Software Development Management

Main contacts: Edwin Hendriks
Semester 1 of 2021

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Lecturer

Edwin Hendriks

Software Development
Entrepreneur and Innovator

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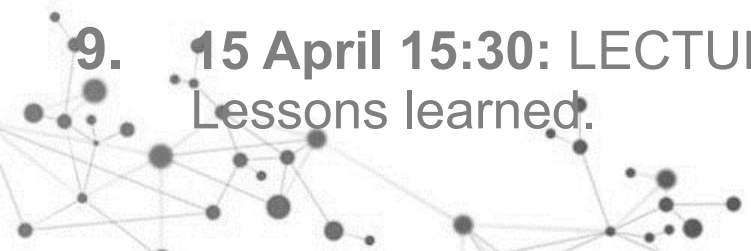
LinkedIn: https://www.linkedin.com/in/ehahendriks
Discord server: https://discord.gg/8AGZJzTs
(become part of it **before 2nd of February 2021**)

Important dates (regarding Edwin's lectures/assignments)

1. **28 Jan 15:30:** LECTURE via Brightspace: The process and the client you will manage + START OF MINI PROJECT (28th of January)
2. **28 Jan – 2 Feb but as soon as possible:** All join Discord server **Edwin Hendriks** (https://discord.gg/8AGZJzTs)
3. **3 Feb 9:00-12:00:** Client of mini project available in **Edwins room**
4. **10 Feb 9:00-17:30:** Client of mini project available in **Edwins room**
5. **17 Feb 9:00-12:00:** Client of mini project available in **Edwins room**
6. **17 Feb 13:00:** deadline 1st part of mini project
7. **18 Feb 15:30:** LECTURE via Brightspace: Verify that you have delivered + START OF 2ND PART OF MINI-PROJECT.
8. **2 March 23:59:** deadline 2nd part of mini project
9. **15 April 15:30:** LECTURE via Brightspace: Final evaluation & Lessons learned.

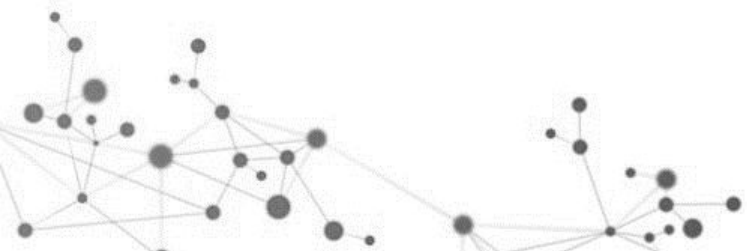


Passing the course

1. **I will grade 2 major parts with equal grading weight:**
   a) 50% on the quality of your deliverables
   b) 50% on how well you manage your client

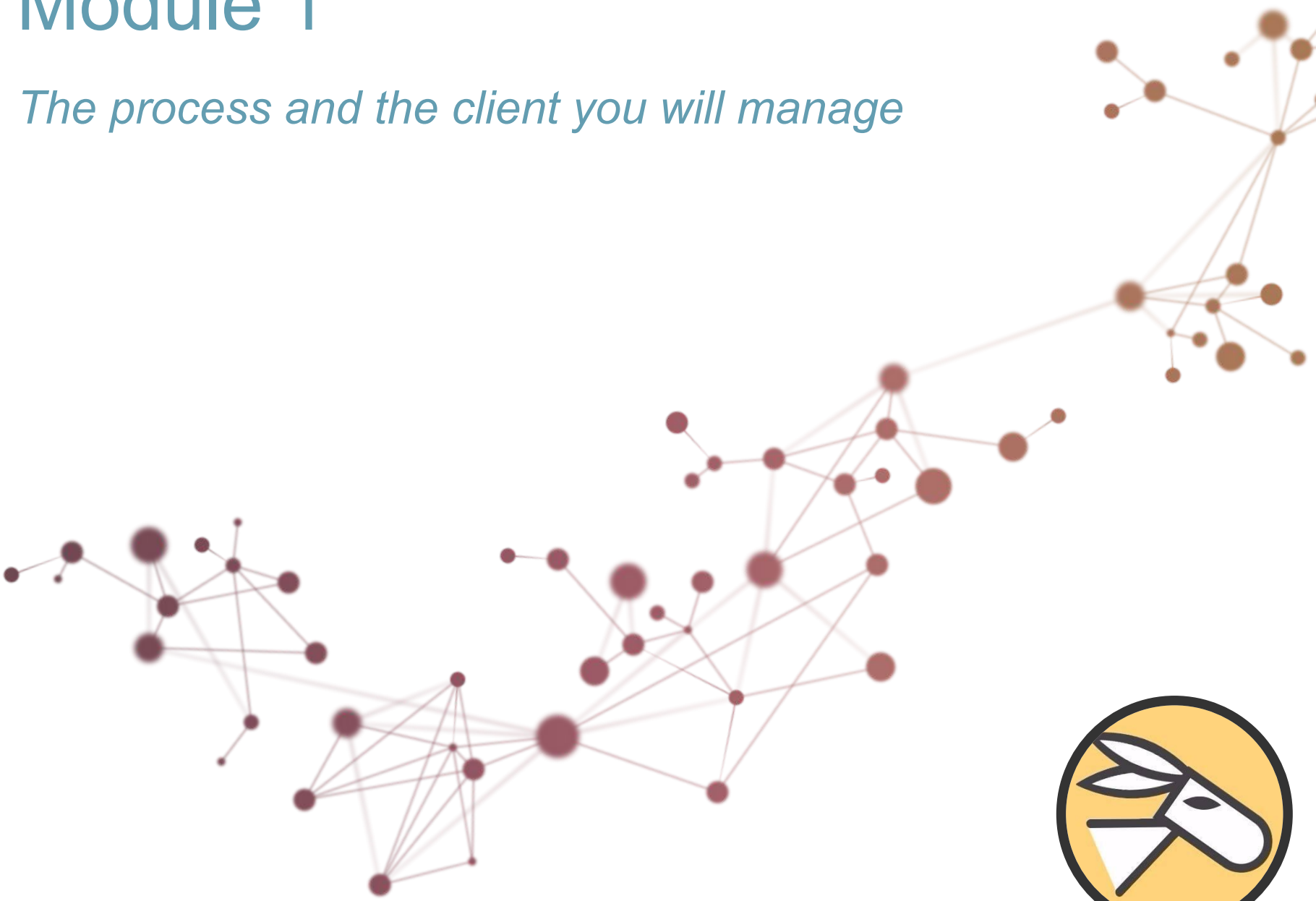
2. **This will result in a grade for my part of SDM course**

