BitSearch, the blog before the thesis

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Common problems with students thesis

- Social isolation

- Little visibility of results

- Difficulties in receiving external opinions

- Large periods between meetings with advisors

- Communication problems

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Qualities of writing on a web blog

- Combines solitary reflection and social interaction

- Promotes critical and analytical thinking

- Increases access and exposure of quality information

- Tool for discussion

Pedagogical uses for the teacher

- Review of course material

- Analysis on class activity

- Encourage reflections by commenting student's blogs

- Student portfolio

- Motivation

Thesis+blog=BitSearch

- Electrical Engineering

- Written in English

- (Weekly) contributions

- In parallel to regular workflow

http://bitsearch.blogspot.com

Students enrollment

- English skills required

- Previous posts available as introduction

- Agreement on thesis topic

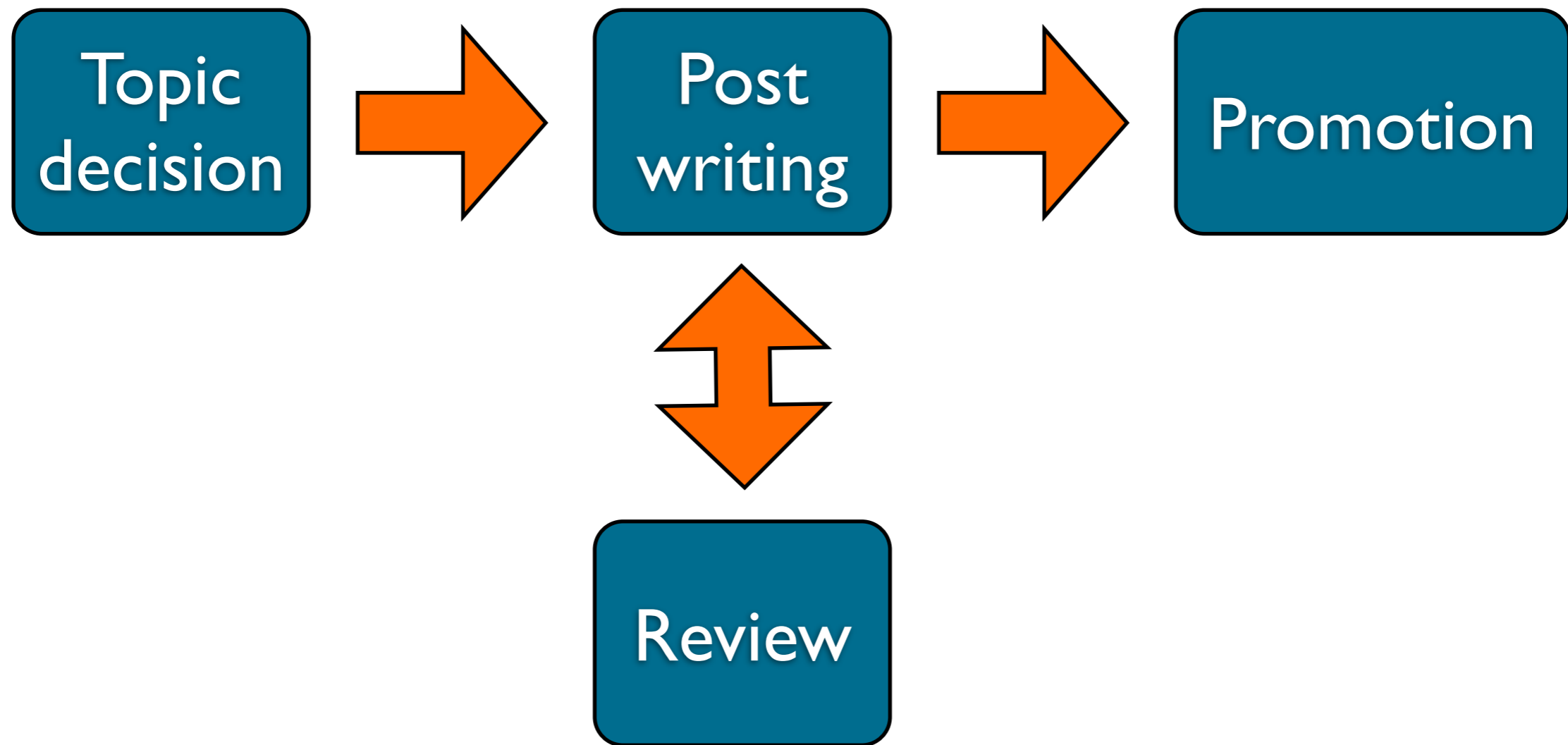- Publication schedule

- User account in blog platform

Writing guidelines

- Plain language

- Avoid external format

- Internal & external links

- Draw figures

- Tag management

- ...and finally, the title

The life cycle of a post

Topic decision → **Post writing** → **Promotion**

Post writing ↕ **Review**

Types of thesis posts

1. Definition of the thesis topic

Twitter on TV? First steps.

