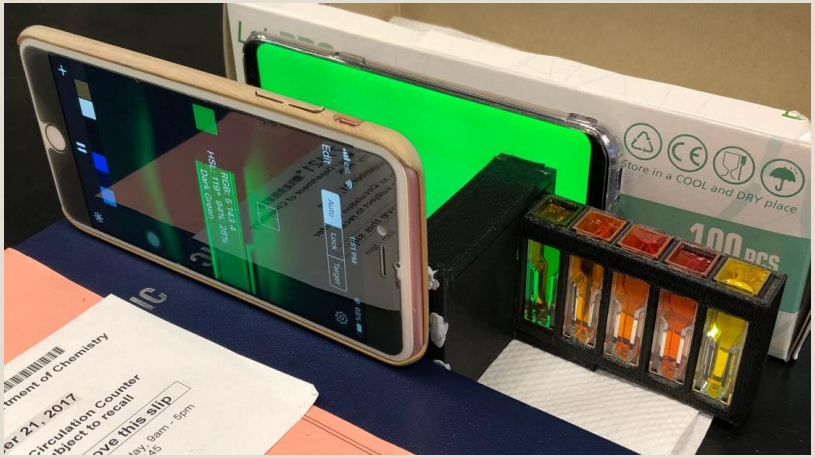
SMARTPHONE COLORIMETRY

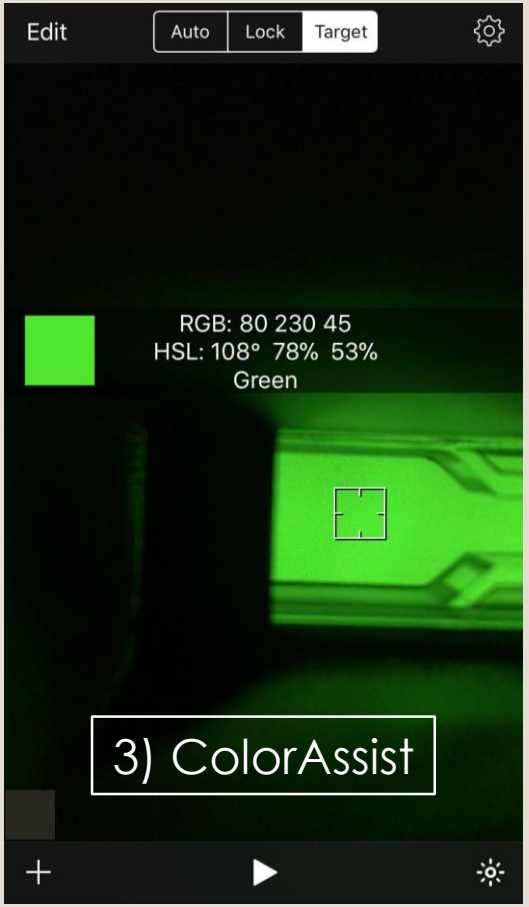
Project Progress – Experimental

1) Light source



2) Standards & Sample solution

4) RGB value (P and P_o)
5) Transmittance and Absorbance
6) Calibration curve (A = abc)
7) Sample concentration



3) ColorAssist

Project Progress – Experimental

<u>Smartphone Colorimetry</u>

1) Iron supplements
2) Food & Supplements with reducing sugar (e.g., Dextro Energy, 草姬冬蟲夏蟲)
3) Protein in milk
4) Nitrite in hams

<u>Smartphone Fluorimetry</u>

1) Quinine in tonic water

Applicable to real samples

High accuracy (relative error <10%)

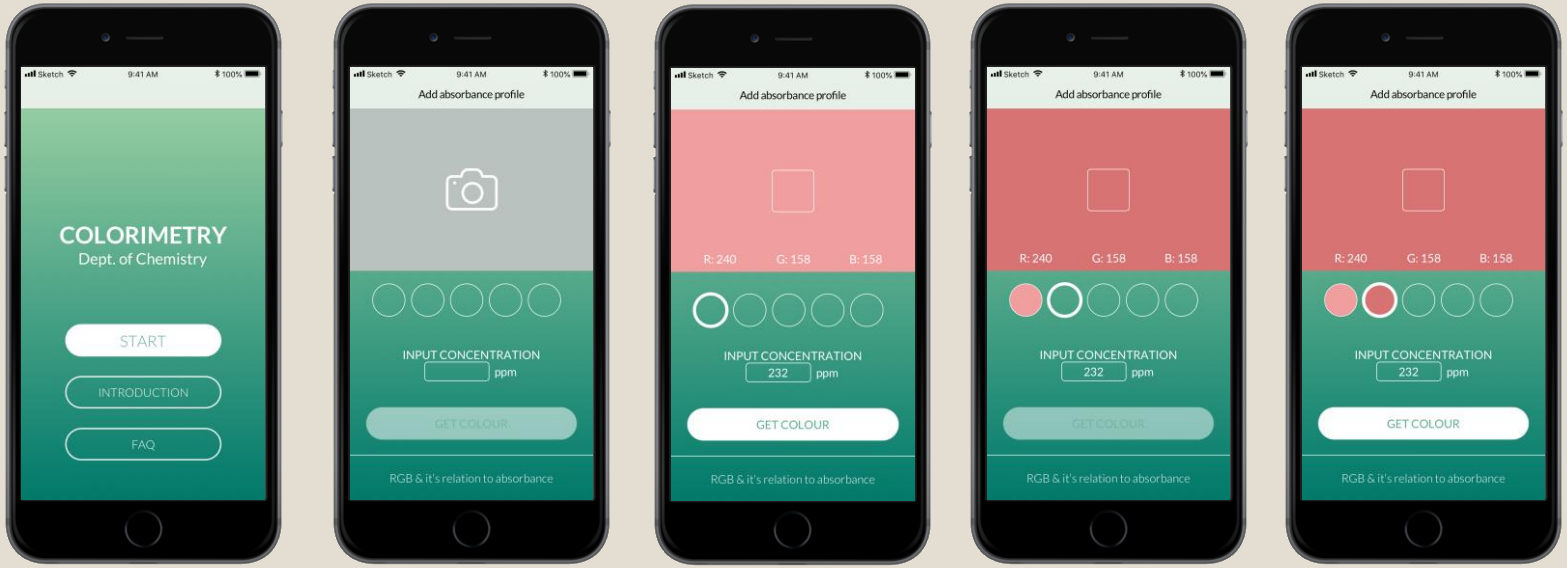
High precision (short & long term, RSD <10%)

Comparable results with conventional analytical methods

Project Progress – App

Apps Resource Centre
流動程式教學資源中心

- The prototype of the app was developed.
- The app has been presented in ML conference in Portugal.
- Fine details and art-work design are still in progress.
- **The completion is designated in early May 2018.**



Future Works

- Chemistry Study Tour 2018 – Taiwan
  - Ammonia, nitrite, phosphate, copper, iron, and chloride in river and/or waste water sample
- Food analysis in summer GE course – CHEM2035
- Integrated Science laboratory in AY2018-2019
- Teaching Kit on Chemical Testing for New Senior Secondary Curriculum – ITC
  - NO_2 in air, Copper in wastewater, and Melamine in milk
- Smartphone Fluorimetry, e.g., vitamin B2 and K