3. **This grade counts for 15% of your total grade for SDM**

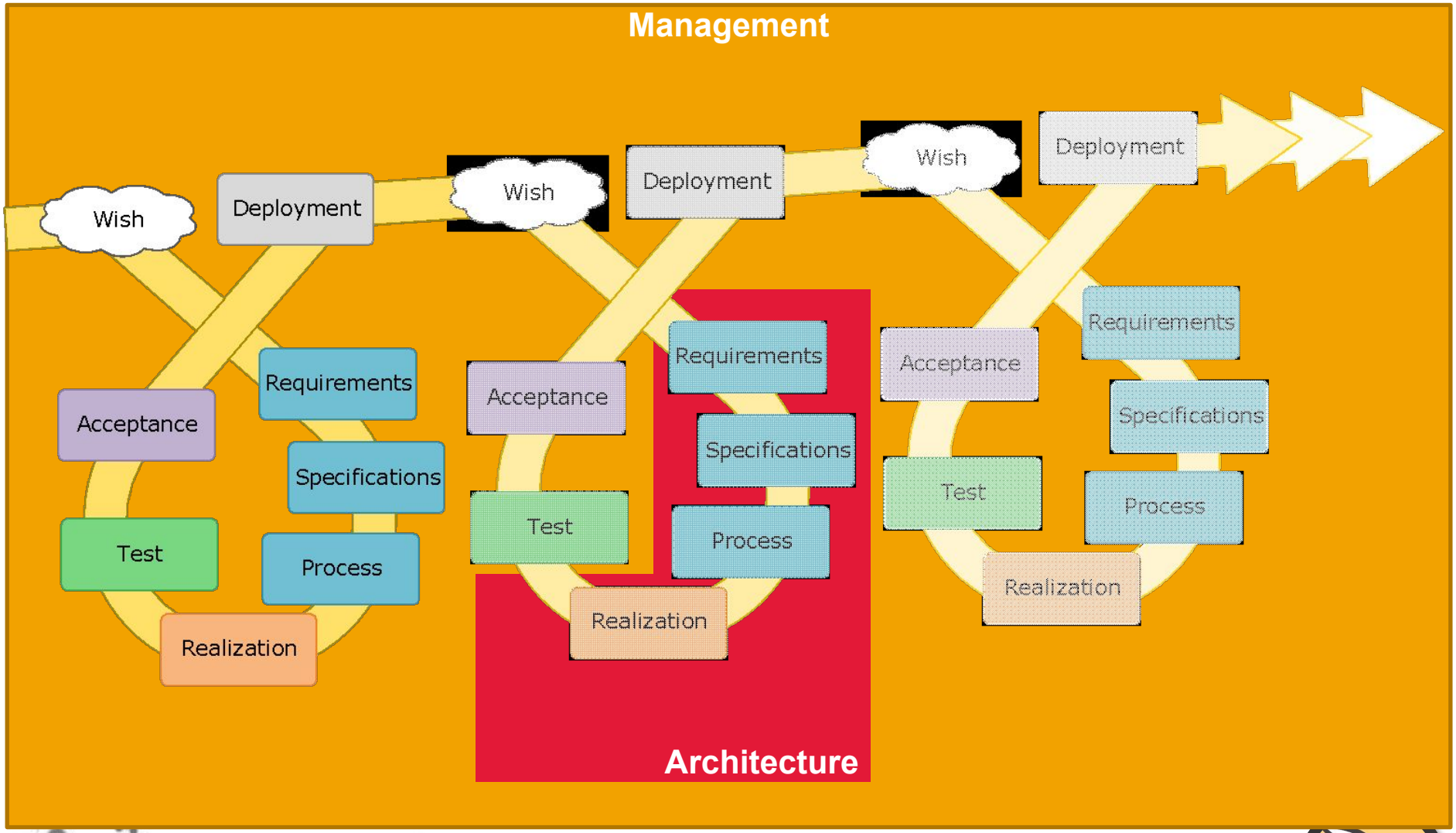


Module 1

The process and the client you will manage



The (software) development cycle



Requirements

Definition Requirement (IEEE Sts.610.12):

