Advanced Software Engineering Course

Basics review

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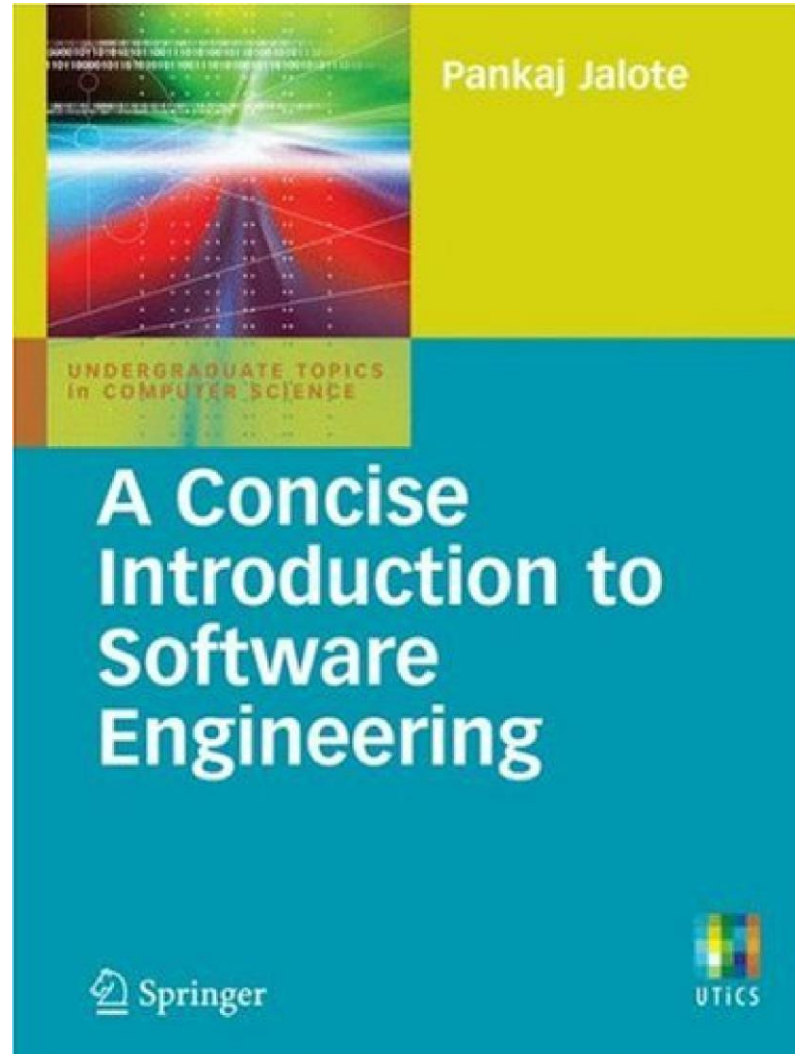
Initial assessment

1. Write down a formal Definition of Software Engineering
2. What are software engineer tasks?
3. Find three top most software engineering journals
4. How we measure the size of a software?
5. How we measure the quality of a software?
6. Enumerate differences between front-end & back-end software engineering

Agenda

– Review most important basic concepts

– First steps for software engineering research

This session references

Basics

› Formal definition of Software Engineering
  › IEEE definition

› Software Engineer tasks
  › Less than 50% of tasks refers to coding
  › Difference between Programmer & Software Developer

