Smartphone App Concept for Medical Applications.

Alexander Gustafson
University of Applied Sciences,
Zürich,
Switzerland,
alex_gustafson@yahoo.de

July 27, 2016

Dozent: Reto Knaack (knaa@zhaw.ch)

School of Engineering, Abteilung Zürich
Studiengang Informatik

Abstract

The market for smartphone based medical applications is a relatively new and growing quickly. The majority of medical apps are relatively simple health management and tracking applications that might remind a user to take his or her medicine or monitor blood pressure and heart rate data provided by accompanying devices. However, more sophisticated apps can directly provide diagnostic information by capturing and analysing data directly. Several apps exist that can asses the risk of skin cancer by tracking changes in the growth of skin lesions over time.

Contents

Chapter 1

Introduction

Chapter 2

Project Goals

Chapter 3

Market Research

3.1 Data Gathering

3.1.1 Gathering Data from the Apple iTunes Store

Searching the Apple iTunes store is typically done manually via the iTunes Application from which text and data cannot be automatically extracted. Therefore, searching for and gathering data about IOS Applications is not easy. However, Apple does provide an rss feed that can be used to list Apps in specific categories and ordered according to how new, or how popular they are and if they are free or not. The rss feed is limited to 100 items per category. The data provided by the rss feed is minimal, not much more than title and a text description of the app. There are no sub-genres or tags than can be used to further differentiate the apps.

Using a python script data was gathered from the following rss feeds:

Top 100 Free Medical Apps Top 100 Grossing Medical Apps Top 100 Paid Medical Apps This combined results included data about 255 IOS apps. The title and description fields were imported into a database. Other information from the data such as price, right, or image link were ignored.

Chapter 4

Image Data Sources

4.1   Section Title

Chapter 5

Image Feature Extraction

5.1 Section Title

Bibliography

Chapter 6

Appendix

Chapter 7

Notes

7.1 Notes

Research the medical app market:
itunes store search api:

- official api :
  https://affiliate.itunes.apple.com/resources/documentation/itunes-store-web-service-search-api/
  limited to 200 results, no posibility to get next 200.

- python wrapper
  https://github.com/ocelma/python-itunes
  too limited, better to use the python "requests" library
  still depends on official api so same limitations

- rss feed with additional filters : https://rss.itunes.apple.com/us/?urlDesc=%2Fgenerator
  can filter free or paid applications, can rank by user feedback and gross

android seach api:

- no official api

- unofficial : https://github.com/egirault/googleplay-api
  hackey, pretends to be an android device

FDA (U.S. Food and Drug Administration) Mobile Medical App Submissions

- API : https://open.fda.gov/device/510k/ example : https://api.fda.gov/device/510k.json?limit=20&search=tumor%2

- reference : https://open.fda.gov/device/510k/reference/
  API is useable but might have too much information (not just for mobile apps).
  I need to reasearch if there are adequate filtering possibilities to narrow down
  results