1) A condition or capability needed by a user to solve a problem or achieve an objective
2) A condition or capability that must be met or possessed by a system or system component to satisfy a contract, standard, specification, or other formally imposed documents.
3) A documented representation or a condition or capability as in (1) or (2).

Or in short:

What the system needs to be able to achieve

With (or without) its external actors

Under which circumstances

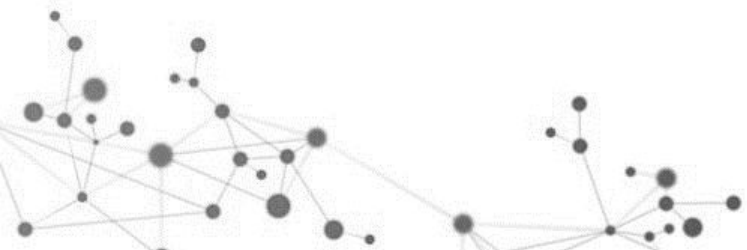
Specifications

Common definition:

An elaboration of the requirements

Definition as used for this course:

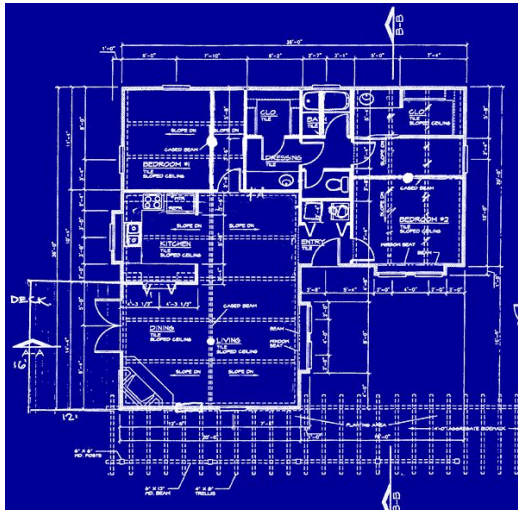
A clear (unambiguous) specification
of
the required end result
of
a business-, user, or system process



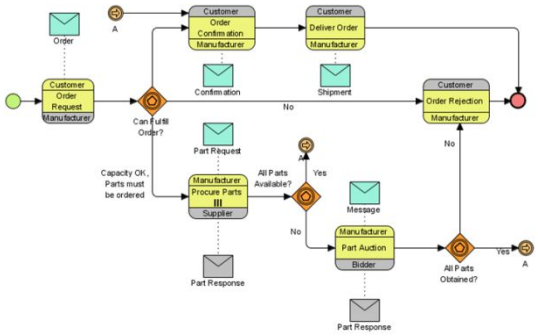
Question: When building a house

What would be the requirement(s)?

What would be the specification(s)?



Question: When building a process executed by software

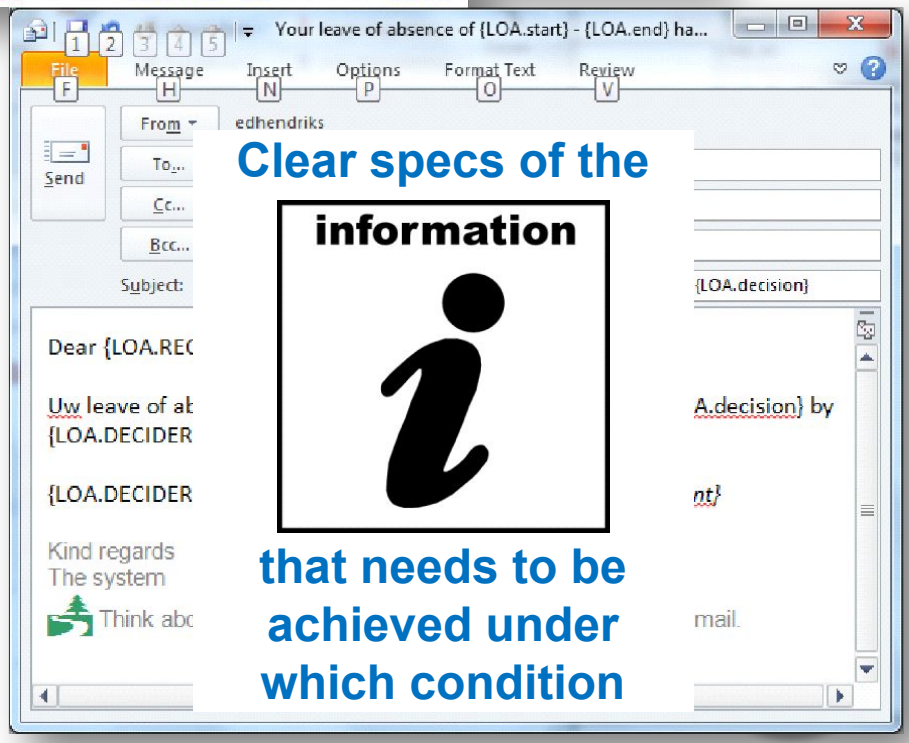


What could be the requirement(s)?

