Egyptian National-ID Card Reader

Image-Processing and pattern recognition term-project, spring 2019

Project is developed by:

Ola Hamdy Ahmed (علا حمدي أحمد) Class: 2

Aliaa Mahmoud Ahmed (علياء محمود أحمد) Class: 2

Mostafa Atef Abd-Allah (مصطفى عاطف عبدالله) Class: 3

Mostafa Fahmy Al-Noqrashy (مصطفى فهمي النقراشي) Class: 3

1 Overview

The Egyptian national ID card has specific fields each one corresponds to a piece of information as follows:

- Full name.
- Address.
- ID, a unique number consists of 14 digits.
- Birth Date.
- Place of birth.
- Current occupation.
- Gender.
- Religion.
- Marital status.
- Spouse name, in case of married females

2 Project Description

Copying information from national ID card is needed in each and every place we go to everyday, either to record it or to fill it in an application form. An error in only one digit can delay an urgent process for days.

Therefore, it is necessary to develop software capable of scanning the card rapidly, and with high accuracy, extracting personal information from it, and providing this information to the user to reduce the time needed for copying along with typos.

This can be approached using basic Open-CV python library functions as we will discuss later.

3 User Interface

Simplicity comes first; the GUI provided with our project is user-friendly to help users with minimal computer experiences to use it. Double click to open the program, browse the front and the back side photos of the ID card and hit the generate button to get the filled form.

4 Inputs and Outputs

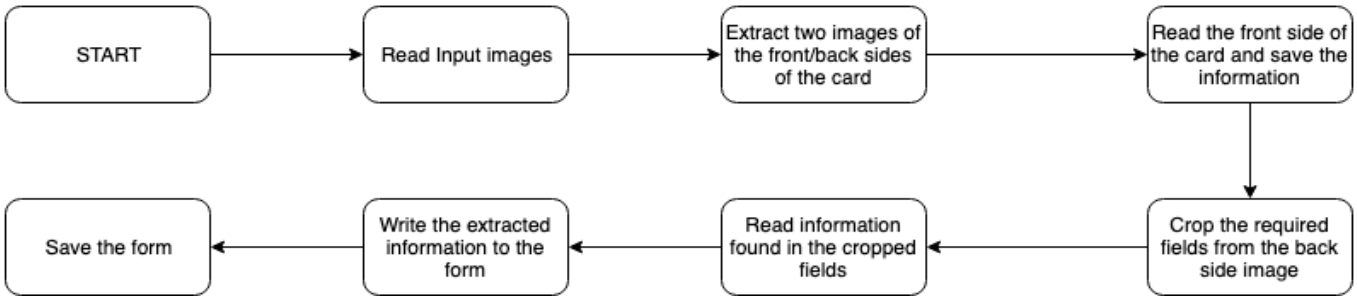
The software accepts photos of national ID cards captured using smart-phones or scanned with a scanner. It accepts photos with JPG, PNG, and JPEG extension; it generates a photo of a form in JPG format.

5 Program Structure

The back-end of the program consists mainly of 4 functions performing the following functionalities as follows:

1. Extract a photo of the card from the input image.
2. Crop all required fields from the extracted image.
3. Read all information in the front side photo.
4. Write all extracted information to the form.

6 Sequence of Execution



8 Improvements and Extensions

The program can be improved by improving the functions used to read the Arabic language characters; it can also be extended to write in any given form.