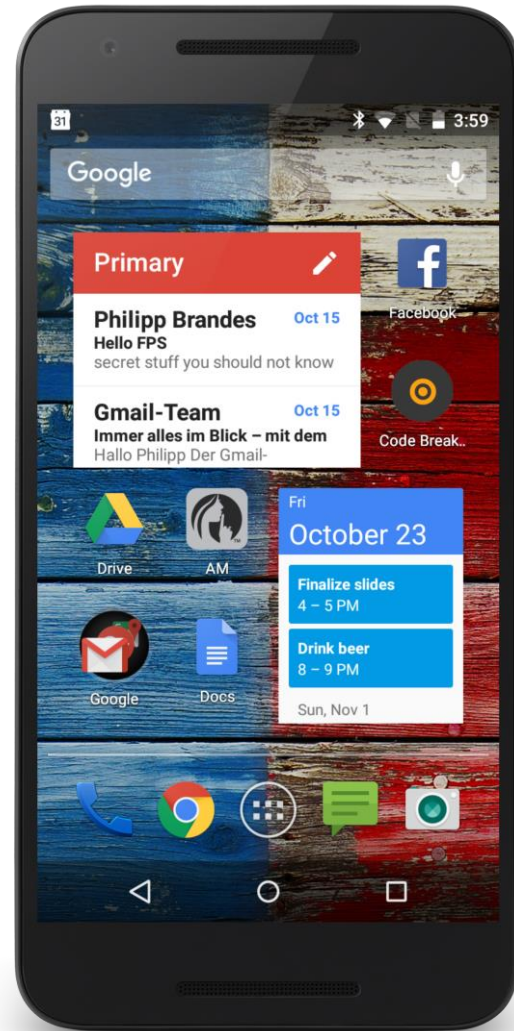# Inferring Touch From Motion in Real World Data

