

IN3240 / IN4240

Software Testing

Introduction and practical information



Subject manager

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Senior Lecturer - Software Engineering



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OSLOMET

SEARCH 🔍 MENU ☰

[Norwegian version](#)

[< Employee directory](#)



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Subject managers

STORE NORSKE LEKSIKONLogg inn eller registrer deg



Eva Hadler Vihovde

fagansvarlig, OsloMet

Eva Hadler Vihovde har skrevet 3 artikler

FAGANSVARLIG FOR 2 KATEGORIER:

Programmering 56

Programmeringsspråk 25

BIOGRAPHY

Eva Hadler Vihovde (b. 1956) is an associate professor at the Department of Information Technology at OsloMet - the metropolitan university, where she has taught programming and programming-related subjects, artificial intelligence and discrete mathematics since 1992. She is also employed in a 20 percent position at the University of Oslo, where she has been teaching "Testing of software" at the Department of Informatics since 2017. Vihovde is a computer scientist from the University of Oslo and took the Cand.Scient degree (1989) in Program Verification with Professor Ole-Johan Dahl as supervisor. Vihovde is also a trained music teacher from the Norwegian Academy of Music (1979). In 2021, she was awarded status as a merited lecturer at OsloMet, and the same year, together with Harald H. Soleng, she received the University Publishers' Prize for best textbook idea.

Contact person for English spoken students

Antonio Martini

Professor - Software engineering



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Brukernavn antonima

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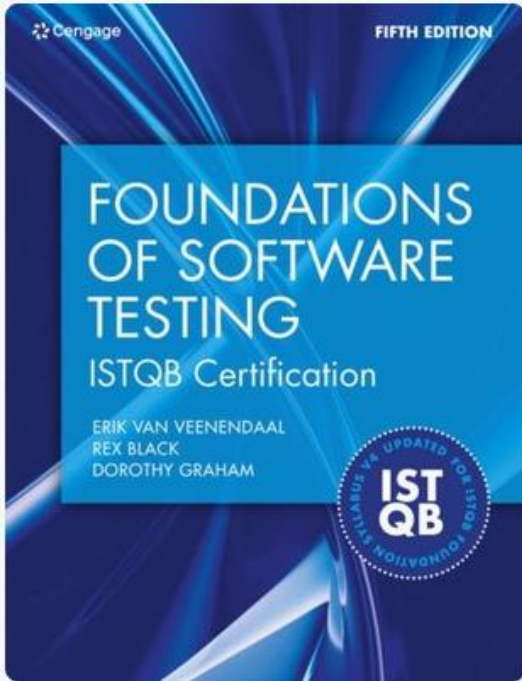
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Group teachers

- Lyra Valentina Iris Hope, lyhope@ifi.uio.no
- Marius Emil Green Holten, meholten@ifi.uio.no
- Elise Eknes, eliseekn@ifi.uio.no
- Aland Azdin, alanda@ifi.uio.no
- Pernille Taraldsen Vannebo, perniltv@ifi.uio.no

Guest lecturers

- Testdriven development, TDD, by Jon Jagger, [Kosli](#)
- Test automation in Cypress, by [Itera](#)
- Exploratory testing, by [Yulai De Meer Fjeld, Relato](#)
- Continuous Integration, Delivery & Deployment, by [SOCO](#)



Syllabus

Foundations of Software Testing: **ISTQB Certification**

Slides from the lectures
4 guest lectures
Weekly exercises
2 Compulsory assignments

[International Software Testing Qualifications Board](https://www.istqb.org/)

Harald Heimtun Soleng
og Eva Hadler Vihovde

PLETTFRI KODE



Hvordan forhindre
feil i programvare?

 Universitetsforlaget

Recommended reading

Plettfri kode –

Hvordan forhindre feil i programvare?

- [Harald H. Soleng](#)
- [Eva Hadler Vihovde](#)

<https://www.universitetsforlaget.no/lytefri-koding>

Work requirements

- Two compulsory assignments to be solved in groups of 2 - 4 people
 - ✓ First assignment: Use of test automation tools (March)
 - ✓ Second assignment: A practical test case (April)

The course site

All practical information

- Slides
- Weekly exercises
- Compulsory assignments
- ...