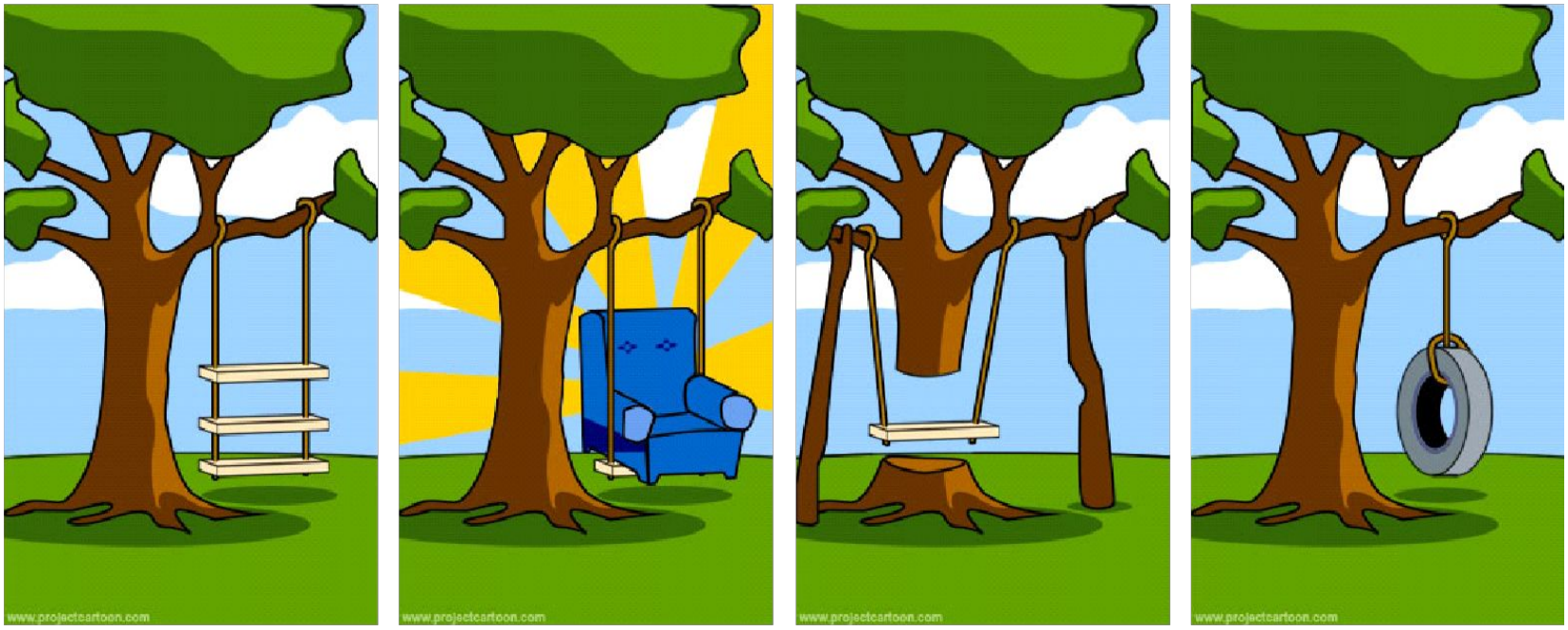
- "The requester has been informed of the result"
- "the entitled holidays are adjusted if the request is approved"

```
"The requester has been informed of the result" =
    One MAIL exists in MAILS with:
```

What could be the specification(s)?



Why are requirements and specs so important?