Pascal Bissig, <u>Philipp Brandes</u>, Jonas Passerini, Roger Wattenhofer
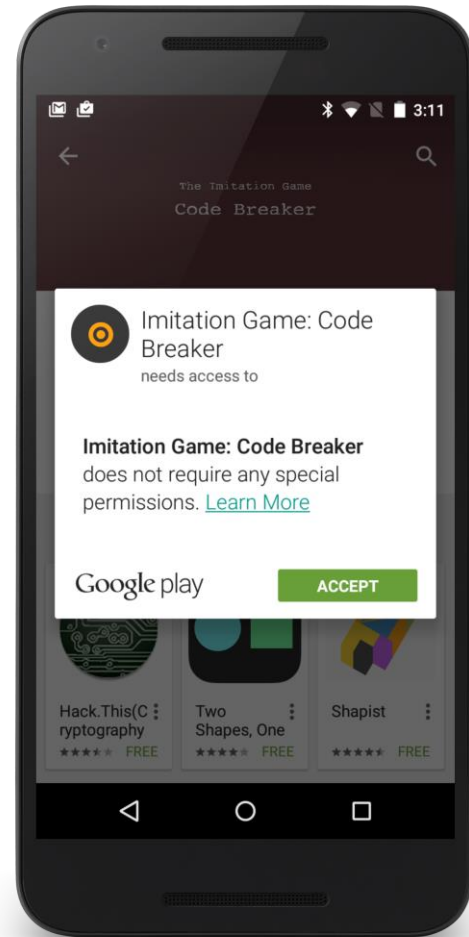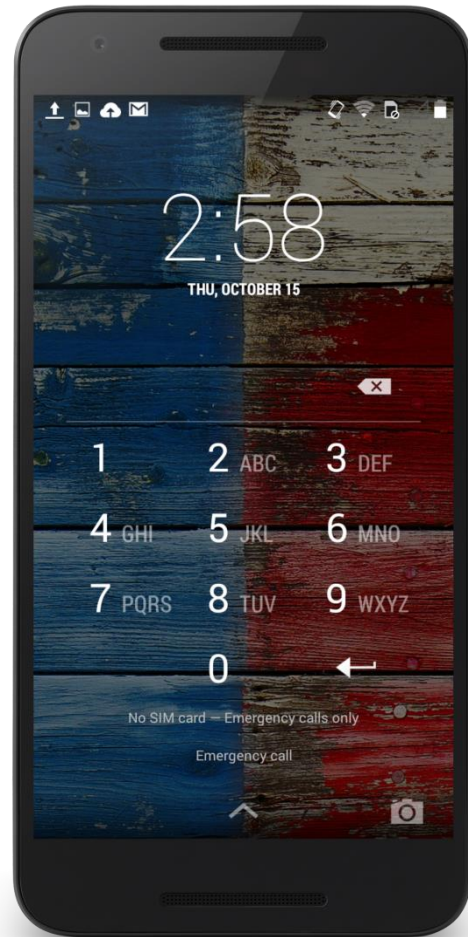