Hello everybody! I am Cristina Ruiz, student of Telecommunications Engineering specialized in Sound and Image from EUETIT. This week I have started to develop my final bachelor thesis, that's why I have decided to begin writing the blog today. I will try to post every Saturday in order to report the progress of my project and to explain new skills and knowledge I will get during the process.

Activa Multimedia Digital is the name of the company where I am doing my thesis, it is part of the **CCMA** (public group that leads the radio and television broadcasting services from Catalonia). Specifically, I am working with the R+D department in a project called **CREA-IPTV** which studies the possibilities of interactive and advanced services of Internet Television. They have designed an application for the **Netgem** Netbox 8160 that provides television services over IP, such as extra

Types of thesis posts

2. State of the art

Algorithms for the identification of football players in close-up views

Today, I'm going to explain you some algorithms for the identification of close-up views of football players.

The identification of players in any sport is so complicated because they are all the time moving quickly. That's why only close-up views are useful for recognize the players. These images are characterized by the visual features like t-shirt colors, logo, and furthermore some methods of text capture as the name or the number of the dorsal in the t-shirt.

Close-up image samples.

For the classification and automatic annotation of players there is the algorithm done by **Marco Bertini, Alberto Del Bimbo** and Walter Nuziati that has a 90% of efficiency. They use the close-up views with

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Types of thesis posts

3. Proposed solutions

Server architecture to deliver streaming videos to iPhone

Today I'm going to show you the server architecture to adapt and deliver pre-recorded videos to the iPhone. After configuring this, the iPhone app -which I am also developing - will connect to the server to play the videos and show their info.

We can divide the server into three parts: video adapting, metadata adapting and distribution of all -video and metadata-.

Video adapting

We use **HTTP Live Streaming Protocol** to transmit media on iPhone, so this protocol needs a special adaption of the video files. Firstly we have to encode the video on iPhone's video formats supported and segment them. These files are saved on a repository, ready to be sent when iPhone asks it. In **this** post there are an implementation of this part.

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4. Development

CREA-IPTV Twitter screen shots

Today, my post is not very long, nor full of technique concepts or dense information. How I promised you last week, I have made some screen shots of the current state of my application that represent the work of recent days. *An image is worth than thousand words.*

In the following picture is shown the **Down Menu** to which I added the Twitter icon.

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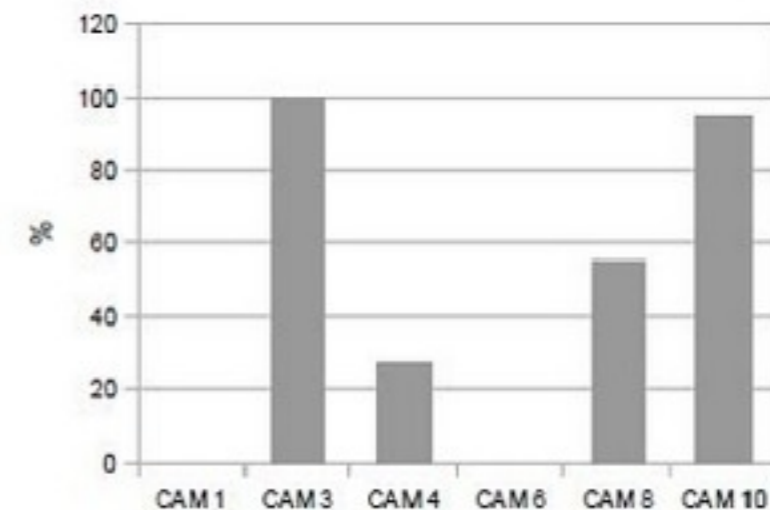# Types of thesis posts

5. Results and conclusions

Results and Conlusions

This week I present the results and conclusions obtained during the last weeks of my thesis.

The results vary depending of the video domain analyzed (football, news and parliamentary sessions.) The first step has been made automatic annotation of the **validation dataset** for each descriptor and each configuration parameter of the **K-NN classifier** in a range of values.

For the soccer video, the best results were obtained with the **Color Structure descriptor** for a K with a value of 4, the detection rate for this combination is 65%. With this combination, the **test dataset** has been automatically annotated in order to determine the source of the errors.