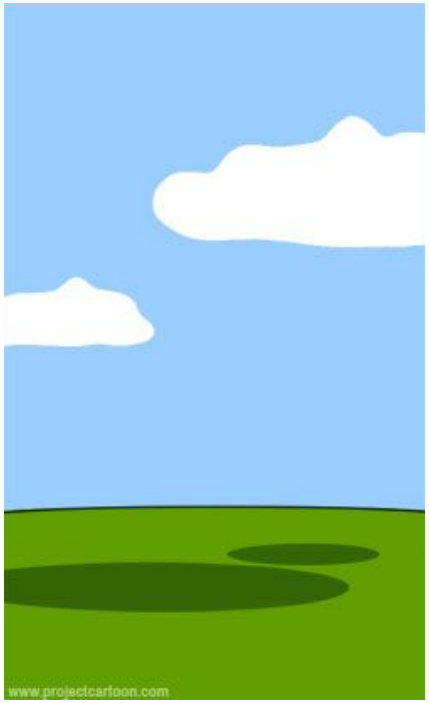
How the customer explained it

How the business consultant described it

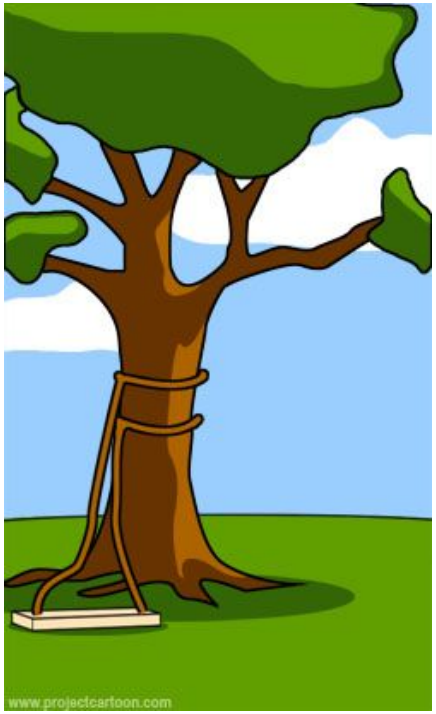
How it was designed

What the customer really needed

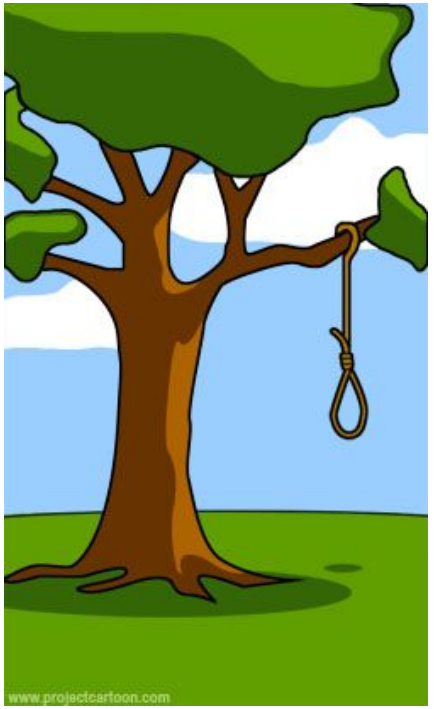
Developers and testers are stuck with it