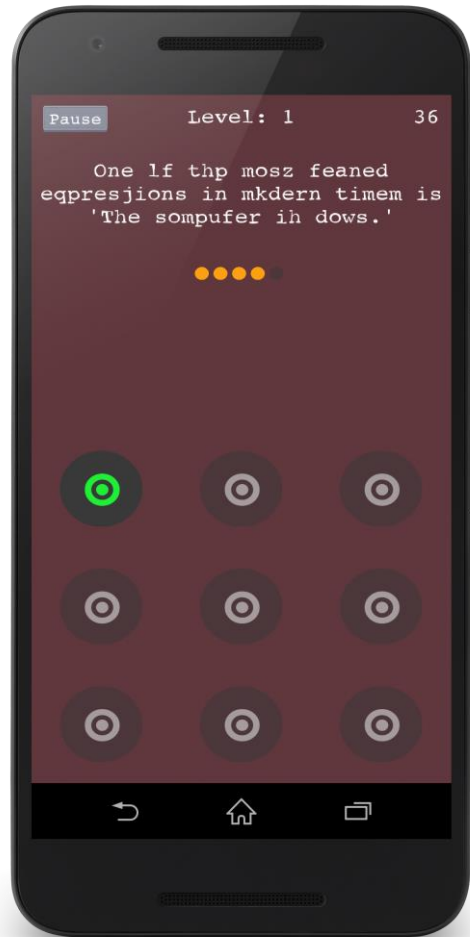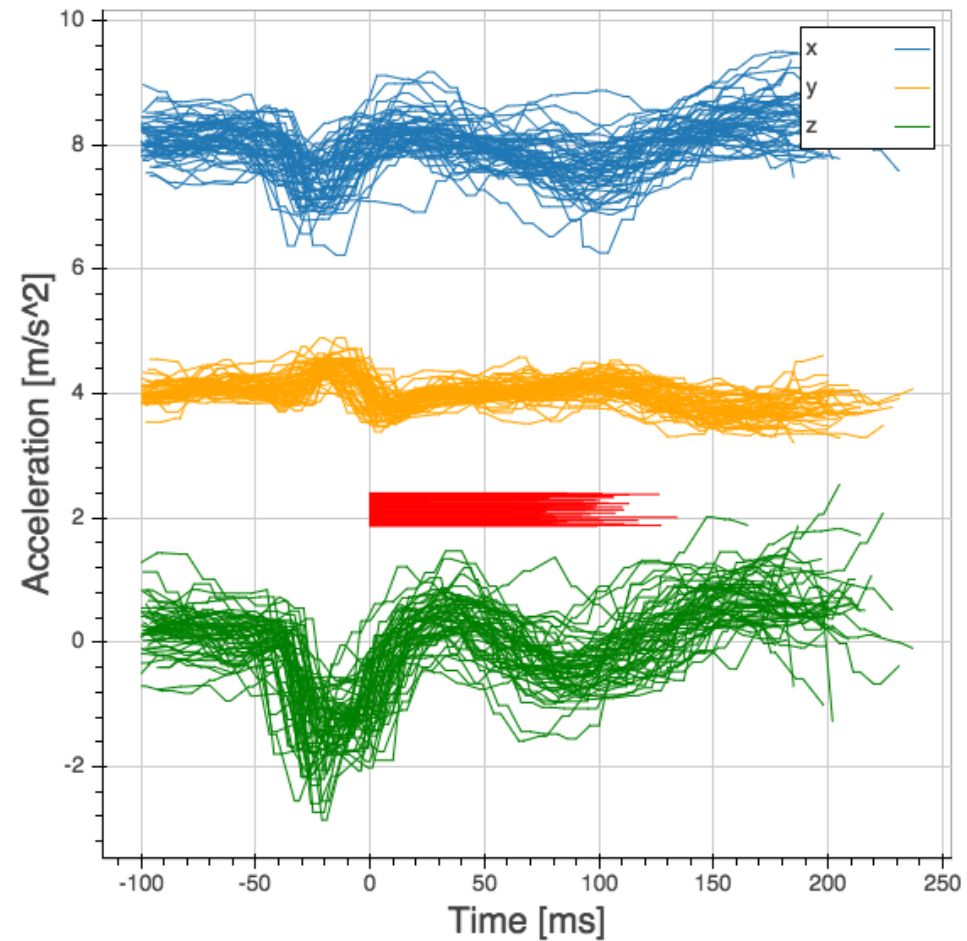
Your Phone Stores Many Secrets...
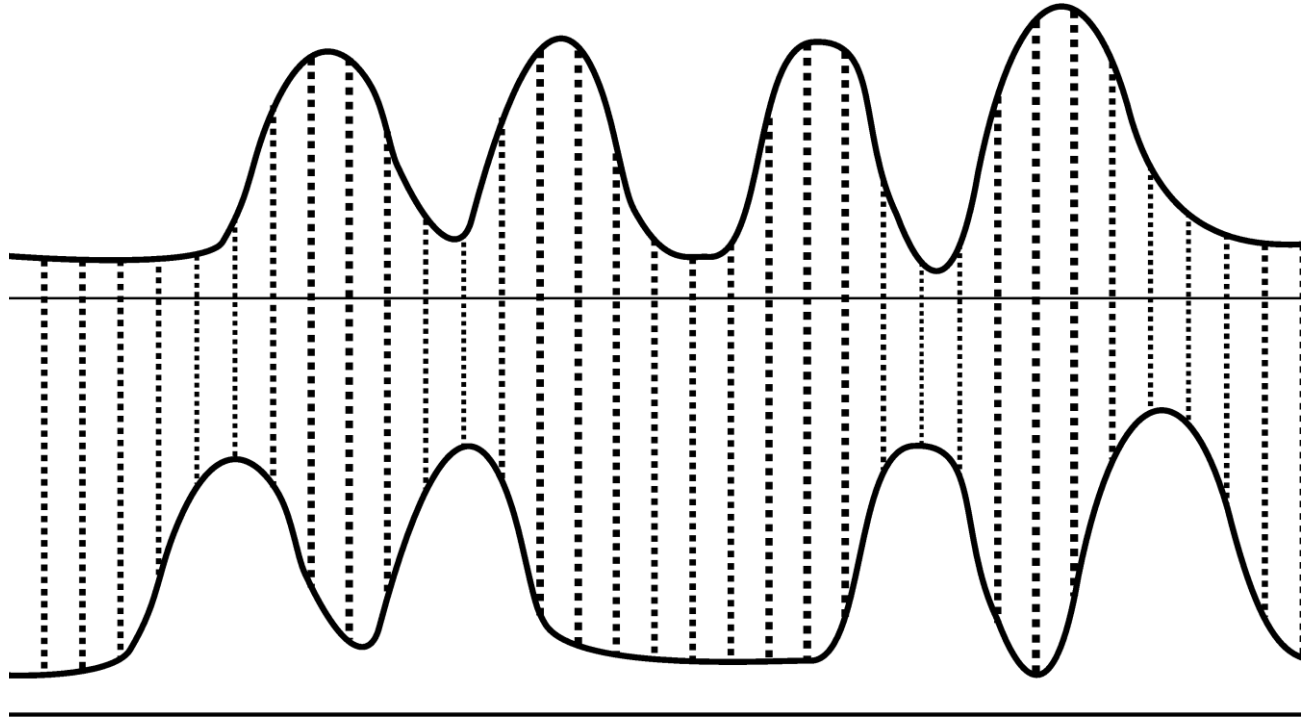
…Protected with a Pin Code, Luckily!