The analysis of the detection rate of each camera, shows the source of the annotation errors (figure below). The global view cameras has a good detection rate. However, the different cameras with close-up shots has less detection rates.

Types of thesis posts

6. Thesis completion

Impressions after completing a thesis

Today I publish a text that is not mine but from Silvia Cortes Yuste, the bachelor student who recently graduated after presenting her thesis and obtaining for it an A with honors. It has been been a pleasure working with her and I hope she can further develop her technical skills and personal aptitudes in further stages of her career. Good luck Silvia !

"You have already had the opportunity to read about **GOS** in this blog. I'm its first developer, Silvia Cortés, and I'm very proud of it, I feel like its "mother". I presented my bachelor thesis on the 16th June in EUETIT-UPC, Terrassa, called **"Interfaz Gráfica de Usuario para la Búsqueda de Imágenes basada en Imágenes"** (Graphical User Interface for query-by-image image retrieval) and now I'm officially a technical engineer in Telecommunications, finally!

The completion of the thesis was a long and hard process. My availability was very limited and I spent the weekends to work. It means little time to investigate, little time to develop and little time to write the report. And little time to myself, too. I started
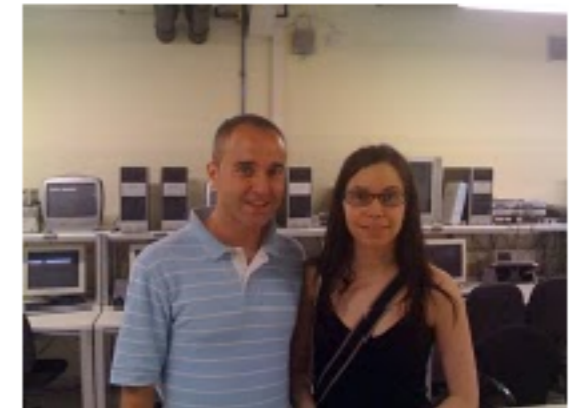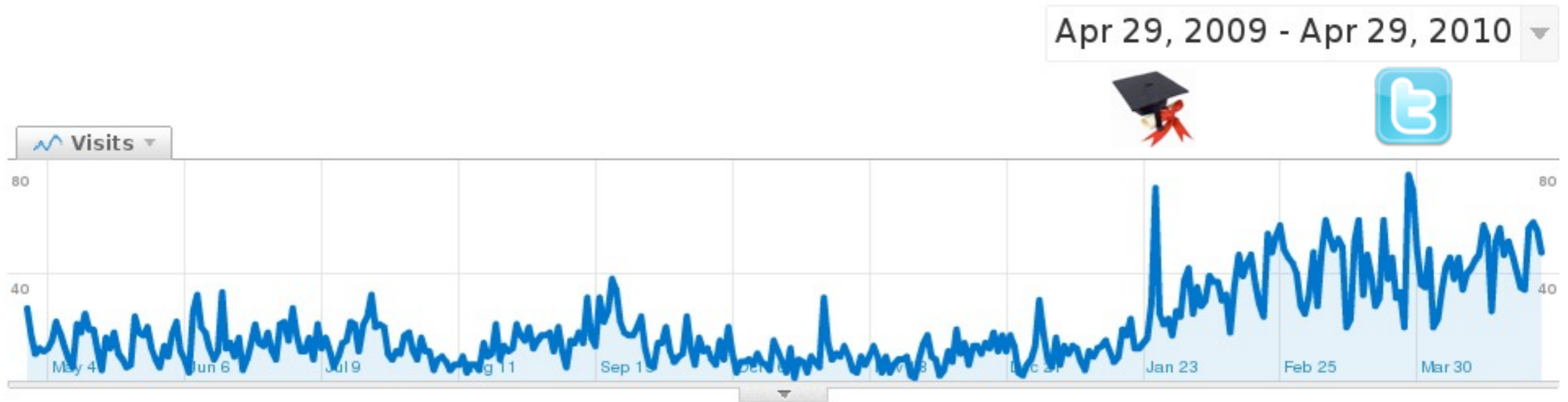
Statistics

- Online since February 2009

- Irregular frequency

- High variance by contributor

Profile	# Authors	# Articles	Average
Students in college	10	80	8
Students in industry	5	50	5
Students in mobility	4	25	6,25
Professors	1	21	21
TOTAL	20	176	8,4

