IntelliFusion

Data Collecting & Annotation Android App 0.1 Document

Version 0.1

Document Revision History

Date	Version	Description	Author
03/25/2018	0.1	The first try to describe this project, and set up a complete structure about this app.	XueYiheng

Data Collecting & Annotation Android App	Version: 0.1
0.1 Document	Date: 03/25/2018

Table of Contents

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0.1

1. Introduction

1.1 Purpose

This document describes high-level user needs and features about the app which aims to collect and annotate data.

1.2 Product Overview

Big data analysis and artificial intelligence is based on the big data, which has prompted we need a large amount of data. Rapid progress in machine learning recently, and the performance of ML algorithms depends on "Good" data (usually with labels) and in need of large scale of labelled data to boost algorithms performance, limited available public datasets to use.

1.3 References

[1] Li Hongyan, Fan Lichun, Gao Peng, Xu Bo. Big data speech corpus of social tagging technology [J]. Journal of Tsinghua university (natural science edition), 2013 does (6) : 908-912.

2. User Description

2.1 User/Market Demographics

There are lots of mobile phone users around us, and each of them use their mobile phone when they are on subways or in toilets. We would like to create an android app for lots mobile phone- users to collect labels and analysis different labels to determine the best label of every things.

2.2 User Profiles

Tens of thousands of users in different kinds of works.

2.3 User Environment

Expected to tens of thousands of users. After the early promotion, expand user base through a certain marketing mode, the user number multiplied, higher requirements for marketing model. We will to do optimization application interface to make the application easier to use.

2.4 Key User Needs
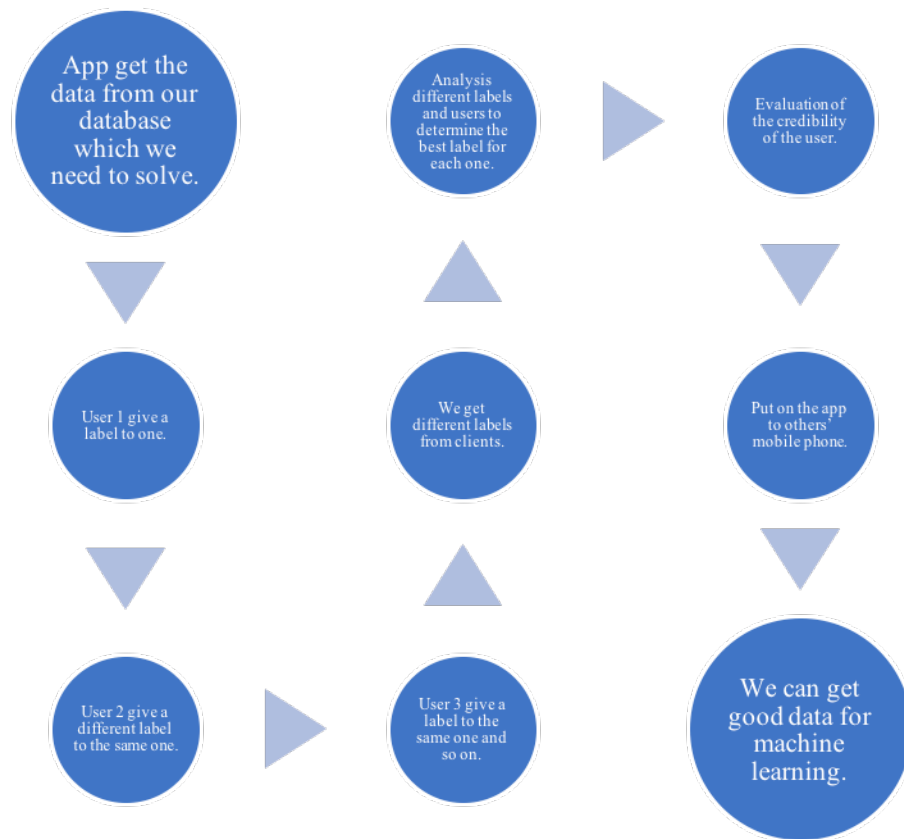
Simple, easy, visual, etc.

2.5 Alternatives and Competition

Can have special jobs to annotate throughout the day.

3. Product Overview

3.1 Product Perspective

3.2 Product Position Statement

We can analysis different labels in the same pictures and determine the best one, which influence this user's weight when we find the best label.

3.3 Summary of Capabilities

This is useful in machine learning, we can get the good data by analysis different labels.

3.4 Assumptions and Dependencies

[List each of the factors that affects the features stated in the Vision document. List assumptions that, if changed, will alter the Vision document. For example, an assumption may state that a specific operating system will be available for the hardware designated for the software product. If the operating system is not available, the Vision document will need to change.] **<u>I am not sure how to do this part.</u>**

3.5 Cost and Pricing

User reward points out

Advertising spending

(Not including hardware equipment, personnel development costs)

4. Feature Attributes

这个 app 需要手机的一些授权，包括网络连接、摄像头的使用、信息接收与传输，在登陆之后需要用户对此权限进行通过，这个 app 不会涉及到用户的危险权限，不需要使用通讯录、位置等与隐私相关的信息。
[Provide a bulleted list of the attributes that should be used to describe features so that they can be compared (e.g.,

Status, Priority, Effort, Risk, Stability, Target release).]

