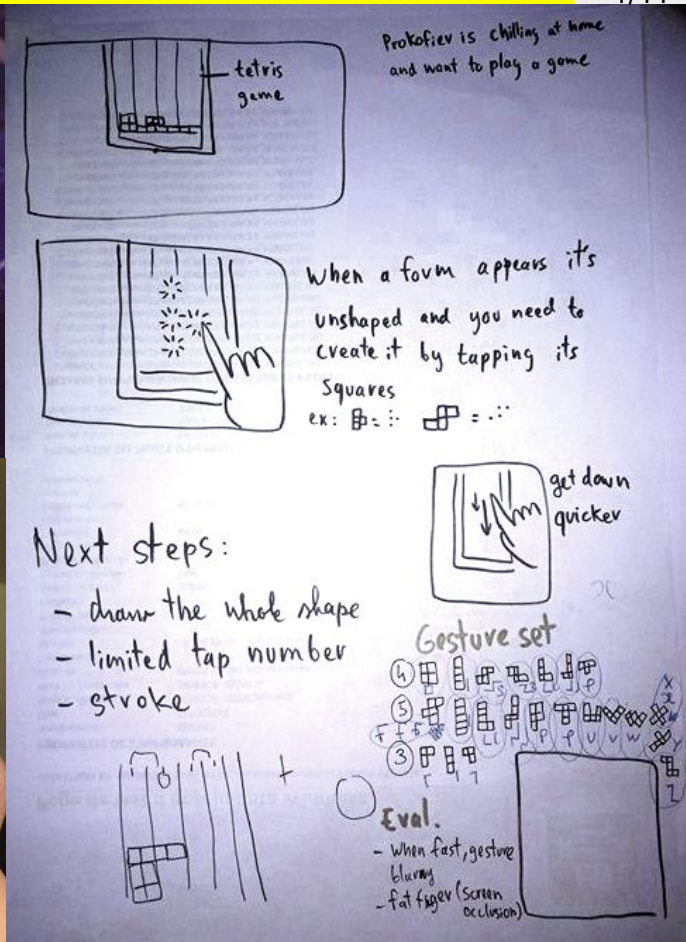
Shape imposed

Position/Rotation to choose

our Tetris Touch

Position imposed

Shape/Rotation to choose

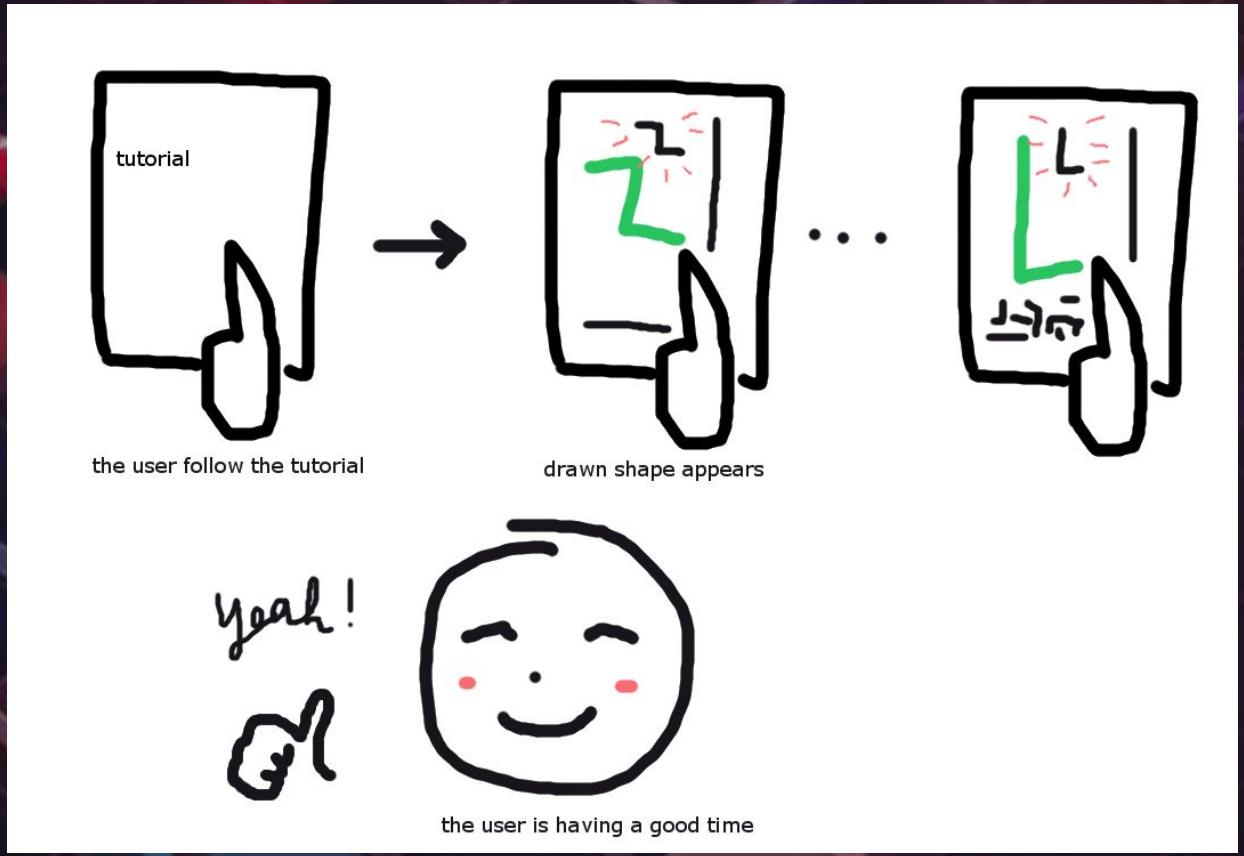


USER SCENARIO

It's 12:03 and Roberta want to play a tetris game on her phone to have fun while she waits for her friend for lunch

