



Polytechnic University of Tirana  
Department of Computer Engineering

# SE Trends & Challenges in Albanian Companies

## Employed students point of view

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# Introduction

**Dozens of companies that develop software in Albania**



**Do they implement  
SE aspects?**

***Solution : A survey concerning implementation of different aspects in companies from the point of view of employed students***

# Survey focus

**Students learn about SE aspects of developing a software**

**BUT**

**How students implement their SE knowledge in their work environment ?**

# Survey

***20 questions***

**Related to :**

**Model to develop the software**

**Size of the software developed**

**The way they work (individually or in team)**

**Characteristics of different development phases**

...

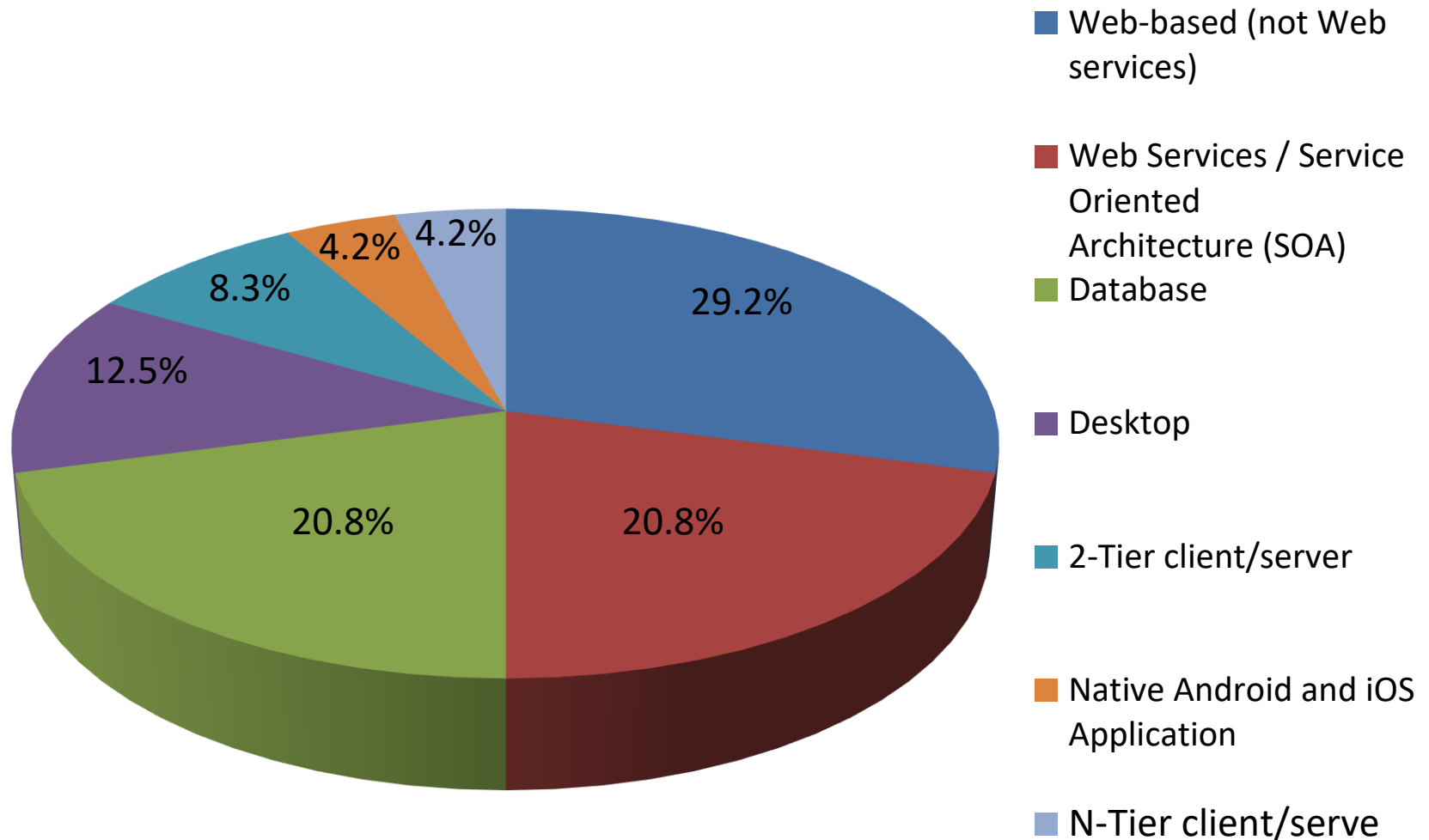
***23 different companies***

***From 4 to 1500 employers***



**THE  
RESULTS  
ARE  
IN!**

# Type of software developed

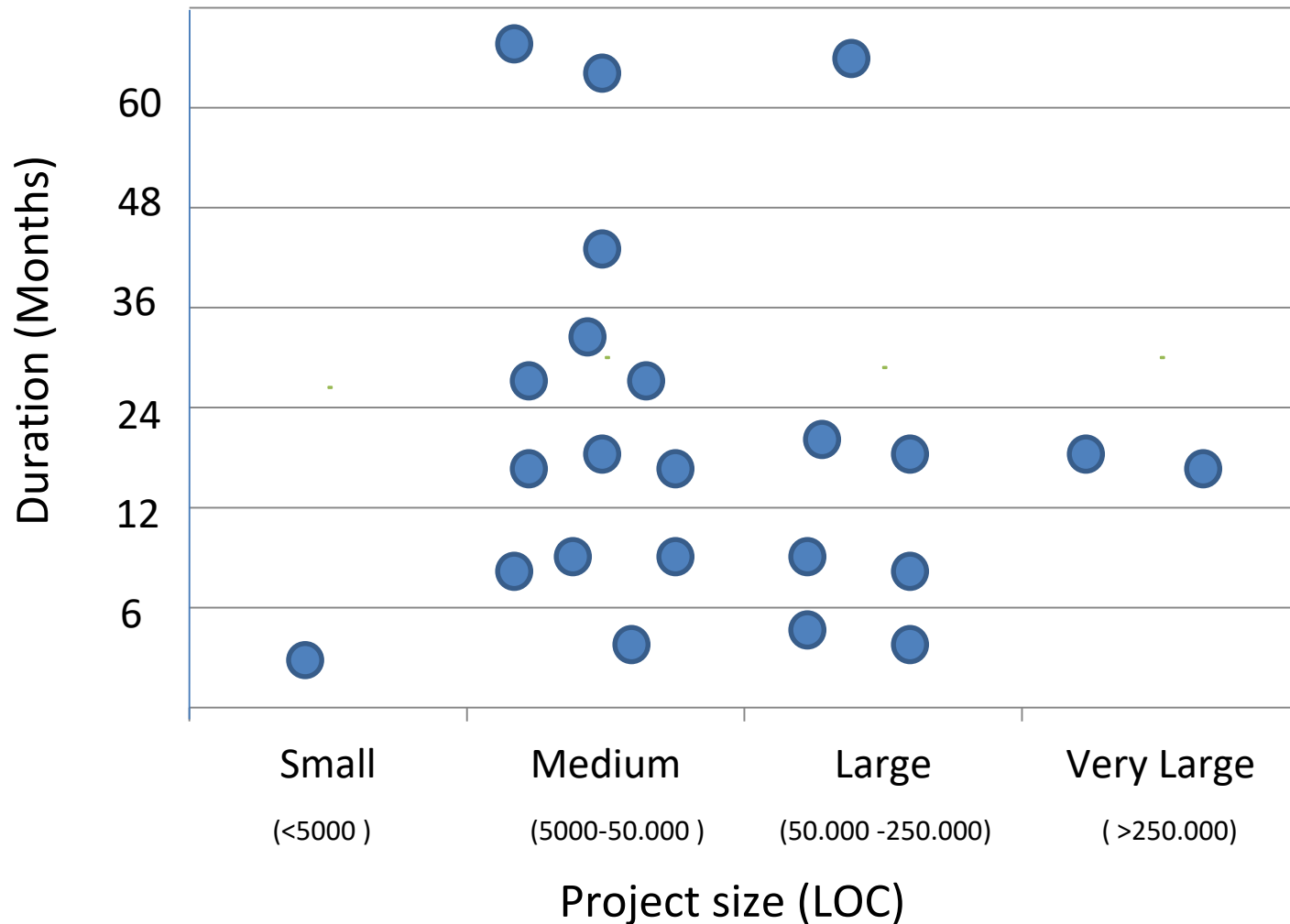