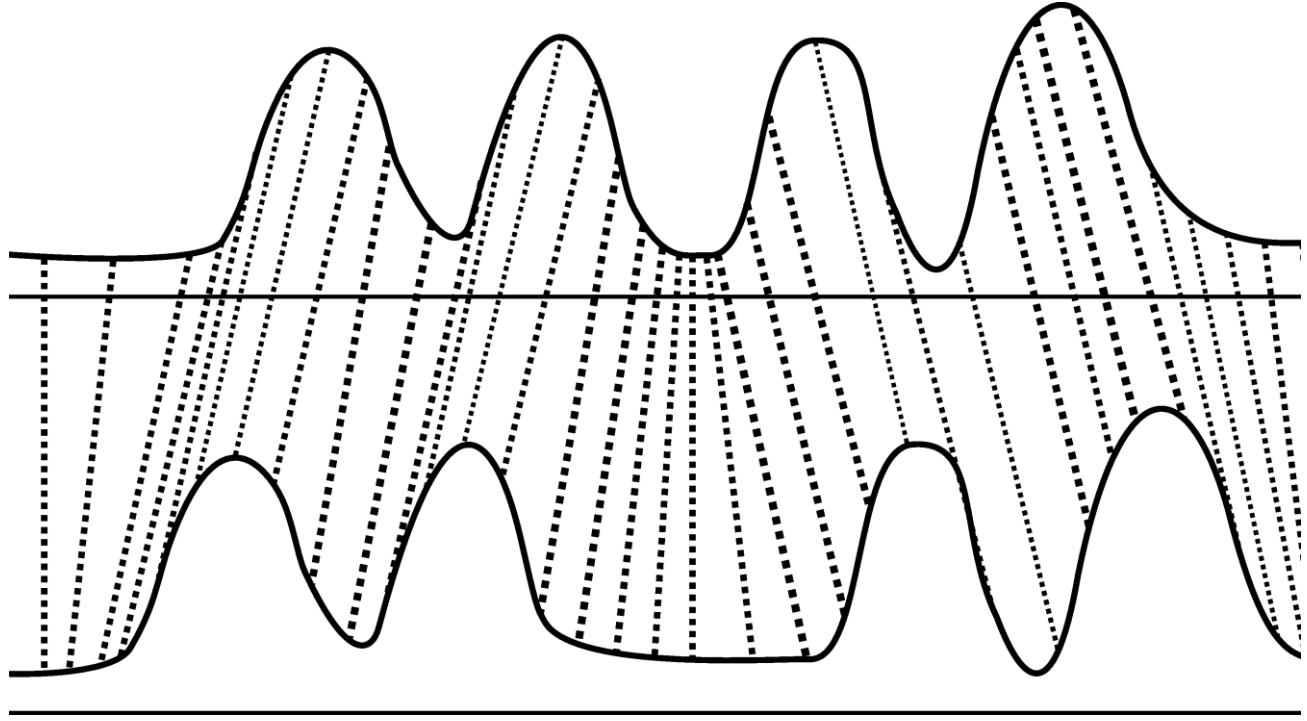# Imitation Game: Code Breaker

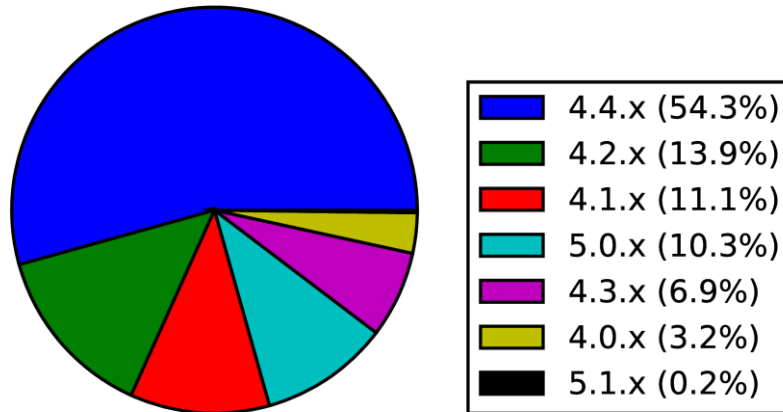# Accelerometer Data When Tapping '1'