Statistics

Apr 29, 2009 - Apr 29, 2010

Visits

Site Usage

7,311 Visits

12,700 Pageviews

1.74 Pages/Visit

73.16% Bounce Rate

00:02:07 Avg. Time on Site

53.13% % New Visits

Source: Google Analytics

Statistics

- Traffic Sources Overview

Referring Sites
3,206.00 (43.85%)

Search Engines
2,683.00 (36.70%)

Direct Traffic
1,422.00 (19.45%)

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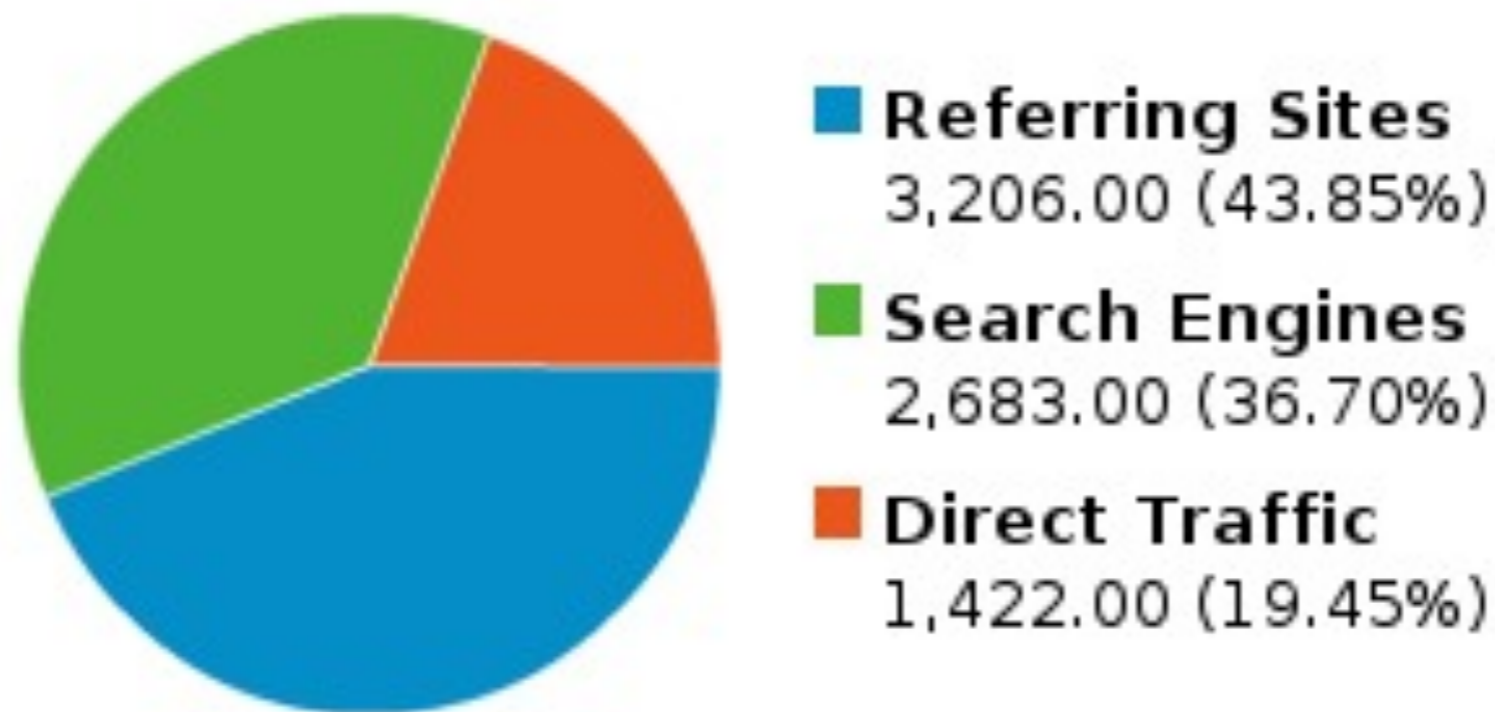
Statistics

