

# HCI Knowledge and Awareness in the Turkish IT Industry

HCI EDUCATION ADEQUACY

SEVGİ KOYUNCU TUNÇ

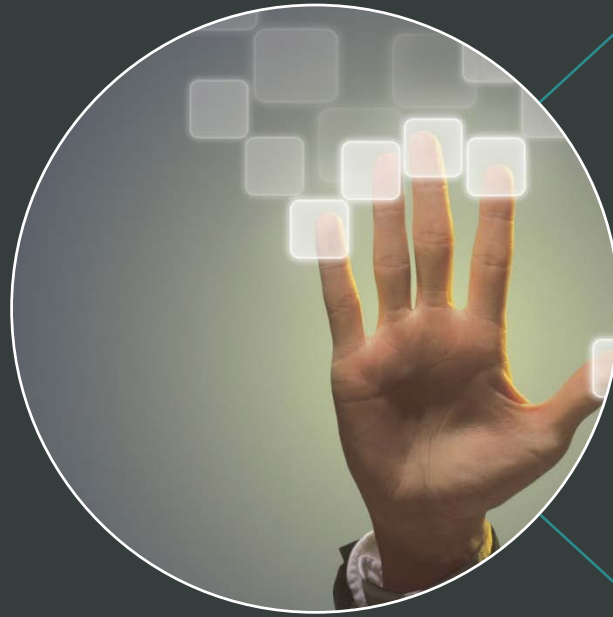
Supervisor: Prof. Dr. Nazan Özenç Uçak

# WHAT IS THIS PRESENTATION ALL ABOUT?

1. Usability of Turkish E-Government Web Sites,
2. Human - Computer Interaction knowledge and awareness among Turkish developers,
3. HCI Education Adequacy in Turkish Universities

First, What is Usability?

# Usability



Effectiveness

Learnability

Satisfaction

What is HCI?

“**H**uman **C**omputer **I**nteraction” concept has been introduced to **understand** and **design** the **relationship** between humans and computers.



A good **user interface** does not come out by accident; it needs to benefit from Human - Computer Interaction discipline.

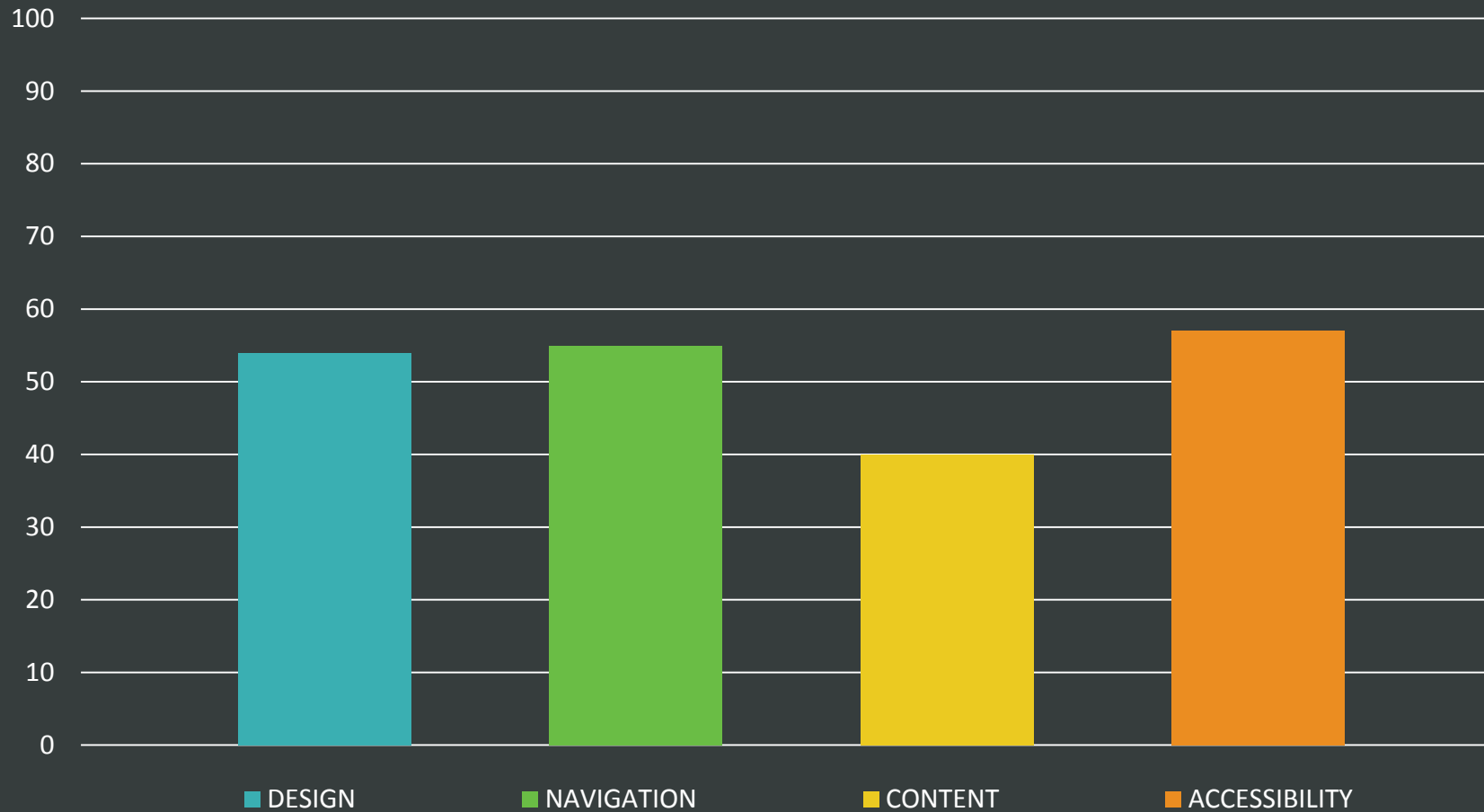
Around 63% of large scale software projects exceed their cost estimates (Lederer, 1992)

80% of software life-cycle costs occur during the maintenance phase because of unforeseen usability problems (Pressman, 1992).

# Usability of the Turkish e-government Web Sites



# “Public Institution Web Sites in Transition to E-Government in Turkey” (T.C. Court Of Accounts, 2006)



Are Public Institution Web Sites structured to provide better delivery of public services electronically?

# “Public Institutions Web Sites and Usability” (2011, Çağiltay&Durmuş)

- No user-centric design
- Weak accessibility
- Broken links
- Font sizes and styles are misused
- Navigation errors
- No search utilities

Both studies have showed that the software developed in Turkey have not yet reached satisfactory levels in terms of usability science.

Given the results of these studies, we saw the need to investigate

- where and how **software professionals** work in the Turkish IT industry,
- what is their HCI knowledge level,
- what methods they use,
- what they need in order to develop usable software products.

SURVEY

# Online survey (surveymonkey.com)

When?

- January – May 2013

Where?

