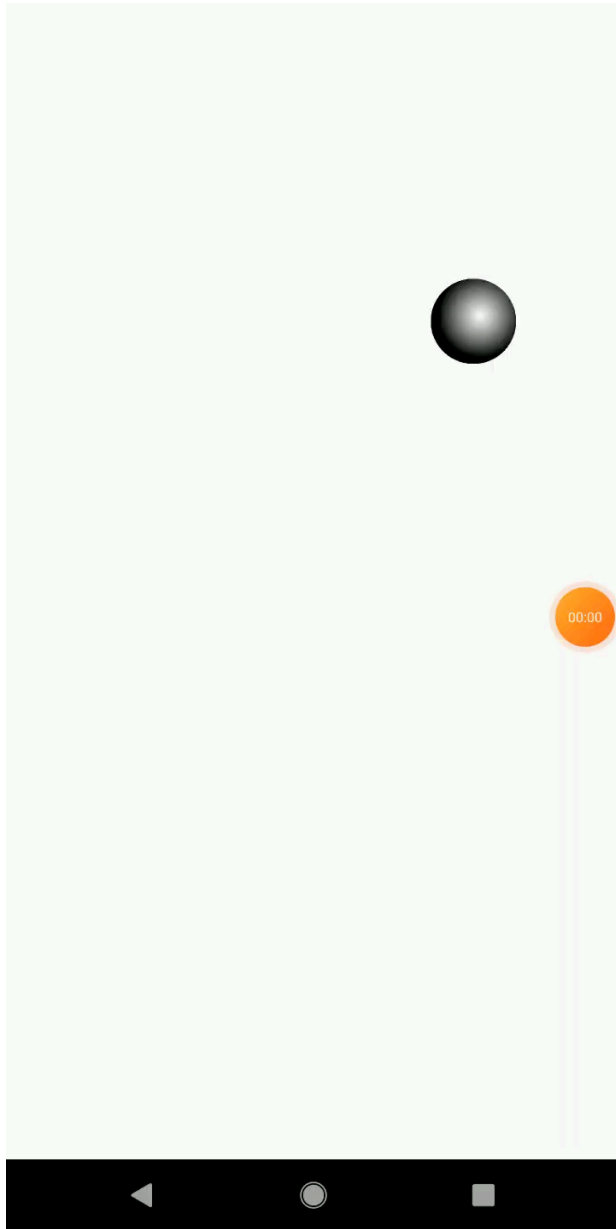# 2D based apps

All codes available here

- https://github.com/RBeraldi/

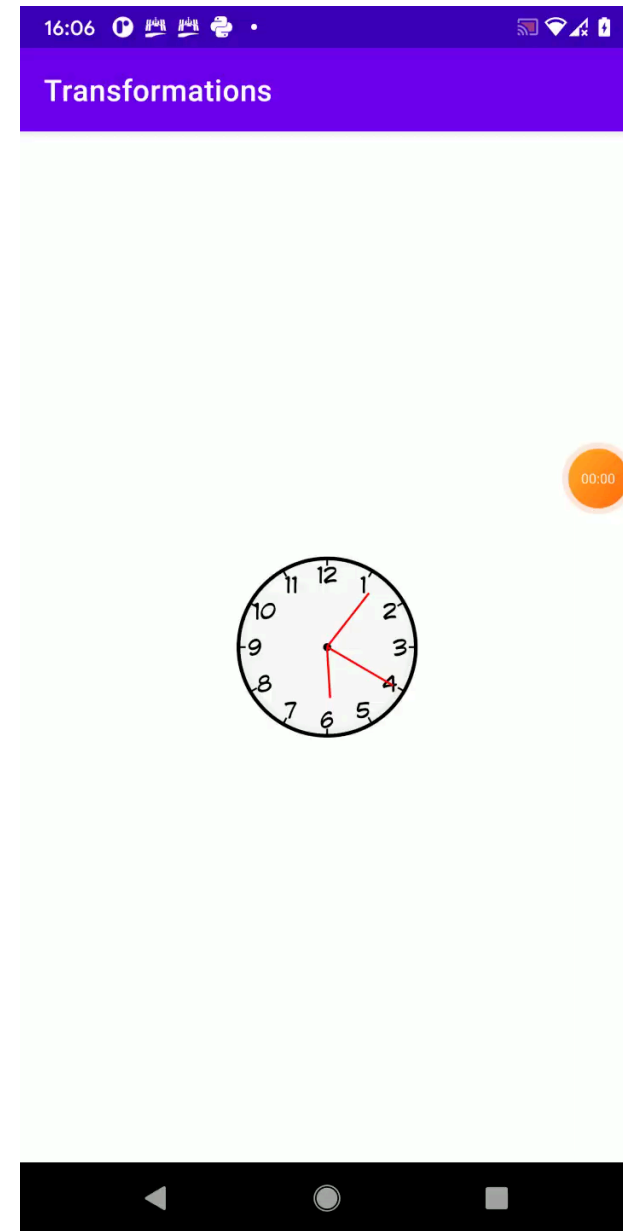# 2D based apps (a showcase)

