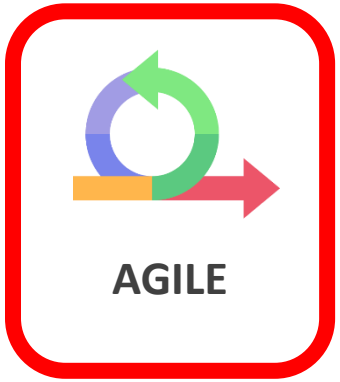
SOFTWARE ENGINEERING

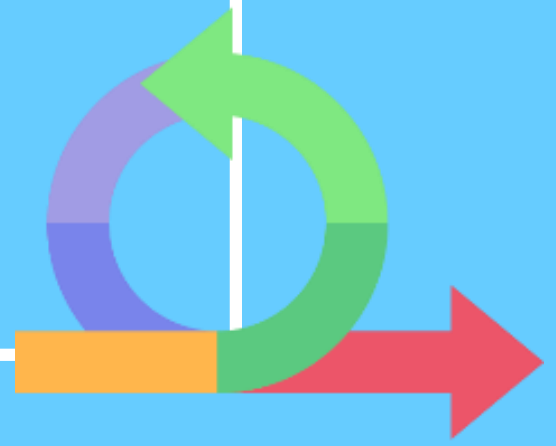


- ✓ **THE AGILE MINDSET**
- ✓ SCRUM PROCESS
- ✓ USER STORIES

SOTWARE ENGINEERING

AGILE

WHY & HOW



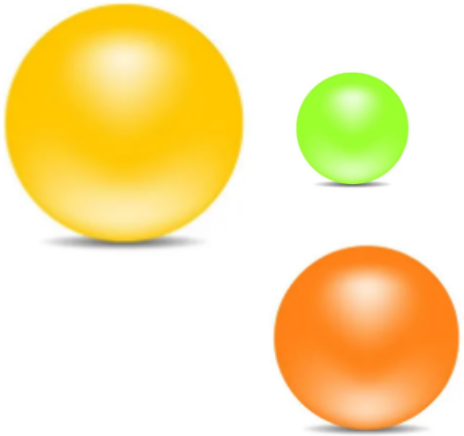
GAME

60 MIN

X25

2 TEAMS OF 25 STUDENTS

BALL POINT GAME

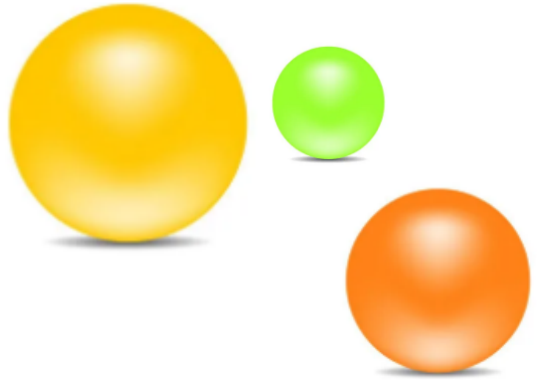


RULES

- ✓ Each ball **must be touched** by every team member
- ✓ Each ball **must have air-time** between each member
- ✓ Each ball **must return to the first member** (who pick up the ball)
- ✓ Each ball **cannot be passed to the left or right** member
- ✓ Any ball that falls on the floor or does not respect the rules is a **defect**.

https://play14.org/games/ball-point-game

BALL POINT GAME



DEBRIEF ABOUT AGILE VALUES :

- ✓ Working as a **team**
- ✓ Self-organization
- ✓ **Communication**
- ✓ Inspect and **adapt**
- ✓ **Iterative** work
- ✓ Estimates vs **realizations**

- ✓ Delivering value with **high quality**

DISCUSS

5 MIN CLASS

Build a house process

What about building a software ?

Buyers meets builder
To specify needs

Buyers needs

Overall design

Detailed design

Construction

Inspection

Maintenance

DISCUSS

5 MIN

CLASS

Build a *software* process

REQUIREMENTS

SPECIFICATION

COSTING/PLANNING

IMPLEMENTATION

TEST

This is the waterfall process

EXPLAIN

What is Software Engineering ?

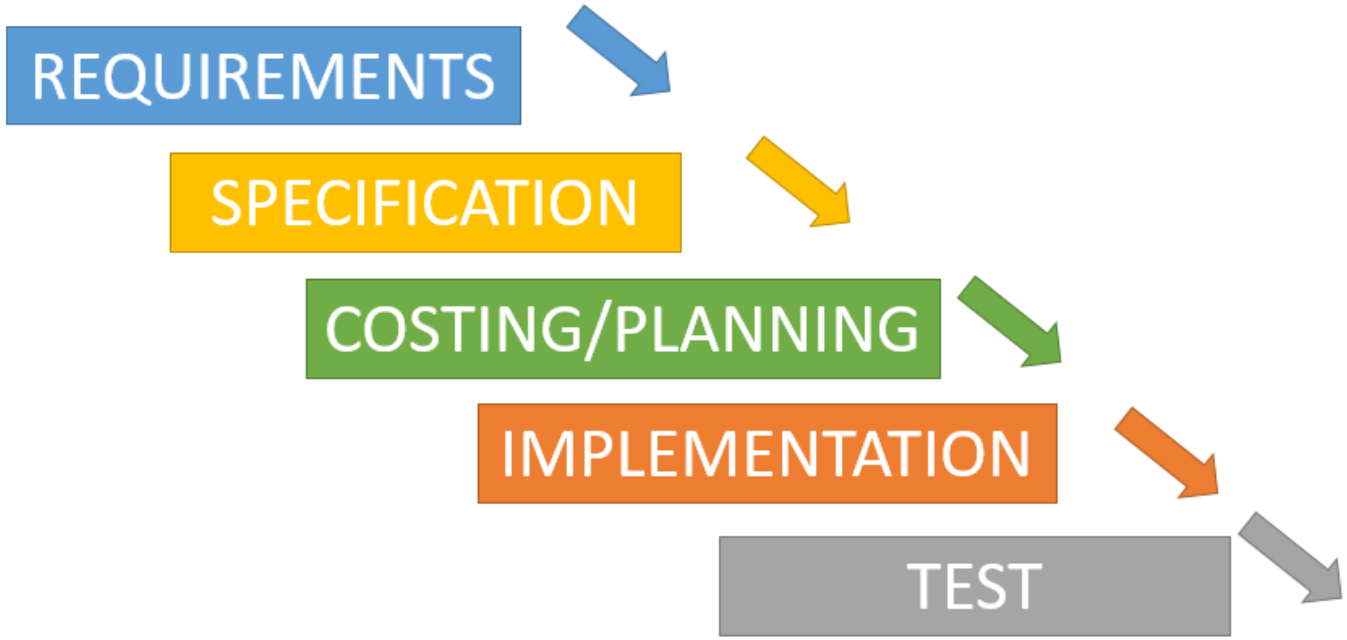
Software engineering is the process of **analyzing user requirements** and then **designing**, **planning**, **building**, and **testing** software application