› Is there a whole certification for software engineering?
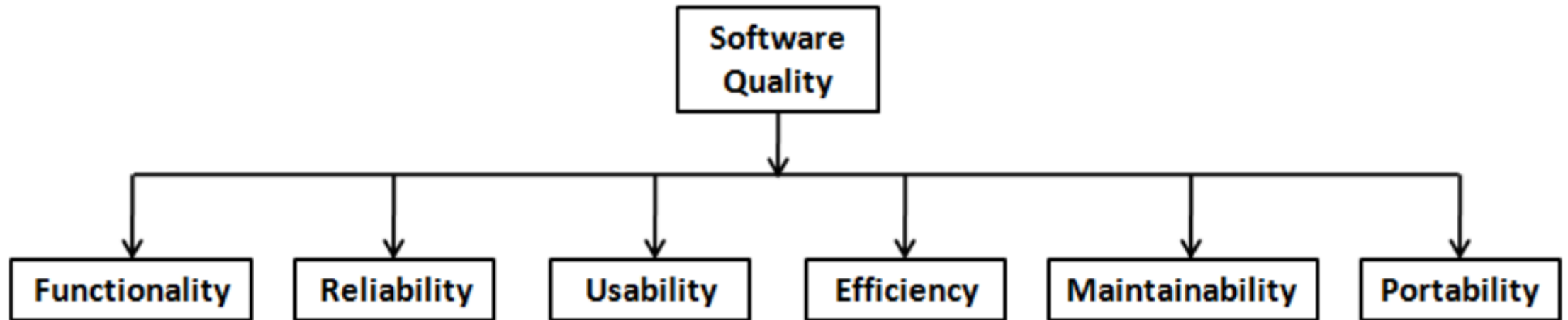 – There are plenty partial certifications
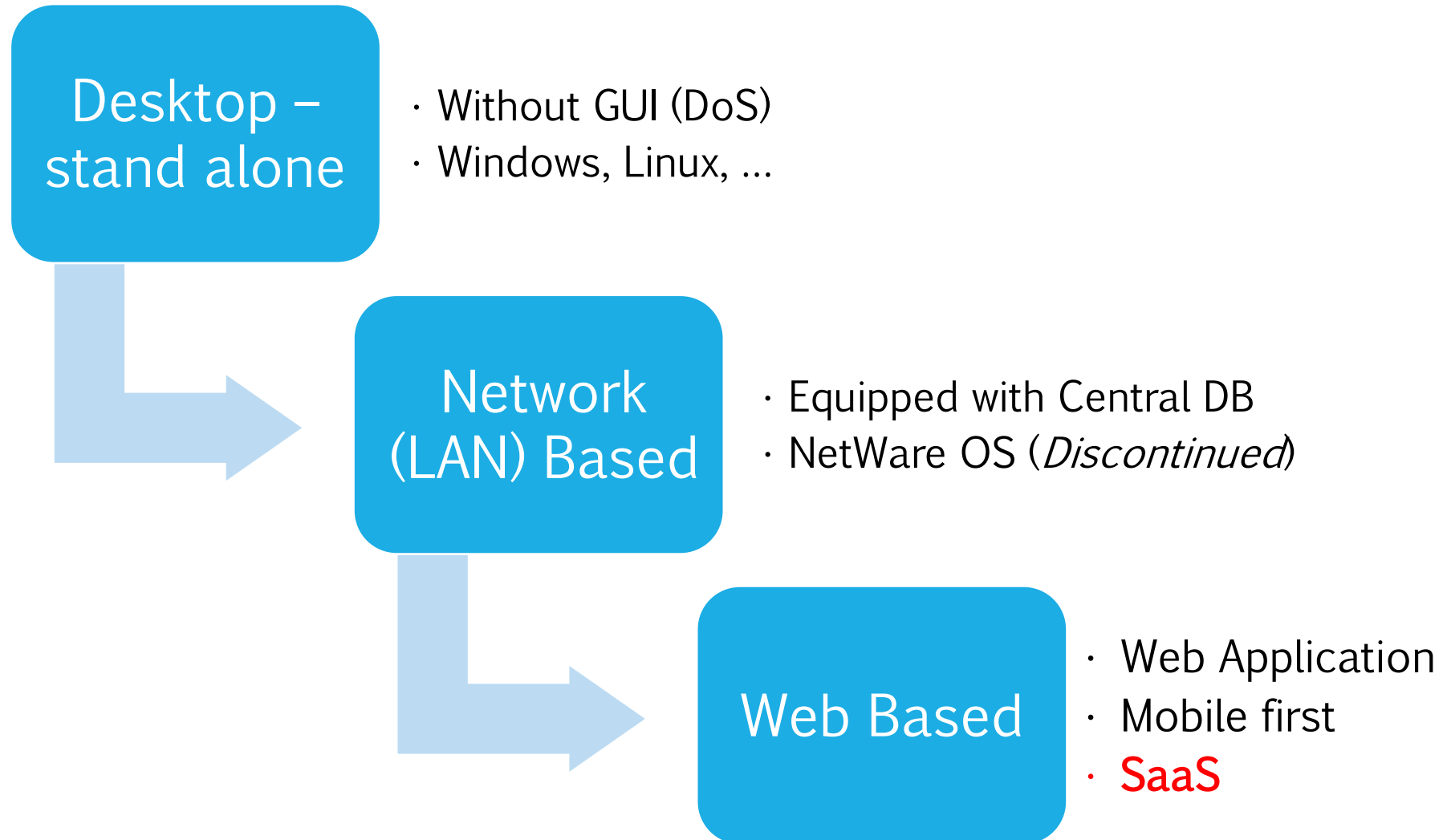
Problem of Software Engineering

