

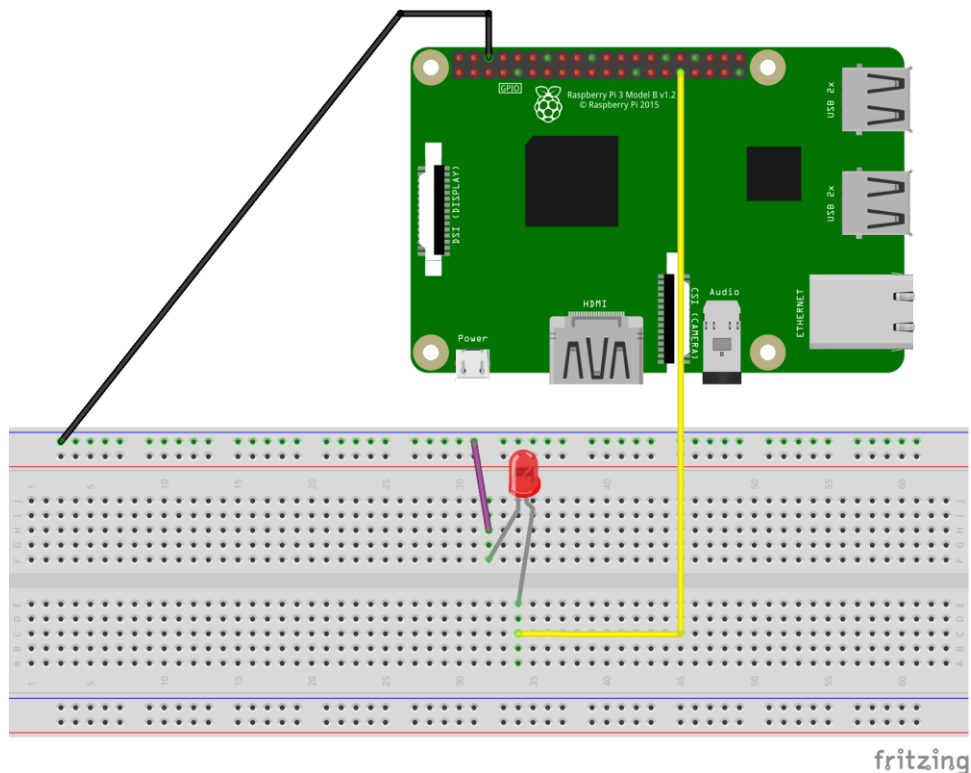
## Overview

This Android Things project is an automatic parking system with 3 components: a python server, a kotlin app that runs on a raspberry pi module and a kotlin companion app. The raspberry pi module has a camera which take a picture every second and sends it through a TCP Socket to a server. The server does car and license plate detection, segments the letters and classifies them. Then the server checks if the license plate is in the list of accepted ones of the user (from the firebase cloud) and it uploads a new history record on the cloud. The companion app receives a notification and the raspberry lights an LED(representing the electric signal for a garage door)

## Pre-requisites

- Raspberry Pi 3
- Raspberry Pi 3 camera
- Android Studio 2.2+
- 1 LED
- jumper wires
- 2male-female wires
- 1 breadboard

## Schematics



## Setup and Build

- Clone the git repository
- Connect the pieces on the raspberry pi board as described in the image
- Download platform tools (to have adb.exe)
- Connect to internet Open cmd prompt and run adb connect [ip address]:5555
- Create a Firebase project and generate google services json and replace the json from the app module with the one previously created
- Create a google services json for the python server and replace it in the firebase folder

## Running

- Run the python server first(Python Processor), then run the app from the raspberry pi
- Optional: to see companion app run MyParking app on an Android phone

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