Algorithm: Dynamic Time Warping

Algorithm: Dynamic Time Warping

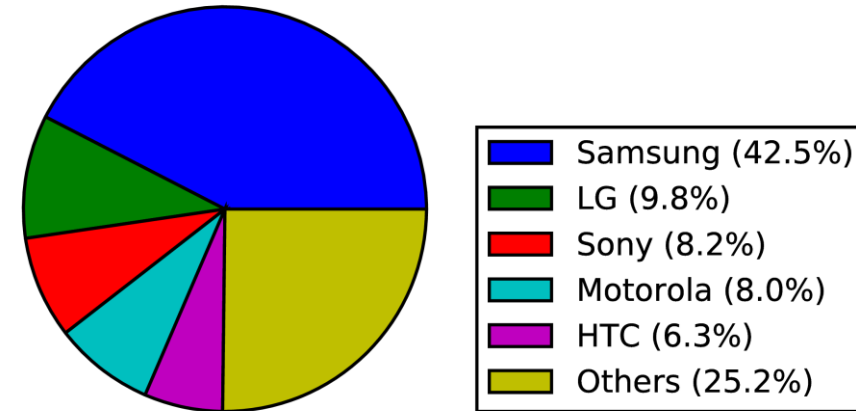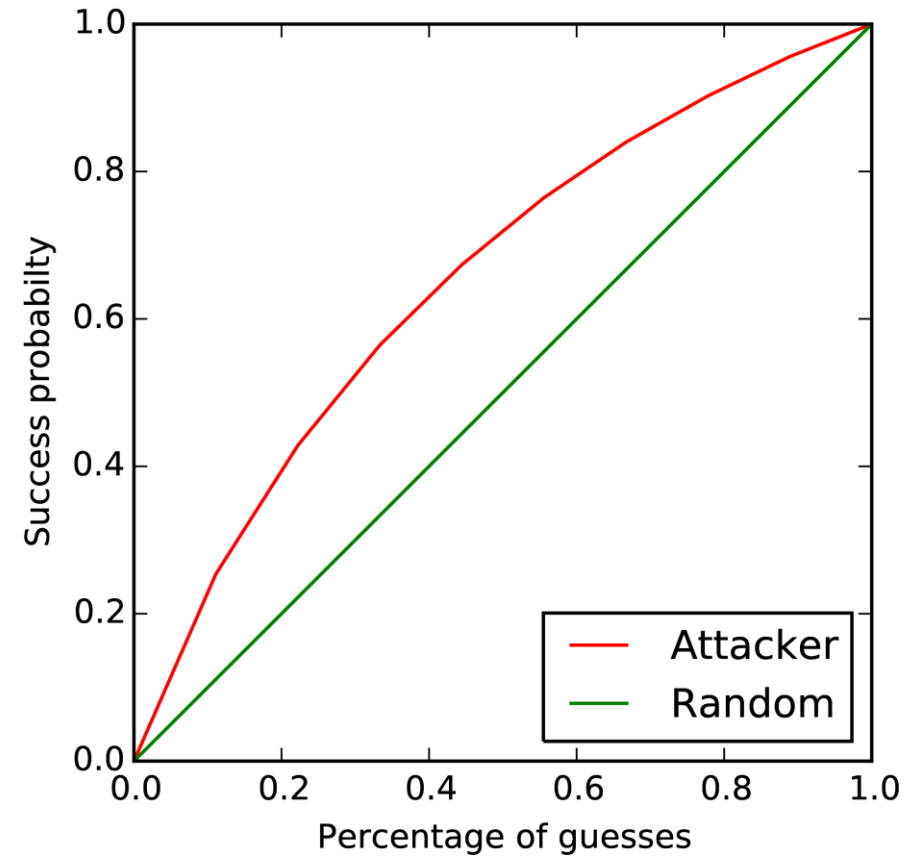# User Base of Game

Android Versions

- 4.4.x (54.3%)
- 4.2.x (13.9%)
- 4.1.x (11.1%)
- 5.0.x (10.3%)
- 4.3.x (6.9%)
- 4.0.x (3.2%)
- 5.1.x (0.2%)