STORYBOARD

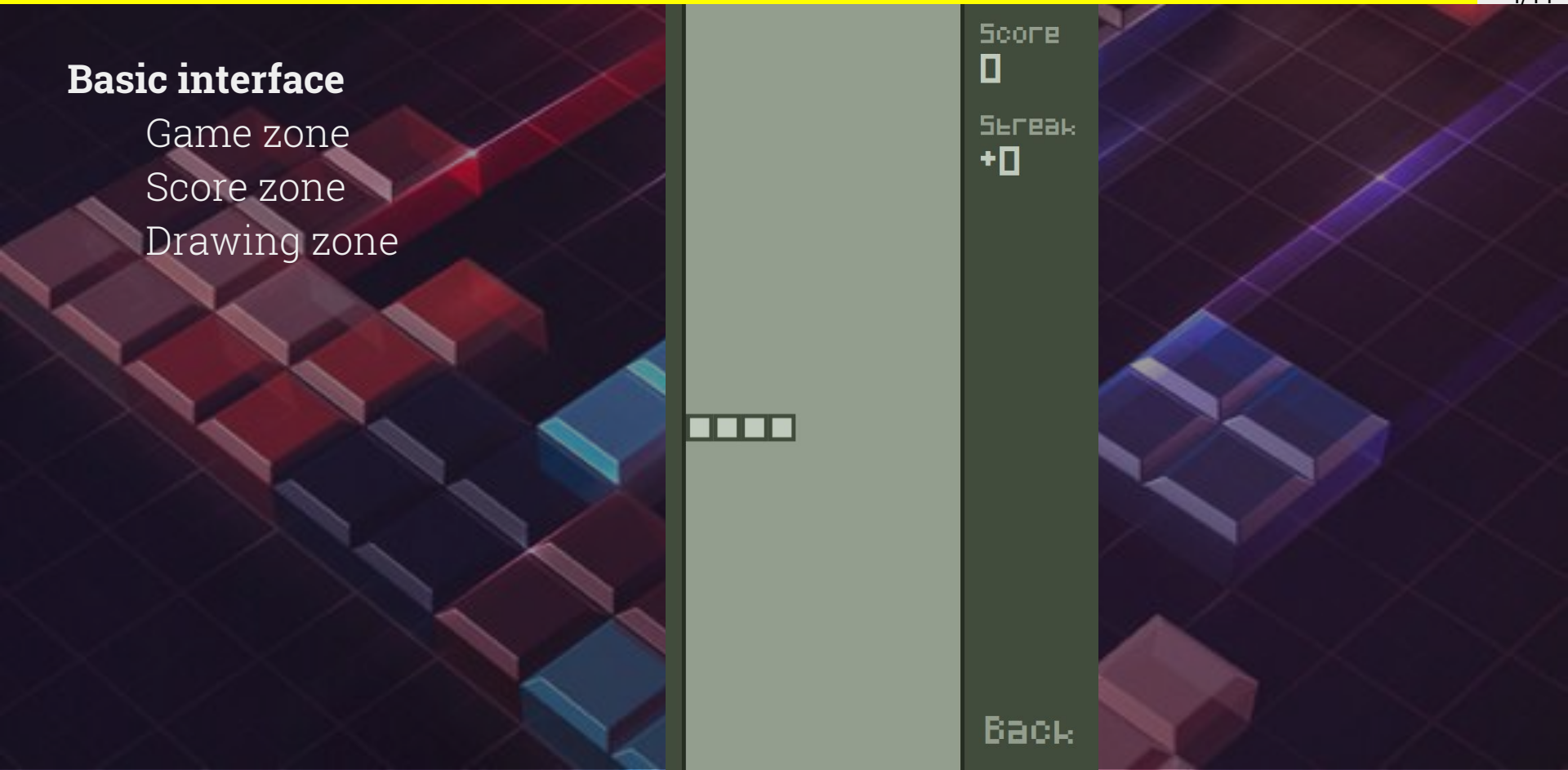

57
26


tutorial
the user follow the tutorial
drawn shape appears
Yeah!
the user is having a good time

THE GAME

Basic interface

- Game zone
- Score zone
- Drawing zone



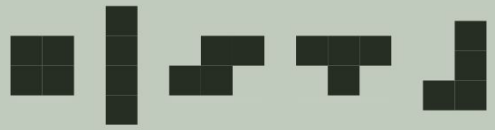
THE GAME

Tutorial