5.   Product Features

[1]   Can capture images and videos containing various types of objects, such as faces, persons, etc.

[2]   Can sync and store the captured images and videos to remote servers.

[3]   Can create annotation task from captured but unlabeled images and videos.

[4]   Can label the images (not videos for now)

[5]   Can report labeling progress.

5.1   Feature: This is a sentence describing feature 1.

可以通过对图片进行分析，识别出人的面部信息，并通过方框标记，识别人的身体部分，通过方框标记，通常采用 haar 特征和 Adaboost 算法训练级联分类器对图像中的每一块进行分类。如果没有矩形区域通过了级联分类器，则被判别为人脸图像。

[Provide a paragraph describing feature 1.]

5.2   Feature: This is a sentence describing feature 2.

通过摄像头获取的信息，进行分析，并获取用户标记信息之后，将所有信息通过手机网络系统传输到服务器中进行汇总。

[Provide a paragraph describing feature 2.]

5.3   Feature: This is a sentence describing feature 3.

在已有图片中进行分析，用方框显示图中已经识别的标签信息。

[Provide a paragraph describing feature 3.]

5.4   Feature: This is a sentence describing feature 4.

在屏幕中显示图片之后，有一部分提供可供选择的标签，标签简洁直观，如需对标签进行解释，可考虑长按标签显示隐藏信息。

[Provide a paragraph describing feature 4.]

5.5   Feature: This is a sentence describing feature 5.

有一个选项，可以查看目前任务的百分比进程，在一次标注环节中，有一定的任务量，并结合已完成的任务量进行可视化显示。
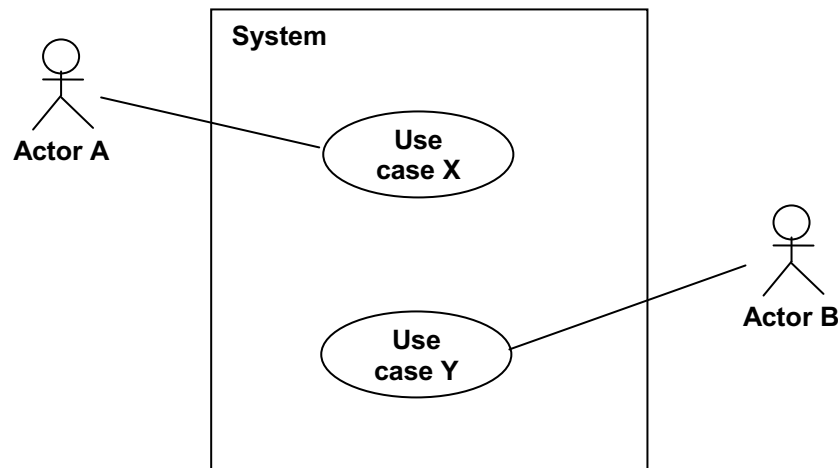
[Provide a paragraph describing feature 5.]

…
[Define additional features as desired.]

6. Key Use Cases

[Describe use cases that would be most commonly associated with the product and/or would help motivate the product. Include a use case diagram preceding Section 6.1 that includes all use cases defined in this section (see the example diagram below).]

6.1 Use Case: This is the name of use case 1.

[For each use case, use the following template.]

Brief Description

A description of no more that a few lines (i.e., enough so that the function is distinguishable/recognizable).

References

Related business rules, UI diagrams, data flow diagrams, process flow diagrams, source documents, etc.

Preconditions

What must be true before this use case can execute (either as part of the business process or the state of some other system).

Normal Flow of Events

Single thread described as steps

1. Step 1
2. Step 2
3. Step 3
4. …

Alternative Flows

[Branches from single thread based on unexpected conditions or less common paths.]

Alternative Flow 1

3. Different action at Step 3 of normal flow (i.e., alternative flow branches at Step 3).
4. Step 4 of alternative flow.
5. …

Alternative Flow 2

…

Alternative Flow 3

…

6.2 Use Case: This is the name of use case 2.

…

7. Other Product Requirements

7.1 Applicable Standards

[Identify standards (business or technical) that the product must comply with.]

7.2 System Requirements

[Identify system resources needed (all types).]

7.3 Licensing Installation

[Identify licensing requirements of dependent applications.]

7.4 Performance Requirements

[Describe performance requirements specified by the user and/or representing a significant differentiator in the marketplace. While any non-functional requirement could be highlighted, performance is often the most critical.]

8. Documentation Requirements

8.1 User Manual

[Will a user manual be required? How extensive?]

8.2 Online Help

[Will online help be required? How extensive?]

8.3 Installation Guide, Configuration, and Read-Me Files

[Will an installation guide or read-me files be required? How extensive?]

8.4 Labeling and Packaging

[How should this product be labeled and packaged to maximize marketability, ease of installation, east of distribution? "Packaging" need not be a physical box and can include how software modules will be sold and licensed.]