will be published in the progress plan on the course site

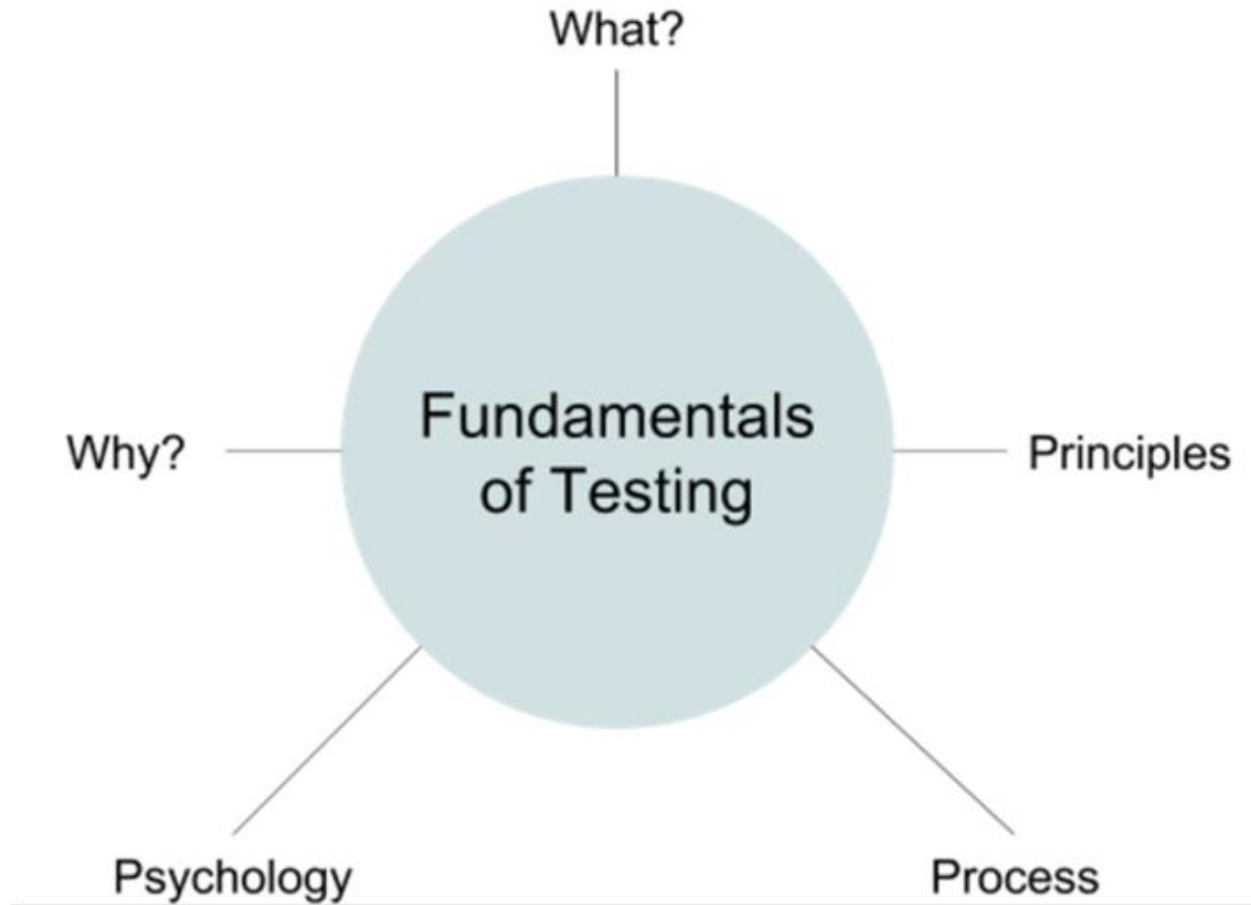
Language

- Thursdays: lectures in Norwegian
- One of the seminars will be in English
- The text book is in English
- All slides, weekly exercises, compulsory assignments and other course material will be in English
- Personal assistance for English spoken students: Contact [Antonio Martini](#)
- IMPORTANT! The guest lectures will be in English on Thursdays. They will not be recorded!

An Overview



Chapter 1

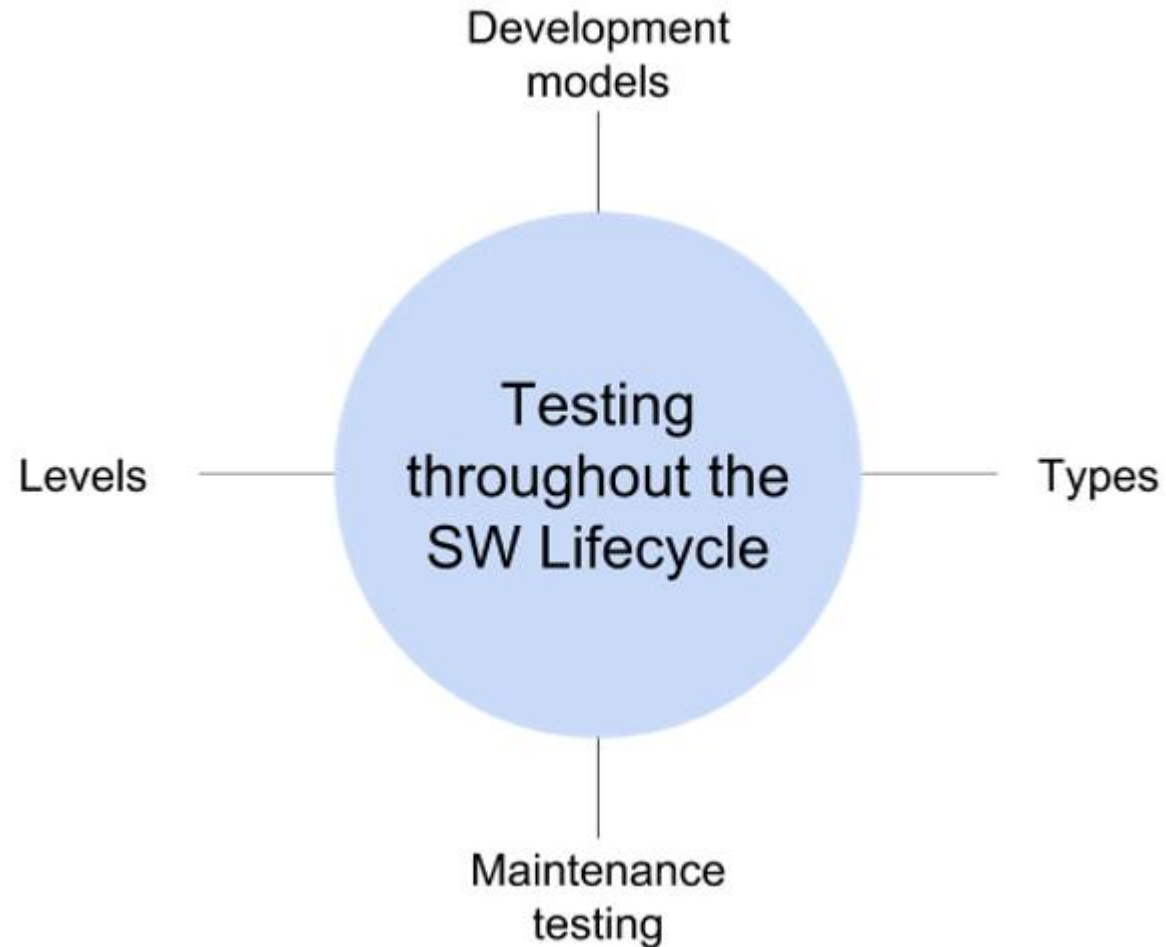


Chapter 1

Fundamentals of testing

1. Why is testing necessary?
2. What is testing?
3. Test principles
4. Fundamental test process
5. The psychology of testing

