München, 17. November 2019

BA or MA Thesis or Project Work

„Smartphone Camera Application for Medical Diagnostics"

Background. The high mobile phone penetration and rapidly growing telecommunications infrastructure in the world represents an unprecedented opportunity for reading and transferring point-of-care diagnostic data. Global mobile-cellular subscriptions have grown 70% over the last decade, reaching 8 billion as of 2019. Hence, exploiting the existing mobile phone infrastructure to monitor health conditions and the environment will accelerate the efforts towards low-cost healthcare for existing and emerging diseases.
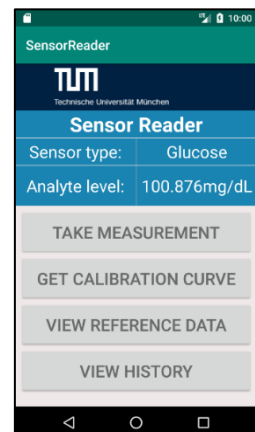
Project scope. The aim of this project is to develop a smartphone application algorithm with for both Android and iOS operating systems. The app will transform the smartphone camera into a reader to quantify commercial colorimetric tests with high accuracy and reproducibility in measuring biomarkers.

Reference: A smartphone algorithm with inter-phone repeatability for the analysis of colorimetric tests. Sensors and Actuators B: Chemical, 196, 156-160 (2014)

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