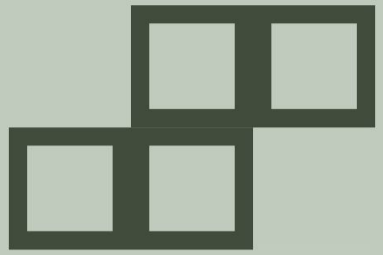
Game explained

User has to draw

You choose the block's shape



Draw the "5" shape with a gesture on your screen



The game chooses the position

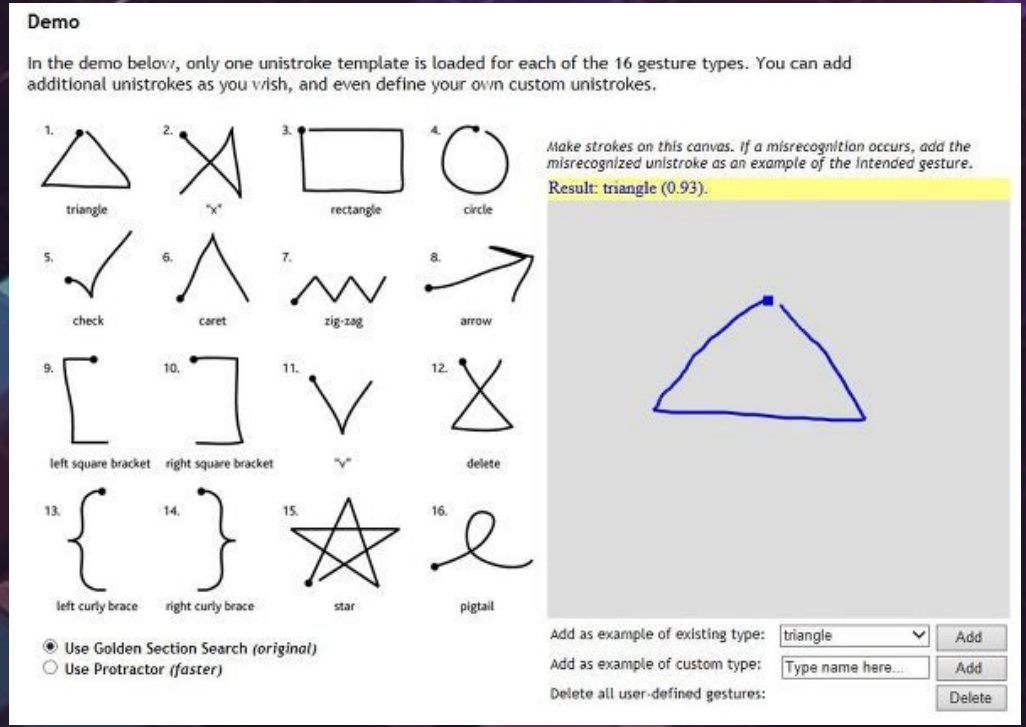
Varying shapes adds to score

Next

RECOGNIZING SHAPES

Drawbacks of the 1$ (in our case)