Software Process Models?

How to compare two similar softwares?

› Size?
  – LoC
  – Function Point

› Quality

Network impact on software types

Desktop – stand alone
- Without GUI (DoS)
- Windows, Linux, ...

Network (LAN) Based
- Equipped with Central DB
- NetWare OS (*Discontinued*)

Web Based
- Web Application
- Mobile first
- SaaS

Web based software development steps

1. **Goal**
   - Static
   - Dynamic
     - › Routine
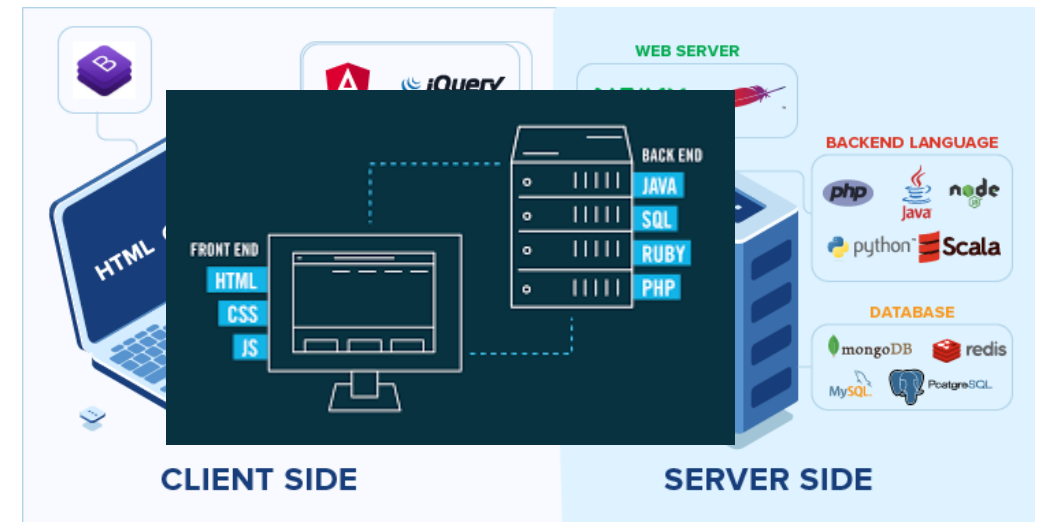   - CMS
     - › Customized

2. **Domain name registration**
   - Global
   - Local
   - Free

Web based software development steps

3. Development
- Graphics
- Front-end
  - › HTML
  - › CSS
  - › JavaScript
- Back-end
  - › PHP, RUBY. .NET, JS
  - › Databased
    - MySQL
    - SQL Server
    - NoSQL

Web based software development steps

4. Hosting
- Windows based
- Linux Based
- Other Services
  - Email

5. Search engine optimization

6. Maintenance
- Domain name & hosting renewal
- Bug fixing
- Update

Class presentation topic

› Propose a <u>feasible</u>, <u>directly related</u> title for class presentation

  – Write down your propose in online sheet

Question?

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