DISCUSS

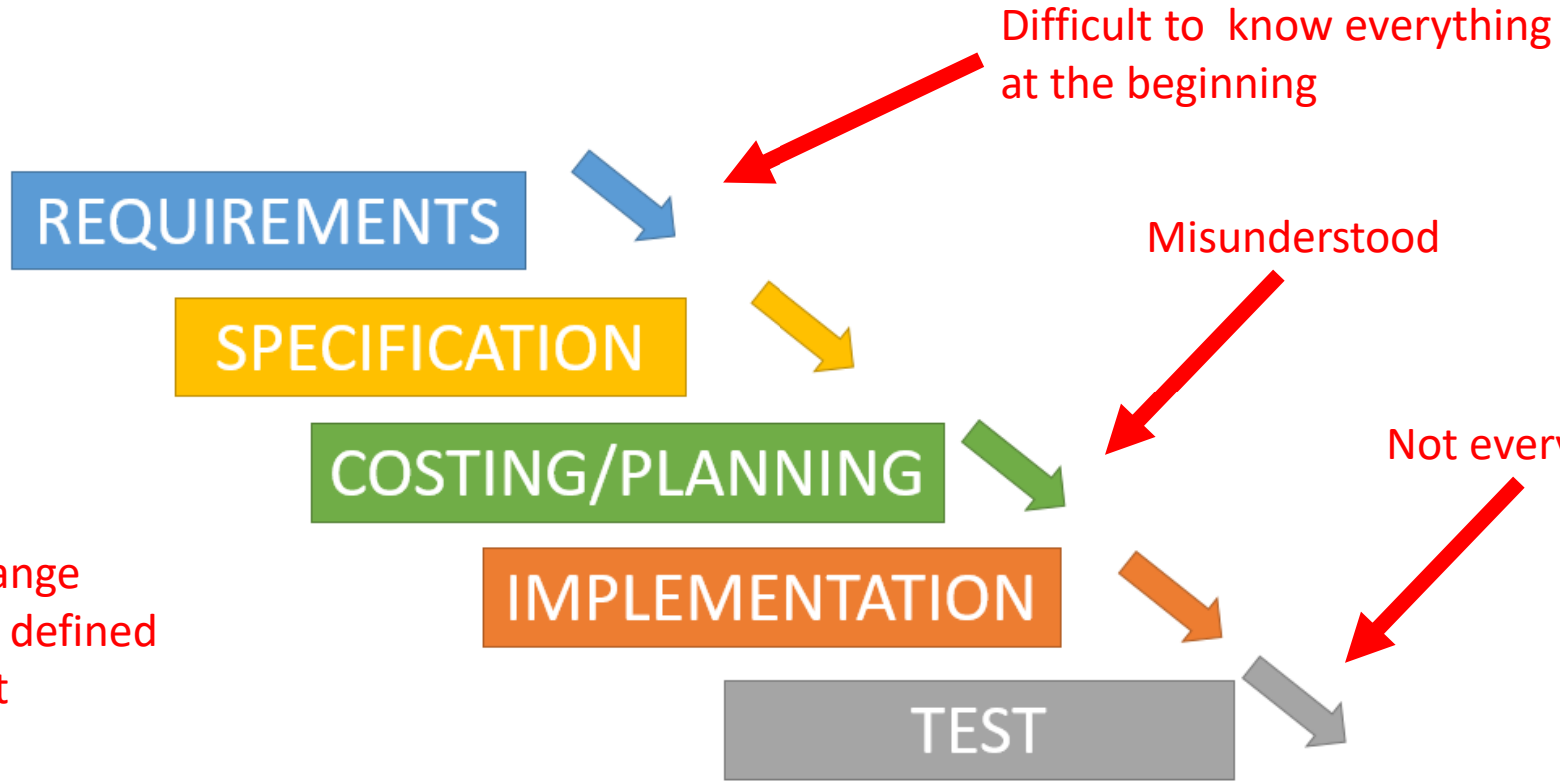
5 MIN

CLASS

The waterfall process



- ✓ What **are** **the differences** between building a HOUSE and a SOFTWARE ?
- ✓ What are **the defaults** of bellow process when building a SOFTWARE ?