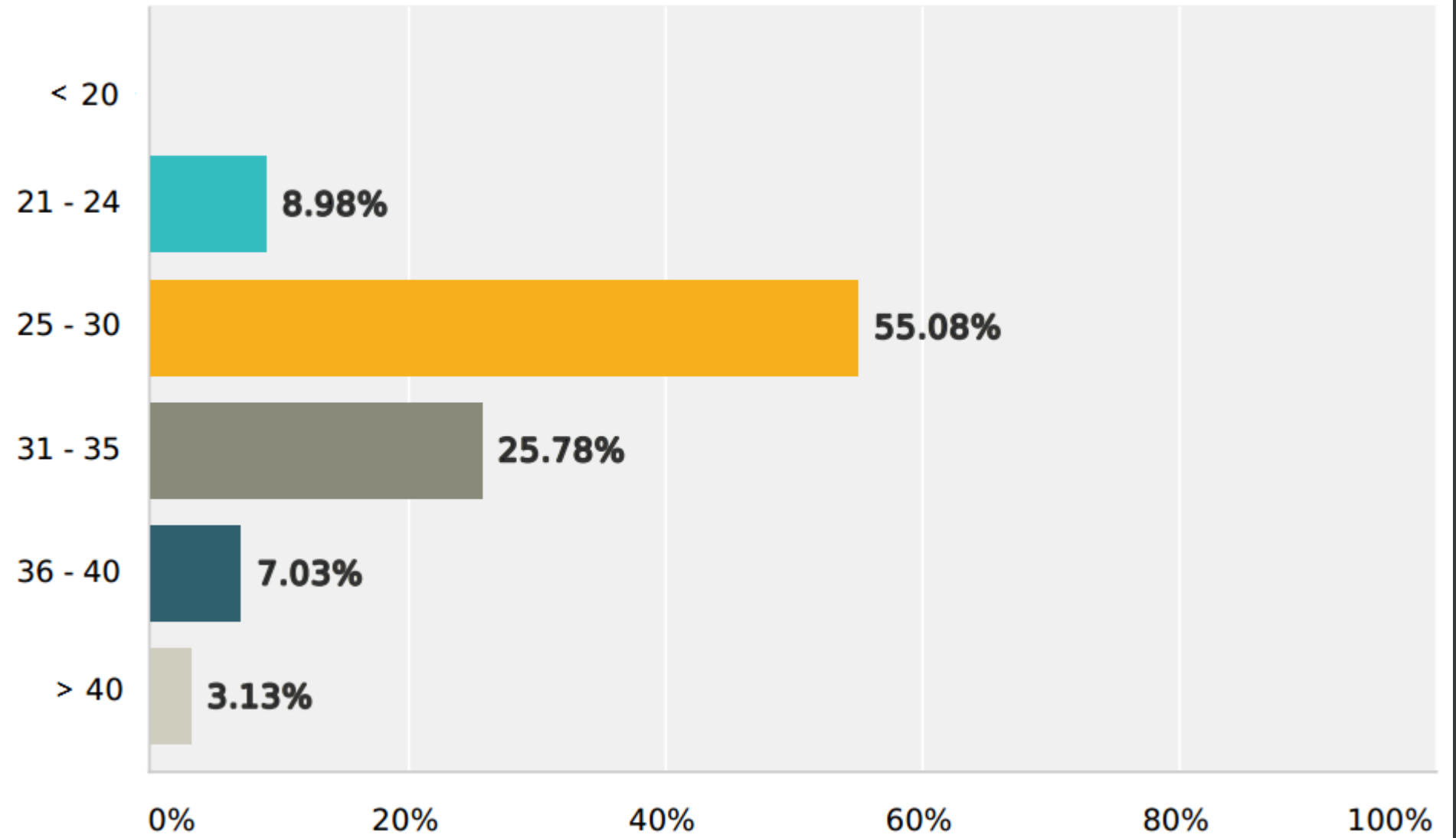
- Ankara – İstanbul technology zones

Respondents?