- Calibration
- Starting point
- Rotation
- Scaling



RECOGNIZING SHAPES

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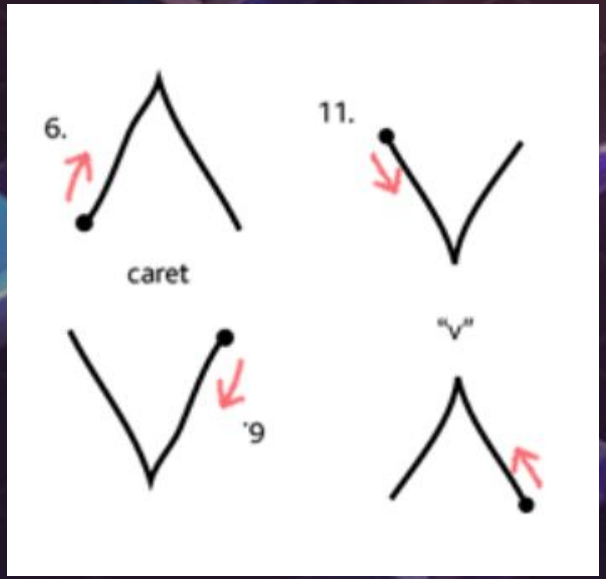

RECOGNIZING SHAPES

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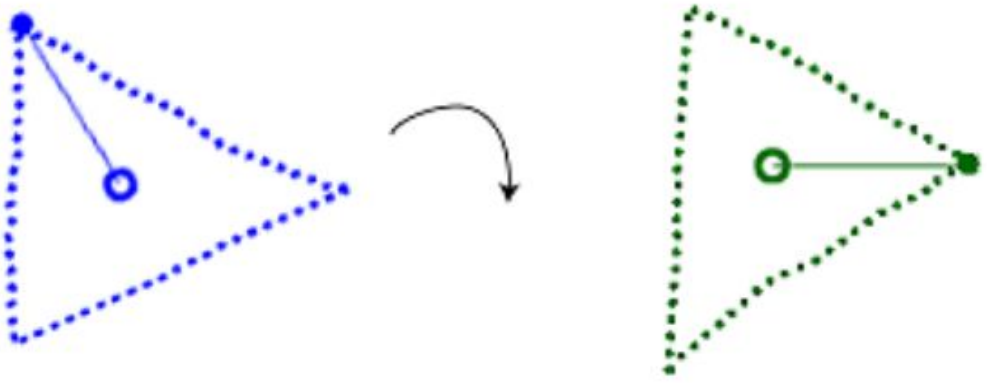

Figure 5. Rotating a triangle so that its "indicative angle" is at 0° (straight right). This approximates finding the best angular match.