Manufacturers

- Samsung (42.5%)
- LG (9.8%)
- Sony (8.2%)
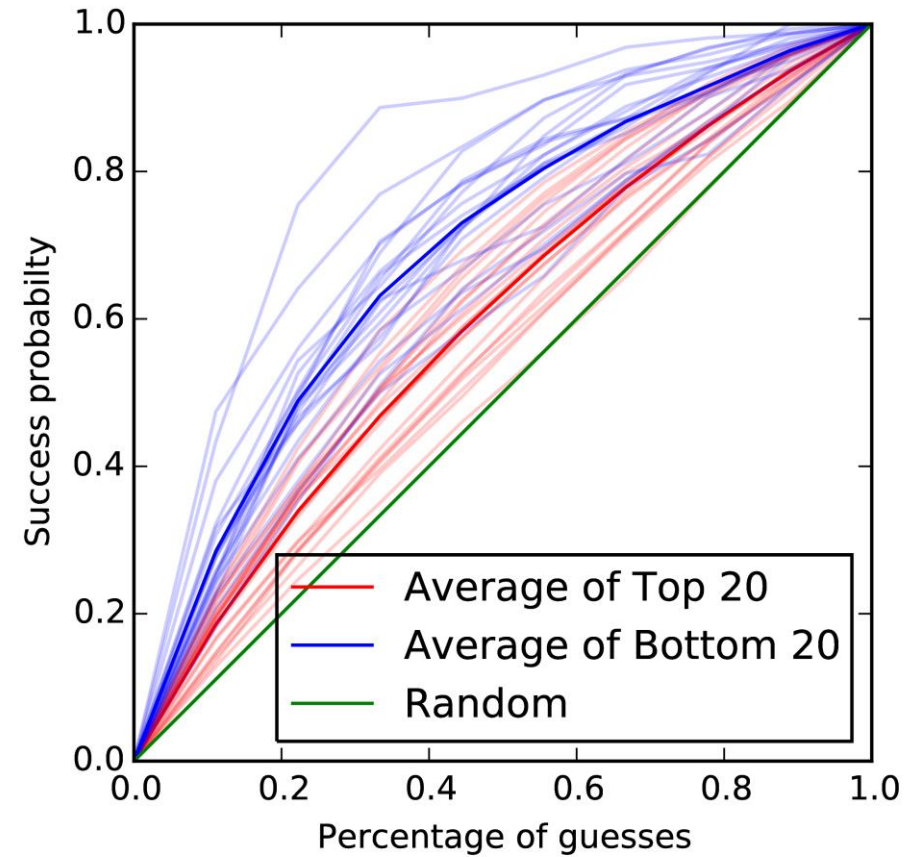- Motorola (8.0%)