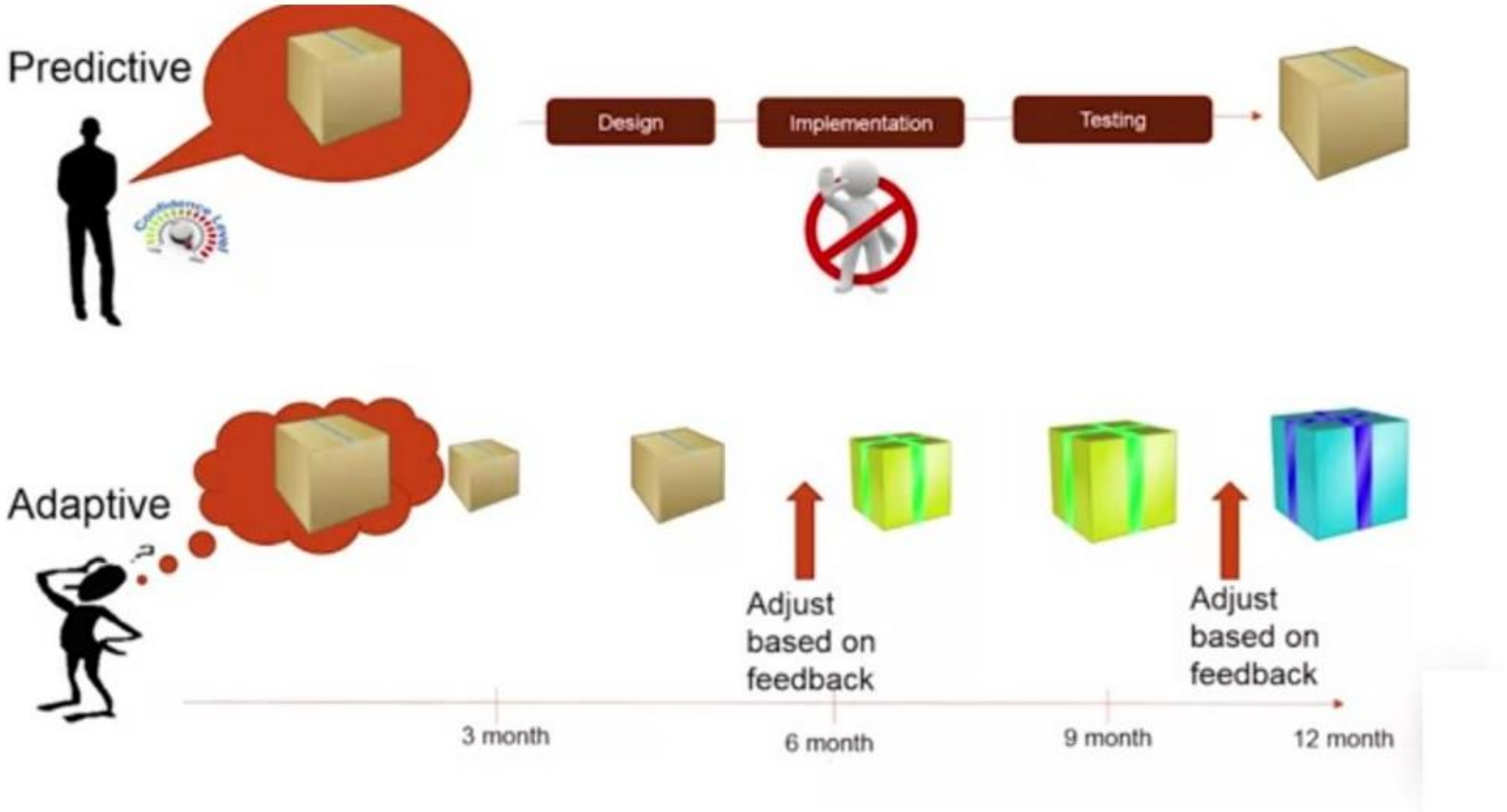
- A software can easily change
- A software is not clearly defined when starting the project

✓ What **are** **the differences** between building a HOUSE and a SOFTWARE ?

✓ What are **the defaults** of bellow process when building a SOFTWARE ?