- Visits by geographical location

Visits
1 ▭▭▭▭▭■ 3,736

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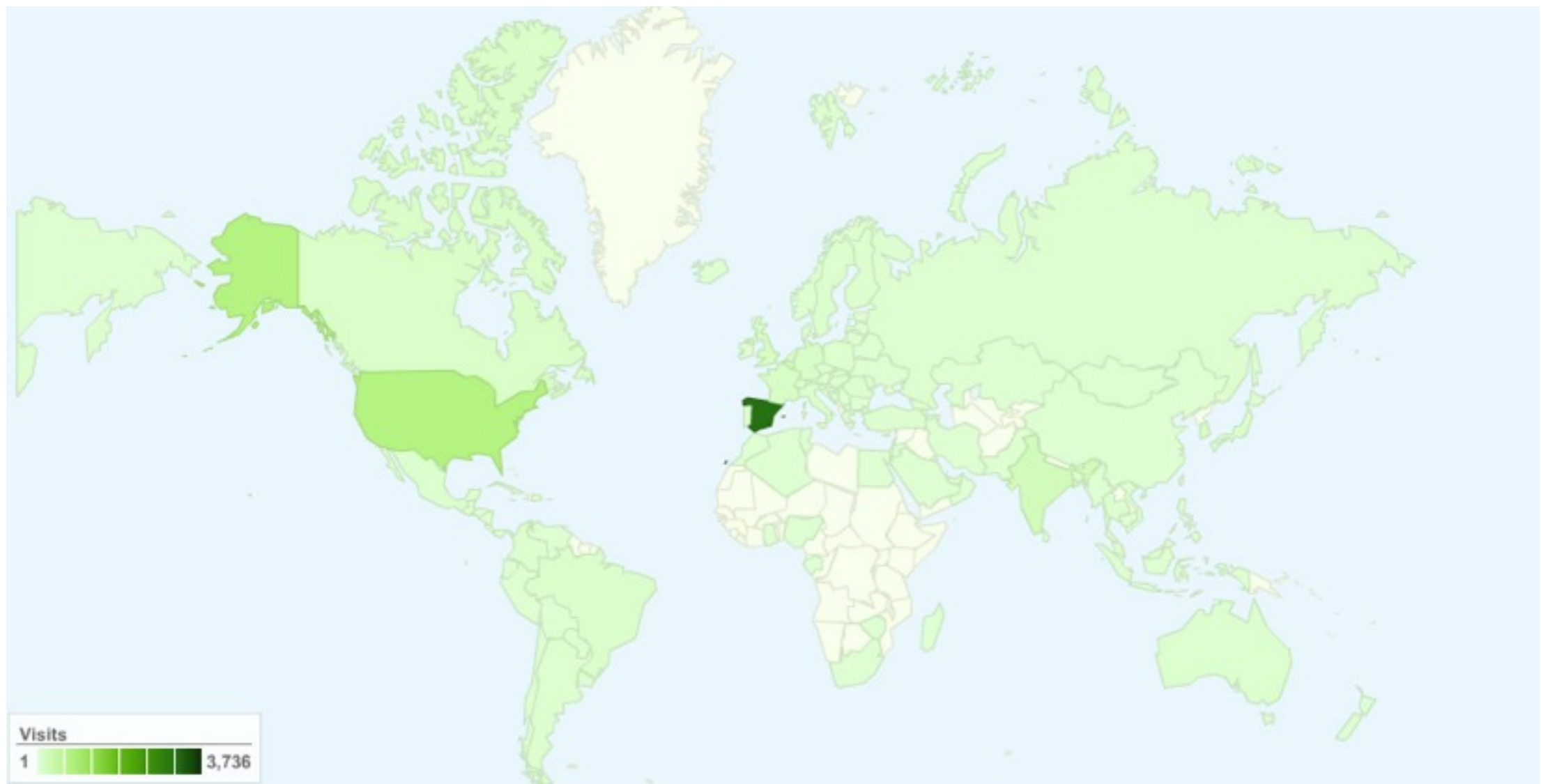
Statistics

- Most visited posts

	Page	None ⌄	Pageviews ↓
1.	⤢ /		5,036
2.	⤢ /2010/03/iphone-http-streaming-encoder		310
3.	⤢ /2009/05/video-playing-with-igmp.html		236
4.	⤢ /2009/04/webservices-keywords.html		196
5.	⤢ /2010/02/http-live-streaming.html		178
6.	⤢ /2009/04/web-services-introduction-soap-		171
7.	⤢ /2010/03/crea-iptv-twitter-screen-shots.h		152
8.	⤢ /2009/03/thumbnails-extraction.html		151
9.	⤢ /2010/01/steps-to-test-application-on-iph		130
10.	⤢ /search/label/khristina		123

Results

- Improvements in English technical writing

- Social awareness for motivation

- Multimedia material

- Better communication

- Clearer work plan

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Conclusions

- Successful introduction

- Faster engagement in thesis

- Filter for motivated students

- Increased quality & quantity

- Applicable to research

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Thank you

- Questions

- Suggestions

- Comments

- ...review coming soon on the blog !

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