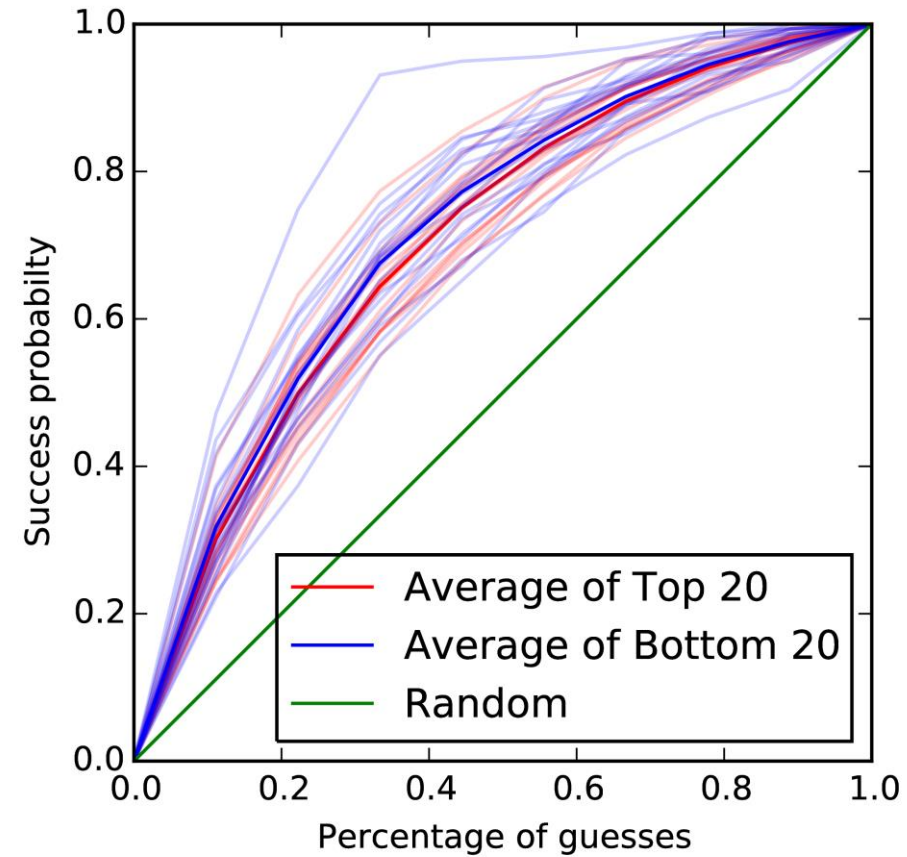- HTC (6.3%)
- Others (25.2%)
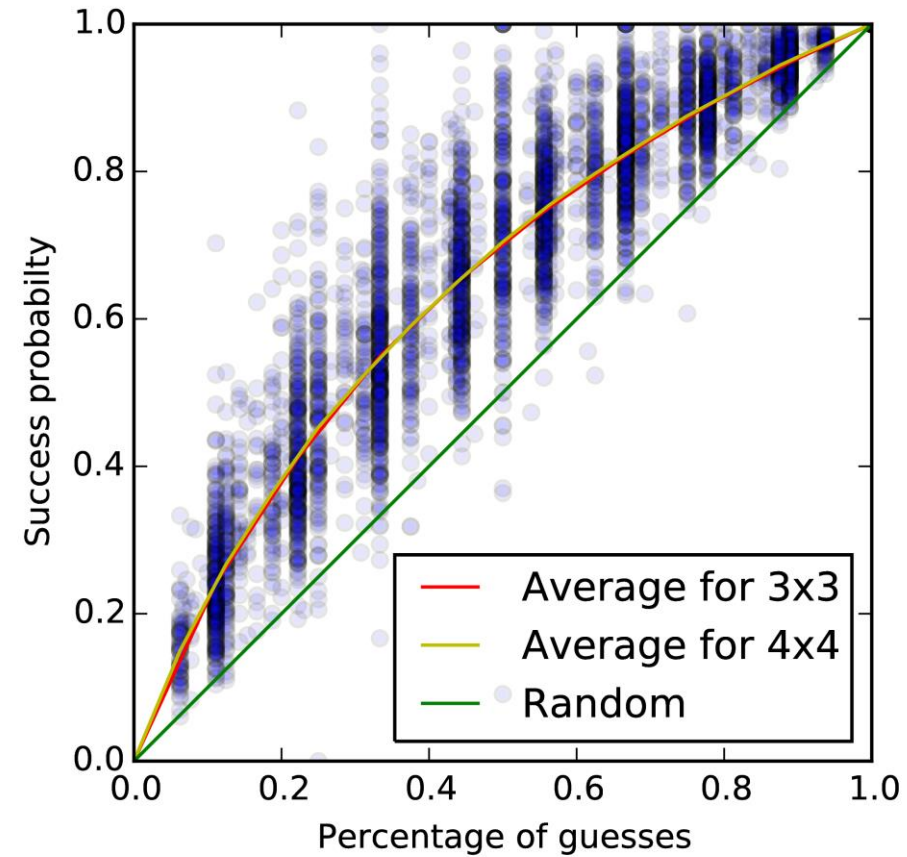
1 493 users,
87 962 levels
>1 000 000 taps