How the system was documented

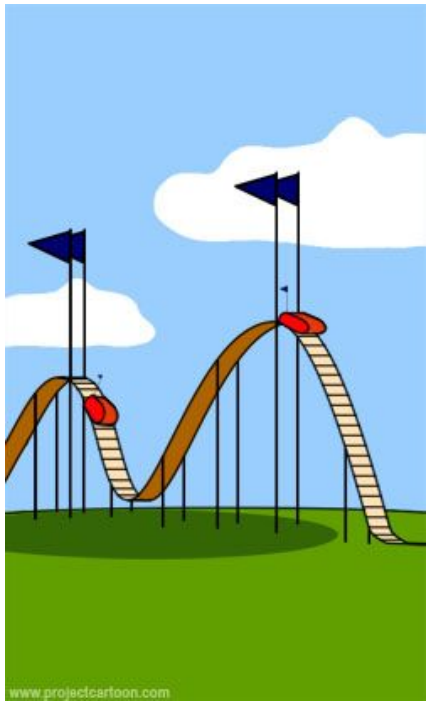


How the programmer wrote it



What the testers received

And eventually the customer



How the customer was billed

When it was delivered

Solving it with the method

Prevent risks, reduce costs, get the system the customer actually needs

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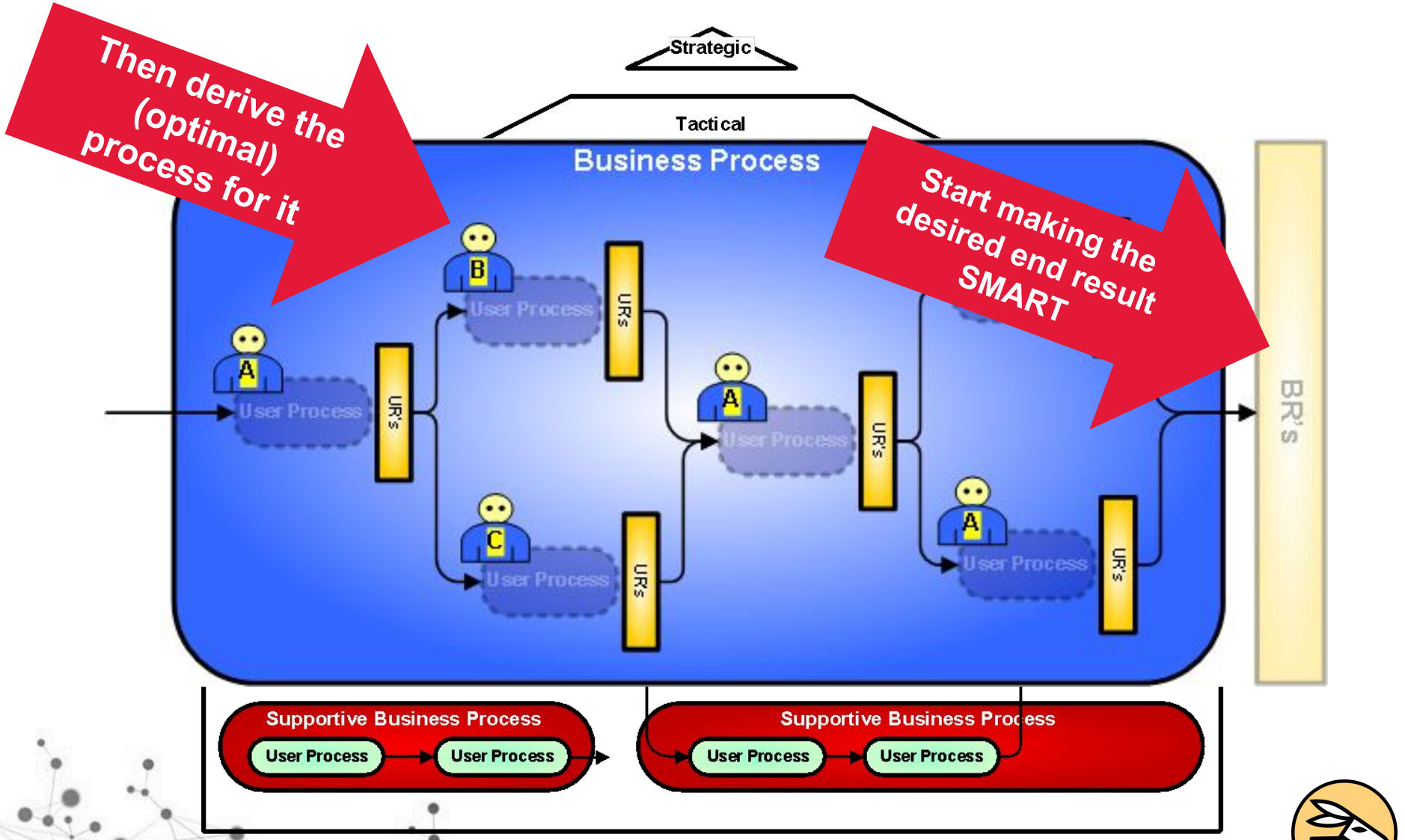
Only relevant details

End result

Understandable

One interpretation

SMART Requirements 2.0 is end result oriented



The 3 ingredients to get the end result SMART

1. **What** is the (part of the) end result?
2. **When** will the (part of the) end result be achiev
3. **Where** does the information needed come from?
   a) A person or other external actor (**input from**)
   b) An available internal or external piece of information (**a sing … values, a combination of those**)
   c) A calculation **(a formula)**
   d) And the info that is needed by a) – c)?

Copy this in your notes.
You need them in the next exercise

Exercise:
Point out the What, When, Where in the following example

And of course: be SMART about all of the ingredients!!

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FACTUUR

Aan: {"klantnaam"}
{"klantadres"}
{"klantpostcode"} {"klantplaats"}
t.a.v. {"klant contactpersoon"}

Debiteur: {"klant debiteurnummer"}

Factuur nr.: {"factuur nummer"}

Factuurdatum

Omschrijving	Datum	Hoeveelheid	Eenh.	Prijs/Eenh.

Easy SMART

“Invoices are created for approved timesheets” =

If “timesheets are approved”
then “invoices are created for this customer”

100% SMART (only if needed)

“time sheets are created by all employees” =

For each EMPLOYEE **in** EMPLOYEES **applies**:

There exists a SHEET **in** TIMESHEETS **with**:

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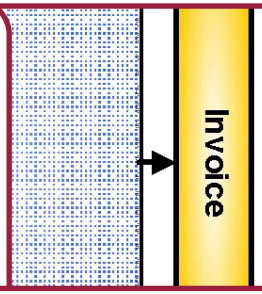


100% SMART (only if needed)

“time sheet lines” =

There exists several LINES **in** TIMESHEET_LINES **with**:

Attribute		Value
day	=	input from EMPLOYEE
TASK	=	input from EMPLOYEE
hours	=	input from EMPLOYEE

Easy SMART

Let’s try this together

Draw up the requirements of the primary business that you are currently being part of

Diploma:

- Student name (Parents of) student
- Grade list:
  - Course name teacher
  - Grade teacher
  - Nr of EUC board of education (BOE)
- Name of institute internal piece of info
- Name of the program (e.g. master CS) BOE
- Birthdate students
- Date of graduation exam committee
- Signatures student, Dean

When diploma:

- When required EUC total is reached =
  - EUC total = 60 per year exam committee (Per course)
  - Of successfully completed courses =
    - Successfully = 5.5 or higher grade teacher
- Required courses achieved formula (see above) or teacher or both (not smart yet)
- Applied for diploma student

Legend:
“What” in blue
“When” in black
“Where” in red

WHAT: - Diploma - Naam, geb. datum, (S)