Chapter 2



Chapter 2

Testing throughout the software life cycle

1. Software development models

- 1.1 Sequential model
- 1.2 Iterative-incremental model
- 1.3 Testing within a life-cycle model

2. Test Levels

- 2.1 Component testing
- 2.2 Integration testing
- 2.3 System testing
- 2.4 Acceptance testing

3. Test Types

- 3.1 Testing of function
- 3.2 Testing of non-functional software characteristics
- 3.3 Testing of software structure
- 3.4 Testing related to changes

4. Maintenance testing

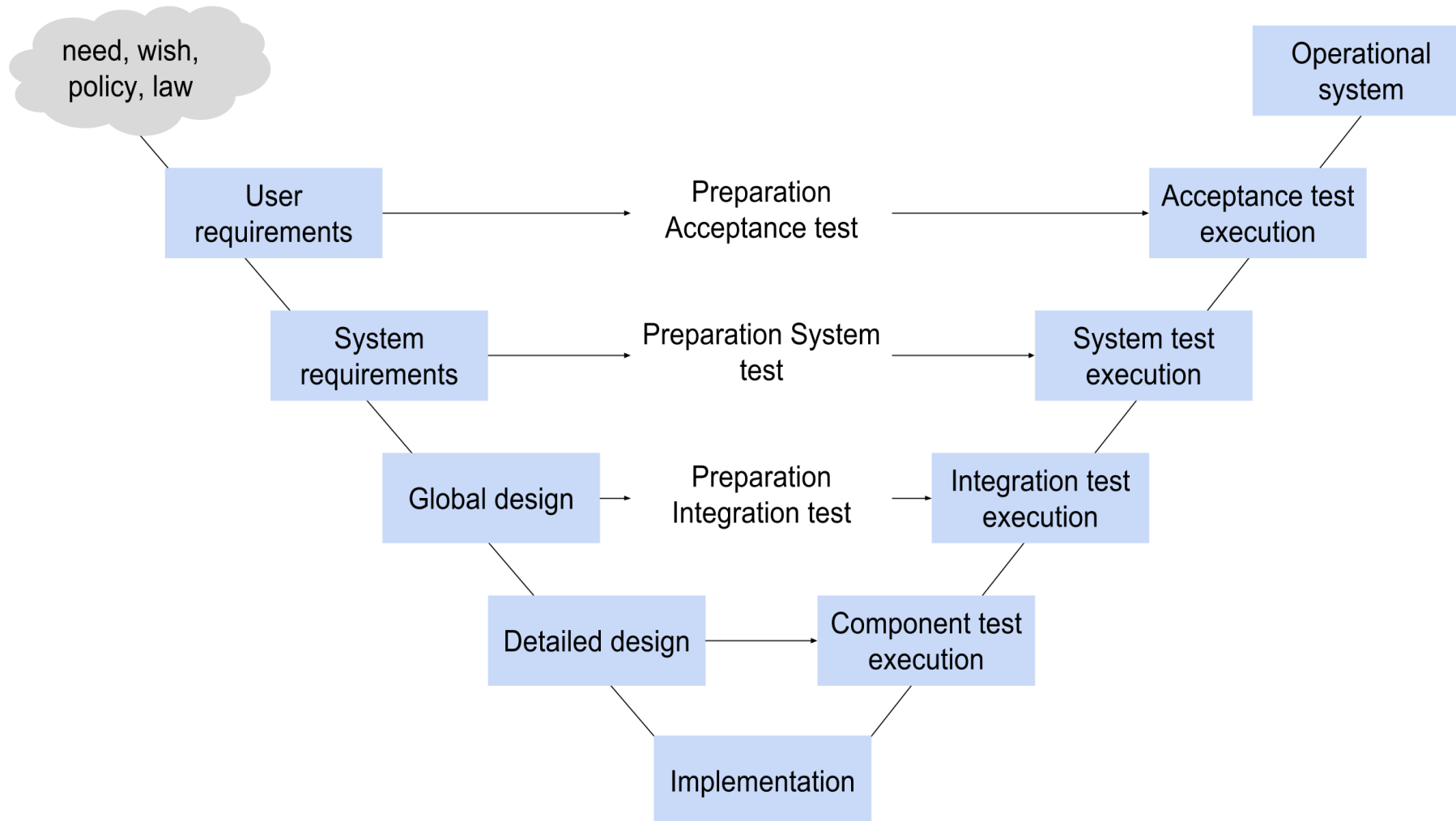
1. Software development models

2. Test Levels

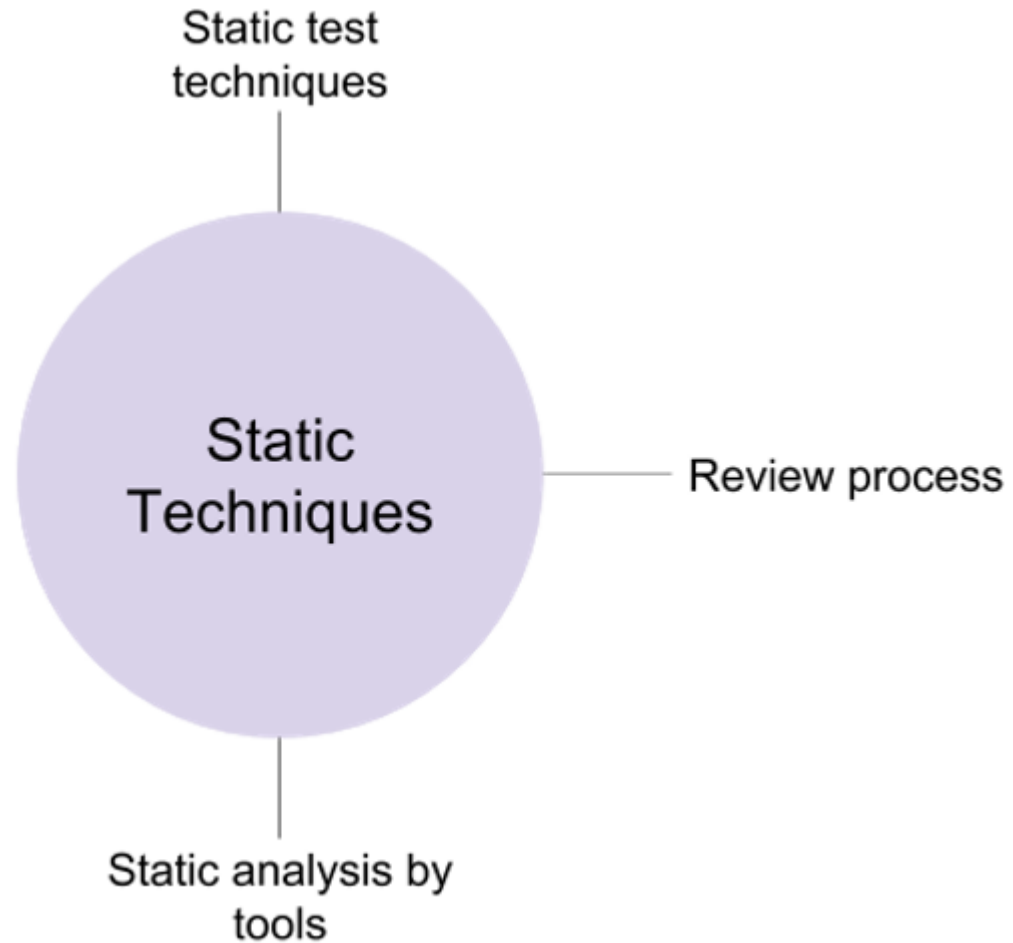
3. Test Types

4. Maintenance testing

Testing throughout the lifecycle



Chapter 3

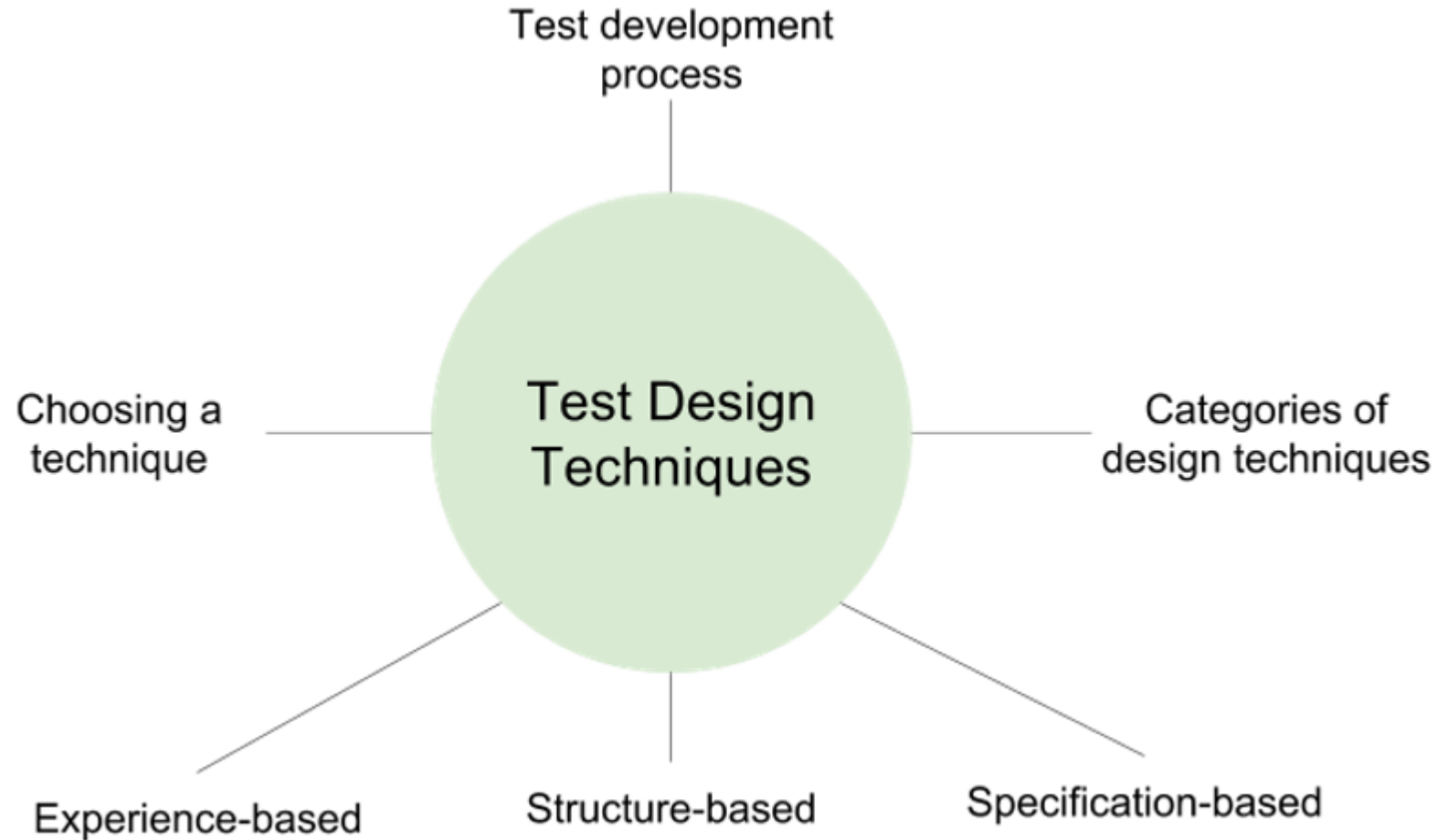


Chapter 3

Static Techniques

1. Static techniques and the test process
2. Review process
