



Exploration of Real World Services by Google Goggles Freeware

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Abstract

Goggles mobile app, though less known and used by most of the app users' community, has a significant rating. It is found to be useful in many aspects, including detection of company logo, storage of text found in an image, saving contact details from a business card without typing it manually, detection of printed text data, extracting product information from Barcode and QR Code, and translation of languages. This research work constitutes of digital images captured in Sultanate of Oman, and tested with the detection or mismatch found using these 6 major application aspects of Goggles. The study reveals the performance of its matching logic under real world scenario

Keywords: Goggles analysis, goggles image comparator, goggles performance, goggles test.

1. Introduction

Having more than ten million downloads world-wide, Goggles freeware is an image recognition mobile application developed by Google [5]. Though Goggles is a freeware, but not Open source software, the source is made available by a similar fast comparator of images, which can be downloaded or updated from the GIT LIBRESOFT [6]. In order to study the results expected to be achieved for the sample test images, Goggles version 1.9.4 is installed in mobile device. The images are captured through mobile under different situations, and Goggles (installed in the same device) is tested to know the matches for the text or images from Google database.

2. Use Cases

In order to analyse the performance of Goggles, the following major application areas [7] are studied:

2.1 Logo detection from product image.

The sample images contain logo of few brands found in Sultanate of Oman.

2.2 Text detection from product image.

The sample images contain text information about the product.

2.3 Business card detection.

The sample images contain business card, which is expected to be saved in form of mobile contact detail.

2.4 Text detection from text image.

The sample images contain image with text embedded into it in two different forms:

- Hand written text
- Printed text

2.5 Code detection

The sample images contain Barcode of the product or QR Code of the information.

2.6 Translation

The sample images contain text information in one language, and are tested for the translation from one language into another language, and verification with vice-versa situation.

