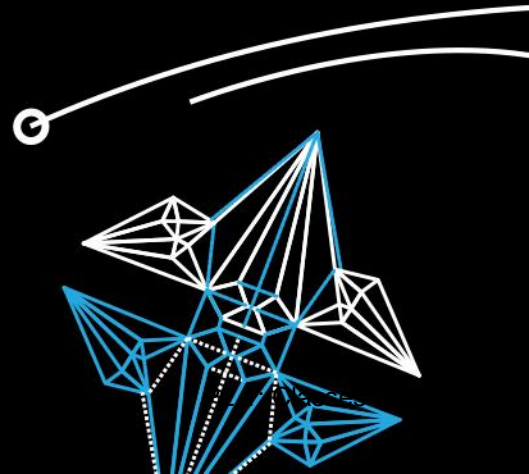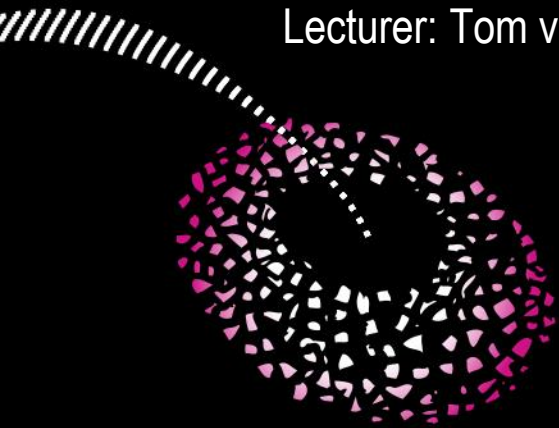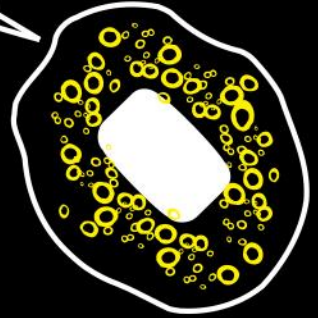# Classy Keywords

Topic of Software Systems (TCS module 2)

Lecturer: Tom van Dijk

CLASSY KEYWORDS

- Referencing the current object: this
- Access modifiers: public, private
- Class fields/methods: static
- Immutable fields: final

THE THIS KEYWORD

The keyword this always refers to the **current object**

```java
public class Hotel {
    private String name;
    private Room room1;
    private Room room2;

    public Hotel(String name) {
        this.name = name;
        room1 = new Room(101); // constructor call
        room2 = new Room(102); // constructor call
    }

    // more stuff
}
```

Useful to explicitly refer to fields instead of local variables!

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ACCESS MODIFIERS

Fields and methods have an access modifier

Modifier	Same class	Same package	The rest
public	Yes	Yes	Yes
private	Yes		
(none)	Yes	Yes	

(*none*) is called: package private

STATIC

Fields can be static

- a **single** field shared by all instances

Methods can be static

- may only access static fields

- cannot access this

FINAL

Fields can be final

- may not be modified (after object construction)

A referenced object can be changed internally, but not the reference

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CONSTANTS

Constants are fields that are final and static

Examples:
- public static final double VAT = …
- public static final double PI = …
- public static final int NUMBER_OF_ATTEMPTS = …
- public static final int DAYS_PER_WEEK = …
- public static final int TIMEOUT = …

Use constants! (Can be public or private)

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CONCLUSION

- The this keyword
- Access modifiers public, private, and package private
- static and final
- Constants