3. Static analysis by tools

Chapter 4



Chapter 4 – Part 1

Test Design Techniques

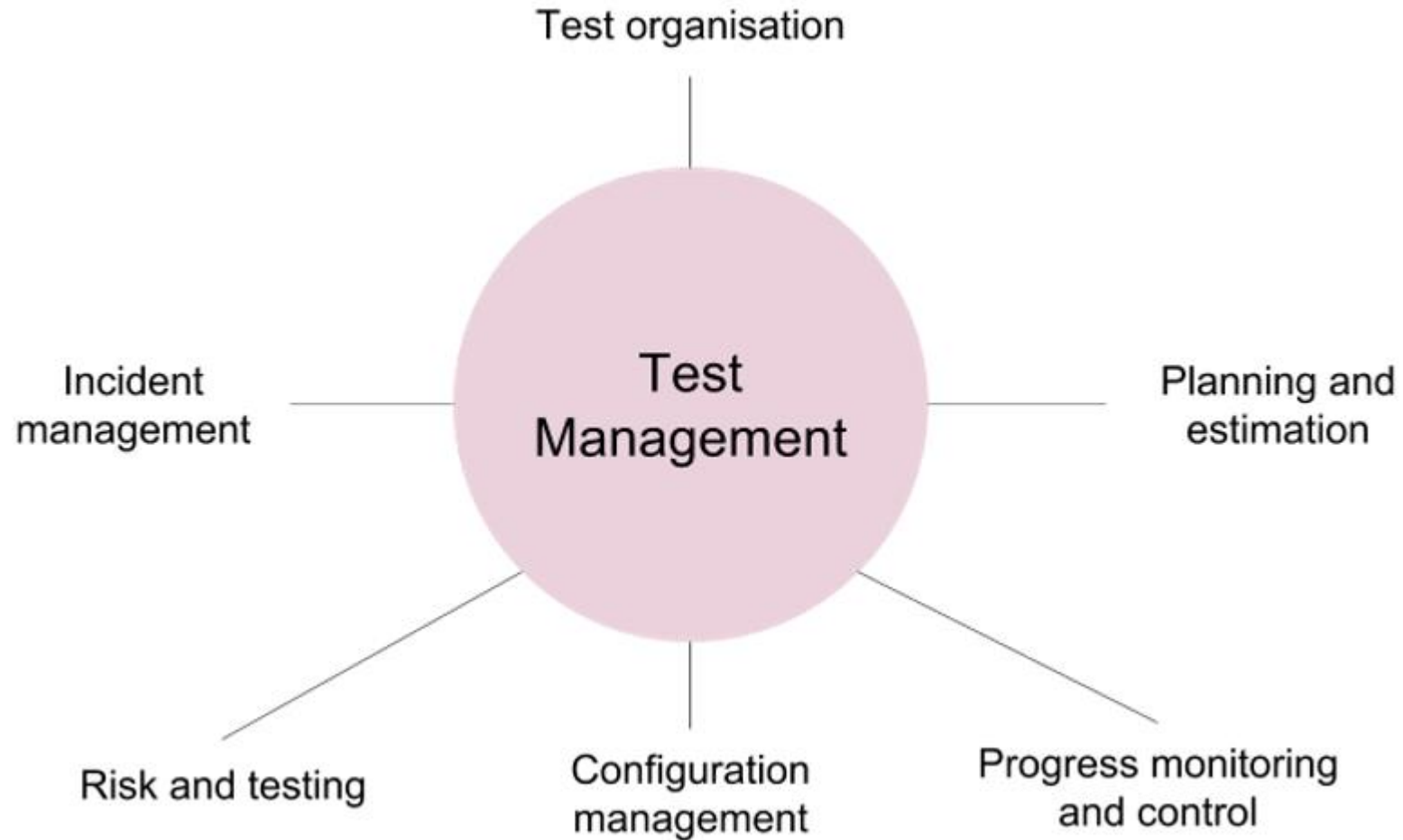
1. The test development process
2. Categories of test design techniques
3. Specification-based testing (Black-box)

Chapter 4 – Part 2

Test Design Techniques

- 3. Specification-based testing (Black-box)
- 4. Structure-based testing (White-box)
- 5. Experience-based testing
- 6. Choosing test techniques