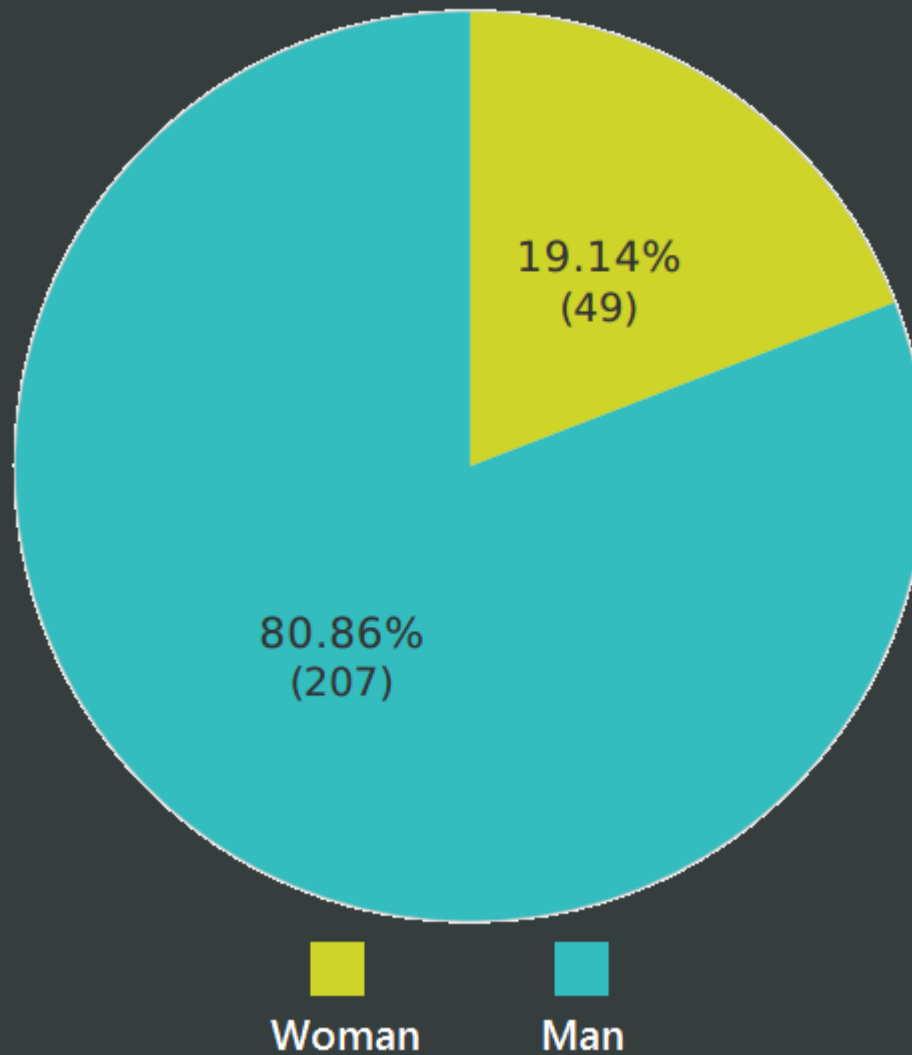
- 256 software professionals

# Demographic Results

# AGE ?

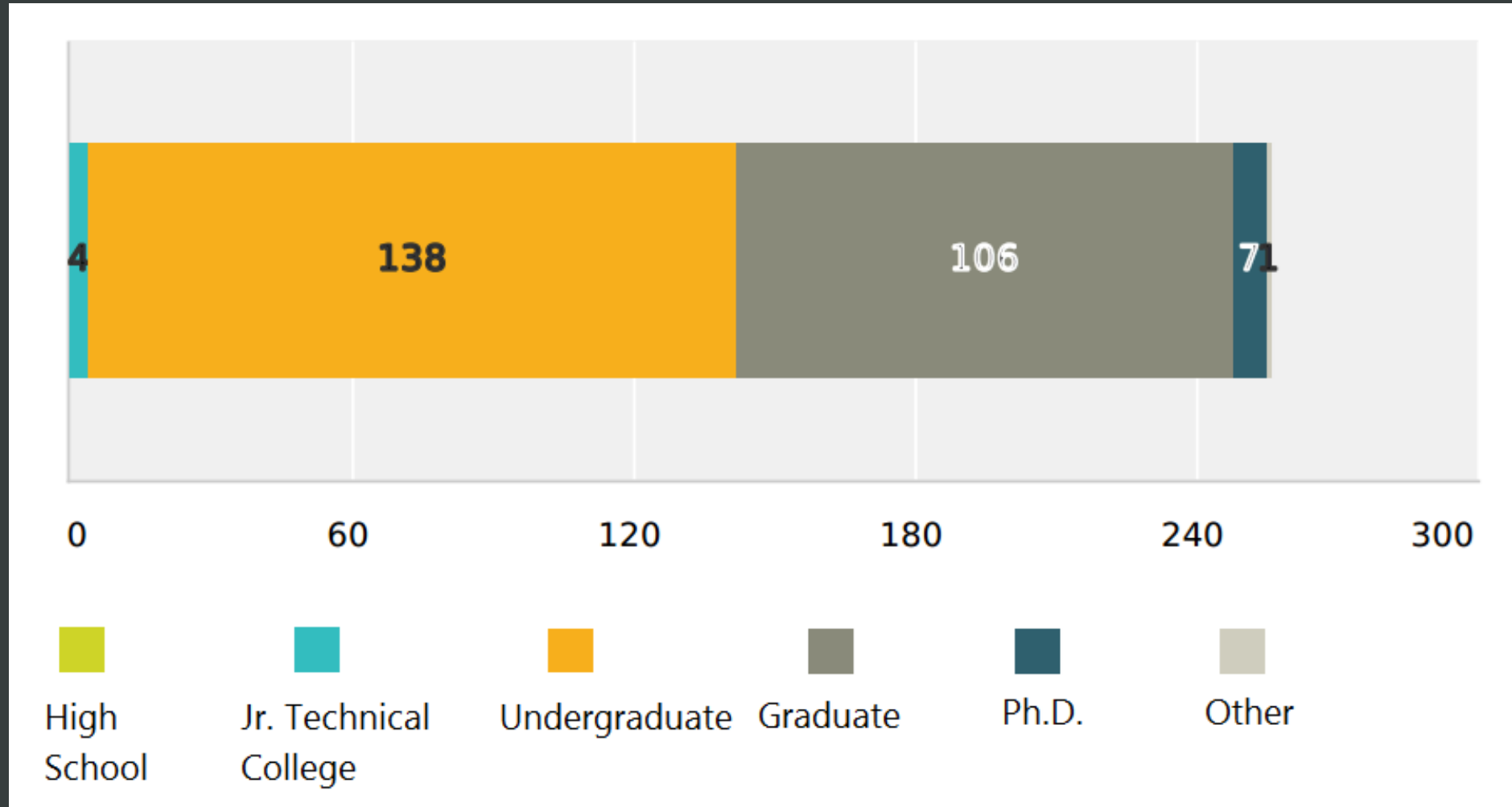


# GENDER?

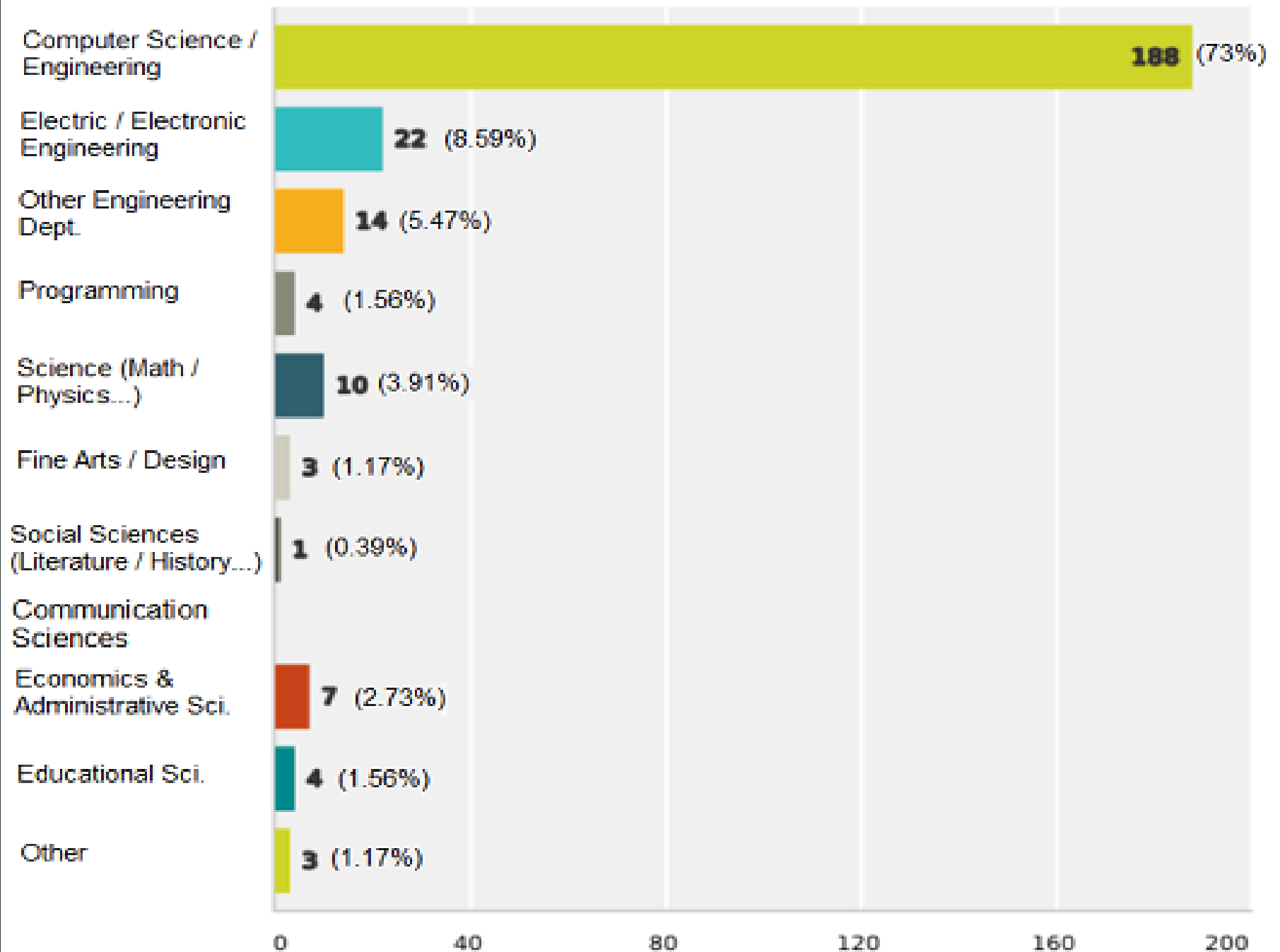