# Working in a team?



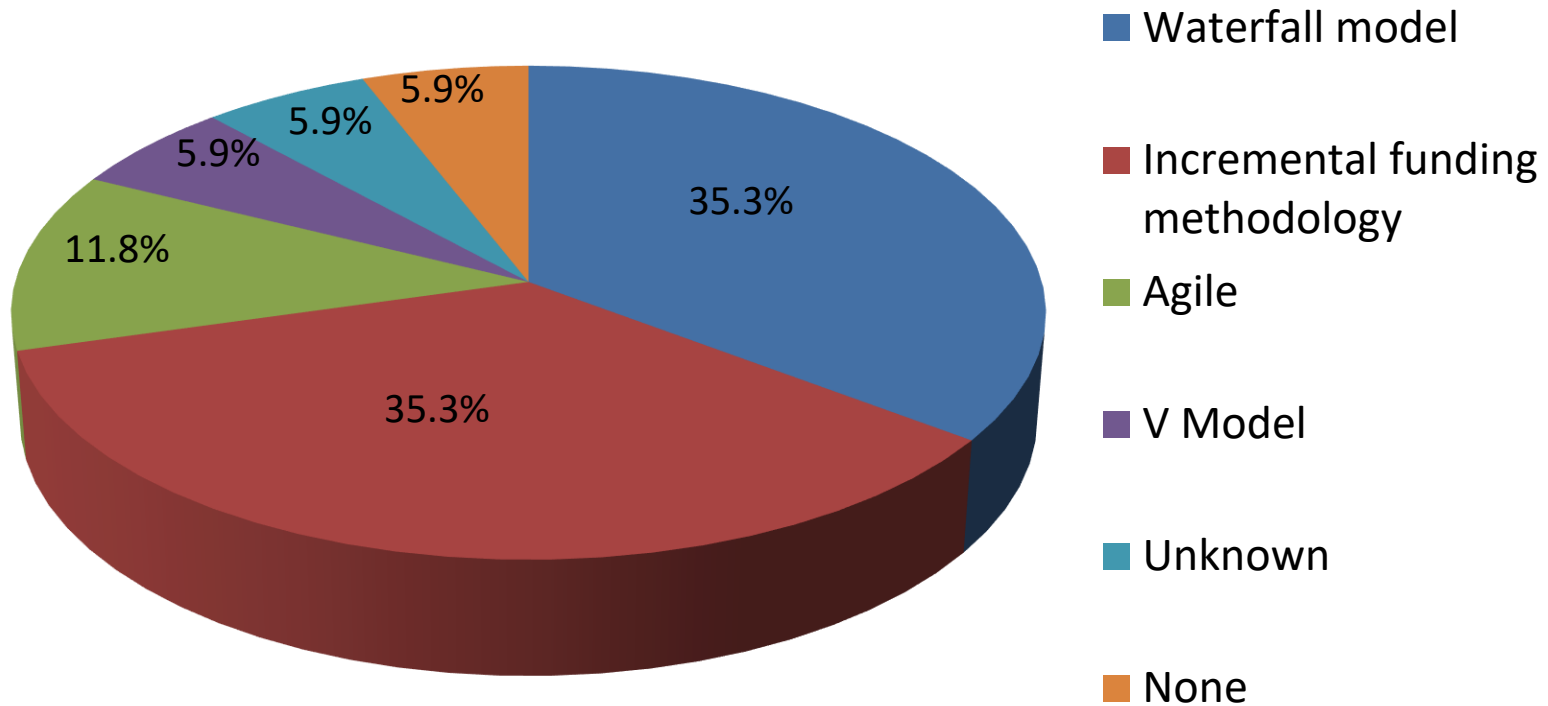


# Project specifications

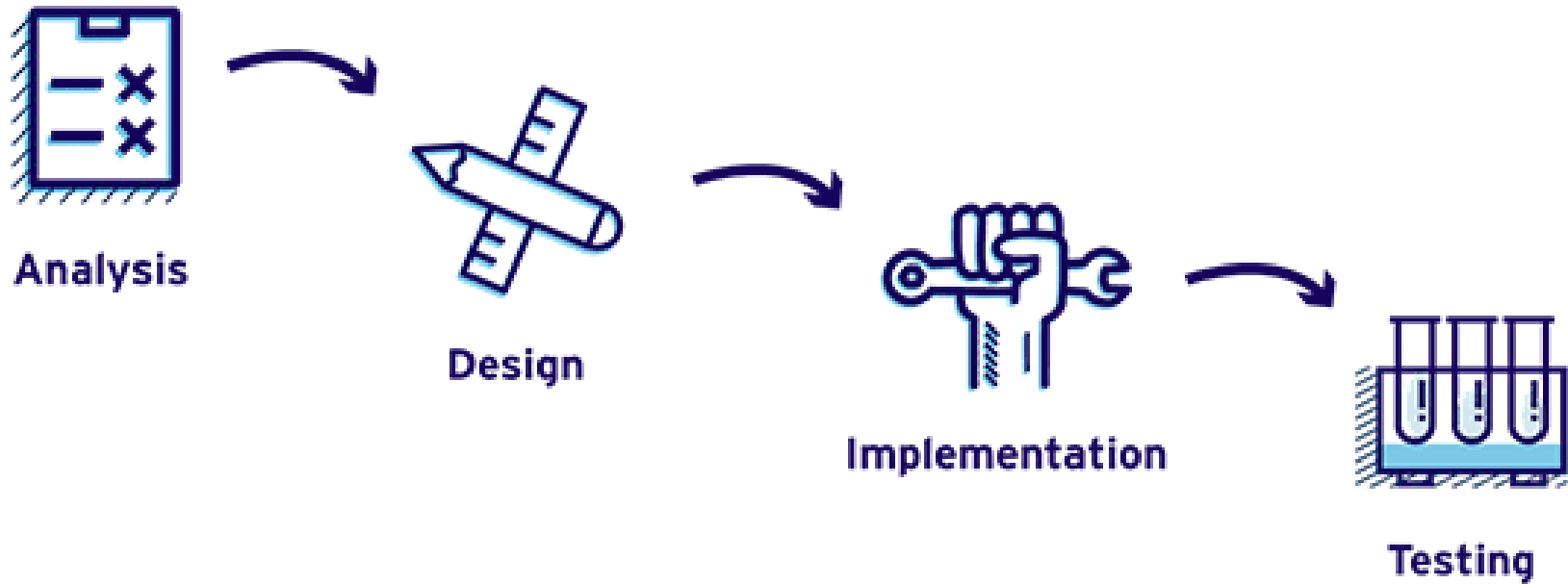


# Software process models used

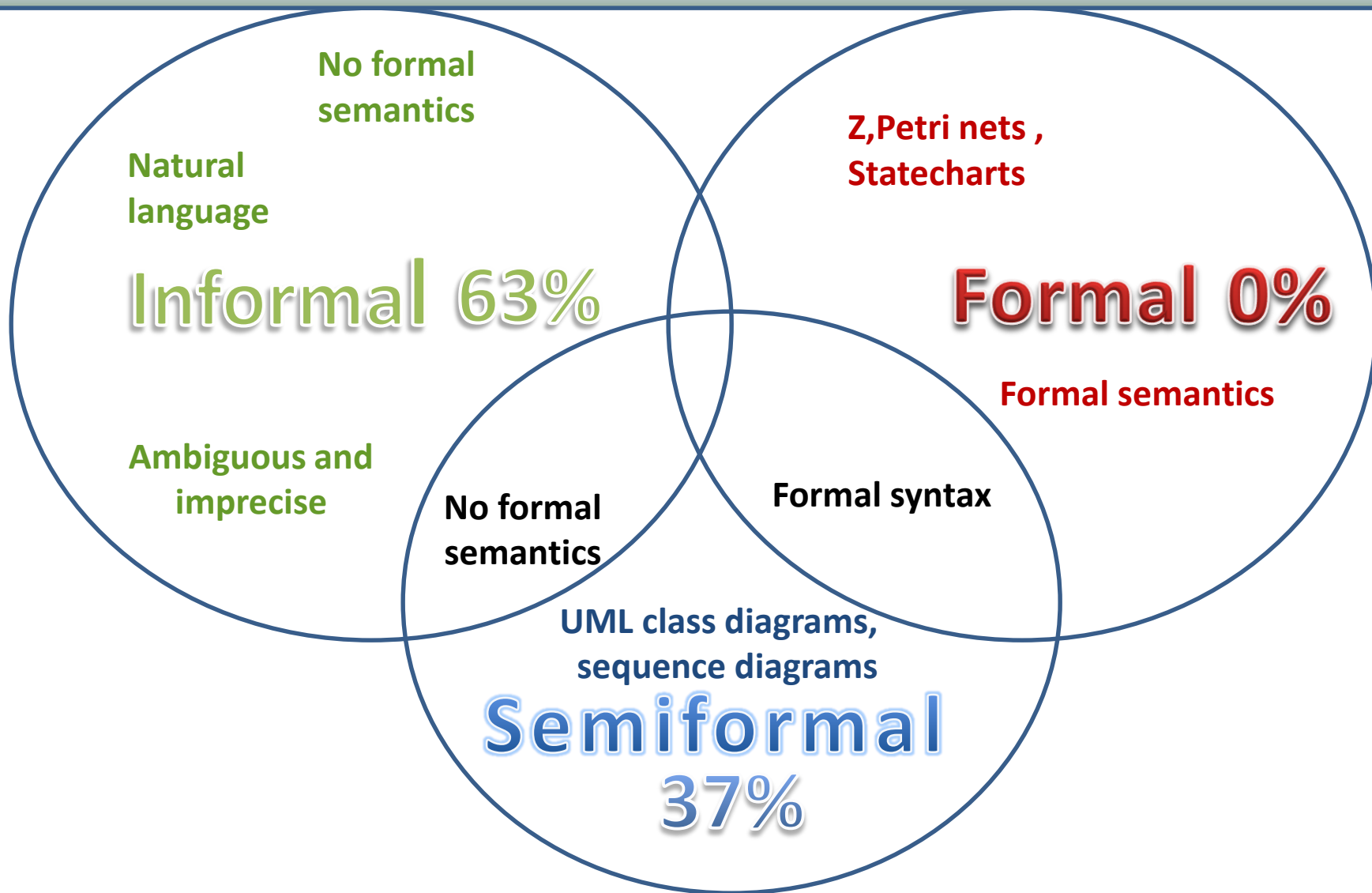
Process model



# Basic phases in software developing



# Requirements Specification Approach



# Methods for SW development

Object Oriented  
Analysis & Design

40%