RECOGNIZING SHAPES

Drawbacks of the 1$

- Calibration
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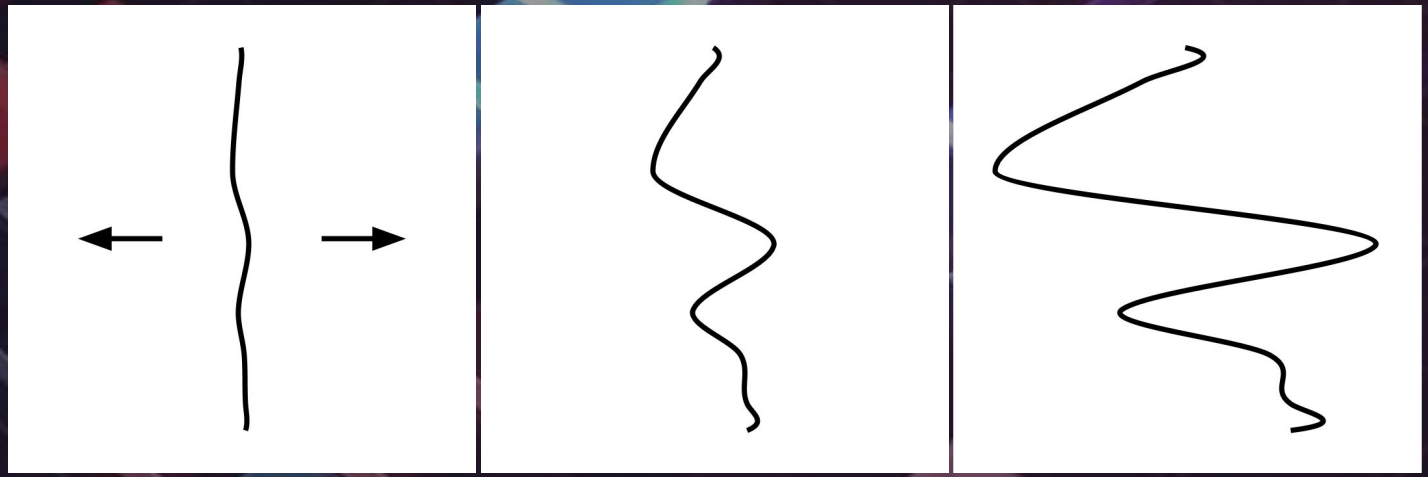
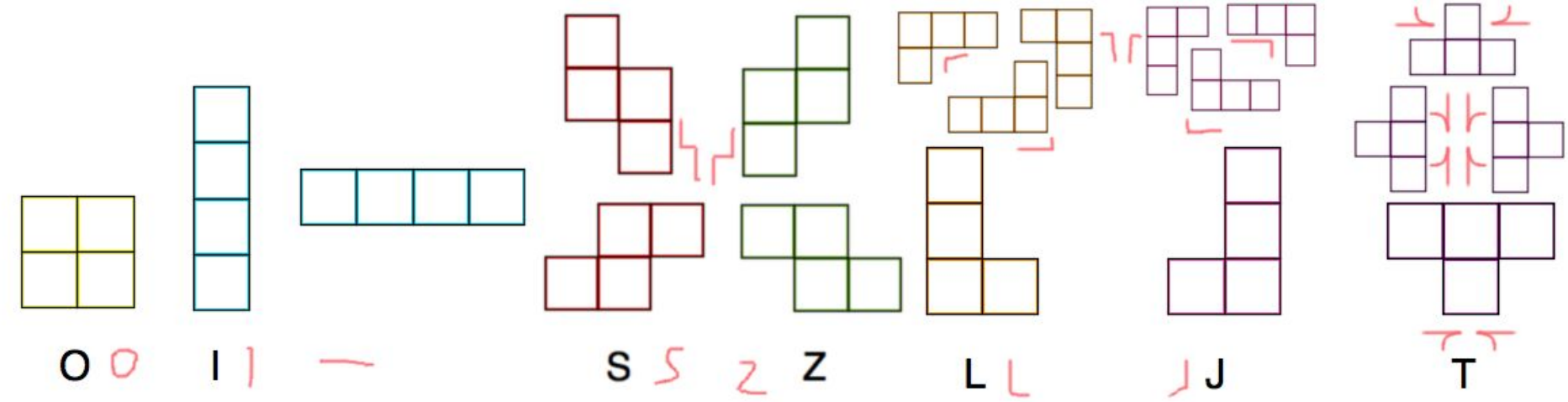


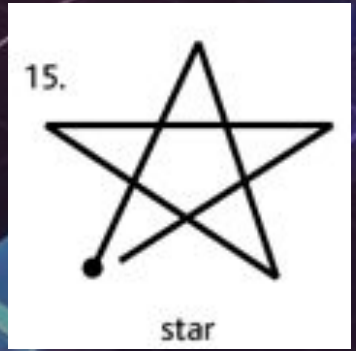
RECOGNIZING SHAPES

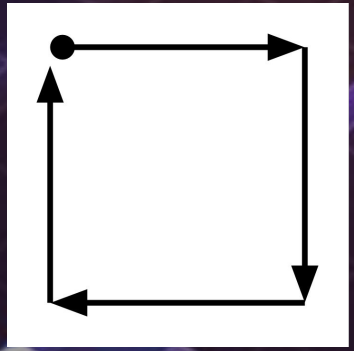


RECOGNIZING SHAPES

Our own recognizer

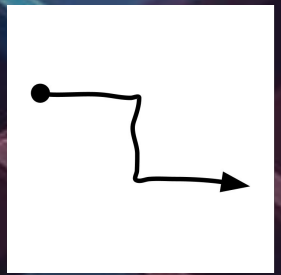
Single strokes
Shapes are axis-oriented
Maximum of 4 segments



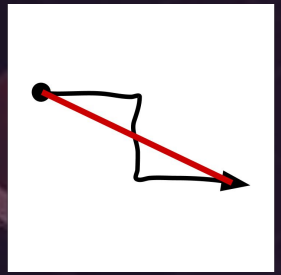


Example:

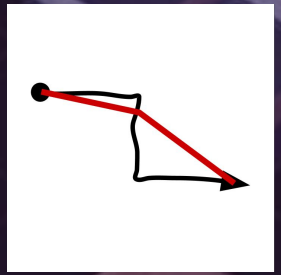
- Try each division
- Associate a score
- Keep the best one



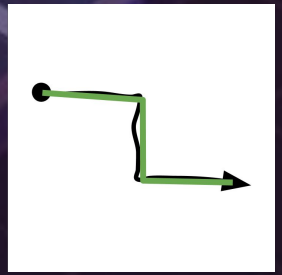
Input stroke



1 segment
Low score



2 segments
Low score

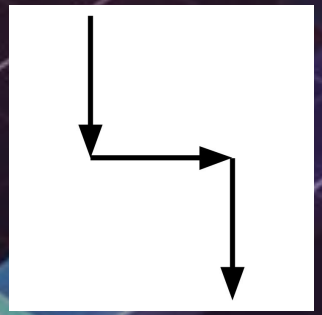


3 segments
High score

RECOGNIZING SHAPES

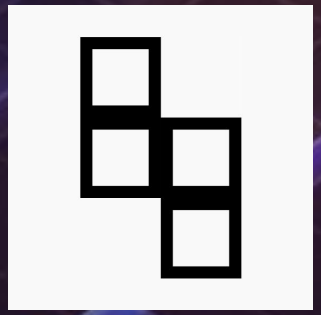
Output of the recognizer

A sequence of segments



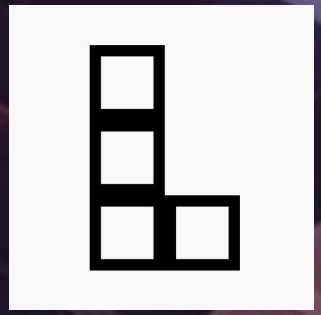
1 segment
“-y +x -y”

=



“S” shape
rotated -90deg

Frequent ambiguous case: “-y +x”



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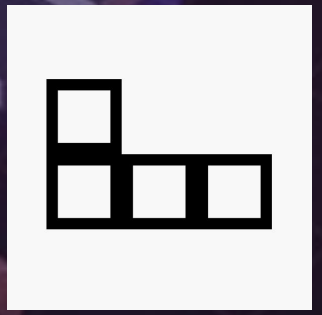



Demo
https://frcsdes.github.io/tetris-touch/#/

NEXT STEPS

Recognizer

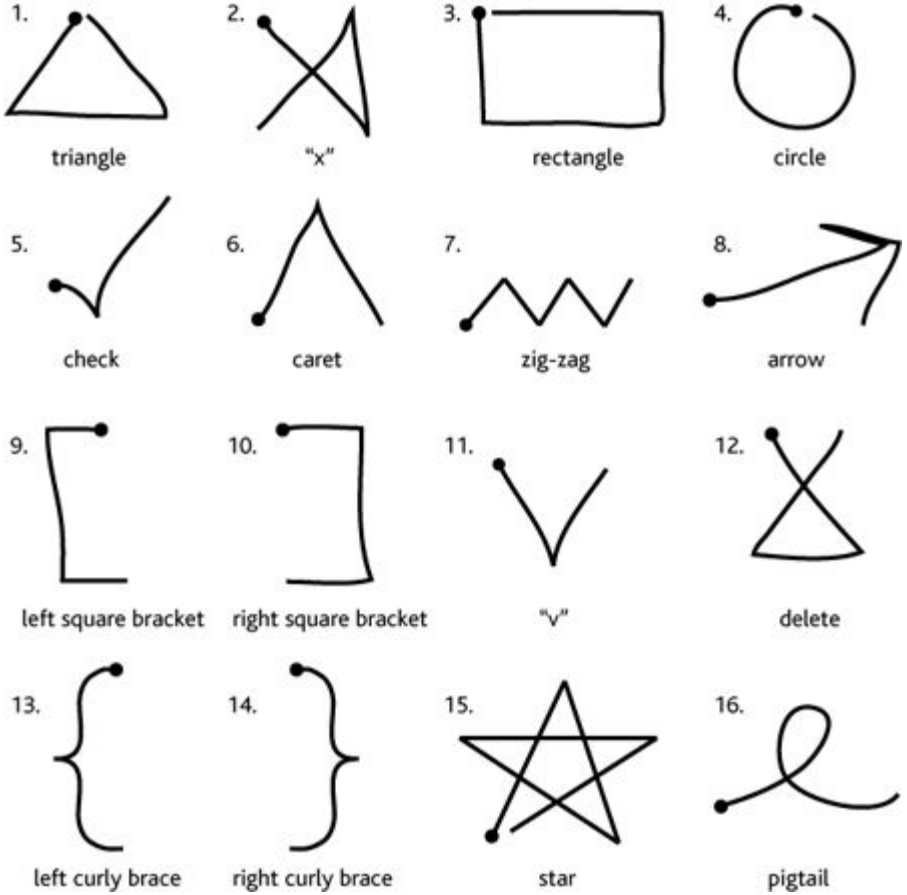
- Fix the remaining ambiguities: resample the stroke at constant speed
- Fat finger problem