# EDUCATION LEVEL?

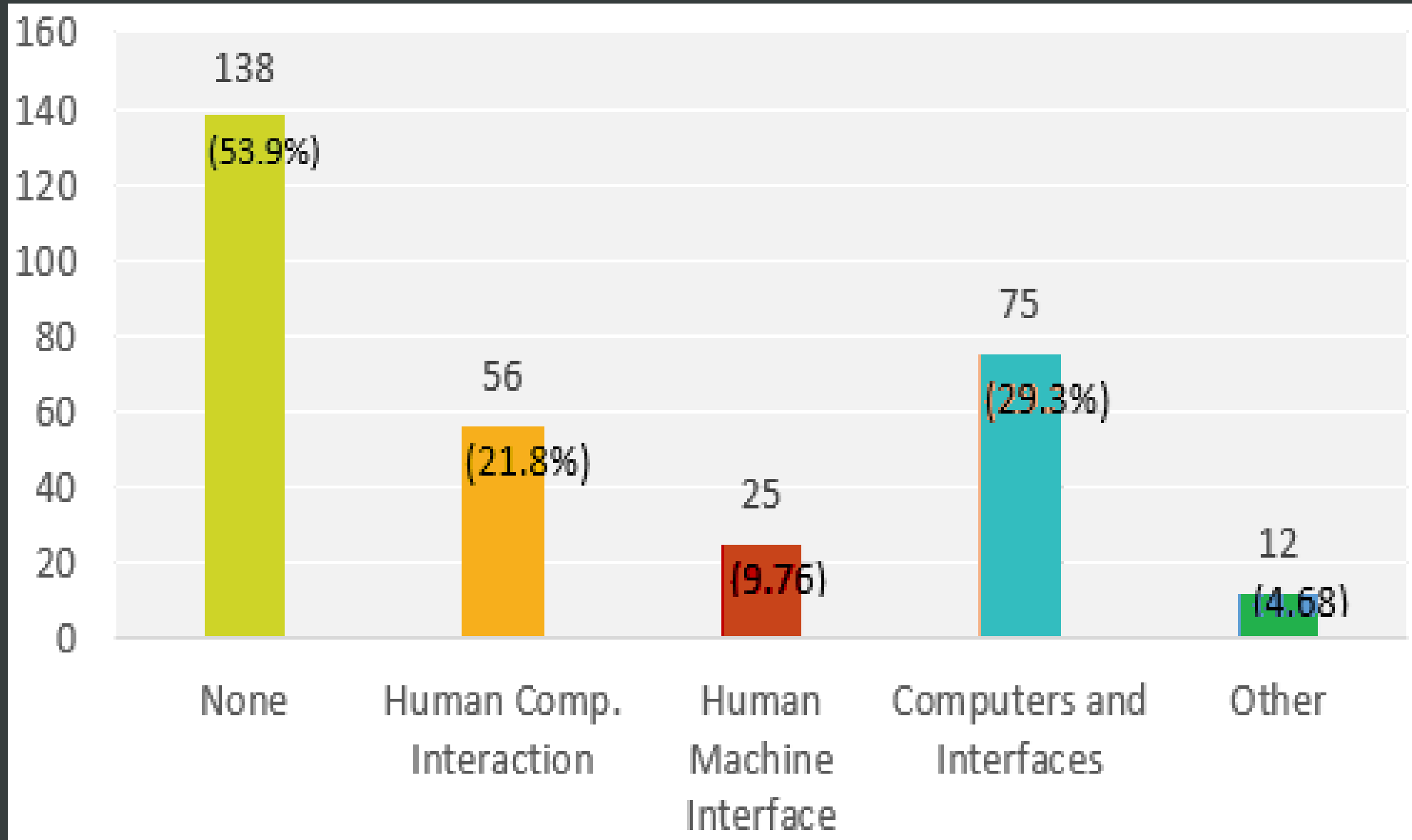


# FIELD ?

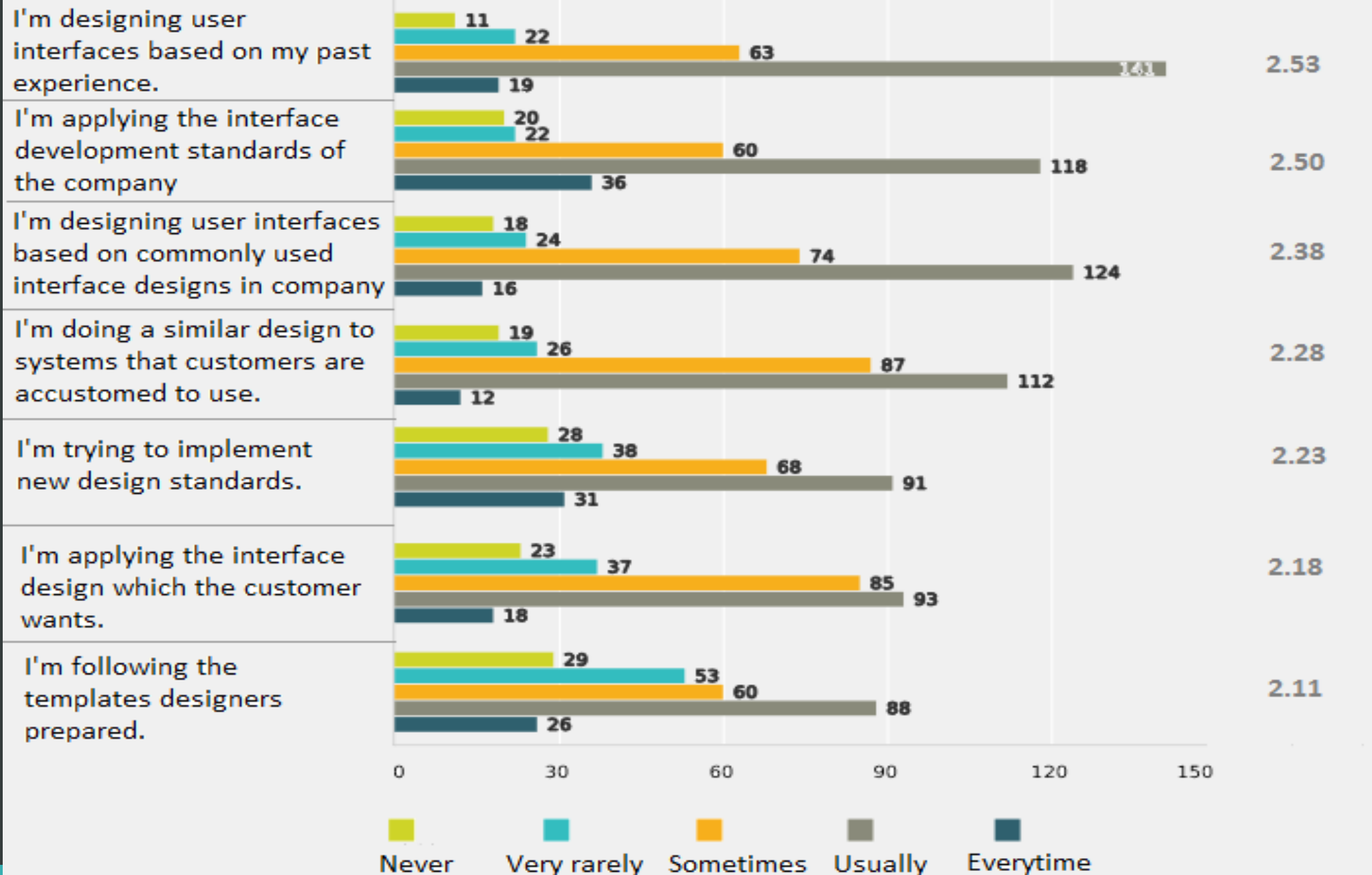


# HCI Knowledge and Awareness

Received  
HCI  
courses?



