

Future development of the application

The application currently developed is:

1. Allergy application taking input from users and doctors regarding allergens and their respective reactions to particular patients. This uses the Dempster Shaffer theory to get the output from the users. The backend of this application uses JSON based dictionary data structure in MongoDB to get the application running. The data is structured in this application
2. Image processing application gets images from users regarding the reaction to certain allergens. The application uses different methods like watershed, otsu and single region methods to get the perimeter and area of the boil or reacted area. This application is not camera calibrated so the progress of the reaction to allergens needs to be manually filled. The data is unstructured in the form of images but the uniqueness of the data is seen by coordinates of boils or reaction areas on the patient's skin.

To avoid the above manual filling of the application, the above applications can be combined as follows.

1. Presently the allergens data is initially manually filled but on further updation of data, it can take place directly after image processing is performed on the reacted area. If there are no visible reactions seen, then options of high, medium and low reactivity can be filled.
2. If there are visible reactions to allergens then using the area and perimeter of the boil, the options of high reactivity, medium reactivity or low reactivity can be directly automated by the image processing application to the backend(MongoDB) directly.
3. The results can be seen in the application as of now. To take feedback for live updation in image processing, other options can be added to the application where feedback from the user is taken and is updated to the image processing application.