- 2D graphics is the base of the following classes of apps:

    - 2D + User input: (games, utilities, etc.)

    - 2D + sensors (compass, inclinometer, etc.)

    - 2D + sensors + user inputs (games, etc.)
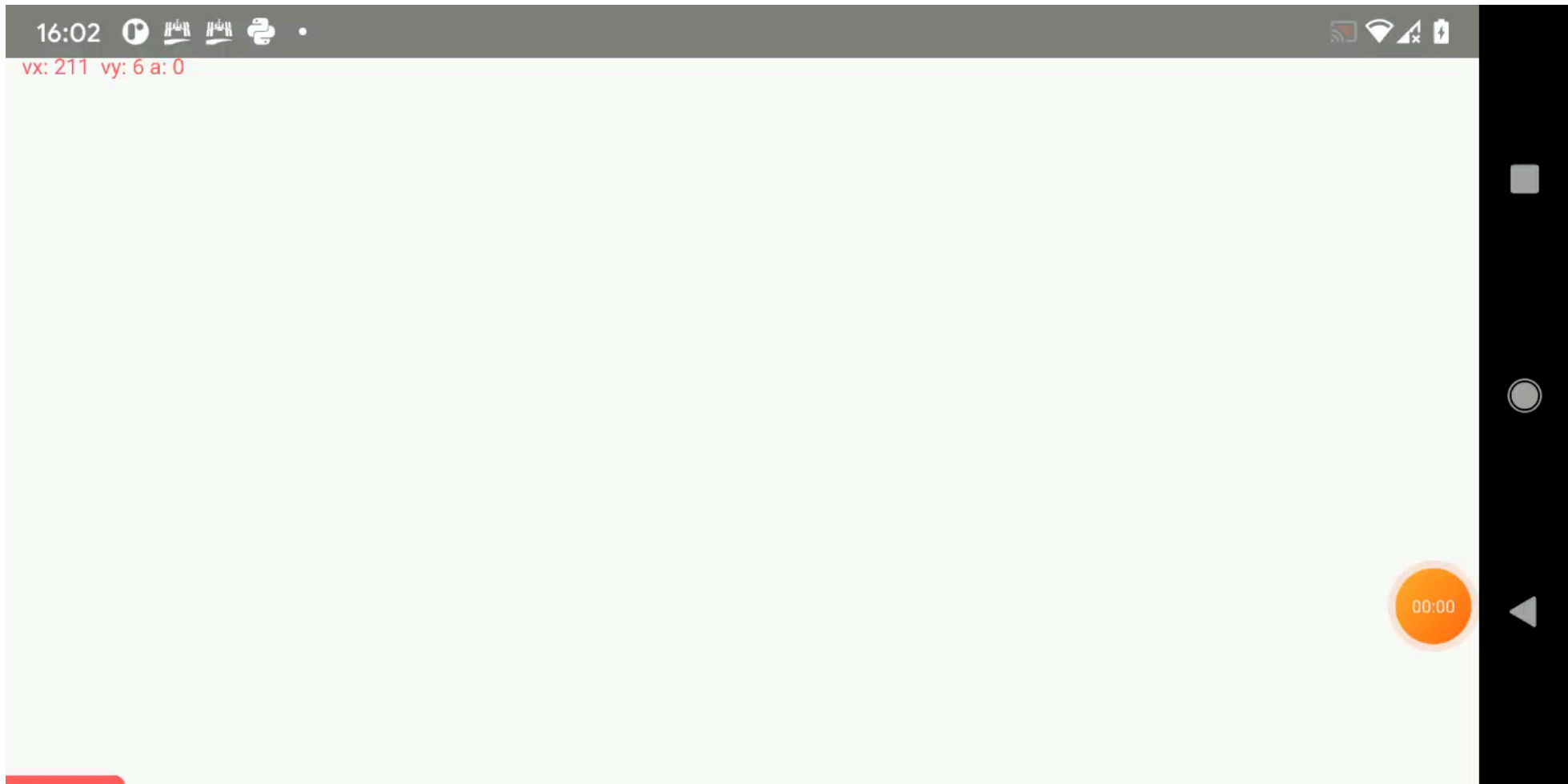
SimpleGame

