كلية الهندسة

Image Processing Project

Excel Creator

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- About the Project:

Instead of wasting time in data entry, we are aiming at making work easier. Our app will read printed sheets and create a softcopy excel sheet with the same data.

- Input Samples:

name	age	species	occupation
Earl of Lemongrab	Unknown	Lemon Candy	Earl, Heir to the Candy Kingdom Throne
Bonnibel Bubblegum	19	Gum Person	Returned Ruler of the Candy Kingdom
Phoebe	16	Flame Person	Ruler of the Fire Kingdom
Lumpy Space Princess	18	Lumpy Space Person	Babysitter

- Output example:

	A	B	C	D	E
1	name	age	species	occupation	
2	Earl of Lemongrab	Unknown	Lemon Candy	Earl, Heir to the Candy Kingdom Throne	
3	Bonnibel Bubblegum	19	Gum Person	Returned Ruler of the Candy Kingdom	
4	Phoebe	16	Flame Person	Ruler of the Fire Kingdom	
5	Lumpy Space Princess	18	Lumpy Space Person	Babysitter	
6					
7					
8					

	A	B	C	D	E
1					
2	Expesion	Image Num	Correct		
3	Absorbed	9	7	77.80%	
4	Neuter	9	5	55.60%	
5	Fatigue	9	8	88.90%	
6	Average recognition rate: 74.1%				
7					
8					

- Our Program Should:
    - Capture the picture.
    - Recognize data cells and their distribution.
    - Recognize text from images.
    - Create output excel sheet.

- How the program works:
    - Image Loading.
    - Image Filtering (Using Adaptive Thresholding).
    - Horizontal and Vertical Line Isolation.
    - Table Extraction from image.
    - Splitting Table into Cells.
    - Processing each Cell as a single image.
    - OCR for text recognition.
    - Writing Text to Excel Cell.

- Comments:
    - Program Requires:
        - numpy==1.16.0
        - opencv-python==4.0.0.21
        - pdf2image==1.4.0
        - Pillow==5.4.1
        - pytesseract==0.2.6
        - XlsxWriter==1.1.2