# How They Design User Interfaces?



# What are the most important problems in UI design process?

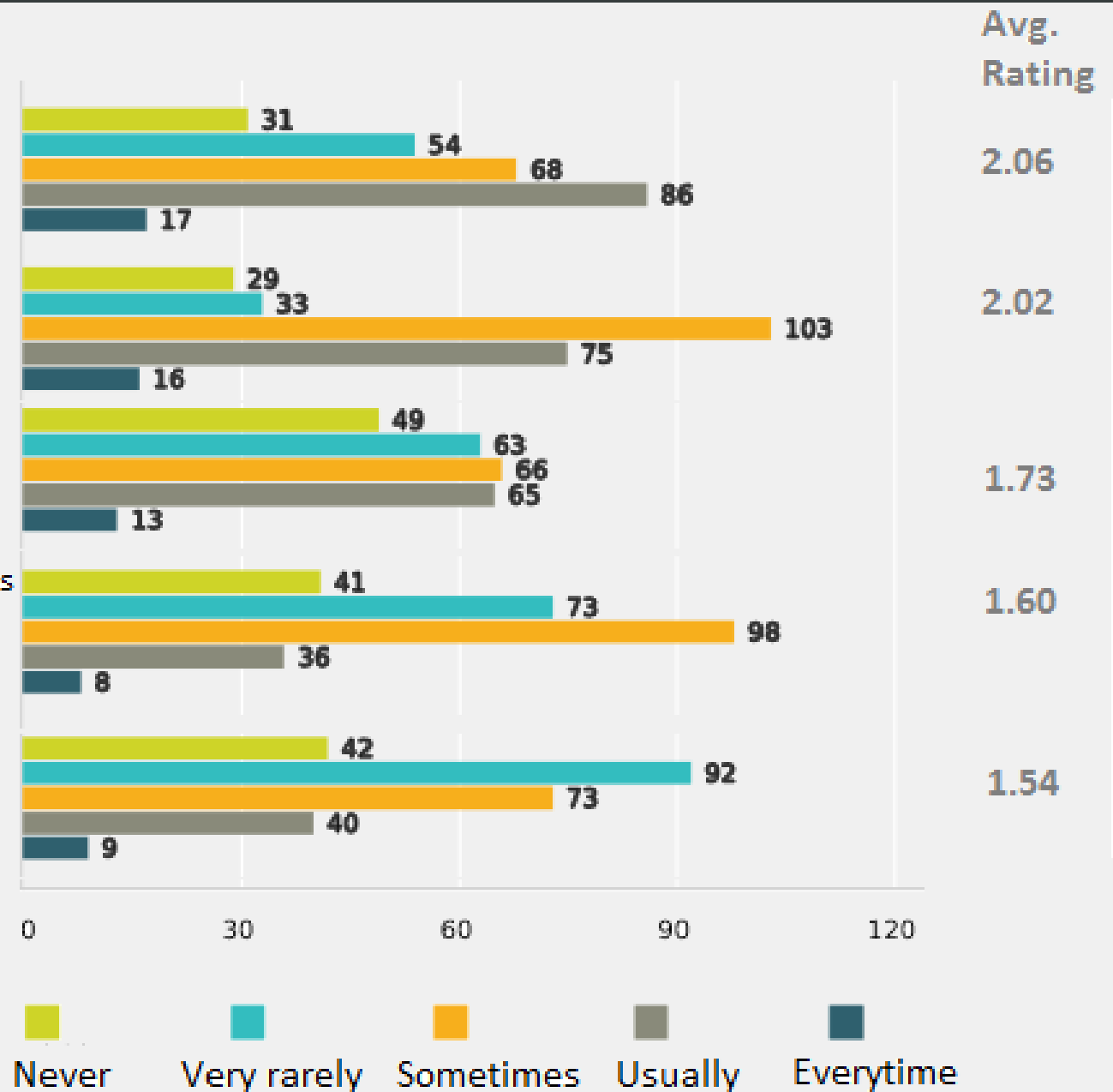
Lack of interface prototypes accepted by the customers leads me to do wrong design.

I cannot decide which color combinations will look good on the interface.

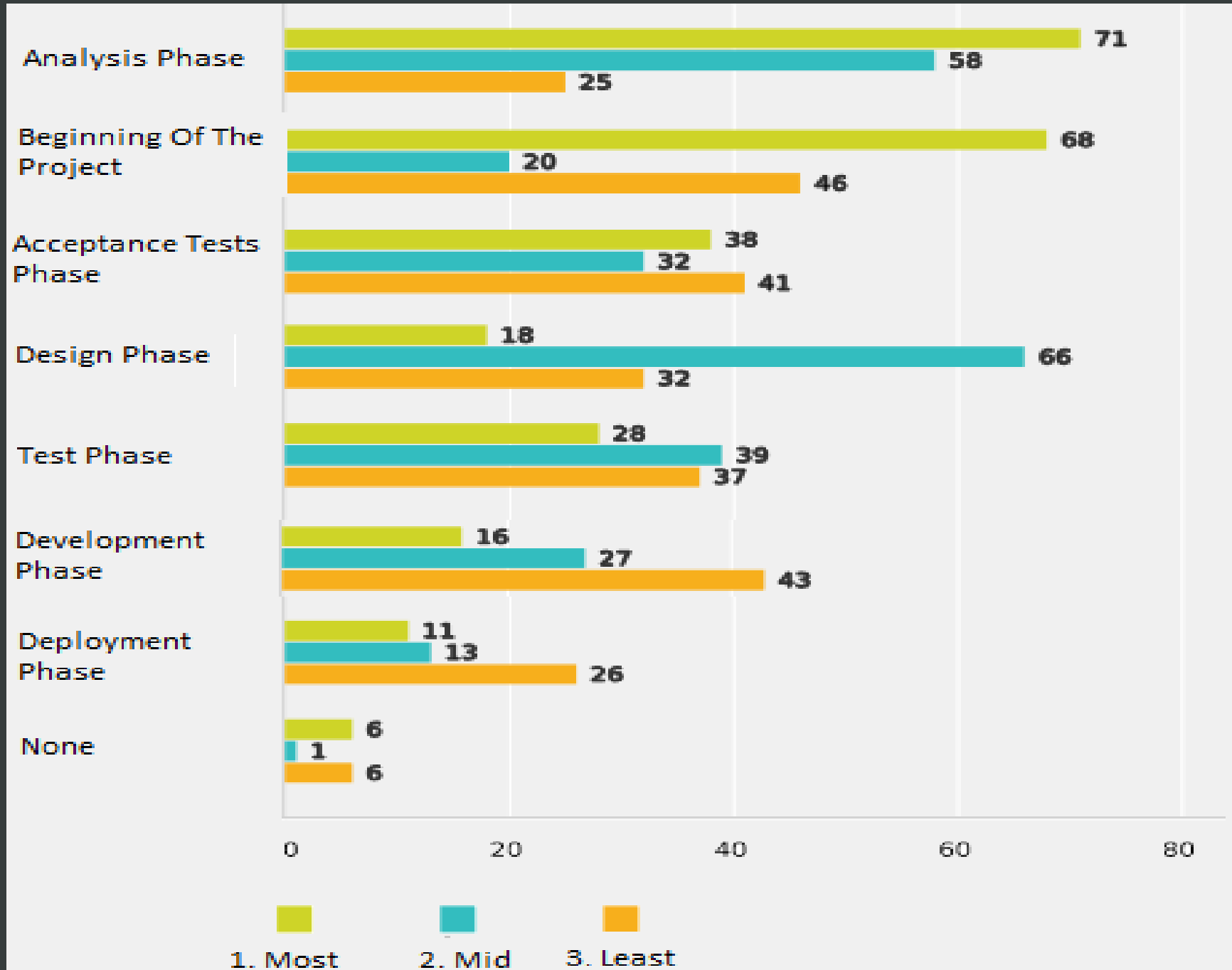
I don't know how to test my design in the best way.

