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**Motivation**
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**Image Processing Pipeline**
- Take picture of tiles and send image to server
- Binarize using locally adaptive thresholding and reconstruct tiles using region convex hull
- Extract individual tiles using region properties
- Perform Hough transform to rotate tiles
- Calculate Hu moments for extracted tiles and compare to database
- Send string of identified tiles back to phone
- Input additional letters for building the crossword (if desired)
- Send string to an anagram solver
- Display possible anagrams on phone

**Experimental Results**
Letter Recognition Accuracy (25 Test Images per Letter)

**Android Application**

**Future Work**
1. Improve robustness to handle perspective distortions, uneven illumination, and low contrast.
2. Perform image processing on the phone for improved speed.
3. Cache anagram results.

**References**