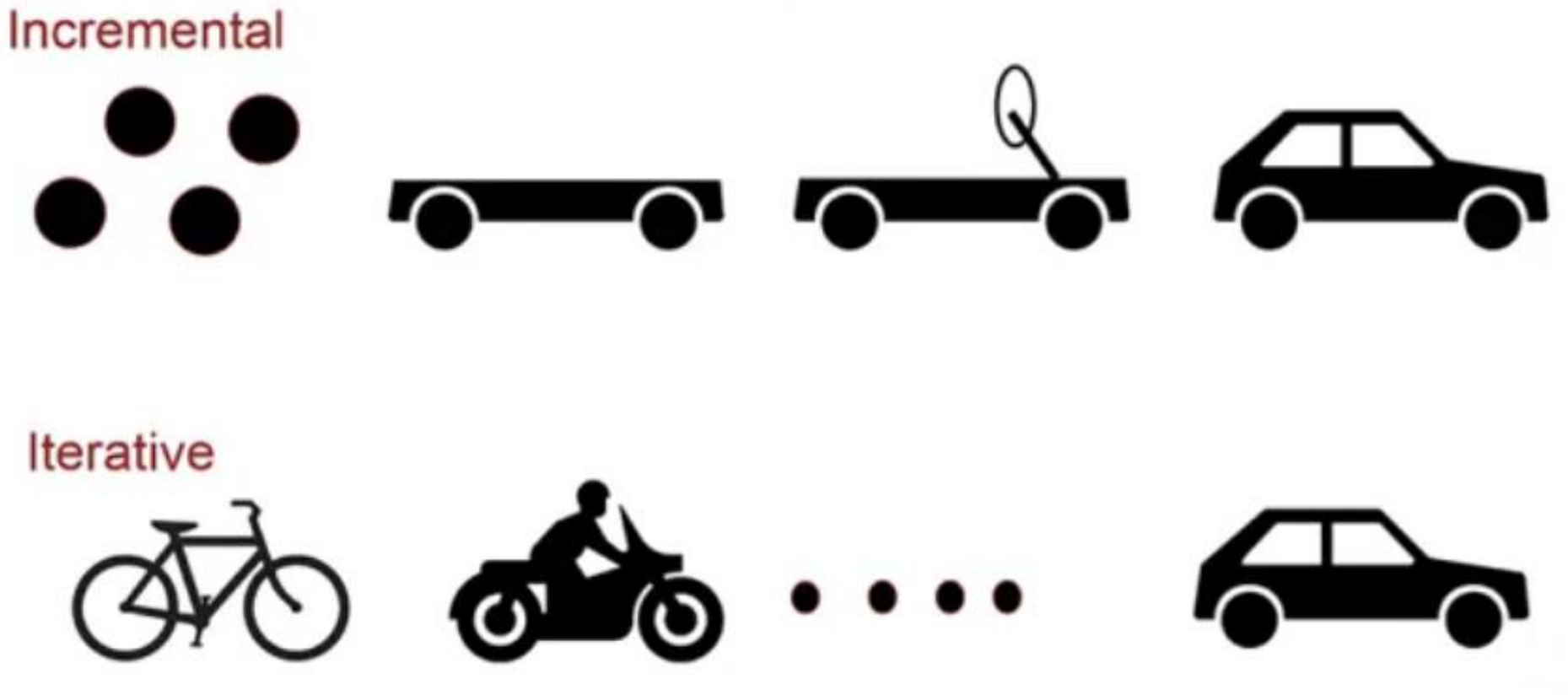
EXPLAIN

Predictive VS **adaptive** product



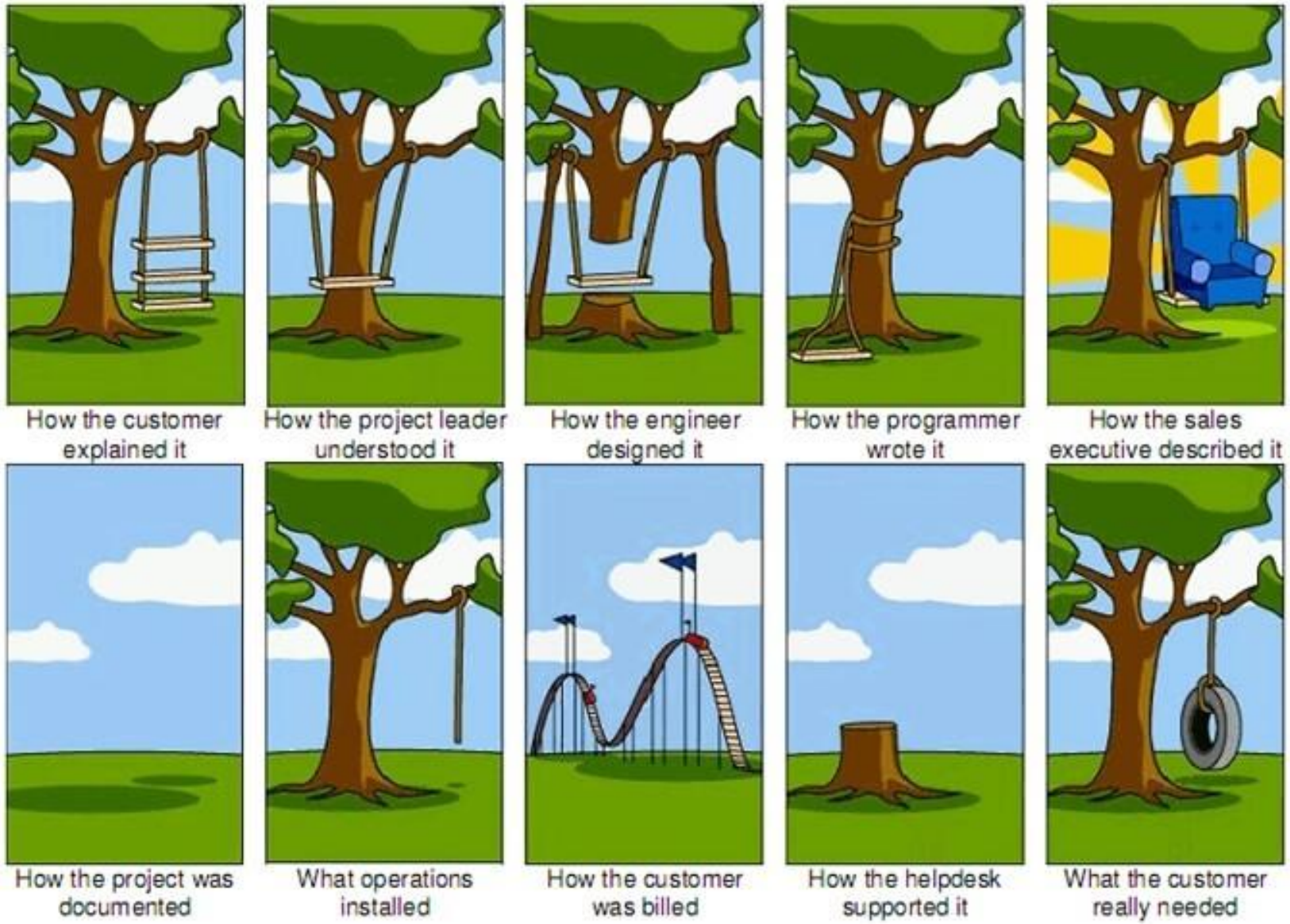
EXPLAIN

Incremental VS **Iterative** workflow