Gameplay

- The tutorial could hint each stroke
- Blocks should stack on top of each other
- Blocks don’t teleport down yet
- Random starting position

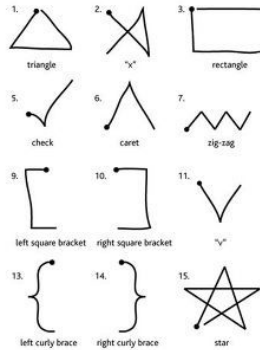

Thank you
https://frcsdes.github.io/tetris-touch/#/


Thank you



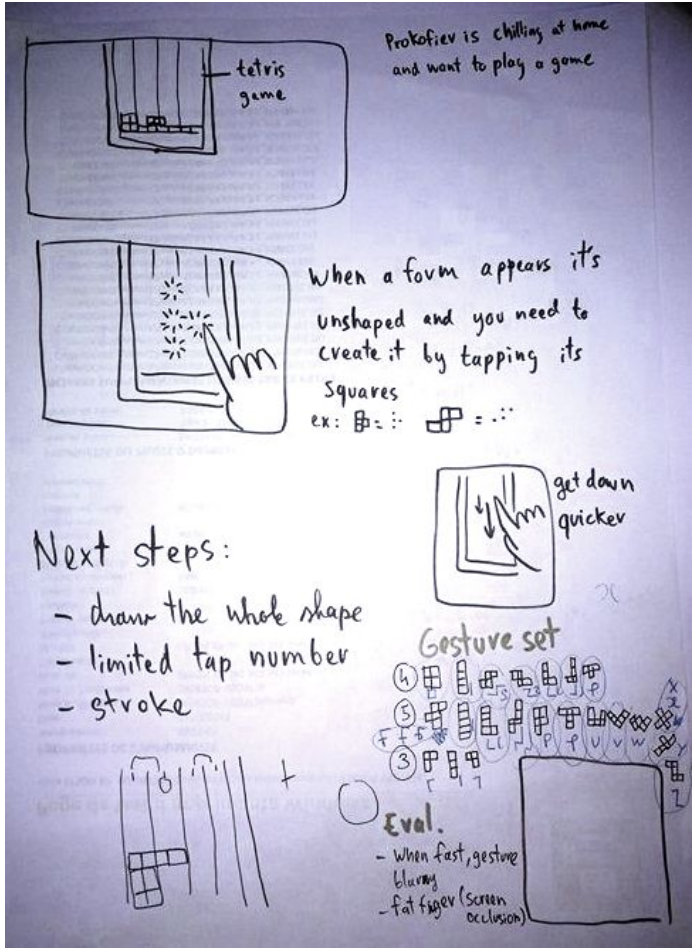
Demo

In the demo below, only one unistroke templat
additional unistrokes as you wish, and even def

