Use Cases and Use Case Diagrams

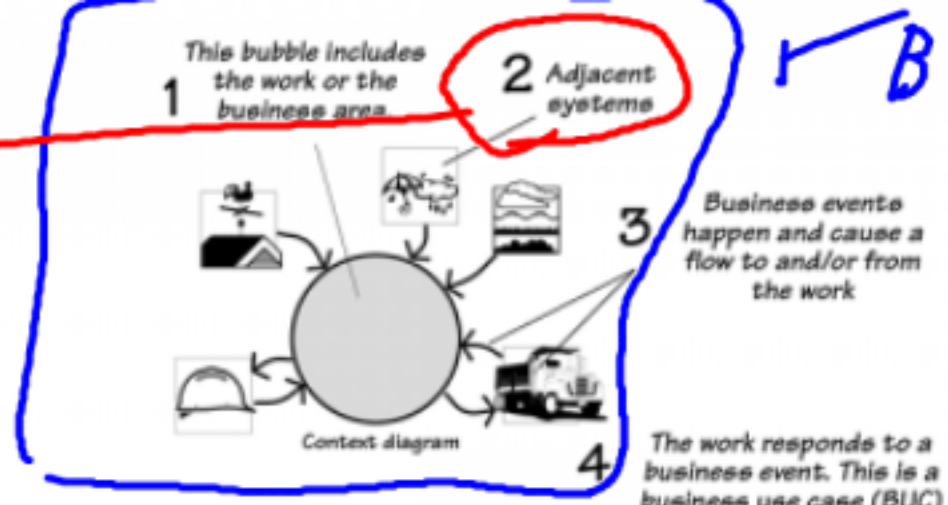
writing Use cases

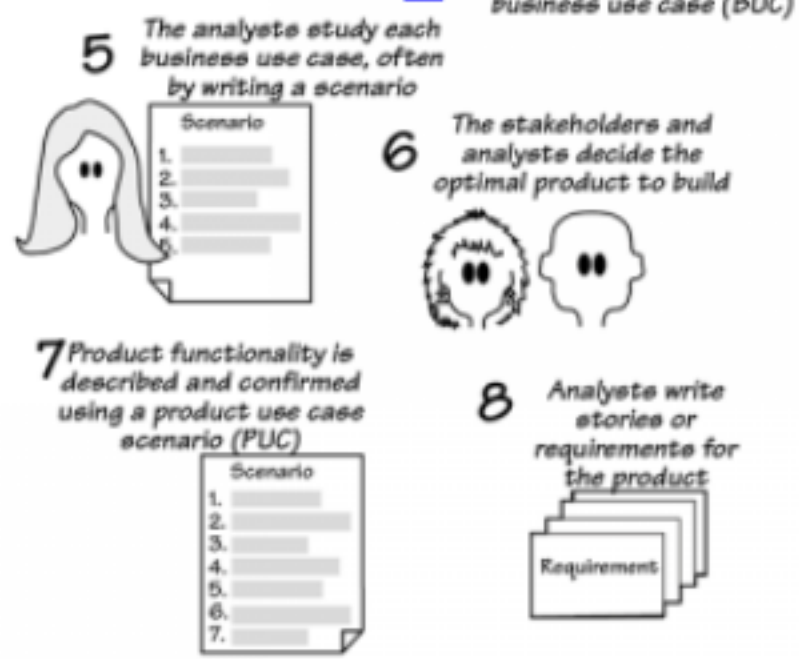
Lecture Objectives:

1) List the activities which occur following blastoff in the Volere requirements process
2) List the criteria for business use cases
3) Construct a use case scenario → SE2030

Assignment: Read Chapter 4 — Text

Developing Business Use Cases - Revisited





MSOE

Developing Business Use Cases - Revisited

Some input in business which causes a Use case to execute

1 This bubble includes the work or the business area.

2 Adjacent systems

Context diagram

3 Business events happen and cause a flow to and/or from the work

4 The work responds to a business event. This is a business use case (BUC)

System

5 The analysts study each business use case, often by writing a scenario

6 The stakeholders and analysts decide the optimal product to build

7 Product functionality is described and confirmed using a product use case scenario (PUC)

8 Analysts write stories or requirements for the product

Figures out what happens

Text describing steps

MSOE

Case Criteria

- They are natural partitions
- They have minimal connectivity to the other parts of the work
- They have a clearly defined scope
- They have rules for defining their scope
- They have boundaries which can be observed or defined

Business Use

- They can be named with names recognizable to stakeholders
- Their existence can be readily determined
- They have one or more stakeholders who are experts for the segment of work

Use Case Definition

- Term coined by Ivar Jacobson (1987)
  - Describes an interaction between a system and a user of the system
  - Everything based upon the user's view of the system

Use Case Types

- Depend on development phase
  - High Level
    - Short one paragraph brief description only
  - Essential/Analysis
    - Describe what the system does
    - Should be UI independent
  - Real
    - Describe what the system does
    - Focuses on how the UI supports the operations
      - Typically a re-write of the analysis use case

Why more than what.