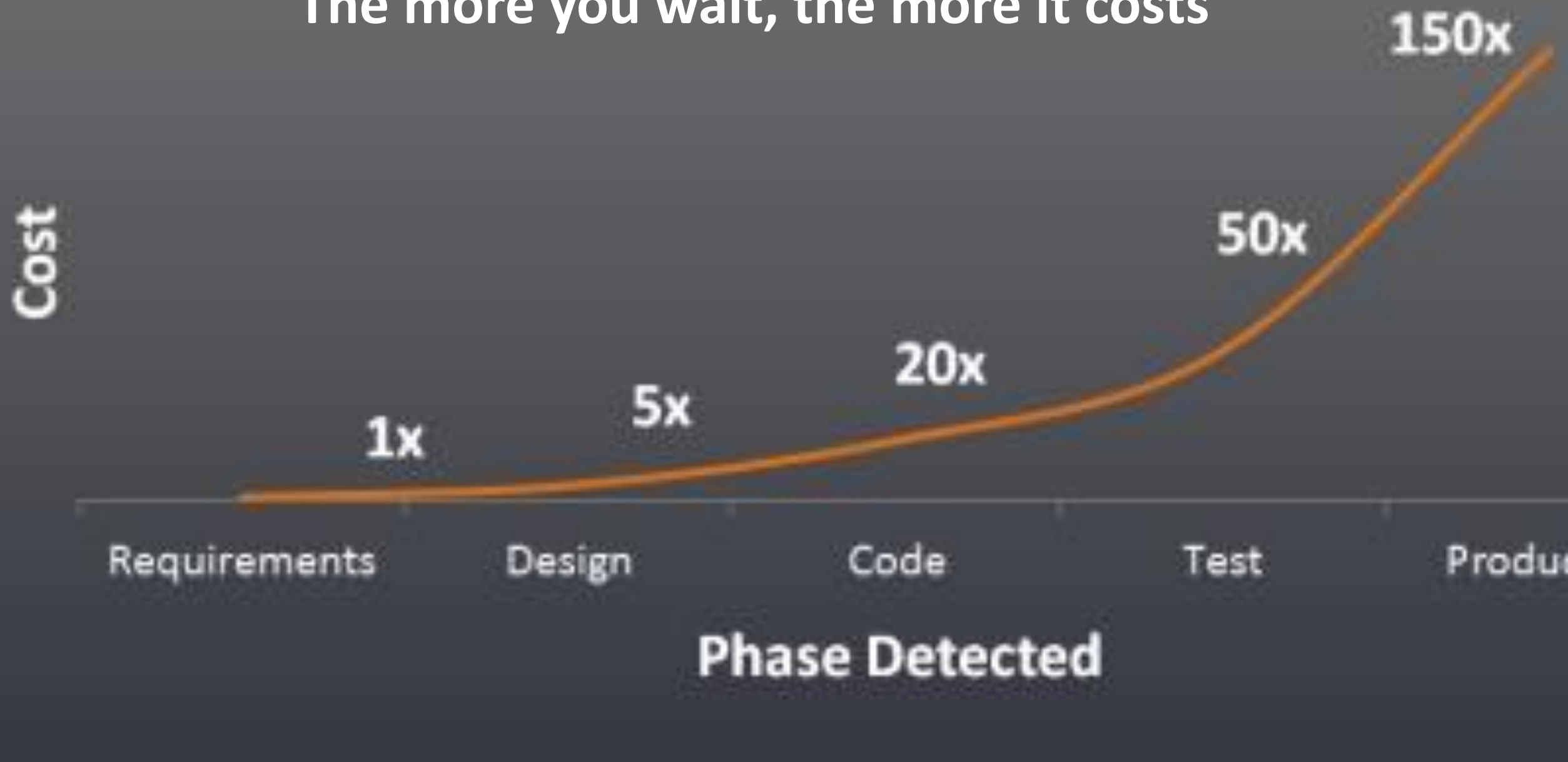


EXPLAIN

It’s hard to **understand exactly** the customer

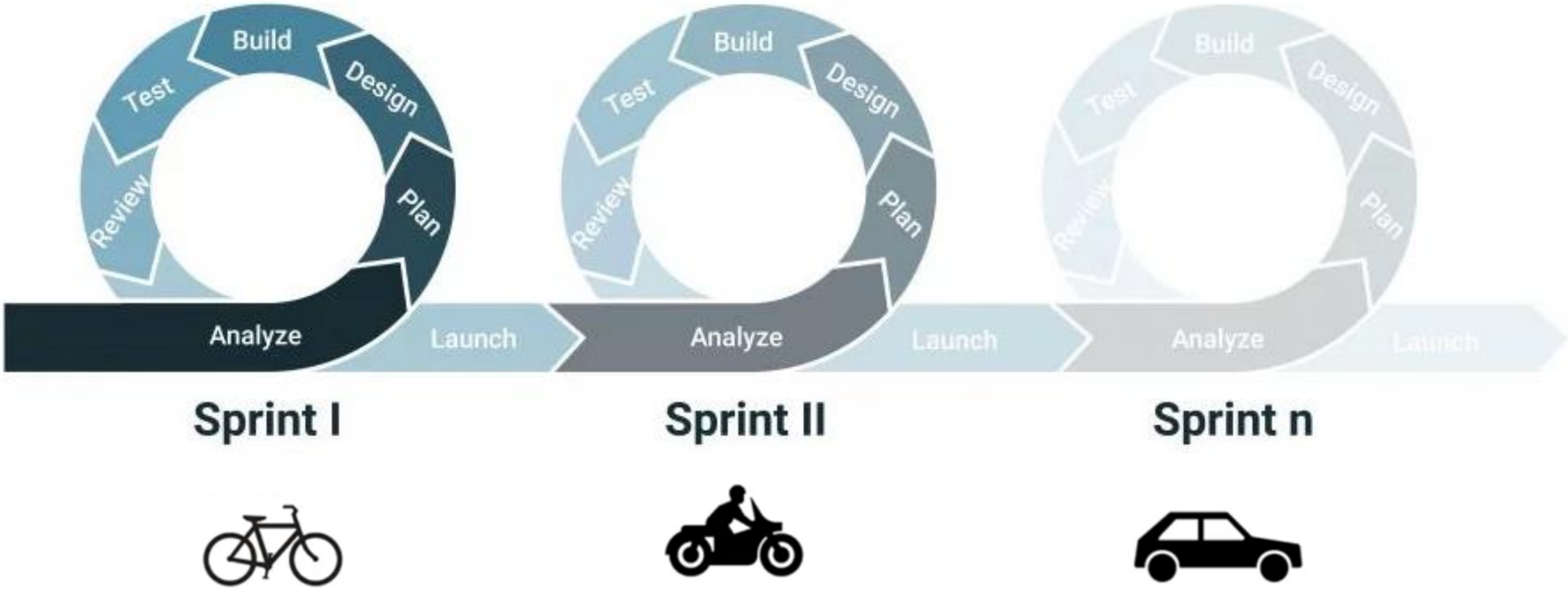


