



Faculty of Engineering
Cairo University

Faculty of Engineering - Cairo University
Credit Hours System - Fall 2023



Cairo University

CMPS446, Image Processing and Computer Vision

Project Proposal

Team 15

Team Members:

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|------------------------------------|---------|
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Module 1:

Auto filler:

Table Sheet Detection

- **Adaptive Thresholding:** Good choice for dealing with different lighting conditions.
- **Contour Detection:** for localizing the table
- **Perspective Transform:** Essential for handling skewness, but also consider robustness against different angles of capture.

Cell Detection

- **Morphological Operations:** for line detection
- **Empty Table Construction:** Use detected lines to reconstruct an empty table grid.
- **Contour-Based Cell Localization:** After grid construction, cell detection will become more straightforward.

Cell Content Extraction & Output

- **Cell Content Isolation:** Clarity of borders ; preprocessing to enhance edges
- **OCR/Classification:** Choose an OCR engine that is robust to fonts and handwriting if necessary.
- **Table Reconstruction:** Map the OCR results back into the cell coordinates of the reconstructed table.
- **Error Handling:** Implement a system to handle and correct OCR misreads or classification errors