- Handtek1 ← direct

Handtek2 ← Voorz. Ex Comm

- Opleiding ← Onderw. Instelling

- datum v diploma ← tijdst v. Verg. (Ex Comm) dat zij het diploma vaststellen

- Onderw. instelling ← NVAO

- Bijlage

WHEN: - alle ECP punten behaald = 180 voor hoofdfase + 60 voor prop

" verplichte vakken ← Curriculum Comm

≥ 5,5 of 'V' ← docent based on Uitw. (Student)

- goedk examencommissie

- Handtek directeur

WHERE

Process

Definition:

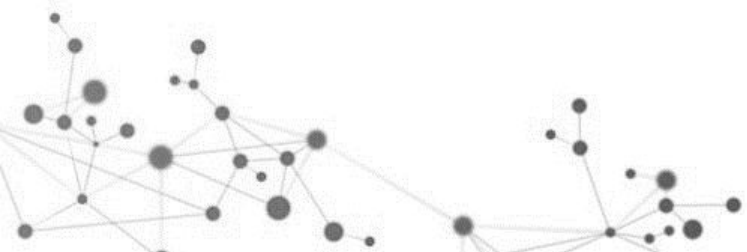
A (conditional) sequence of steps

Different types of processes:

- **Business process**: a (conditional) sequence of steps performed by a business. Its steps are either user- or system processes.
- **User process**: ditto but performed by a (human) user as its main actor.
- **System process**: ditto but performed by a (non-human) system as its main actor. No (human) users are involved.

Brainstorm: Examples of processes

- Of Business processes
- Of User processes
- Of System processes
- And how about your projects?



ess process

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Invoice

100% SMART (only if needed)

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There exists several LINES **in** TIMESHEET_LINES **with**:

Attribute		Value
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TASK	=	input from EMPLOYEE
hours	=	input from EMPLOYEE

Easy SMART

Think back from the result and you won't miss a thing

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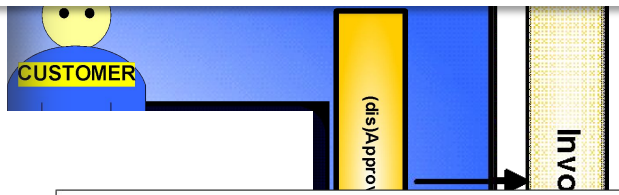

Year: 2010
Month: March

Day	Task	Location	Hours
1	PM for RVS	Amsterdam	8
2	Research	Arnhem	8
…	…	…	…
31	PM for RVS	Amsterdam	4
31	Dutch Test Co	Utrecht	4

Cancel Done

Of employee: edwin.hendriks@cgi.com
Year: 2010
Month: March

Day	Task	Location	Hours
1	PM for RVS	Amsterdam	8
2	Research	Arnhem	8
…	…	…	…
31	PM for RVS	Amsterdam	4
31	Dutch Test Con	Utrecht	4

Approved?: ☑

Cancel Done

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Pagina 1 van 1

Registeren office in Amstelveen,
The Neterlands

Registration Number
Chamber of Commerce: 33136004

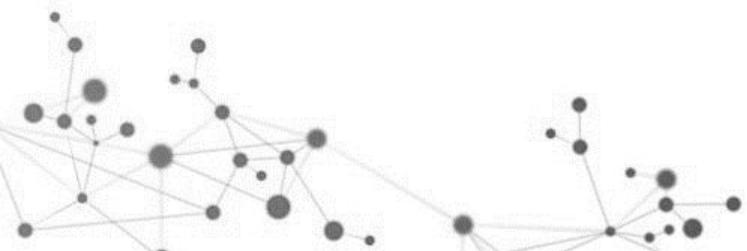
Realization

Common definition:

Create that what the client wants

Definition as used for this course:

Creation of a software the client wants



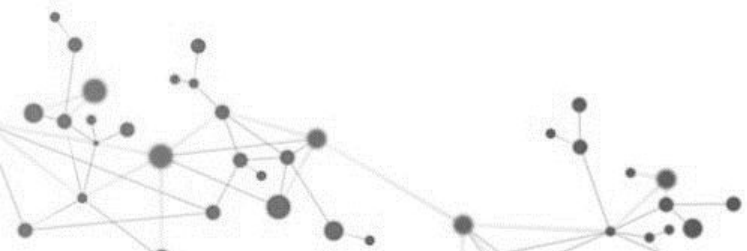
Test

Common definition:

Verifying if that what is realized complies to that what is agreed (or desired?)

Definition as used for this course:

A structured way to verify if
that what is realized
is what is agreed upon/specified



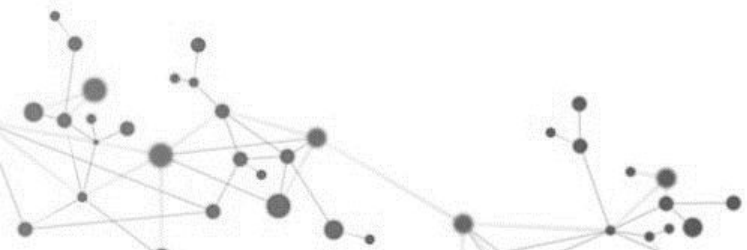
Acceptance

Common definition:

Accept that what was realized

Definition as used for this course:

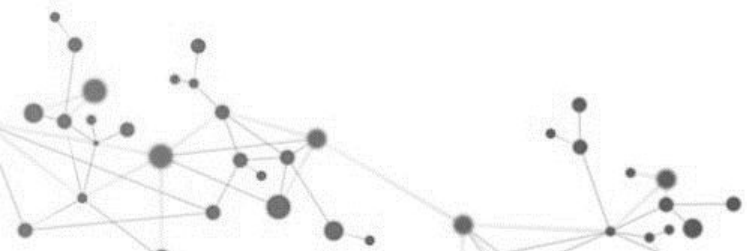
Formally accept that what was realized.