Chapter 5

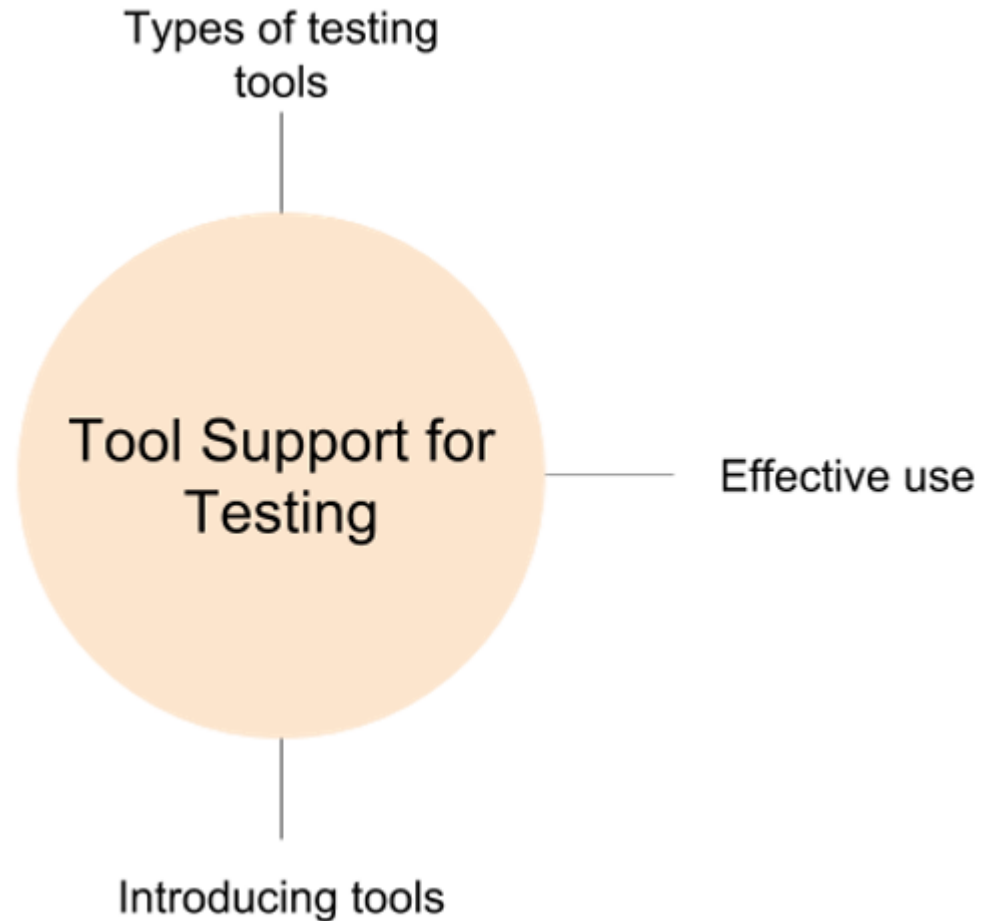


Chapter 5 – Part 1 and 2

Test management

1. Test organization
2. Test planning and estimation
3. Test progress monitoring and control
4. Configuration management
5. Risk and testing
6. Defect management

Chapter 6

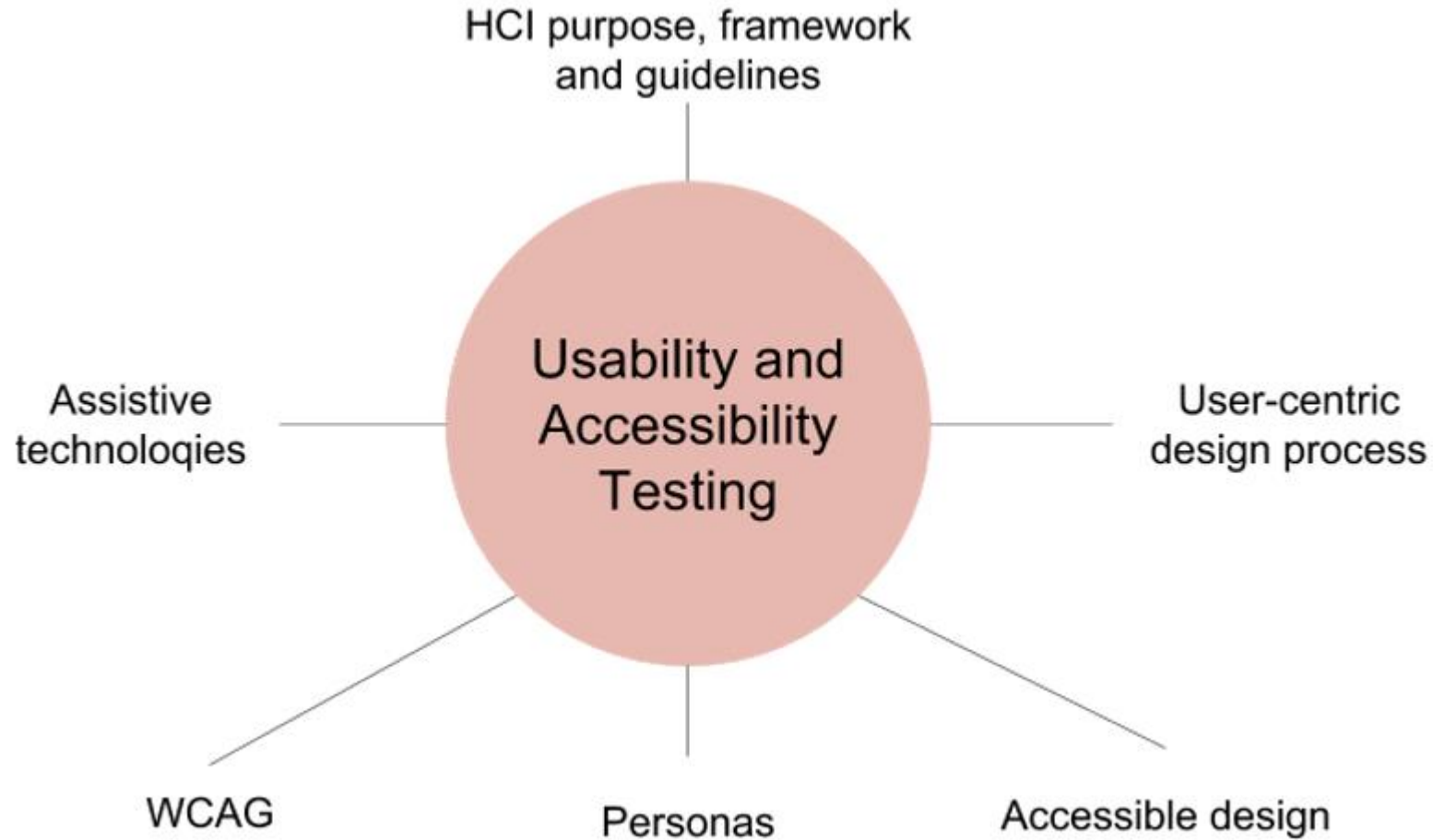


Chapter 6

Tool support for testing

1. Test tool considerations and classification
2. Potential benefits and risks
3. Effective use of tools – introducing a test tool to an organization

