

# Software Engineering @ LEIC/LETI

Team Management

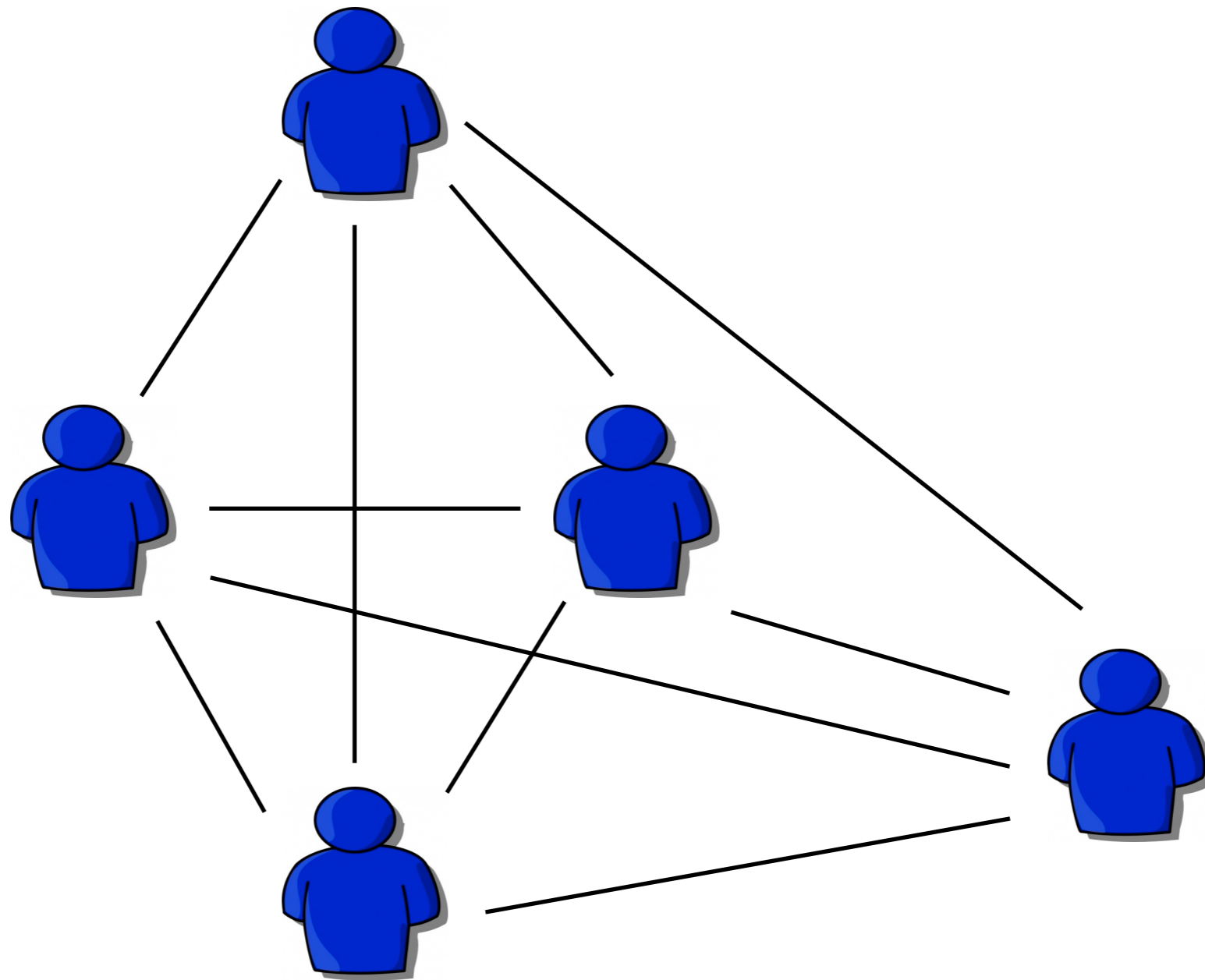
# Team Management

Team complexity

Adding manpower  
to a late software project  
makes it later

Fred Brooks

What is the problem?



$$n(n-1)/2$$

What is the problem?



Communication  
vs  
Work

reduce  
communication  
channels

Work reduce  
Communication!

process-like

improve  
communication  
channels

# Communicate to Work!

people-like

What can we do?



# Quality of the information in the channel!

hi, what do you want? do you know, i'd like to have a new functionality for the clients. but what kind of functionalities? something that allows the user to spend less time doing ...

How can we  
improve the quality of  
communication?

A shared language



Examples of shared  
languages in software  
development?

Language  
of the programmers

# Language of the designers

# Language of the architects

Language  
of the clients

They use a reduced  
set of concepts

Do we lose  
expressive power?

Structured programming

vs

Unstructured programming



Understandability  
vs  
Expressive power

Less is more

In software best practices  
become language

A common  
understanding enhances  
communication!

# Less communication channels

work, do not talk

How can we reduce  
communication channels?

# Team Organisation

Cohesive groups with high  
internal communication and  
low inter-group communication

seems software modular design ;)



# Group people by skills

technical and human skills?

# Technical skills

good programmer, good tester, ...

# Human skills

communication, cooperation, ...

How do the skills fit  
into the organization?

Organization's roles

- ...
- requirements engineer
- software architect
- developer
- tester
- ...

Strategies  
to create groups?

# Focussed on the business

functional staff organisation



# Focussed on the technology

technical staff organization

# Advantages and Disadvantages

# Organizations structure

Flat  
vs  
Hierarchical