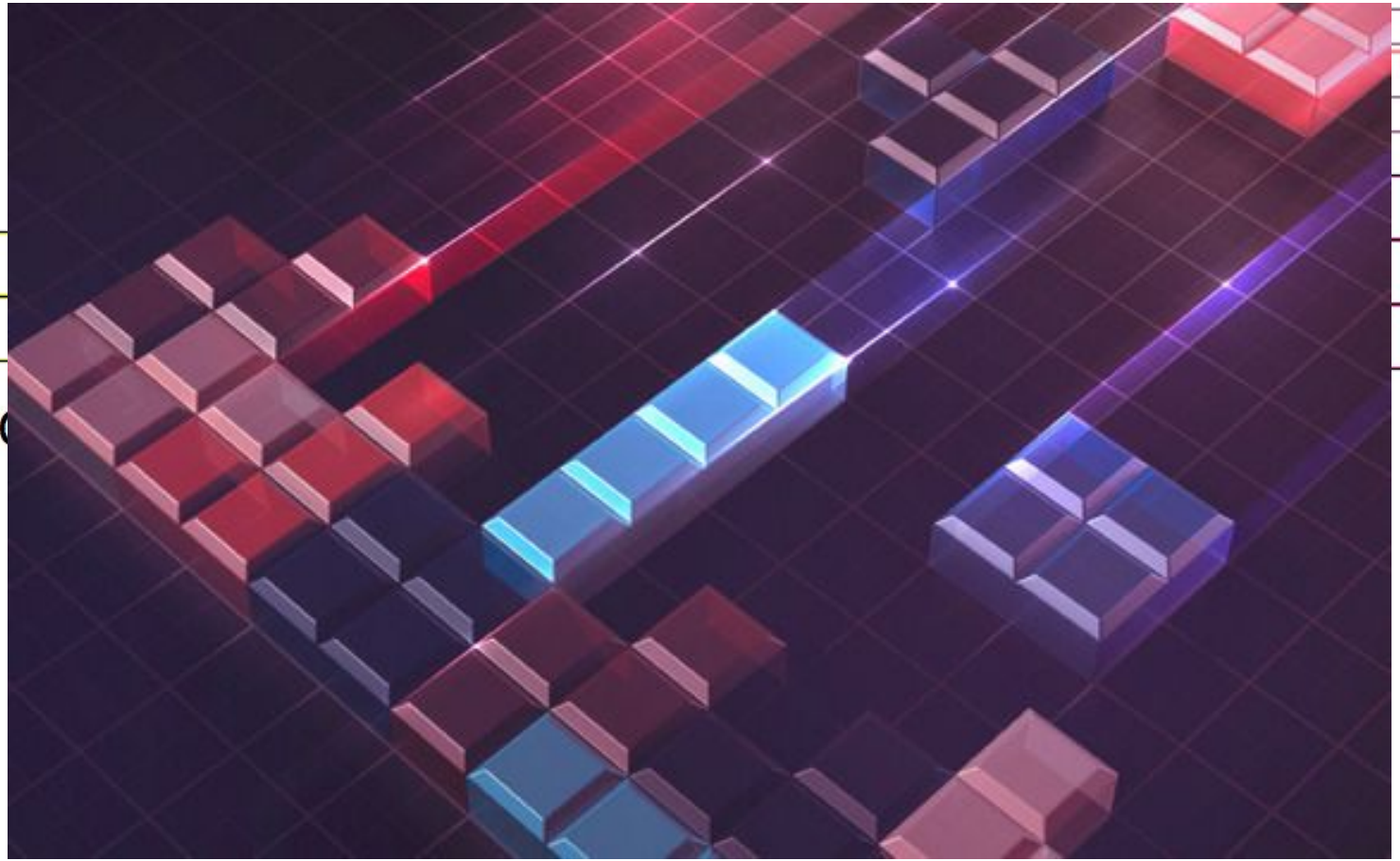


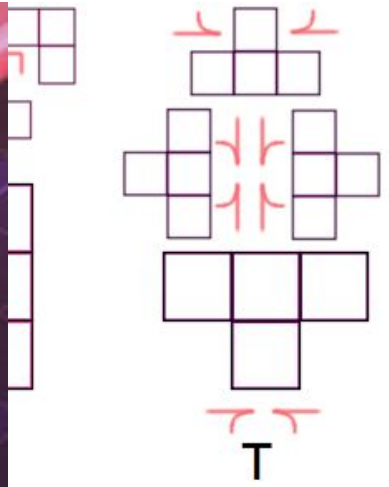
- (•) Use Golden Section Search *(original)*
- ( ) Use Protractor *(faster)*


Js Tetris 1.19
New Game
Pause
Highscores
About
Statistics:
Level: 2
Score: 2294
Lines: 1
APM: 232
Time: 75


tetris game
Prokofiev is chilling at home and want to play a game
When a form appears it's unshaped and you need to create it by tapping its Squares
ex:
get down quicker
Next steps:
- draw the whole shape
- limited tap number
- stroke
Gesture set
Eval.
- When fast, gesture blurry
- fat finger (screen occlusion)


DOT MATRIX WITH STEREO SOUND
TETRIS
BATTERY
1PLAYER
2PLAYER
©1989 Nintendo
Nintendo GAME BOY™
SELECT
START
B
A

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