I'm forced to change my designs because of the negative feedback of my manager.

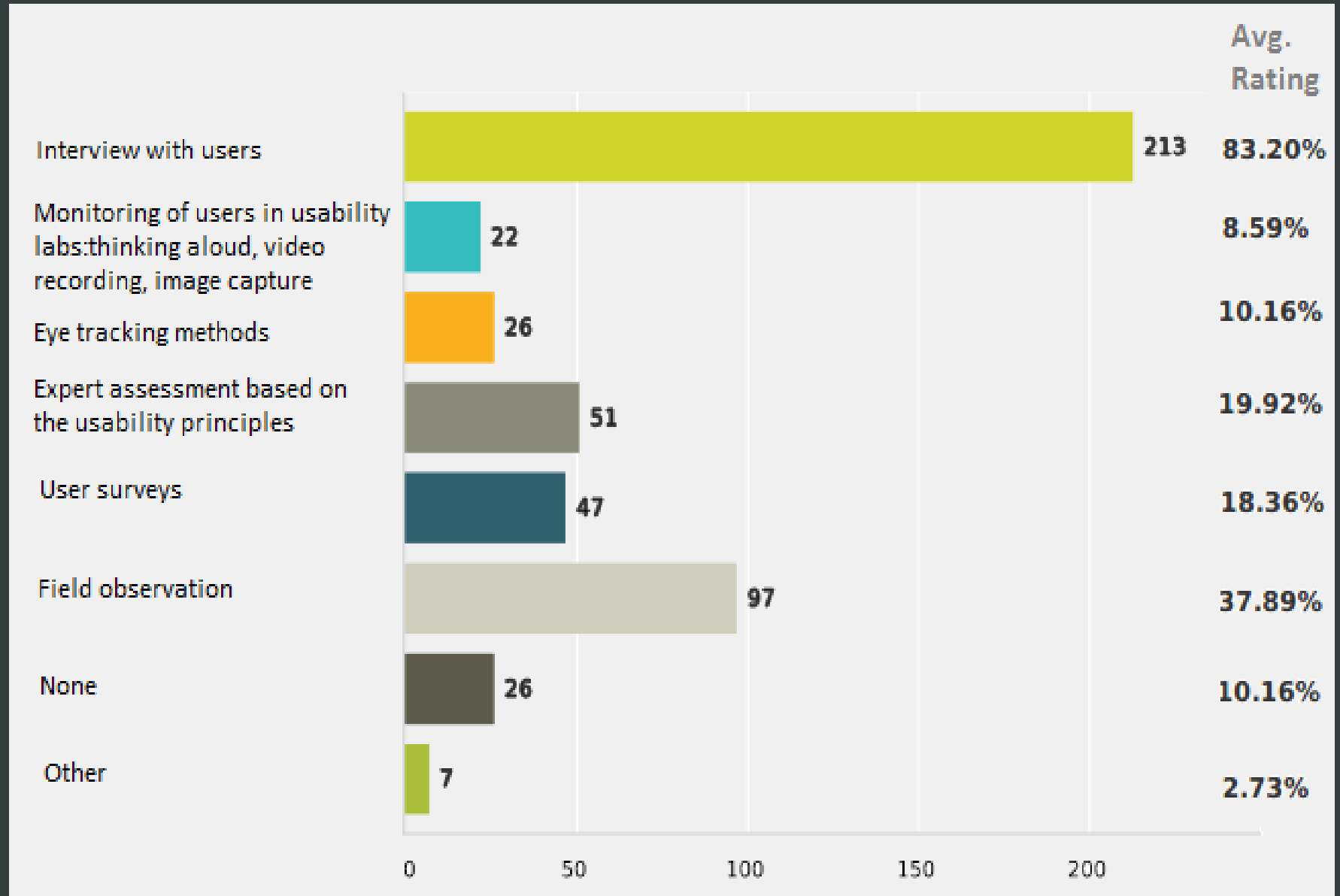
I don't know how to place elements on the interface.



In which phase of the software development process you study with the users?

