

## Basic Implementation

- This android application once launched shows a title screen and button entitled snap an answer. Once a user selects the button the camera is launched via a built in camera intent. This intent takes in as an extra the location of where the temp picture file is stored on the smartphone. (intent.putExtra(MediaStore.EXTRA\_OUTPUT, imgUri));
- Once the user has taken a picture the next activity is started from the onActivityResult method. This method is called when the camera intent returns.
- Once the new activity PhotoResults is launched it grabs the photo from the location specified by the camera extra and sends it to the node js server in order to parse the picture and receive a result via tesseract and wolfram alpha api.
- In order to send the picture to the node js server the application uses an HTTP post command utilizing the HttpClient (To send the material) and MultipartEntity (To send the complex picture file).
- Once the image is added to the entity via entity.add(picture), it is sent over using an http post (HttpPost.set(entity)).
- The sending of the photo along with receiving the response is done in another thread, in order not to disturb the UI thread.
- The user can see that the server is processing the thread via the progress dialog that is launched before the thread and dismissed after the processing is complete.
- Once the server sends back a response via JSON data (JSON array) the onPostExecute function appends the new information to the two text views.
- Once the user sees the answer and problem they can select the Thanks button to return to the main screen.