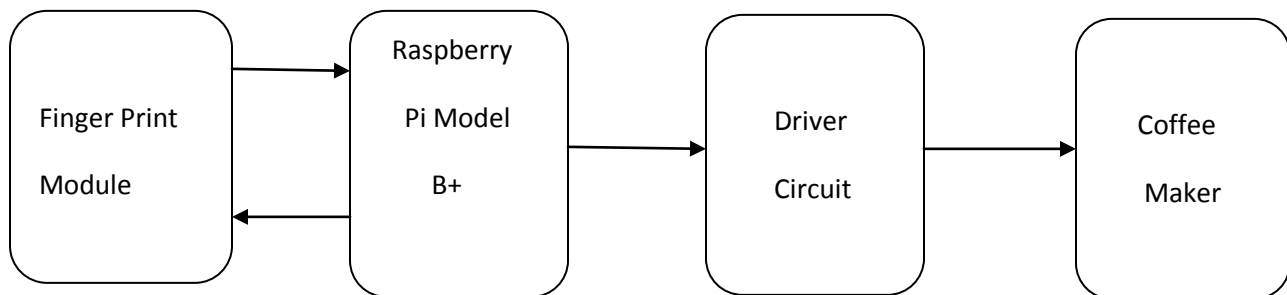


Coffee Serving System based on Raspberry Pi and finger print authentication

Abstract

In this project it is propose to develop the system of coffee serving based on Raspberry Pi and finger print authentication. The people, who should get served by coffee, must be register first. Their database must be created and saved. When any one demands the coffee, he has to give his finger print impression, when the impression matches with internal database the person get served by coffee, otherwise not.

Block diagram of Coffee serving system



Block diagram gives the idea of system. It consists of following blocks.

- 1) Finger print module
- 2) Raspberry Pi model B+
- 3) Driver Circuit
- 4) Coffee maker

1) Finger print module

The module is used to authenticate the person. Fingerprint processing includes two parts: fingerprint enrollment and fingerprint matching (the matching can be 1:1 or 1:N). When enrolling, user needs to enter the finger two times. The system will process the two time finger images, generate a template of the finger based on processing results and store the template. When matching, user enters the finger through optical sensor and system will generate a template of the finger and compare it with templates of the finger library. For 1:1 matching, system will compare the live finger with specific template designated in the Module; for 1:N matching, or searching, system will search the whole finger library for the matching finger. In both circumstances, system will return the matching result, success or failure.

2) Raspberry Pi model B+

The Raspberry Pi Model B+ incorporates a number of enhancements and new features. Improved power consumption, increased connectivity and greater IO are among the improvements to this powerful, small and lightweight ARM based computer

3) Driver Circuit

The driver circuit consists of ULN 2803 driver IC and Relay. The IC is used to provide required current to relay. And relay is used to drive coffee maker circuit.

4) Coffee maker

Readymade coffee maker of any company can be used.

Reference:

<https://www.sparkfun.com/products/12994>