

## Multi-users

Game is playable 1vs1 in **local** (on the same phone), or **online** (through invitation)

## Sensors

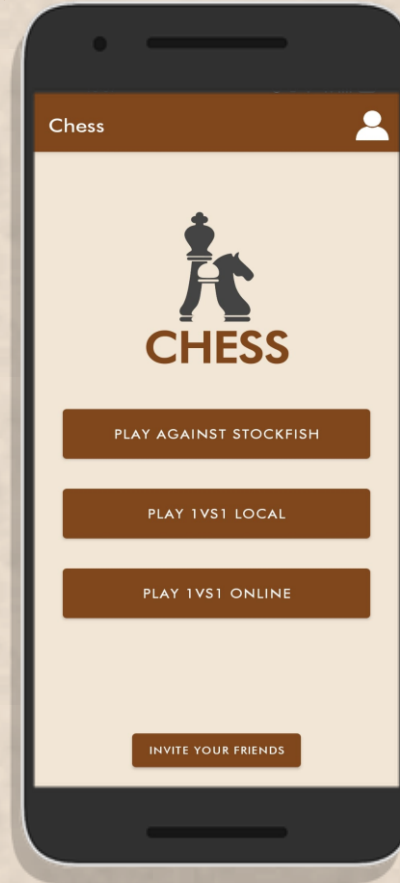
During a chess game you can **dictate** the next move using the microphone, and get a suggestion by **shaking** the phone

## Concurrency

Chess uses concurrency, separating in different threads **network** functions and **UI** updating functions

## Graphics

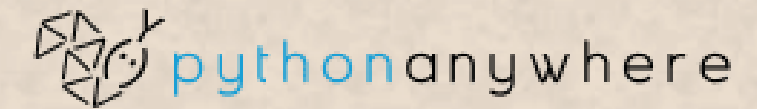
The app draws Rectangles, Circles, Lines, Text and Bitmaps in different Canvas



We chose Firebase as our cloud service. The features offered thanks to this service are: the **Registration** and **Sign-in** using both email/password and Google account; the **Realtime Database**, used to store data about users and their previous matches. This also allows to play online matches in real time.



We used lichess.org **external API** to retrieve a list of all the chess streamers live on Twitch or Youtube in real time.



Our cloud service is an online server of **Stockfish** (a chess engine) deployed on **PythonAnywhere**. The app interacts with this using HTTP methods in different routes. This service is called whenever a move is played on any board, and also provides an AI to play against.

jar.pythonanywhere.com/

```
GET /
POST /?move
GET /info
POST /info?elo
GET /hello
GET /reset
GET /fen
GET /bestmove
POST /stockfish?move
GET /matchId
GET /startMatch
```