3 Results and Discussion

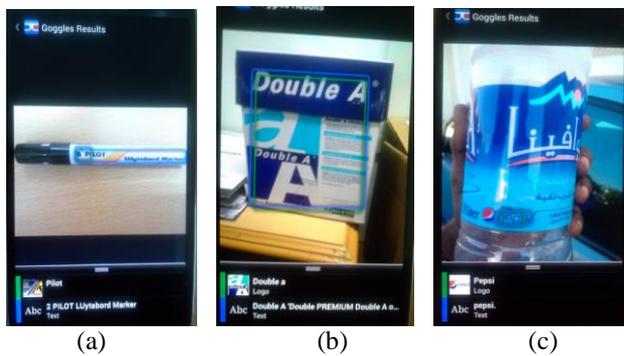


Figure 1. Logo Detection

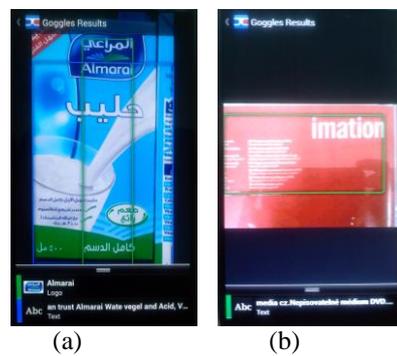


Figure 2. Text Detection

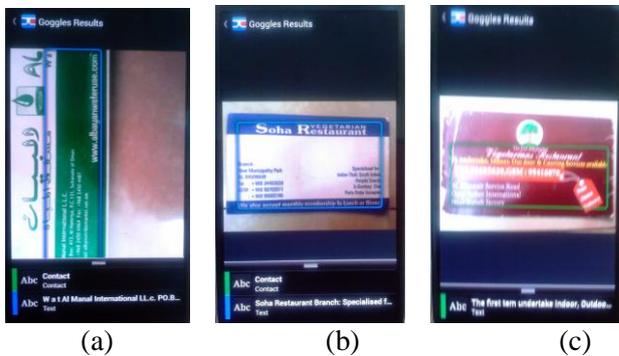


Figure 3. Business Card Detection

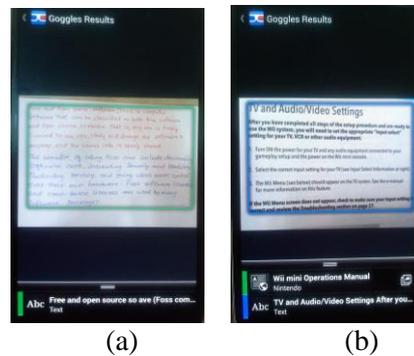


Figure 4. Text Detection from image

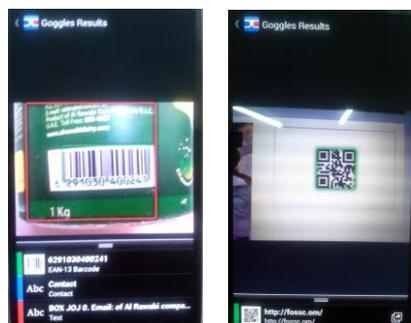
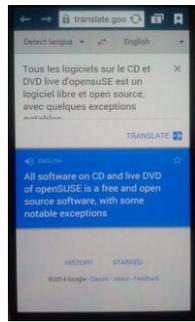
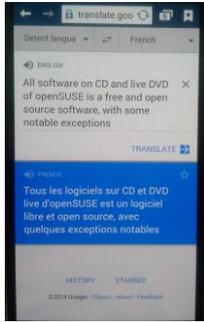


Figure 5. Code Detection



(a)

(b)

Figure 6. English-French Translation



(a)

(b)

Figure 7. English-Spanish translation.

The above screenshots of results are analyzed for the performance of Goggles under different scenario, which can be represented in Table 1.

Application Area	Total	Match found	Performance
2.1	3	3	100 %
2.2	2	2	100 %
2.3	3	2	75 %
2.4	2	Partial	80 %
2.5	2	2	100 %
2.6	2	Partial	96 %

Table 1. Performance of Goggles for test images.

During the above results achieved, the sample images are considered to be very few, in order to emphasize on a real life scenario. The following presumptions are also considered for Goggles:

- The time taken for detection of images is not considered, since it is a rapid process, usually of few seconds.
- It provides faster detection of landmarks as well as products without programming development efforts, as compared to SURF and SIFT [1].
- Some results are successful only after a couple of tries [4].
- Horizontal pictures work better than vertical ones.
- It does not work good for animals and furniture.
- Translation for Asian characters is not provided.

4. Conclusion

Most of the application aspects of Goggles have scored a satisfactory match cases. Product recognition feature allows the users to browse similar products. Other similar Augmented Reality applications like Layer and Junaio [8], requires Barcode or QR Code for further processing.

Hence, Goggles can also be used for verification or Image Forgery detection. For example, a mismatch found in the image of Apple icon of some product signifies that the product contains a fake logo.

Despite many advantages of Goggles, further focus on UX issues are required [2], be rectified. A similar test was conducted in U.S. by James Martin, and some tests do not go quite as well [3].



References

- [1] Amato, G. Falchi, F. Bolettieri, P., 2010, Recognizing Landmarks Using Automated Classification Techniques: Evaluation of Various Visual Features, *Advances in Multimedia (MMEDIA)*, 2010 Second International Conferences, pp. 78-83
- [2] Thomas Olsson, Markus Salo, Narratives of satisfying and unsatisfying experiences of current mobile augmented reality applications, *In Proceedings of the SIGCHI Conference on Human Factors in Computing Systems*, pp 2779-2788, 2012
- [3] James Marting, A real-world test of Google Goggles visual search (photos),
- [4] JR Raphael, 2009, A Hands-On Tour: Google Goggles Visual Search, , PCWorld
- [5] http://en.wikipedia.org/wiki/Google_Goggles
- [6] <http://git.libresoft.es/gogglesFLOSS>
- [7] <http://www.techradar.com/news/phone-and-communications>
- [8] <http://alternativeto.net/faq>

A Brief Author Biography

Brijesh Jajal – Having PhD in Digital image forensic, he published 7 research papers in the Journals of international repute, and attended the conferences in Advanced Image and Video Processing, DOT NET Technology and ICT for productivity. Besides 14 plus years of teaching experience in various subjects of computer science, he is also a member in the Societies, viz. CSI-India, IACSIT-Singapore, IPRG-India and ISCT-Belgium

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