00:00

Application case studies: 2D

- A 2D Clock

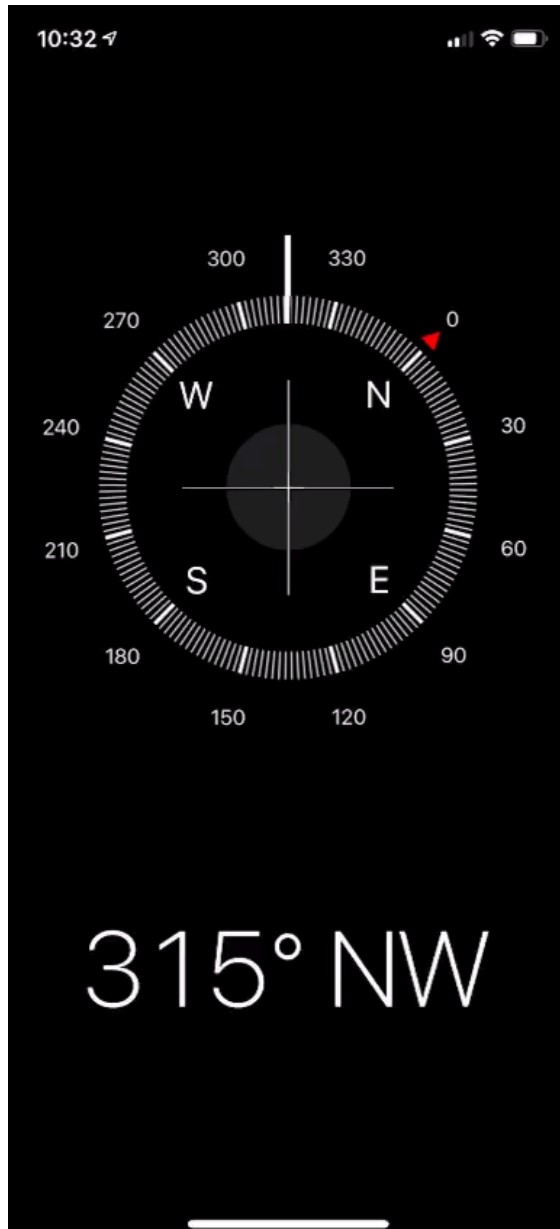# Application case studies: 2D+user inputs

- SimpleGame
- 2D CannonGame:

CannonGame
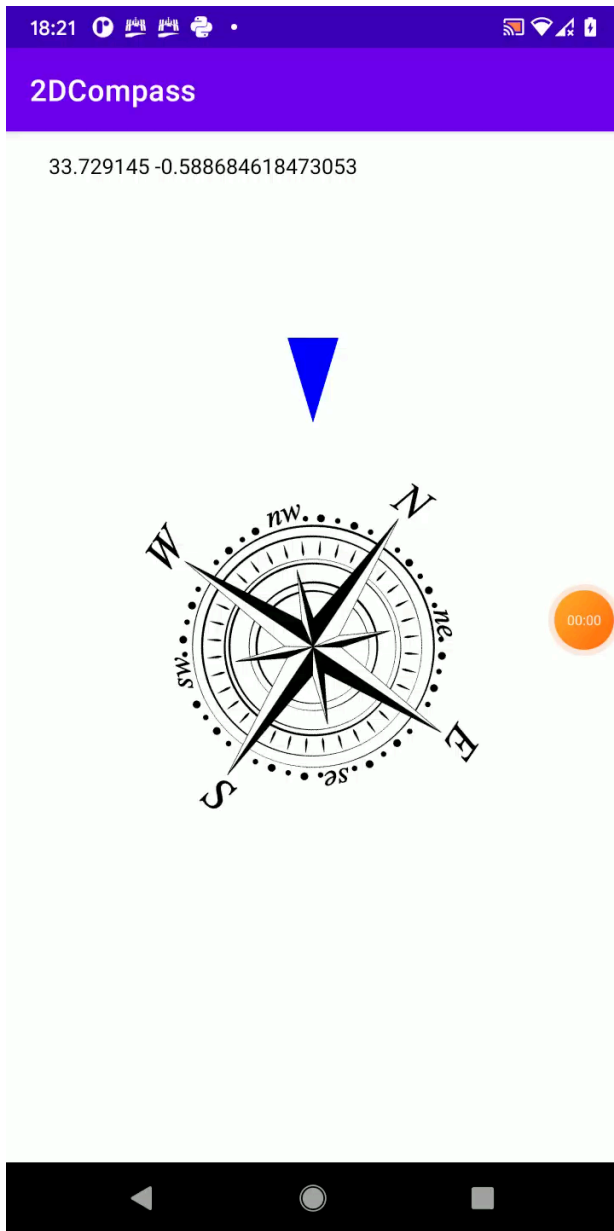

vx: 211 vy: 6 a: 0

00:00

Application case studies: 2D+user inputs

- Compass: 2D + Sensors (yaw)
- Inclinometer: 2D + Sensors (pitch, roll)
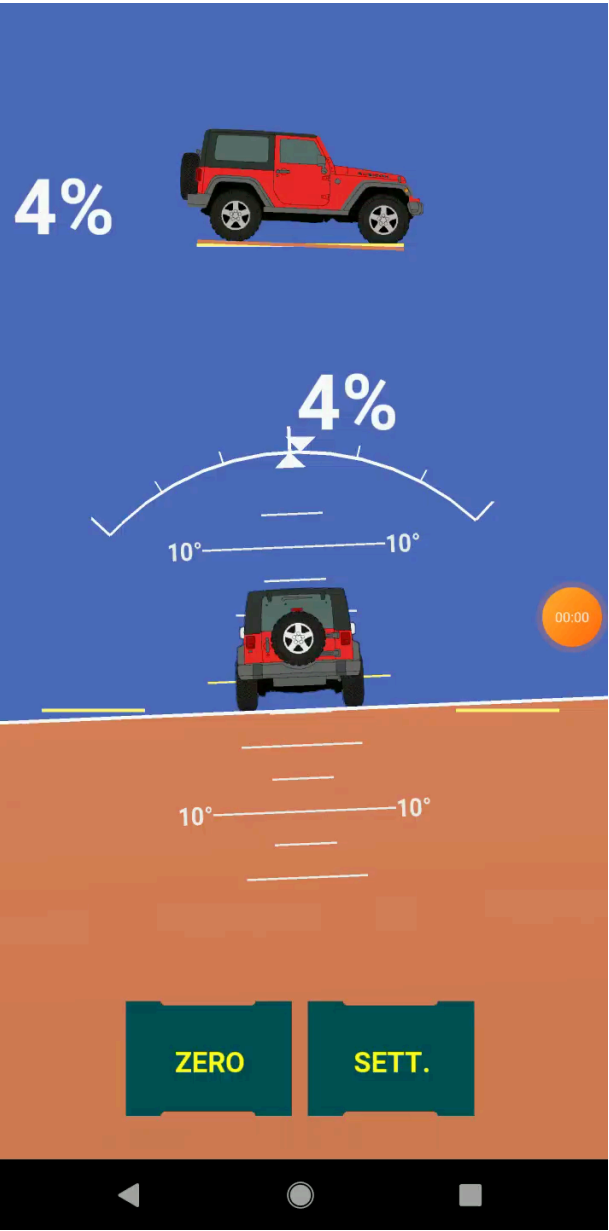
Compass IOS

My Compass

Inclinometer

Let's build our simple compass

- Find a compass Bitmap (e.g. freepicks) or..
- Find a compass SVG:
  - https://freesvg.org/colorful-compass

- Covert SVG to Bitmap

- Use Android Studio Vector assets:
  - https://developer.android.com/studio/write/vector-asset-studio#svg

Clock case-study

- Challenges
- How to get time?
- How to draw a circle?
- How to draw a moving clock hand?
- How to 'map' time to angle of rotation?

CannonGame case-study

- How to determine the angle of rotation?
- How to calculate the initial velocity?
- How to calculate the ball's trajectory?

Inclinometer case-study

- How to map orientation angles to rotations?

TicTacToe one player version

- How to draw the game background?

- How to draw symbols in response to touch events?

- How to respond to a move?

- How to check the winner?

TicTacToe two players version

TicTacToe multiplayer version