The more you wait, the more it costs



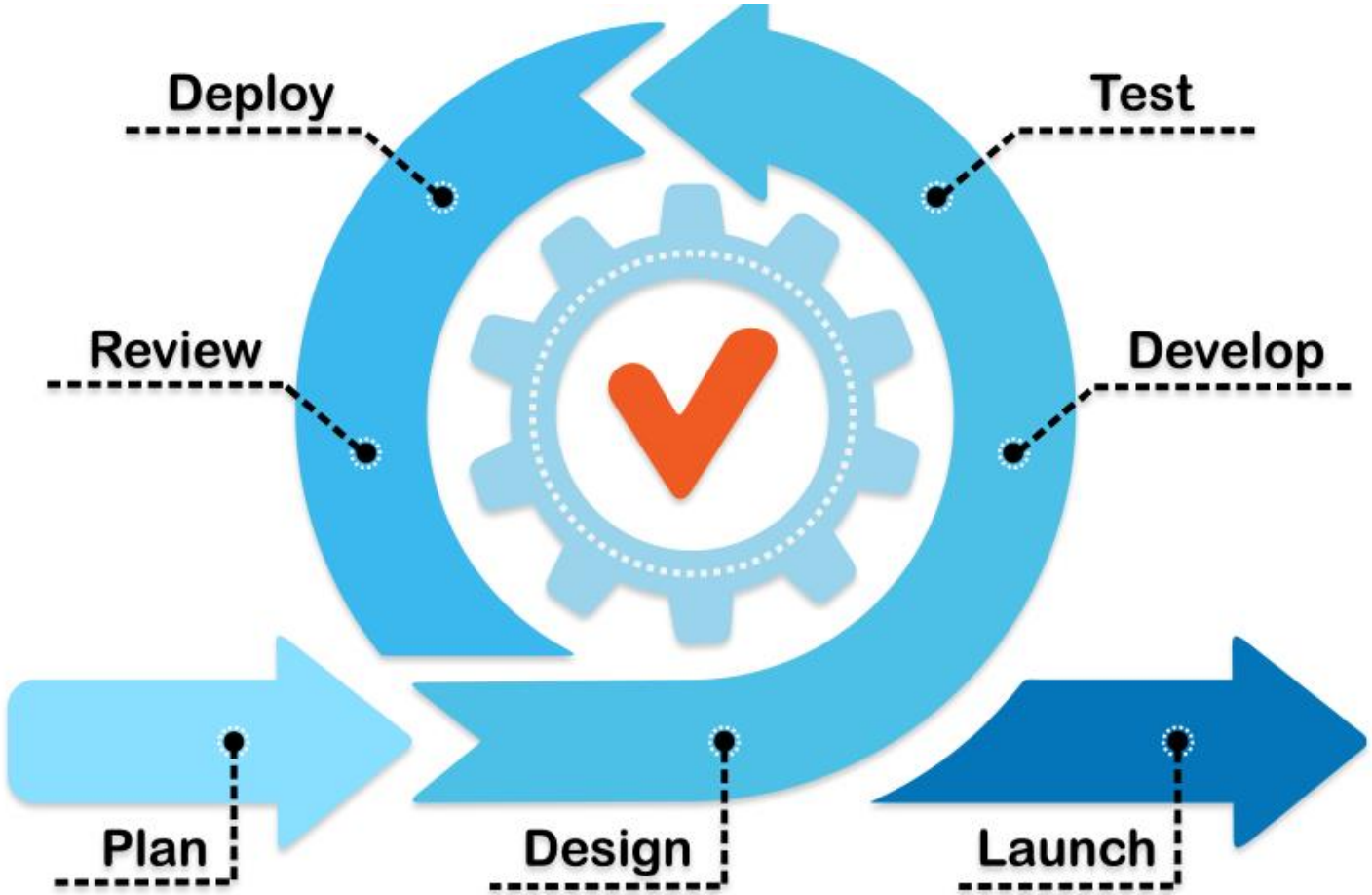
EXPLAIN

AGILE – An Iterative methodology

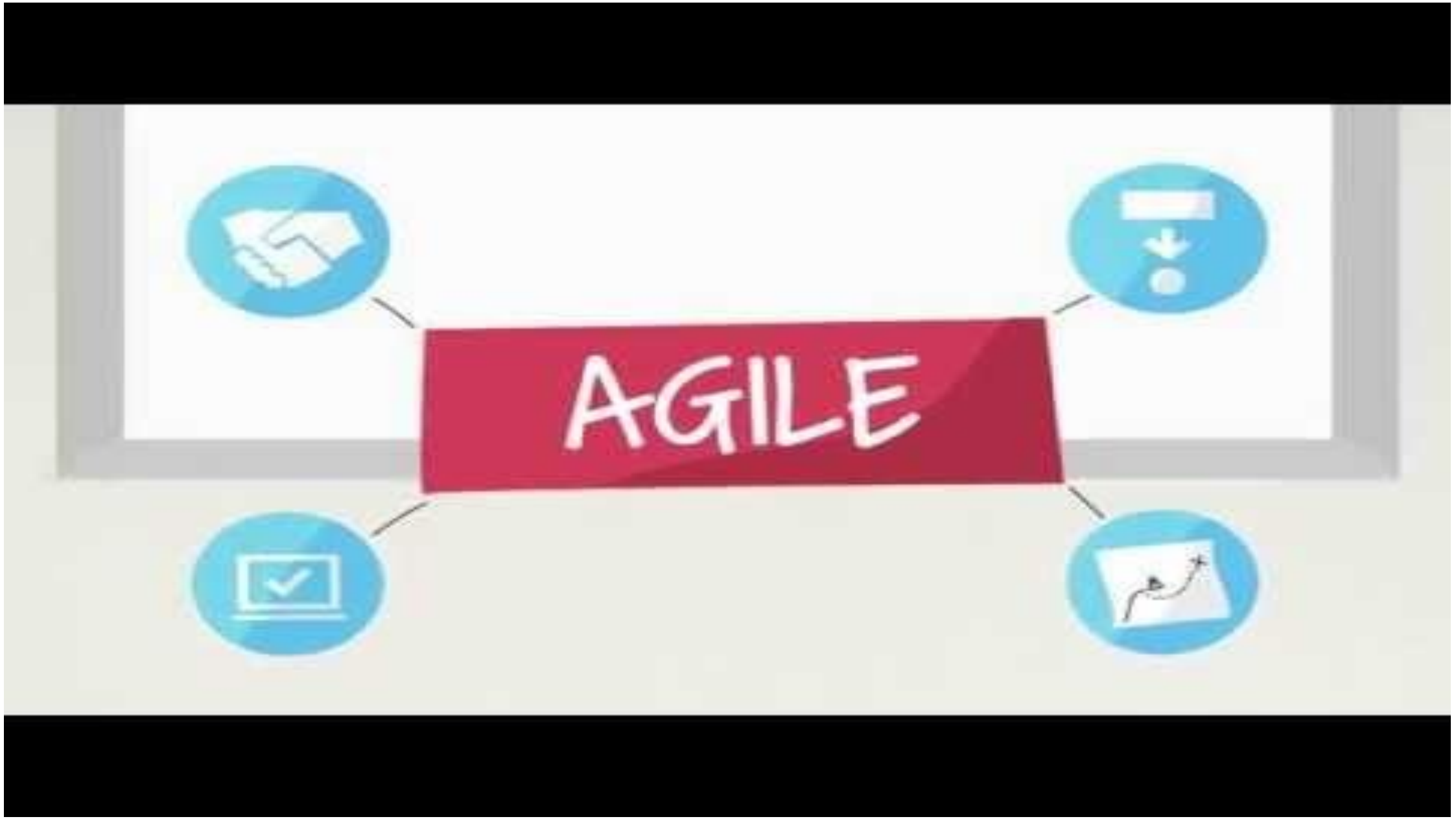