Syllabus



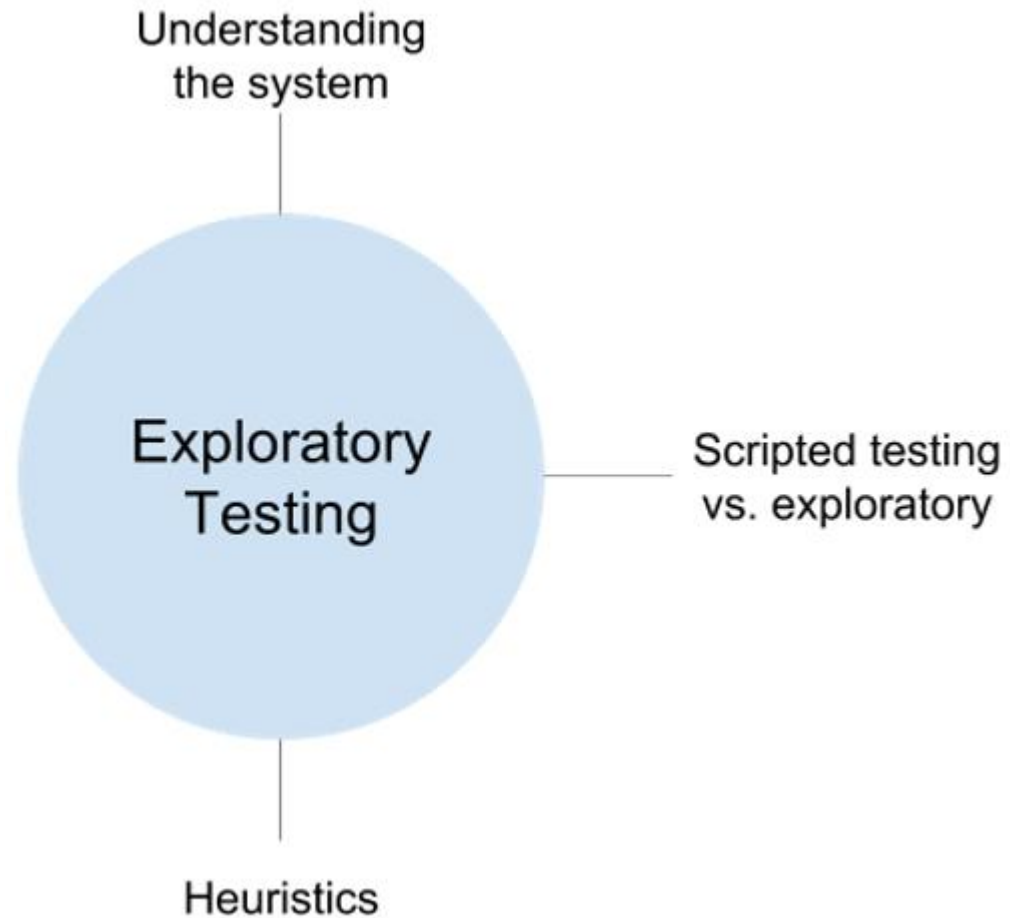
Usability Testing

1. HCI – definition and purpose
2. HCI framework
3. User-centric design process
4. HCI guidelines

Accessibility Testing

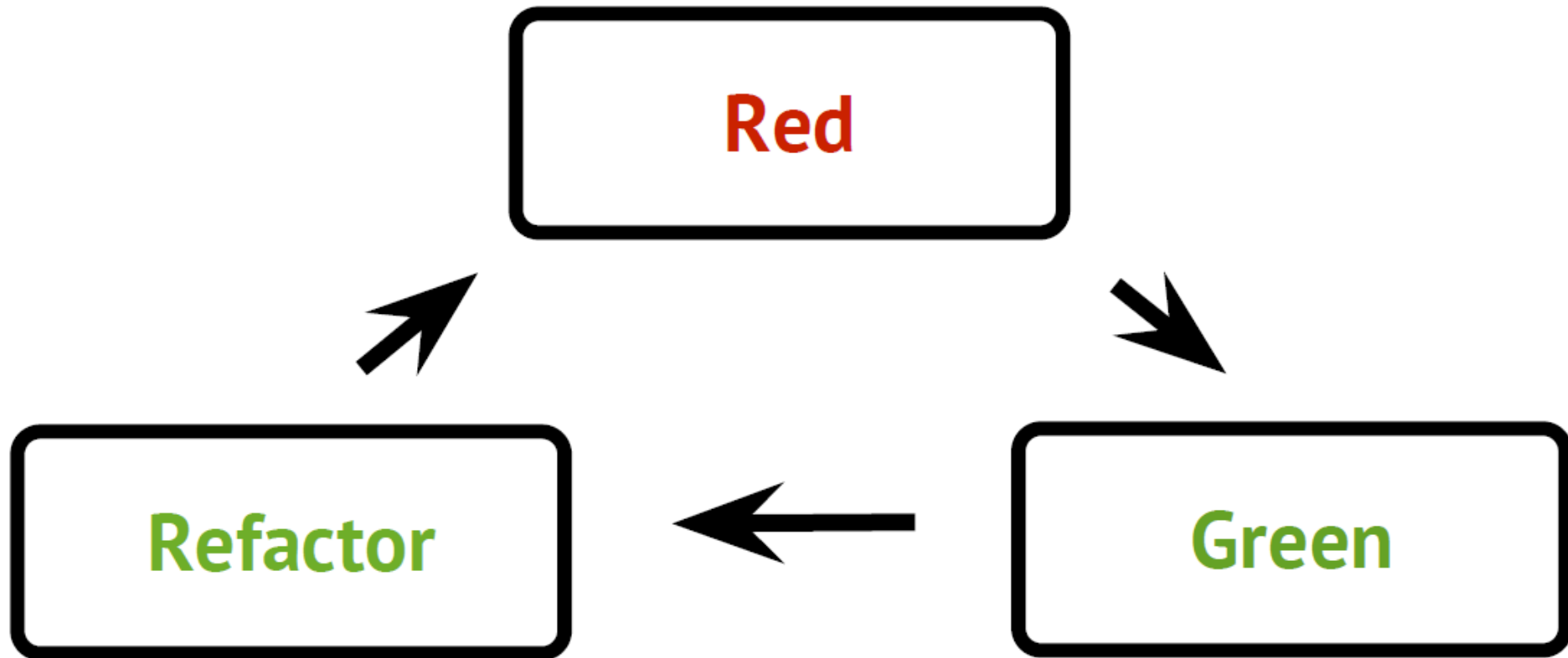
1. The context of accessibility
2. Accessibility personas
3. Accessible design
4. Web-content accessibility guidelines
5. Assistive technologies and tools