Structured  
Analysis & Design

36%

Agile methods

12%

No methodology

28%

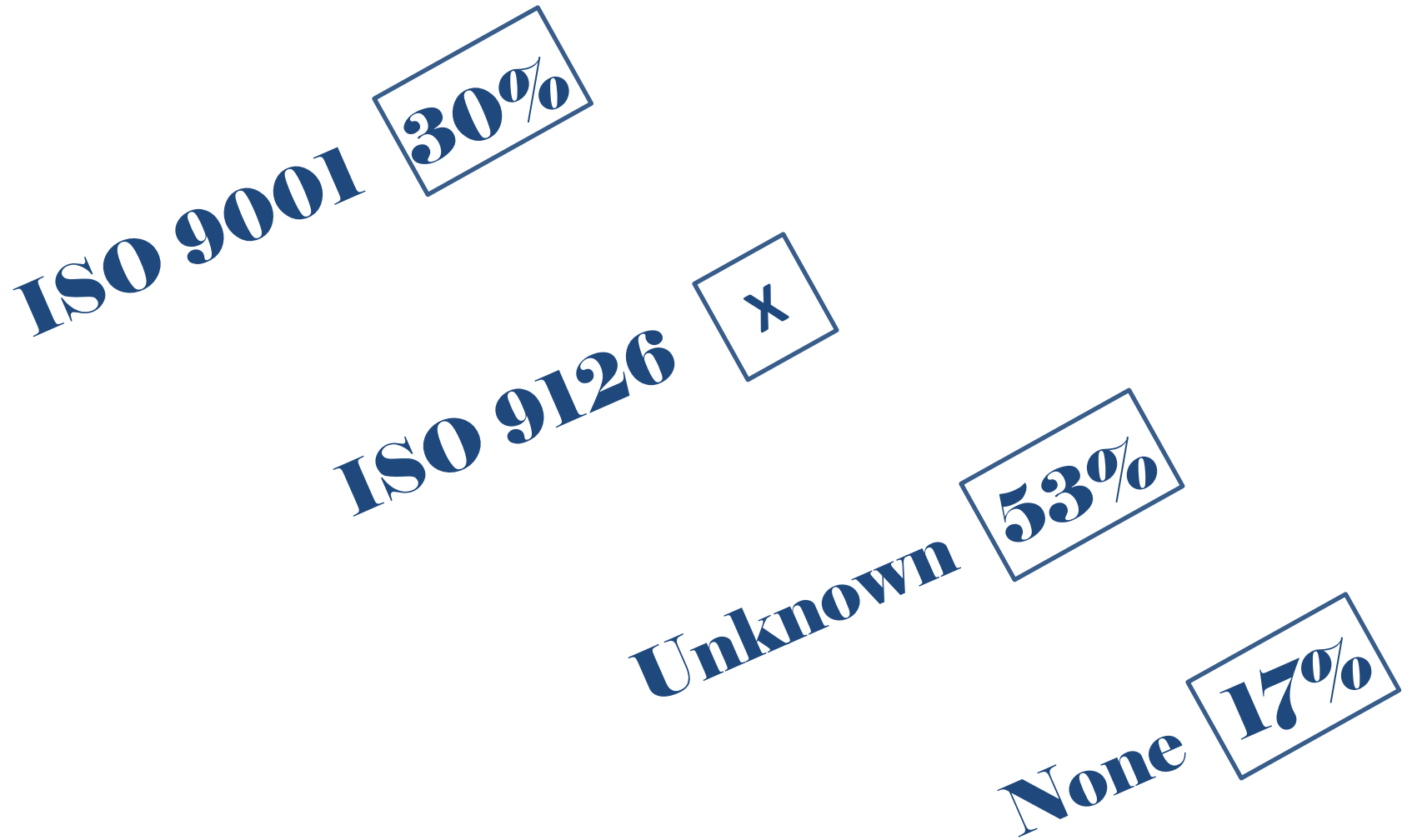
# Testing

70% → developers themselves

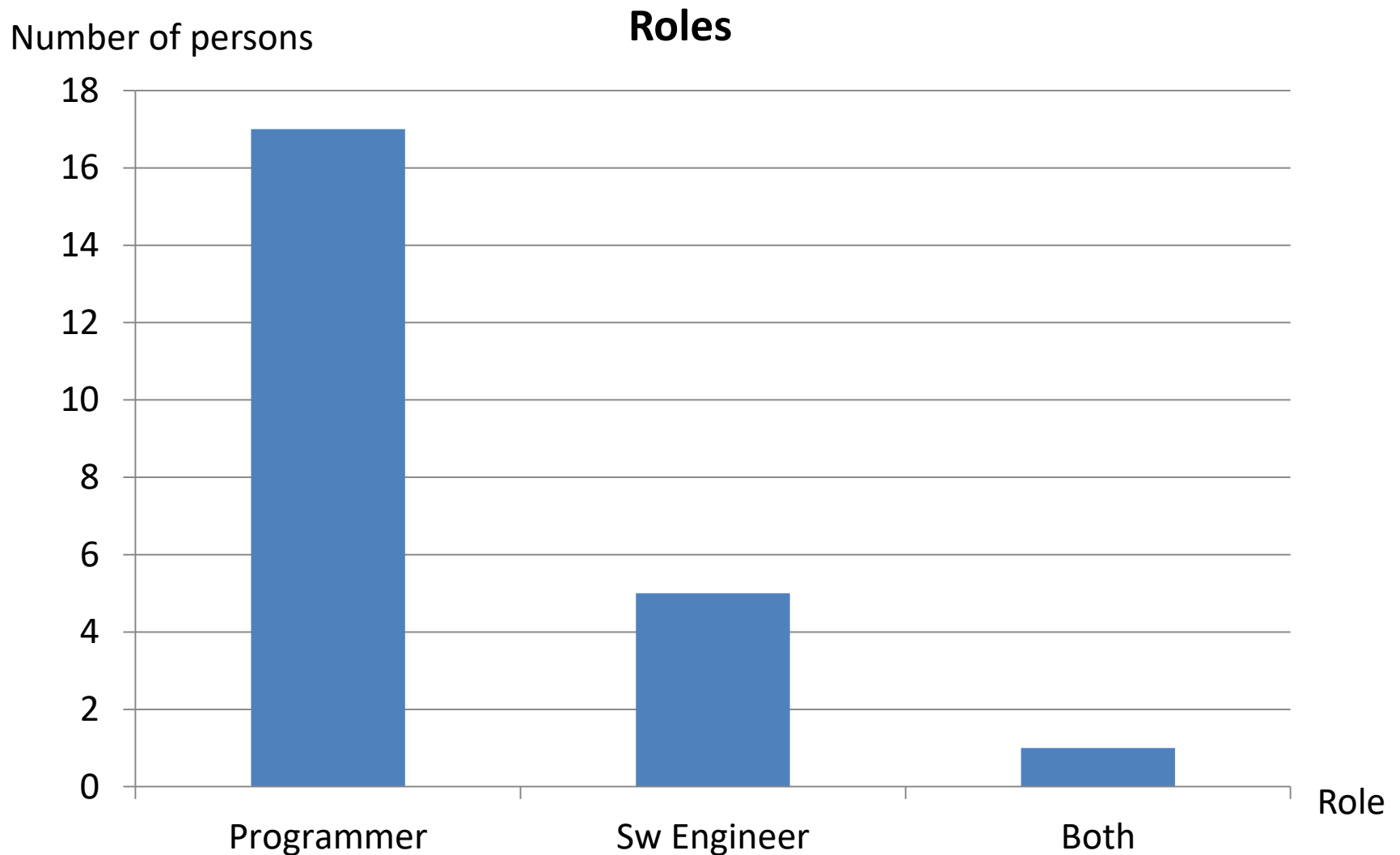
12% → a special testing team

18% → both

# Quality management approach



# Role in the project



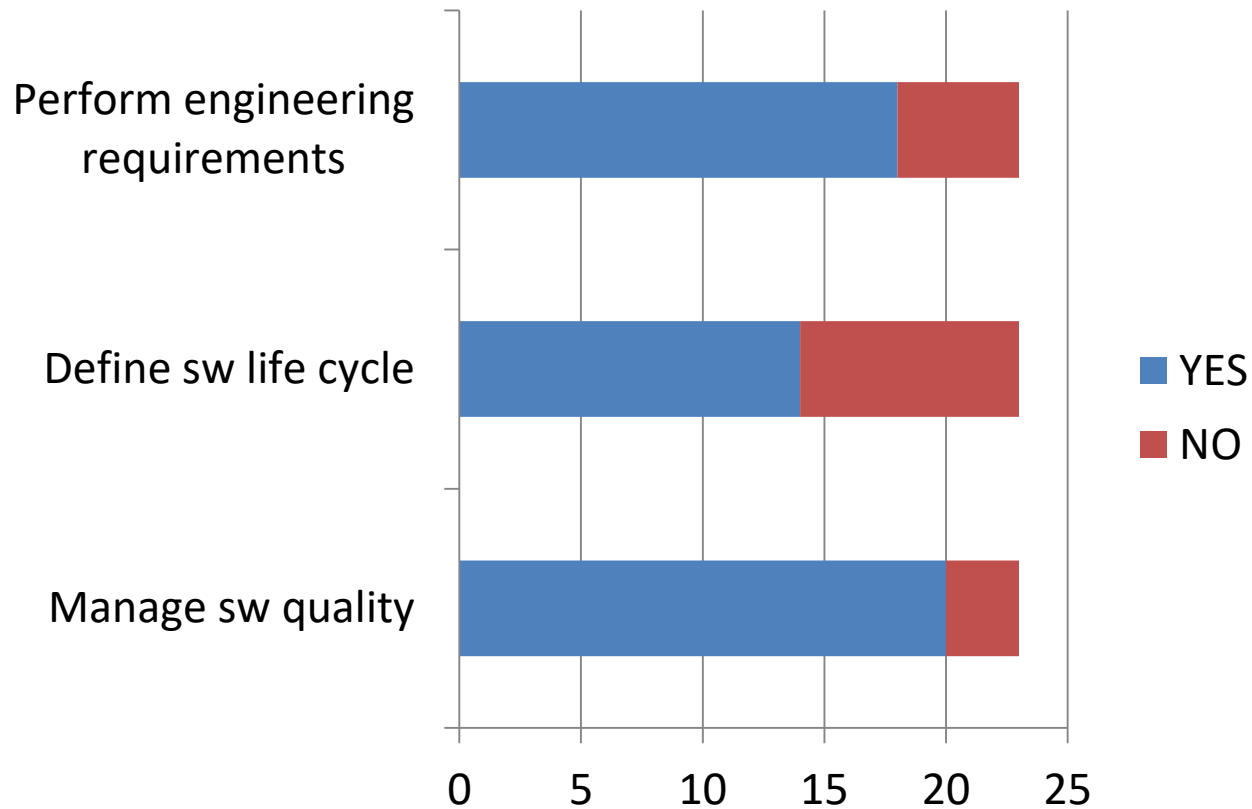


# Estimation for different aspect of the software

Quality criteria

Points	Cost within budget	Goals achieved earlier	Product easy to use	Duration within schedule	Adequate team size	Error severity not significant	Quality of the team
1	1	-	-	1	-	-	1
2	1	3	-	4	5	2	2
3	3	8	-	3	4	2	5
4	12	6	7	6	6	8	6
5	6	6	16	9	8	11	9
Avg	3.9	3.65	4.69	3.78	3.95	4.2	3.9

# Evaluation for company



Conclusion



# Conclusions

- Most of companies in Albania don't follow the suggested steps of SE while developing a Software.
- Most of the companies where the students work develop:
  - Web-based software
  - Medium-size software
- Most used models:
  - Waterfall
  - Incremental
- Requirements Specifications:
  - Informal & Semiformal
- Analysis and design technique:
  - Object -Oriented
- Testing:
  - No special team – Developers

# Proposed Ideas

- Project leaders should insist more on a full documentation of the project from the beginning
- Companies should:
  - Have a quality approach
  - Have more practical process model
- Testing teams should:
  - Be trained
  - Have adequate size

Thank you!