Interviewing women computer engineers

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INTRODUCTION

Female and male students are not equally distributed among the different areas of knowledge.

While the percentage of women in the technical areas of knowledge is growing, the tendency in the studies of computer science is the inverse.

Social stereotypes have an overall influence, as well as internal characteristics to women.

We interviewed some women computer engineers working in education, research, financial entity, chair industry, governmental institution, educational software and free software.

We created a DVD in order to show these women as a computer engineers model and encourage female students of secondary schools to computer studies.

The main ideas are that mixed groups are necessary to enrich the development of the discipline and that women have enough skills to be good computer engineers.

Questions

The following ones are the main questions that we asked to the interviewees:

- Why did you choose to study computer science?
- Tell us about your experience during the studies.
- What are you working on now and how did you feel as a woman in the working world?
- What do you think about the importance of having a more balanced average of women in your career?

Next to each woman you can see the answers to these questions and some other interesting things that they said.

Thanks

We would like to thank the nine interviewees for accepting to be there to answer uninterestedly to our questions and for being a reference for other women.

Miren and Carmen: computer engineers on a **finantial entity**

- They chose computer science because it offers many options in the working world, and also because it is not a very masculine engineering.
- The percentage of men and women in the courses they took was very equilibrate.
- They did not perceive differences because of being women during their studies.
- They work developing software for the financial entity they work in.
- In the job market they can see some gender differences but less than in other engineerings.
- Women are more meticulous, men tend to have things finished for the deadline. A balance between both is very important.

Josune: chair of the **ICT department** of an educational association

- She liked science and mathematics, but she wouldn't like to be a teacher. Computers were new, unknown, and related to science and mathematics.
- Women were about one third of the students at that time.
- The relationship with boys were normal, nothing that she remembers specially.
- She is the chair of a group who develops curricular software, web pages and also researches in the field of computer aided learning for students between 3 and 18 years old.
- Teaching is a field where the balance tends to women but in the ICT field the balance turns around.

Cristina and Arantxa: **network** administrators in a research entity

- Cristina studied computer engineering and says that even if there were more boys, the percentage was more or less balanced.
- Arantxa studied engineering and then she got specialized in computing. Where she studied computing was the more feminine specialization, there were even more girls than boys.
- They are network administrators and they like their work because they need to communicate with many people.
- They work on a research entity where many other women do. There is no discrimination, they both have children and always have had support with family issues.
- There has not been any campaign to motivate girls as in other fields like vocational school.

Itziar: computer engineer in a **factory**

- She saw a computer when she was little, then, she decided and never changed her mind.
- When she studied the groups where very balanced in terms of gender.
- There was not difference between boys and girls and they always collaborated for the hand outs.
- She works in a factory with servers, administrating the network, taking care of printers, operating systems and helping to the computer users.
- The Chair of the ICT department is a woman and the rest of the group is composed of 4 people where she is the only woman.

Mari: **teacher** in a high school

- She was good at science and at that time computing was a very new discipline and she was curious about where was it going to.
- When she was studying the percentage of boys and girls was very balanced and the relationship was very good both for working and also for going out.
- She wouldn't like to work in a company and started as a teacher in a high school even before finishing her studied (5 years).
- In her work, she lectures, maintains the network and leads different ICT projects for the school. She loves how everything has changed, the infinite possibilities that computing gives.
- She thinks boys are more restless while girls are gentler, but these are differences that get reduced when they get the age of 16-17.

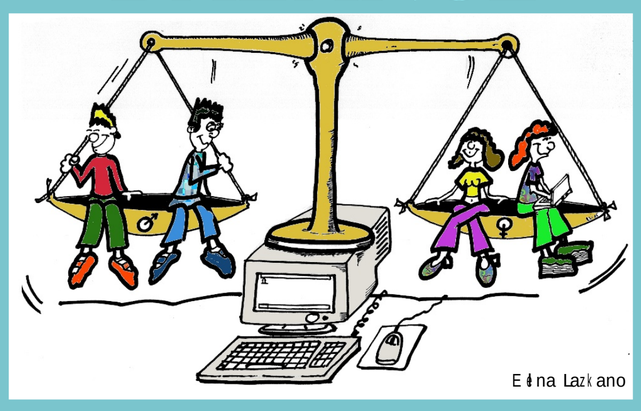
Edurne: **computer services** in a governmental institution

- She prefered mathematics, but due to some familiar issues, she took computing.
- People relate computing to PCs, what every body knows, but as in medicine, computing should have its specialties.
- During the studies the percentages were probably balanced but now they are not. In some conferences they try to alternate the gender of the speakers, but this is not what the audience reflects.
- Men and women take things different, for example, work travel, men take them as an incentive. I just go if it really matters for my work, otherwise I prefer to stay with my family.

Susi: free software **entrepreneur**

- She din't know exactly what to choose: pharmacy, biology, geology… She started thinking what computing could give her and finally that's what she chose. Now it is her job and her hobby.
- She observed that there were masculine and feminine subjects. She took some courses in which she was the only girl and some other in which there was only one boy.
- She started working before finishing her studies, then worked for different companies and finally, with a friend they decided to create their own business, where they work with free software, web 2.0, blogs, etc.
- They find difficulties to employ girls and they have noticed the low percentage of women in conferences and meetings in their field.

BALANCE



MIREN: "Women are more meticulous, men tend to have things finished for the dead line, a balance between both is very important".
CARMEN: "I don't know if I agree with Miren, excuse me if it is not very politically correct, but I think that the balance should lean a little bit toward women".
CRISTINA: "There has not been any campaign to motivate girls as in other fields like vocational school".
ARANTXA: "I think it is important, as in every other field in society, because I think that the benefits that women bring both to the company and to everyday work are positive".
MARI: "In computing, as in every other field, is important to level the number of men and women. Each one has its own point of view, way to work, and everyone's contribution is important".
EDURNE: "I think in general we are more practical, we put things forward in a different way".
SUSI: "Balance is very important, right because of the difference, women are more reflective and men more "nerdy""
ITZIAR: "It is important, but in the technical field there is no equality. I think women may prefer teaching".
JOSUNE: "I think that balance as in every other discipline is very important. Private companies are more obstructive to women".

Conclusions

All interviewed women are very satisfied with their job. They remark the good qualities that women have and the need of balancing the proportion of men and women in the field. We think that their satisfaction and the diversity of fields they work in, can be a good motivation for young girls who are afraid of taking computing studies because of the social stereotype of this career.

This project could be extended to engineerings that these women consider more masculine.