Syllabus



Syllabus

Test-Driven Development



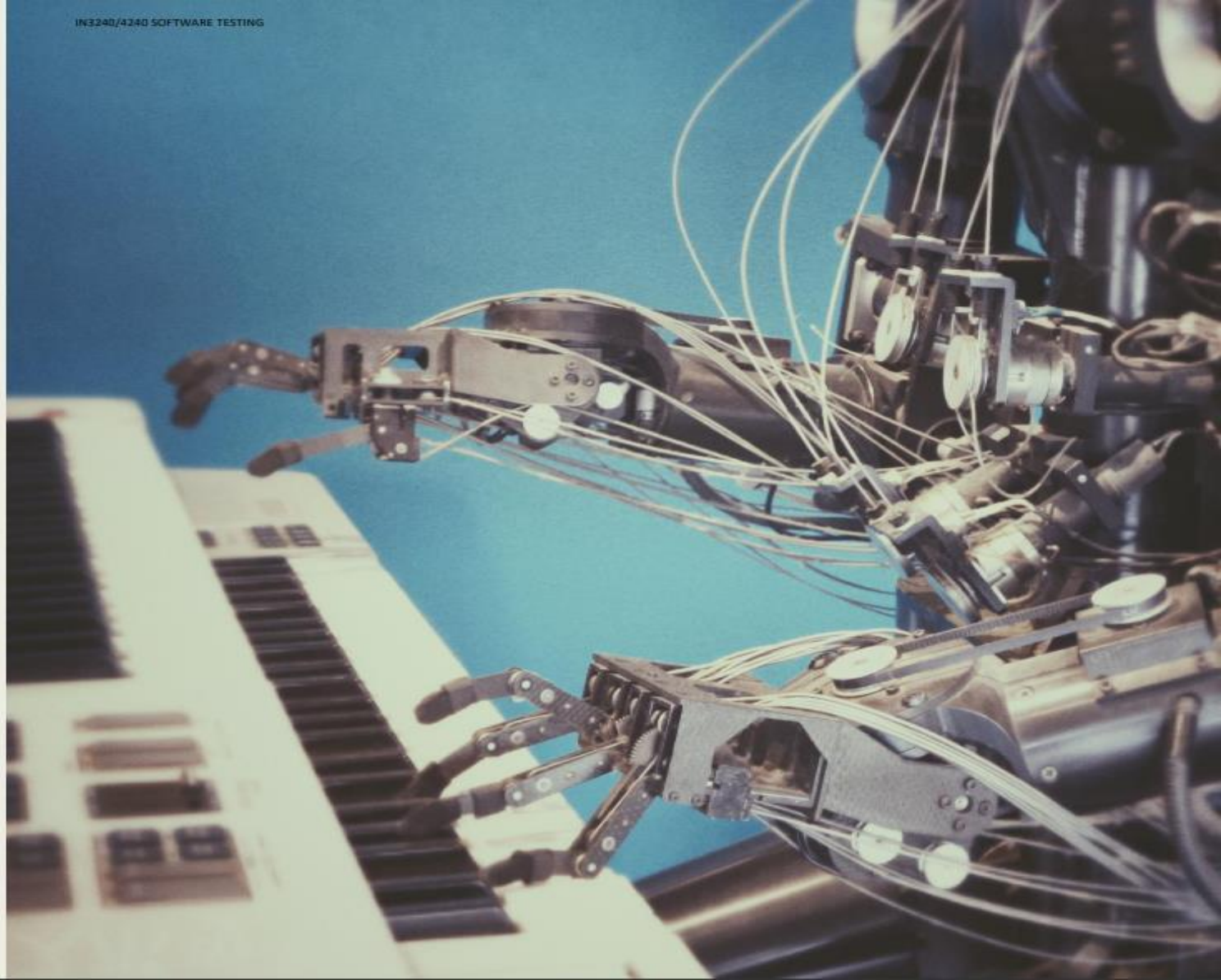
Syllabus

UNIVERSITY OF OSLO

Test Automation

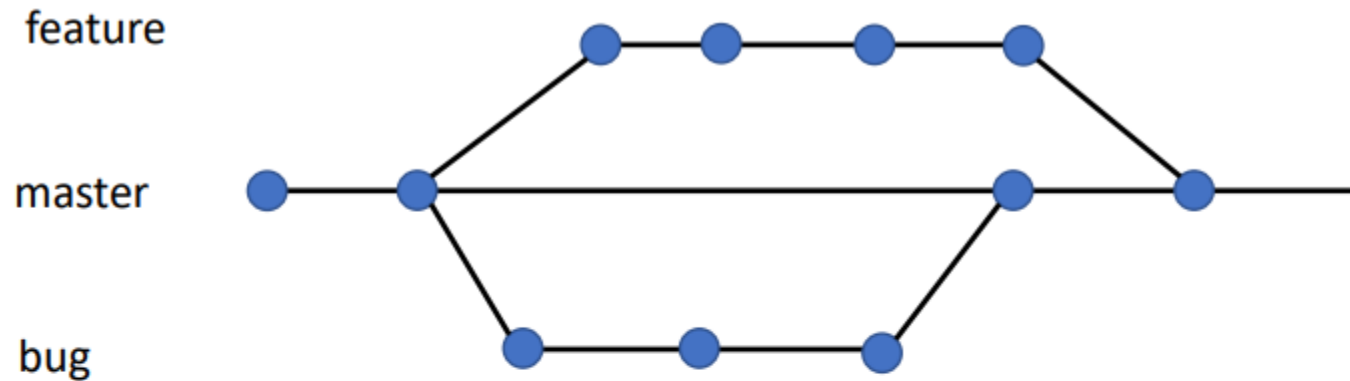
IN3240/4240 Guest lecture with Itera

IN3240/4240 SOFTWARE TESTING



Syllabus

Continuous Integration & Continuous Delivery



This was all for today.

Thanks for listening!

See you next week!