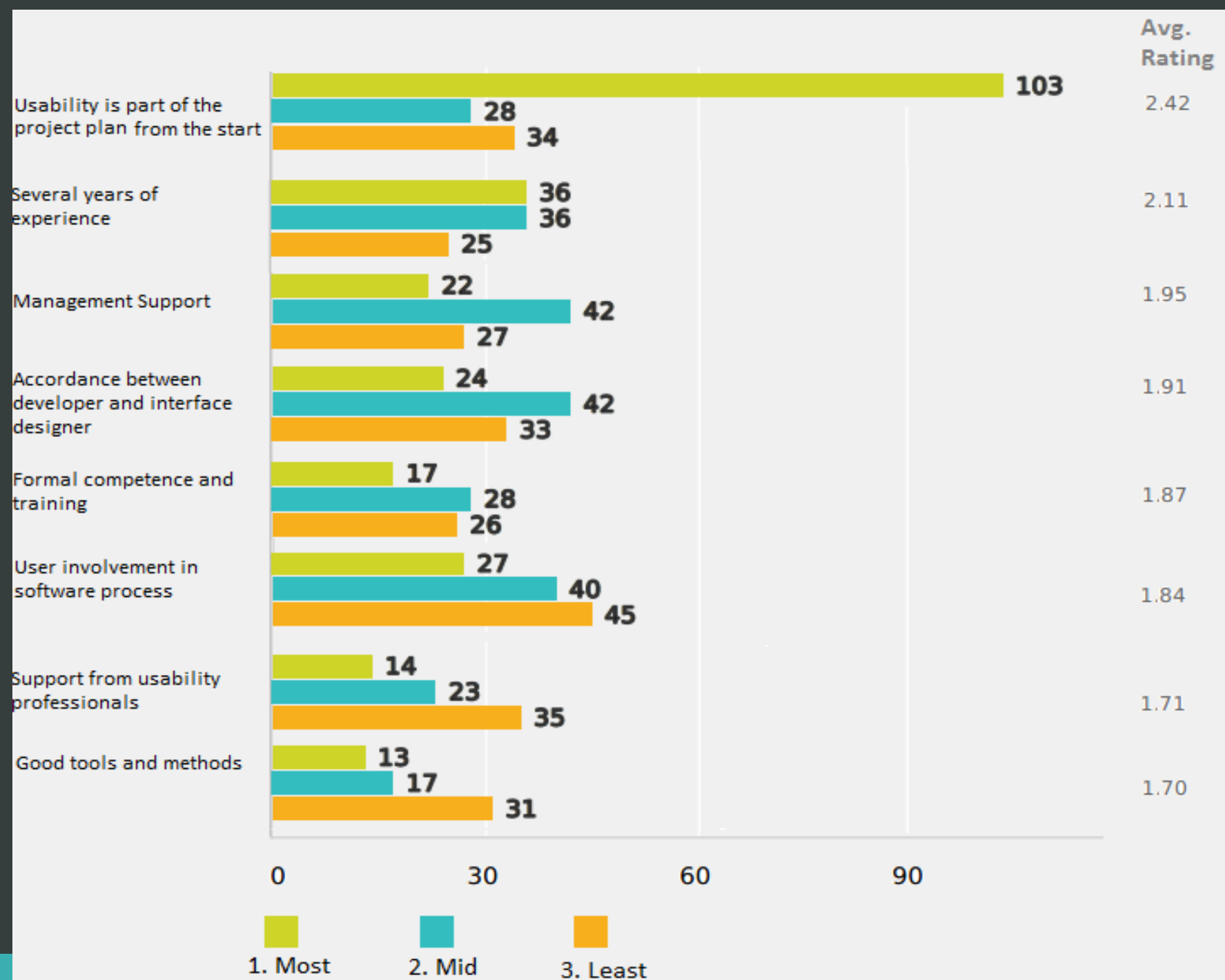


# How do they test usability of the software?

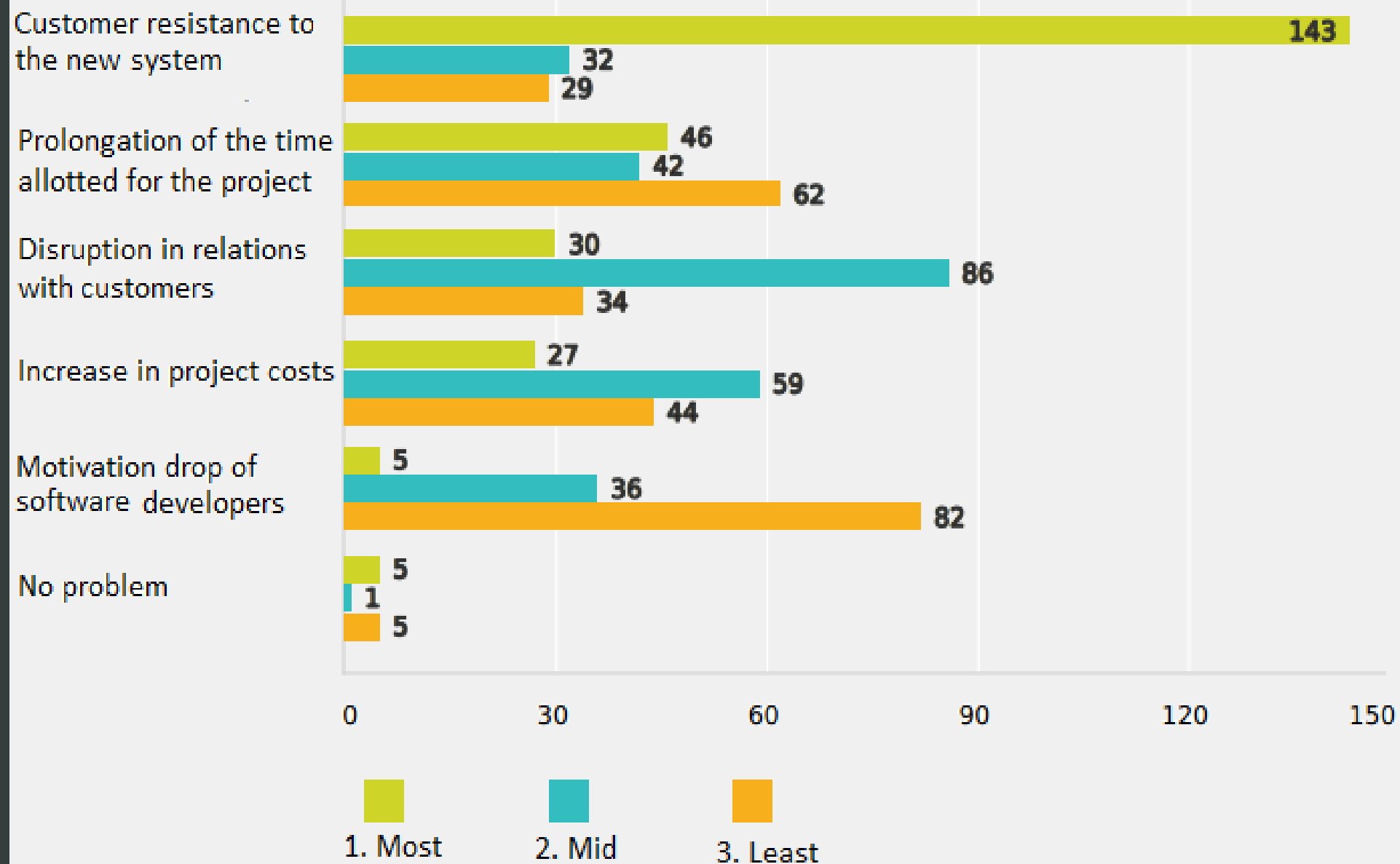




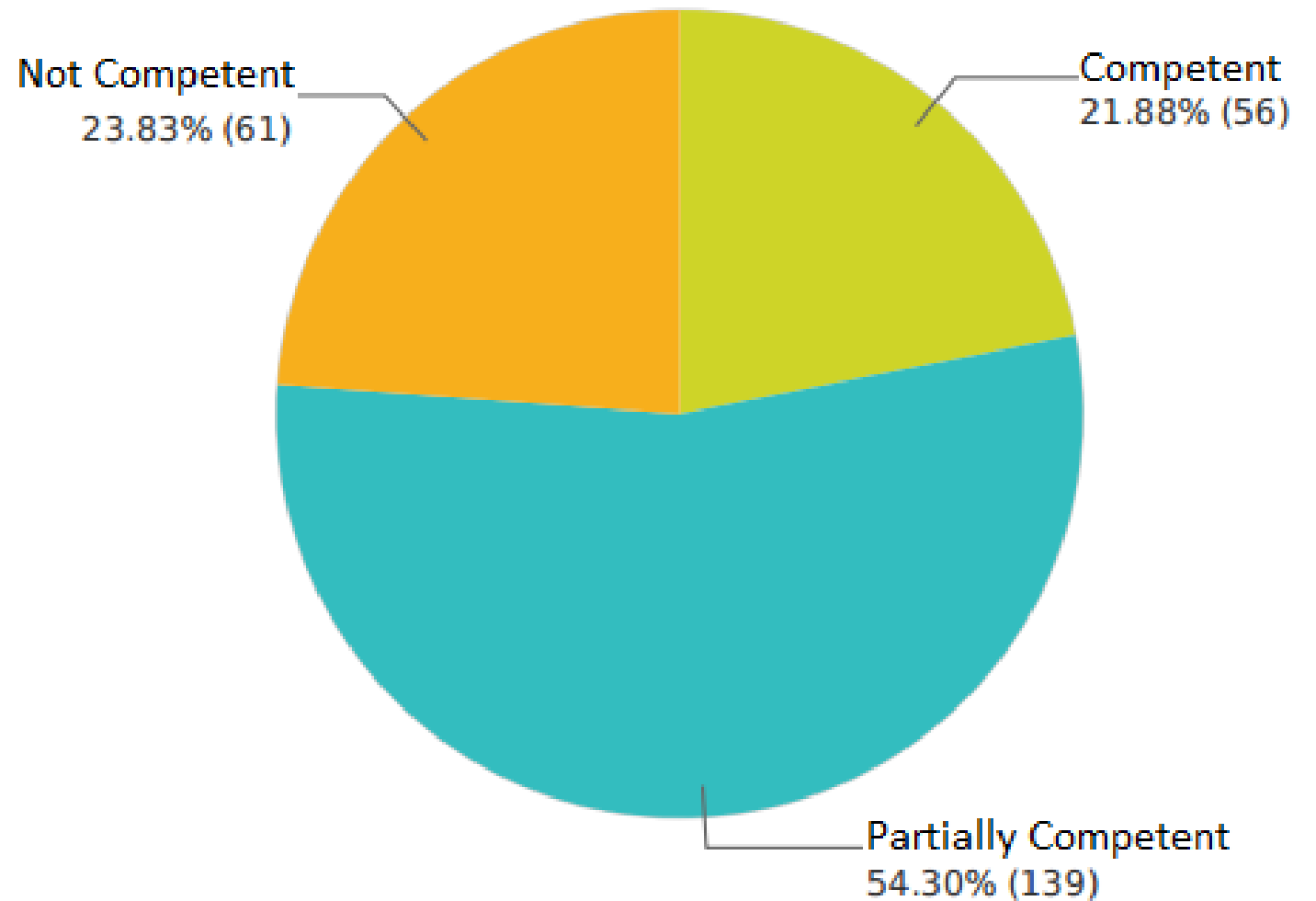
# What are the key factors for developing usable software?