EXPLAIN

Structure of a SPRINT



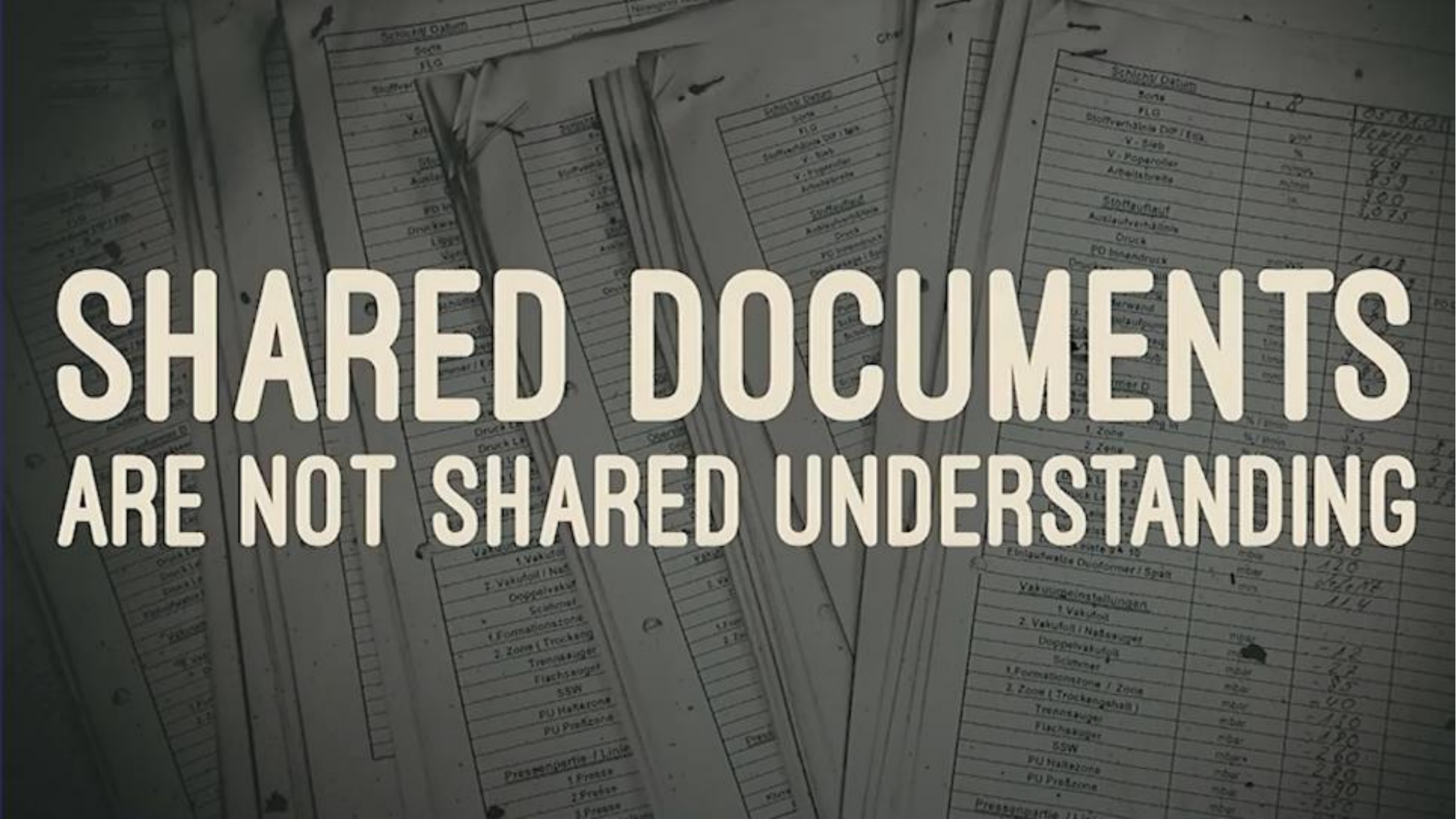
https://www.youtube.com/watch?v=rf8Gi2RLKWQ&t=79s&ab_channel=CollabNetVersionOne



