COMPUTER VISION COMPETITION

Smart Attendance

CVC 2020 project proposal

Project Proposal

- **Project Title**: Smart Attendance

No of Students: 5

Project Description:
Keeping track of attendance in classes is usually a tiring process that requires a lot of paperwork and time that TAs waste to correctly assign attendance marks to students thus there is a need for a friendly system capable of tracking attendance correctly and efficiently.
The attendance tracking system will be able to track students' attendance via a mobile app that can take images of students' ID cards and extract their ID numbers and store it for the TAs for later processing. Students can also verify that their attendance marks have been assigned correctly through the app.

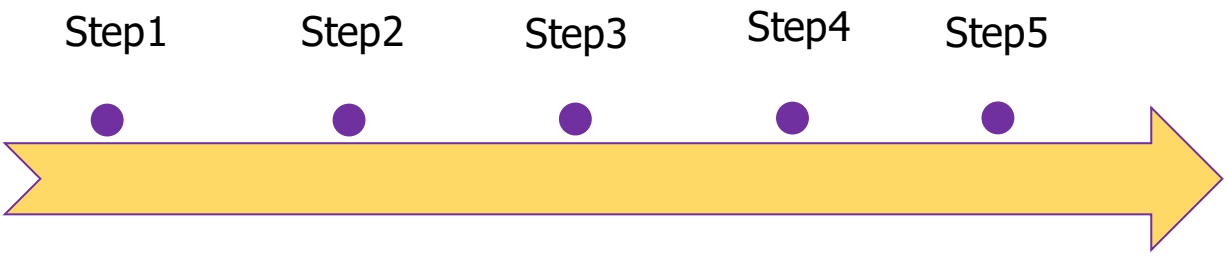
Objective:
Design an efficient attendance tracking app.

Team Members:
- Kerollos Gamal Fakhry (1501050)
- Ebram Michel Abdelmalak (1500010)
- Ramez Magdy Karam (1500554)
- Heba atef sayed (1501665)
- Heba Mohamed Abd El-Moniem (1501671)

Members' Roles:

Ramez will work on the app, Heba and Heba will work on the image processing and Kerollos and Ebram will work on both the app and the image processing.

Timeline:



Step 1: Preprocessing

- Setup the configuration for android studio to work with OpenCV library
- Remove noise from image
- change the color space to gray scale and apply threshold

Step 2: scanning the image

- Cut the input image which contains multiple id cards into multiple images, each one contains only one id card.
- Applying canny edge detection to get the Edges in each image.
- Finding the contours in the edged image to get id card boundary.

Step3: Text Extracting

- take the detected id card from the image and start to apply some enhancements.
- cut the region of interests in the detected id that contain the information we need (id number).

Step 4: Database

- create a database that contain ID numbers of students and the attendance.
- record the attendance of each student which has the id number extracted from image processing

Step 5: Building an Android app

- the mobile application launches to a screen with one button to capture the image

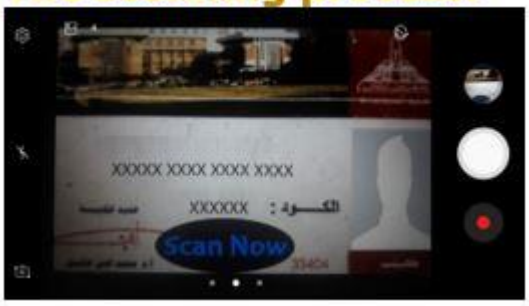
Deliverables:

A mobile app that makes TA able to take attendance in an easy, and smart way.
A mobile app that makes students be able to monitor their attendance in easy and fast way.

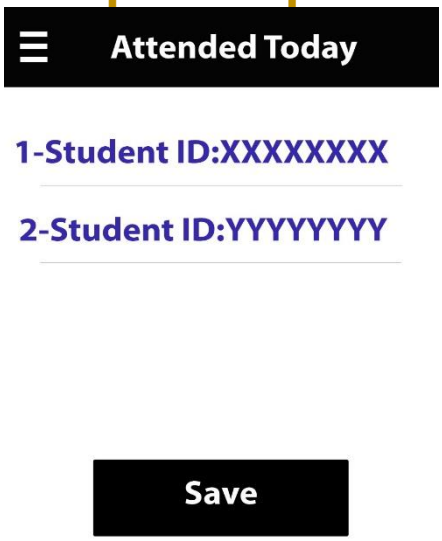
Samples of the project:

Expected input:

The scanning process:



Excepted output:



TOOLS:

1) MYSQL.
2) OpenCV.
3) Android studio.