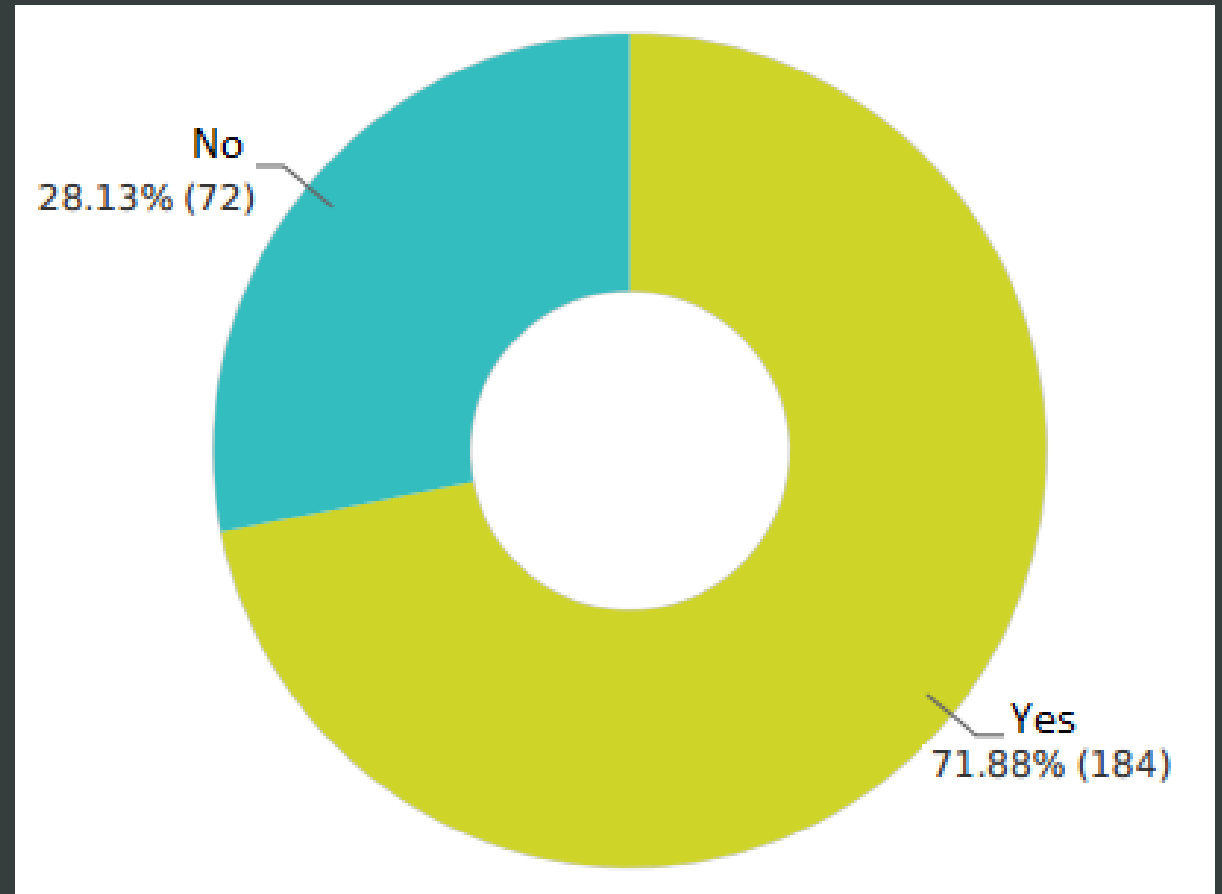
## Problems caused by unusable interfaces?



Do you feel  
competent  
yourself in HCI?



Do you need HCI training?



# HCI Courses In Turkish Universities

HCI EDUCATION ADEQUACY

# # of HCI Courses in Software Related Departments

Departments	Undergraduate programs	Undergraduate Programs including HCI Courses
Computer Eng.	89	28 (31%)
Software Eng.	9	7
Informatics	7	4
Electronic Eng.	99	0
Telecom. Eng.	3	0
Math Eng.	1	0
Comp. Edu.	44	0

Departments	Graduate Programs	Graduate Programs including HCI Courses
Computer Eng.	51	12 (23%)
Software Eng.	8	2
Informatics	0	0
Electronic Eng.	56	0
Telecom. Eng.	3	0
Math Eng.	2	0
Comp. Edu.	12	0

Departments	Ph.D. Programs	Ph.D. Programs including HCI Courses
Computer Eng.	33	8 (24%)
Software Eng.	3	0
Informatics	0	0
Electronic Eng.	36	0
Telecom. Eng.	3	0
Math Eng.	1	0
Comp. Edu.	7	0

(Higher Educational Council, 2013)

# WHY HCI IS NOT POPULAR IN CS PROGRAMS?

- According to Gregor et al. (1998) HCI education is not common in computer science programs because even when HCI is included in a degree program, it is often viewed as peripheral to the central concerns of the discipline. HCI doesn't "belong", in that it doesn't share the same academic culture as the department which hosts it.
- Typically HCI is categorised with "soft" disciplines like cognitive science, sociology and graphic design. It focuses on interactivity rather than technology, design rather than implementation, methodological rather than design principles. Computer science is neither old nor confident enough not to feel threatened by HCI's seemingly unscientific nature.

# Summary

We encountered following major problems in our survey with regard to user centered design:

- 53.9 percent of the software professionals have not received a HCI training at all.
- Software professionals are not aware of new usability testing approaches in general.
- There is a lack of prototyping and customer approval on designs in software life cycle.
- End user involvement is low in design and development phases of the software life cycle.
- Software professionals are not familiar with natural user interfaces.
- Only 22% of the software professionals assess themselves competent in HCI.
- 71% of the respondents believe that they need training in HCI

Both our survey and our study on the university education programs, show that there is a big HCI education problem in Turkey and this problem affects the usability of software systems directly and indirectly.



To make the usability issue a priority and to surmount the low awareness level in the Turkish IT Industry, we propose the below efforts and activities:

- HCI courses should be available in every computer science related program in universities.
- Course contents should be updated to include all the factors of usability.
- Practices and projects should be added into the content of the courses.
- HCI workshops and seminars should be organized in the technology development zones to educate current software professionals and managers.
- Central usability testing laboratories should be established to serve all companies.
- HCI standards and sanctions regarding usability should be regulated in the IT Industry in Turkey.
- Number of UX designers should be increased in the industry. As the Human Factors International (HFI) recommends, 10% of the companies' IT staff should be user experience professionals and 10% of software project budgets should be dedicated to UX (HFI, 2013).

Questions?

# Thank You!

I would like to gratefully and sincerely thank Prof. Dr. **Nazan Özenç Uçak** for her guidance, understanding, patience and her encouragement during this study.

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