Recognizing Famous Places on Android

Seminar
Practical Applications of Multimedia Retrieval
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Inhaltsverzeichnis

1 CNNDroid

What is CNNDroid

1.1 Setup and Integration into Android Project

- Clone From Github
- Copy Files into Android Project
- Necessary Import: import network.CNNdroid
- Create CNNDroid Object
- Call CNNDroid::classify

1.2 Structure Overview of necessary CNNDroid Files

- Layer Blob Files
- Definition File
- Labels

1.3 Convert Trained Models into CNNDroid-compatible Format

Short Introduction to MessagePack

- how to use convertion script
- compatible frameworks
- compatible layers

1.4 CPU vs GPU performance

Comparison of computation time of CPU (sequential) and GPU (parallel) mode on in-memory images using CIFAR10 (in-memory to minimize error using camera, CIFAR10 could be exchanged with CaffeNet if too fast)

2 Google Streetview Crawler

2.1 Setup of viewing parameters

Explain csv file

2.2 State of Automation (i.e. taking one image per viewing angle)

2.3 Current Limitations

Full automation not possible as of current street view API state; wrong latitude/longitude; Streetview Image API returns different images than JavaScript API (which is being used on google maps website)

3 PlaceRecognizer Application

Overview: What does it do. Whom is it for. How does it achieve its task?

3.1 CNNDroid Integration/Image Classifier

Explain ImageClassifier Class; Including Variables that need adaption when changing Layers or DataSets

3.2 Real-Time Frame Capture

How does the camera talk to the Image Classifier?

3.3 GPS Logger

How do we get GPS values and how can we integrate them?

3.4 Wikipedia Parser

How do we get the text for a classified image from Wikipedia?

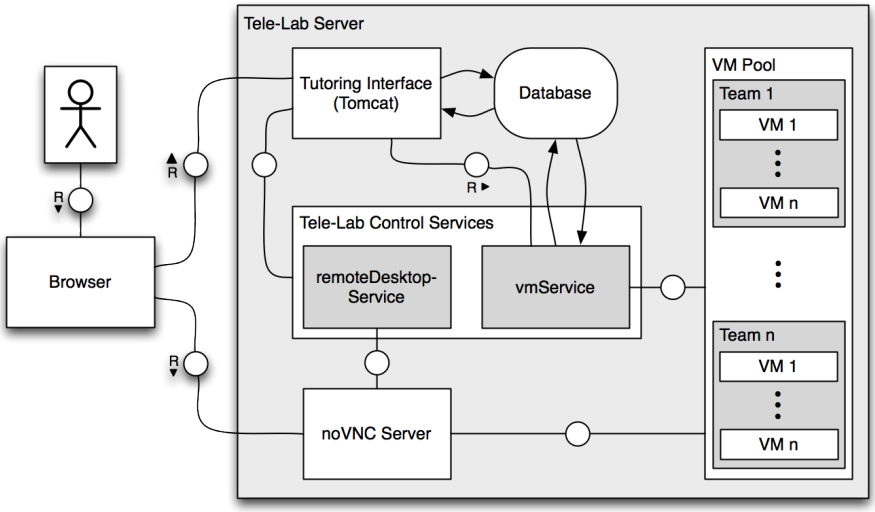

Abbildung 1: Eine Abbildung, Quelle: [1]

Literatur

[1] C. Willems and C. Meinel. “Tele-Lab IT-Security: an Architecture for an online virtual IT Security Lab”, *International Journal of Online Engineering (iJOE)*, X, 2008.