Use Case Scenario

- Describes
  - describes the context of a use case for a particular user
    - conditions, motivation, and environment of the task for a particular user.
- Used by designers as a way to understand users' motivation and tasks in an interface

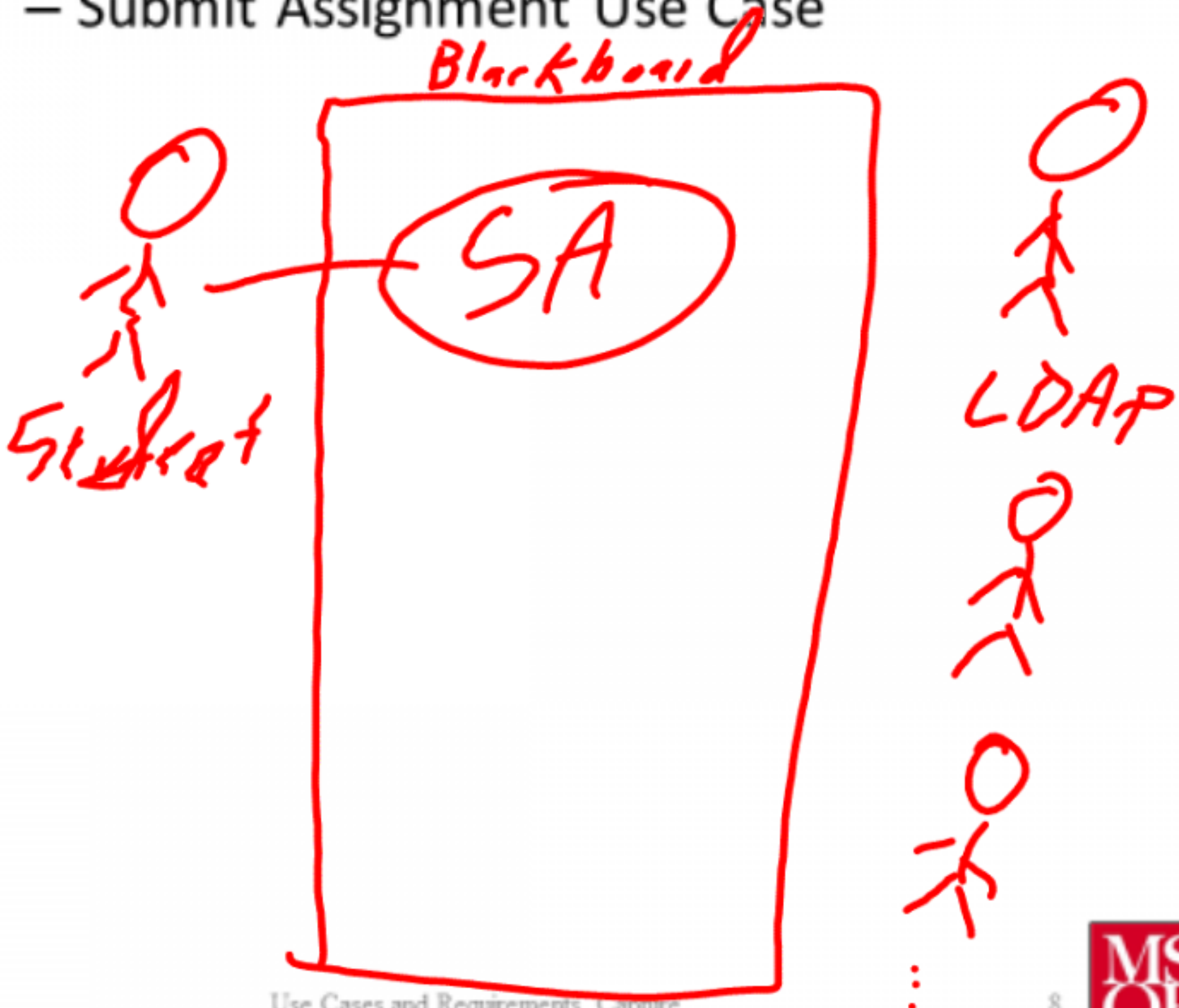
Why

Pieces of a good use case scenario

- Use case name
  - The name of the use case
  - Matches the name on a Use Case Diagram
- Actors
  - Who is involved in the use case / may use the use case
- High Level Description
  - Describe briefly what the use case does
- Preconditions
  - Things which must be met before the use case can be executed
- Use Case Flow
  - Describe what happens as the use case flows
- Alternate flows
  - What happens if a problem develops
- Outcomes
  - What happens as a result of the use case occuring

- Blackboard
  - Submit Assignment Use Case

Lets work an example



Lets work an example

- Blackboard
  - Submit Assignment Use Case

Actors:
Student

HLD:

Preconditions:
* Student is Authenticated
Teacher has assignment due.

USE case flow:

- Submit Assignment
- Actors
  - Student
- High Level Description
  - This use case describes how a student would submit an assignment into the system. By submitting an assignment, a student indicates that the Assignment is complete and ready to be graded.
- Preconditions
  - Student has been authenticated by the system.
- Use Case Flow:
  1. Student indicates a desire to submit an assignment into Blackboard.
  2. BlackBoard displays a set of assignments which the user can submit at the current time.
  3. Student indicates the assignment that they wish to submit.
  4. Blackboard prompts the user to upload the file(s) which constitute the assignment. (Transition to the file upload use case)
  5. Blackboard prompts the user to agree with assignment submission statement.
  6. Blackboard archives the assignment internally for grading.
  7. Blackboard displays to the user that the assignment has been submitted successfully.
- Alternate flows:
  - 2-a-1. Student has no assignments due at the present time. Exit use case scenario.
  - 4-a-1. Student does not upload any files to the system. Prompt the user that they must upload at least one file for assignment submission. Retry file upload use case. If still no uploads are performed, exit use case.
  - 5-a-1. Student fails to agree to the terms of service.
- Outcome:
  - The students assignment is submitted for grading

Solution

Wrong