Deployment

Definition:

Deploy that what was realized in the intended environment

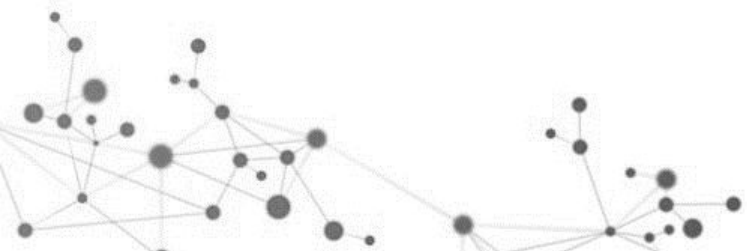


Architecture

Definition:

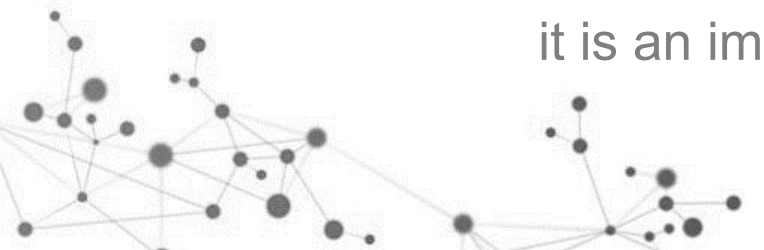
The rules and guidelines
that define
how the system should be build

(versus, what end result the system should produce)



Brainstorm: how to manage your client (“Bill”)

(Make sure you have some idea on how to
manage your client and still be agile;
it is an important part of your grade)



- Make clear he is a partner to achieve end result
- Make clear what he should expect
- Do everything via email????? □ Yes, but only if needed
- Write down and make him confirm
- Listen more than you talk
- Lots of feedback moments
- And adjust based on feedback
- Keep him happy
- (iterative) goal communication
- Update client
- Prepare meetings
- Agree on what needs to be achieved
- Involve the context, don't isolate the system/requirements? For instance by asking why he wants it.

Brainstorm: how about Agile or explorative projects

Does this apply to Agile projects? Or explorative (innovation) projects? Is it different? And if so, how to manage those?

No brainstorm done during lecture but know this:

- For Agile projects all that is learned still applies. However it will be harder to plan these project for a longer period in the future. If a client want a long term planning you should always be very clear that as situations will change, the planning will change.

- For explorative projects (e.g. innovation projects) it may be less beneficial to put much effort in having really clear requirements. It is often better to start with a rough idea, try to create a working thing as soon as possible and often decide (with your client) how to proceed.

- On both cases you should create something to show fast so you can ask: “Is this what you want?”
  (versus taking a long time before you have something to show and find out that your client does not want that at all).

Assignment: Do mini-project

Create deliverables for your client	You figure out which deliverables. Note that: • I did not mention all deliverables you may need • Software will be done with mock prototyping (e.g. with PowerPoint, whiteboard or other solution) • You can skip any test deliverables (we will do that later)
Manage your client	I will not explicitly tell you how, but use what we brainstormed about.
Client satisfaction	Your client should be happy about what you realized and how you managed him.
In groups	Do the assignment in a group. We've got 10 groups so decide now which group and enrol in these **mini-project-groups** in Brightspace.
Make a profit	Profit = price – cost. Higher profit is better. Each student costs 100 UE's (Uni Euros) per hour. Tip: Spent you time well and maximize your effort on this assignment to 8 hours per person.
Deadline	Upload deliverables + profit made + hours spent per person to Brightspace under assignment **Mini-project** before the deadline of 1st part.

Your client and his wishes for the mini project

Your client Bill:

- He is a very busy man.
- Interactive contact with direct (audio) message to Edwin Hendriks in Discord or **+31625014678**. Use mail (edwin@xlrit.com) only when necessary.
- He will be present as mentioned in slide “Important dates”

His wishes:

A. *Create a permit system that makes it possible for a CIVILIAN to enter a request for a building permit. He needs to enter:*
   - *The construction start date of the building and*
   - *The height in meters*

   The system will need to automatically add the following information:
   - *The REQUESTOR (which is CIVILIAN who entered the request).*
   - *The current date*

B. *The system needs to have an automatic approval if the height of the building is below 5 meters. If not an APPROVER should give his/her approval*

C. *The system should produce a message send to the REQUESTOR informing him / her of the result (approved or not).*