Results

Results

training size 10

Results

training size max

Results
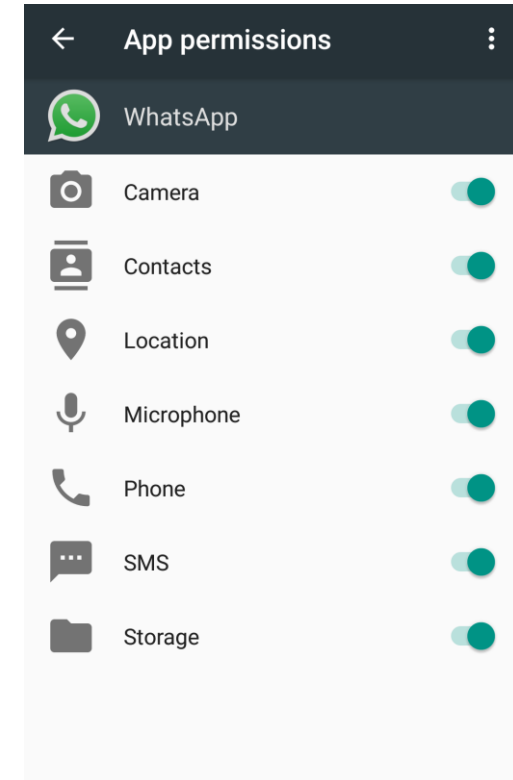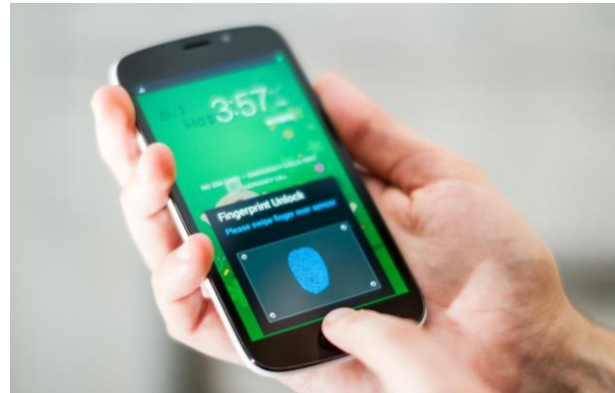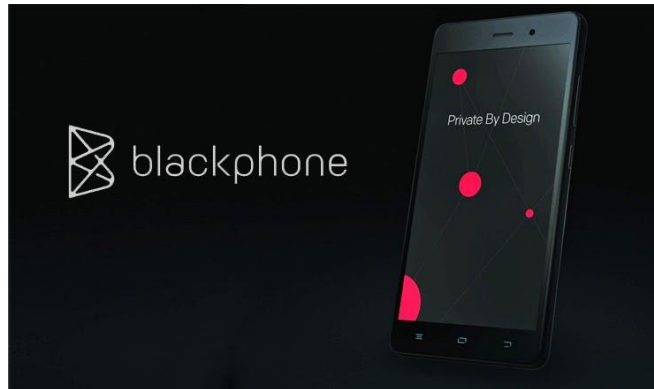
Beyond 3x3 Tapping

Countermeasures

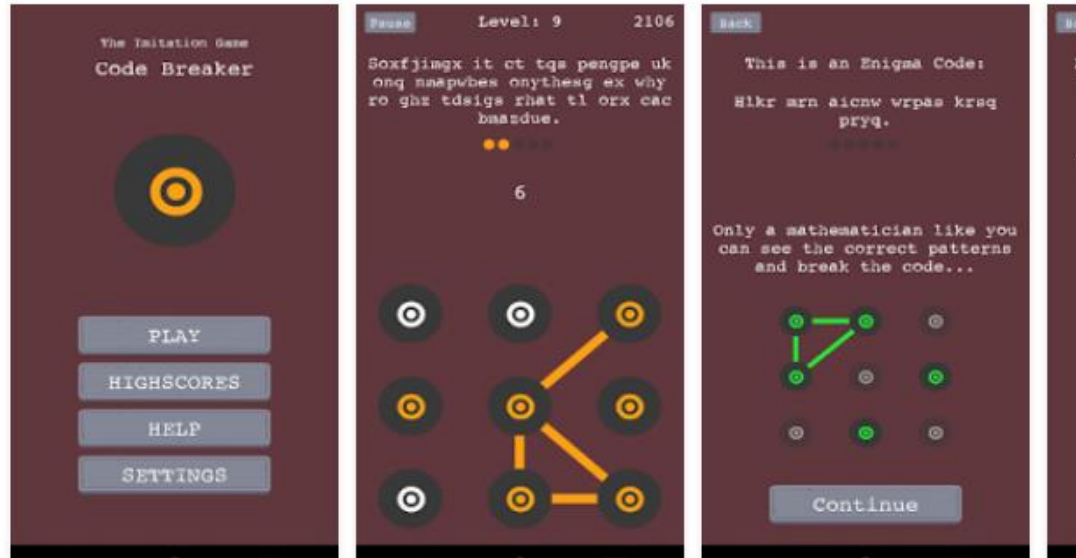# Imitation Game: Code Breaker

Passuf   Puzzle

★ ★ ★ ★ ☆ 108 👤

🟩 PEGI 3

ℹ This app is compatible with all of your devices.

[**Installed**]

You are the only hope to decipher the Nazi Germany's Enigma Code.

Code Breaker is a game where you slip into the role of Alan Turing, the British mathematician, logician, cryptanalyst and pioneering computer scientist. Memorize the patterns and use them to break the codes while they get bigger and more complex.

A perfect game for a short break and to challenge your brain.