Christopher Arellano

Facial Recognition Attendance

Takes attendance of the person on camera using facial recognition upon 'a' key press or pressing and releasing the attendance button for Arduino. Creates a new personal folder named by the user upon 'f' key press. Takes and saves a new picture of the person on camera in a user designated personal folder upon 'p' key press, to be used for facial recognition. Deletes the last picture of the person designated by the user from their personal folder upon 'd' key press, unless there are no pictures. Sorts both attendance and attendance pictures, by day of the week and date, then terminates the program upon 'esc' key press.

Key press options:
'a' key or attendance button for Arduino - Take attendance of person on camera
'f' key - Create a new personal folder
'p' key - Take and save new picture, of person on camera, in personal folder
'd' key - Delete the last picture of person from personal folder
'esc' key - Terminate the program

'a' key press or attendance button for Arduino description:
Upon pressing, both a temporary picture and an attendance picture are taken and saved in their designated locations. The temporary picture is only saved to see who was the last person to take attendance. Said temporary picture gets overwritten whenever a person takes attendance. During the process of taking and saving both temporary and attendance pictures the message "loading…" is displayed on the input/output (i/o) field. As the message "loading…" is displayed, facial recognition is occurring to determine who the person in the picture is. The facial recognition is done by comparing the picture taken to the pictures saved in the personal folders. If the person in the picture taken is identified then 'the name of the identified person' is returned and displayed on the i/o field as followed - Name: 'the name of the identified person'. If the person in the picture taken is not identified then 'unknown' is returned and displayed on the i/o field as followed - Name: 'unknown'. Using the 'returned information' ('the name of the identified person' or 'unknown') both the attendance, for the attendance files, and the attendance picture are named accordingly. In both the attendance and backup attendance txt files the following information is saved when taking attendance - Name: 'returned information'   Date: day of the week, month/day/year   Time: hour(s):minute(s):second(s) AM/PM. The attendance picture is named as follows when taking attendance - Name_'returned information' Date_day of the week, month-day-year Time_hour(s)-minute(s)-second(s) AM/PM.jpg.

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'f' key press description:
Upon pressing, the message "Enter the name for the folder: " is displayed on the i/o field waiting to receive input from the user. If the 'user input' (input from the user) is of an existing folder the message "The folder for ' 'user input' ' already exists" is displayed on the i/o field. If the 'user input' is the 'enter' key without input (blank) the message "The folder for ' 'blank' ' can not be created" is displayed on the i/o field. If the 'user input' is of a non existing folder then the new folder is created and named as the 'user input'. When the new folder is created the message "The folder for ' 'user input' ' was created successfully" is displayed on the i/o field and a txt file named count.txt is created within said new folder. Within the count.txt file the number '0' is written and saved.

'p' key press description:
Upon pressing, a picture is taken and the message "Enter the person's name: " is displayed on the i/o field waiting to receive input from the user. If the 'user input' is either 'blank' or of a non existing folder the message "The folder for ' 'user input' ' does not exist." is displayed on the i/o field and the picture is discarded. If the 'user input' is of an existing folder then the number written in the count.txt file, from the accessed folder, is read. After reading the number, the number is incremented, the picture is named and saved as said incremented number in the accessed folder and the message "Picture saved." is displayed on the i/o field. Additionally the incremented number is written and saved in the count.txt file in the accessed folder.

'd' key press description:
Upon pressing, the message "Enter the person's name: " is displayed on the i/o field waiting to receive input from the user. If the 'user input' is either 'blank' or of a non existing folder the message "The folder for ' 'user input' ' does not exist." is displayed on the i/o field. If the 'user input' is of an existing folder then the number written in the count.txt file, from the accessed folder, is read. If the number from the count.txt file, from the accessed folder, is '0' the message "There are no pictures in the folder." is displayed on the i/o field. If the number from the count.txt file is greater than '0' then the picture named as said number is deleted from the accessed folder, the number is decremented, and the message "Picture deleted." is displayed on the i/o field. Additionally the decremented number is written and saved in the count.txt file in the accessed folder.

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‘esc’ key press description:
Upon pressing, attendance as well as attendance pictures get sorted while the i/o field along with the camera feed closes and the program terminates. The attendance and attendance pictures get sorted into their corresponding folders that are distinguished by day of the week and date.