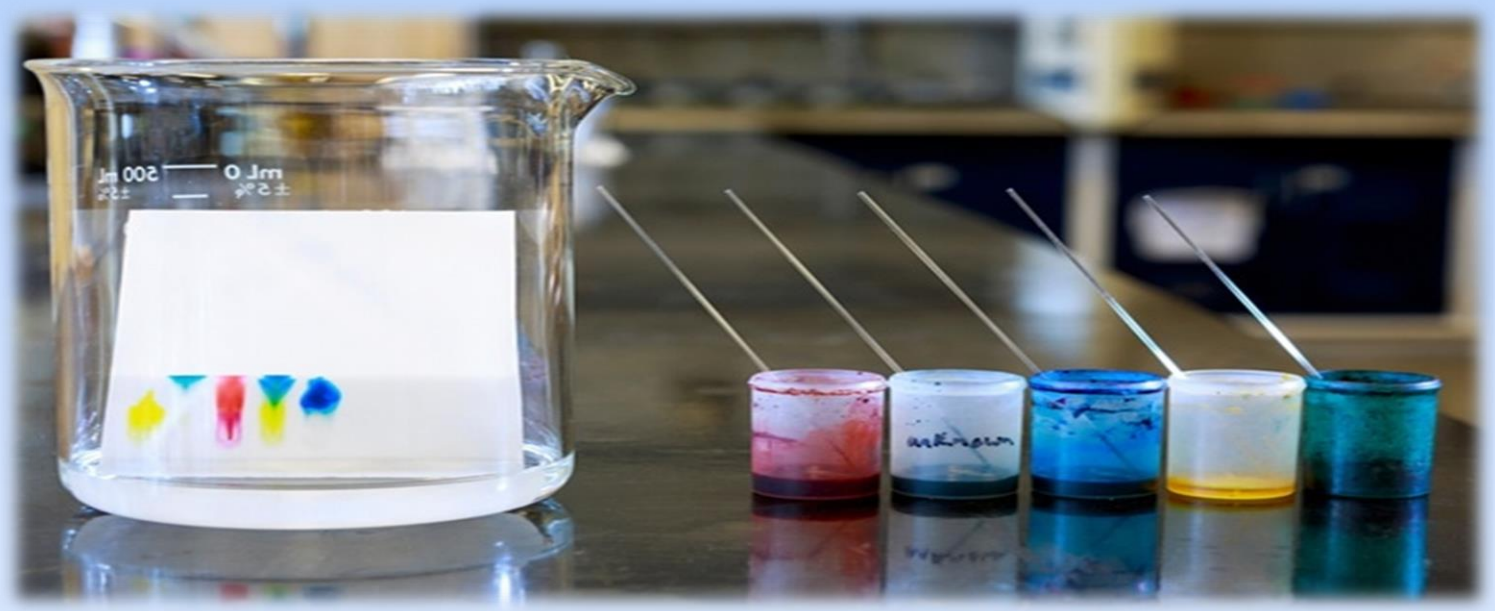
# Idea/Approach Details



**Technology Bucket:** Life Sciences
**Organization name:** Sun Pharmaceutical Industries Ltd
**Team Leader Name:** Prerna Jain

**Category:** Software
**Problem Code:** DD1
**College Code:** 7420

# Idea/Approach details

**Solution/Approach :**

- Firstly, an aligned image of the chromatography paper will be clicked using a grid frame and the software/App will crop the image provided by the user into a desired sub-image consisting the region between the spotting line (or the starting point) and the solvent front.
- The different dominant color components are then extracted from cropped image and their RGB values are stored.
- Thereafter, the center of the different individual elements indicated by the clustering of single colour around a region is detected using a modified classification algorithm.
- Then the distance of each component from the spotting line is calculated by taking y-coordinate value of each located centers. The distance travelled by solvent from the spotting line is equal to the height of the image.
- These values are used to compute the Rf values for different elements which are then compared with the reference standard outputs. Finally the software will return whether or the chromatography output is within range.

**Technology Stack:**

- Machine Learning Classifier
- Python Inbuilt Libraries
- Android Studio(Xml + Kotlin)
- Firebase database – BaaS
- Jupyter Notebook

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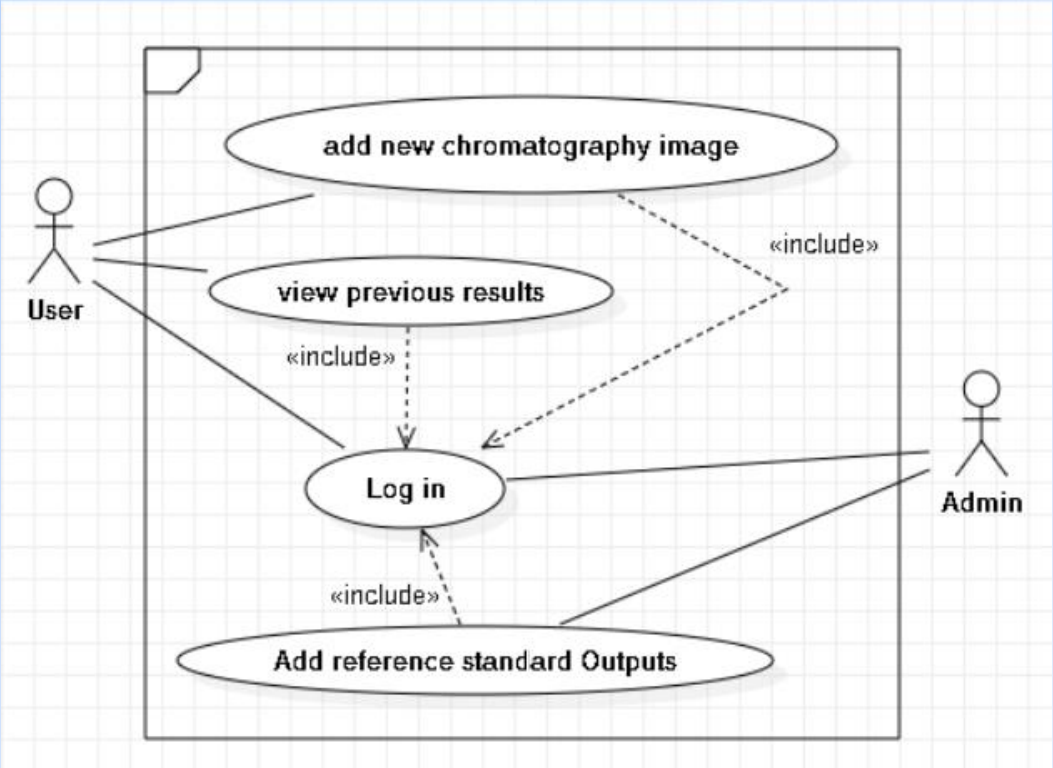
**Use Case Diagram:**




**Dependencies:**

- Android Photo with Good quality Camera
- Android Studio
- The reference Standard Outputs to which the observed one is compared