EXPLAIN

AGILE – Values

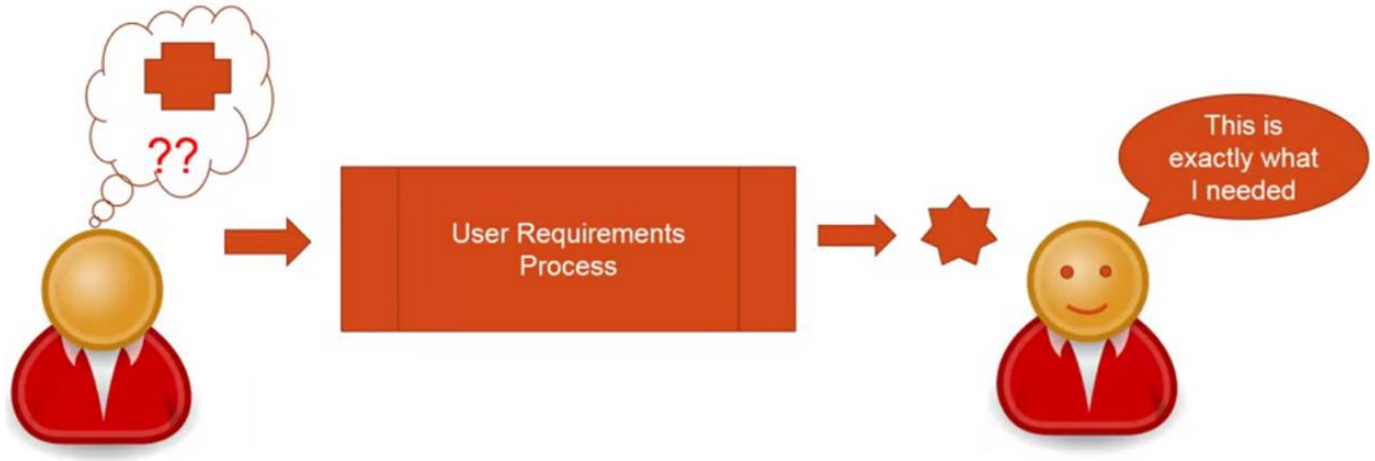
Individuals and interactions	>	over processes and tools
Working software	>	over comprehensive documentation
Customer collaboration	>	over contract negotiation
Responding to change	>	over following a plan


SHARED DOCUMENTS
ARE NOT SHARED UNDERSTANDING

EXPLAIN

AGILE – Values

Build what is **really** needed



Communicate to share the same ideas

Why projects choose an **AGILE** approach ?

Many answers possible

1 Projects were very complex and big

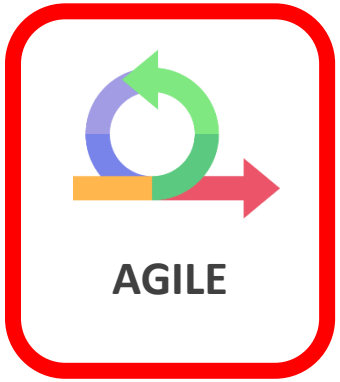
2 Incorrect interpretations of requirements by developers go undetected for a long time.
During user acceptance tests, these issues are discovered but it is very late.

3 Integration issues between different components of the software go undetected for a long time.
During the testing phase, when all the components are integrated, these issues are discovered but it is very late in the process.

4 Projects cost too much

5 It is difficult to predict customer needs

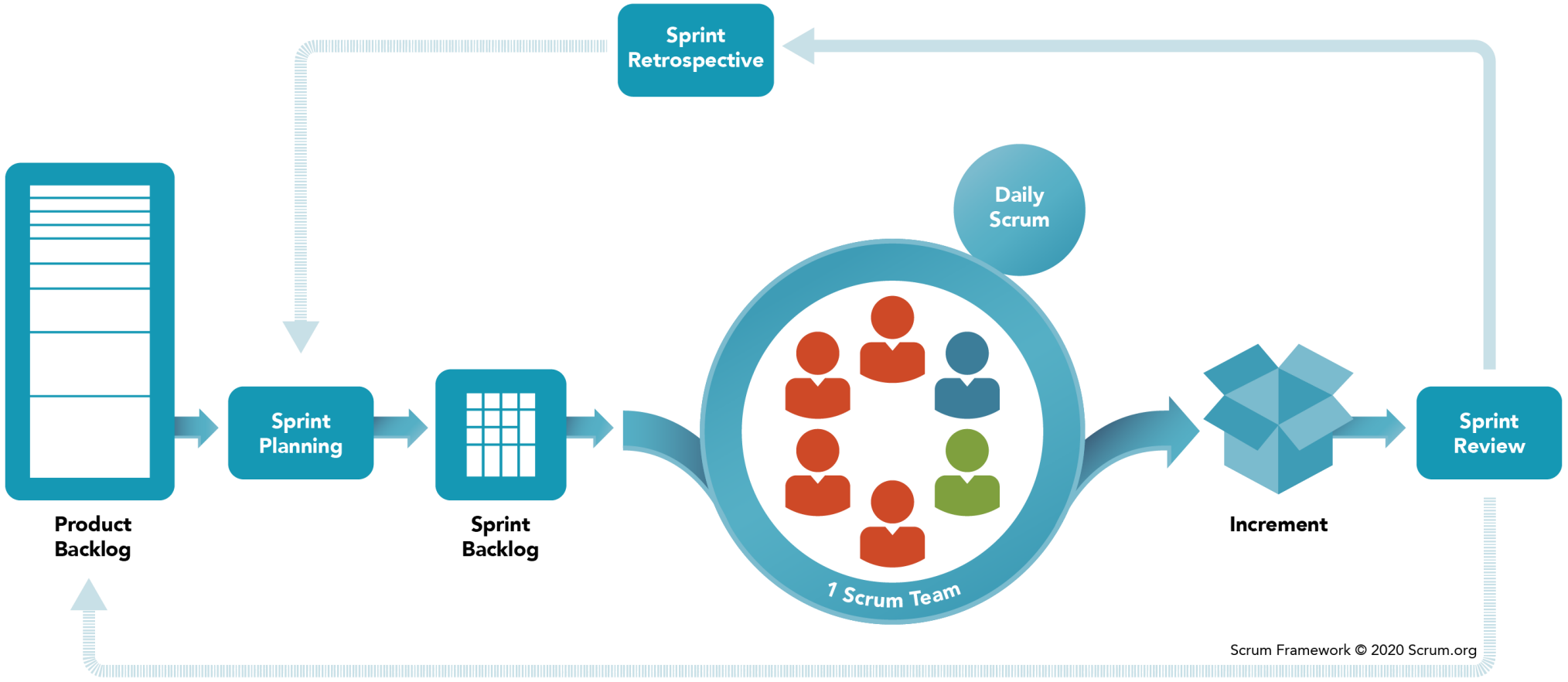
SOFTWARE ENGINEERING



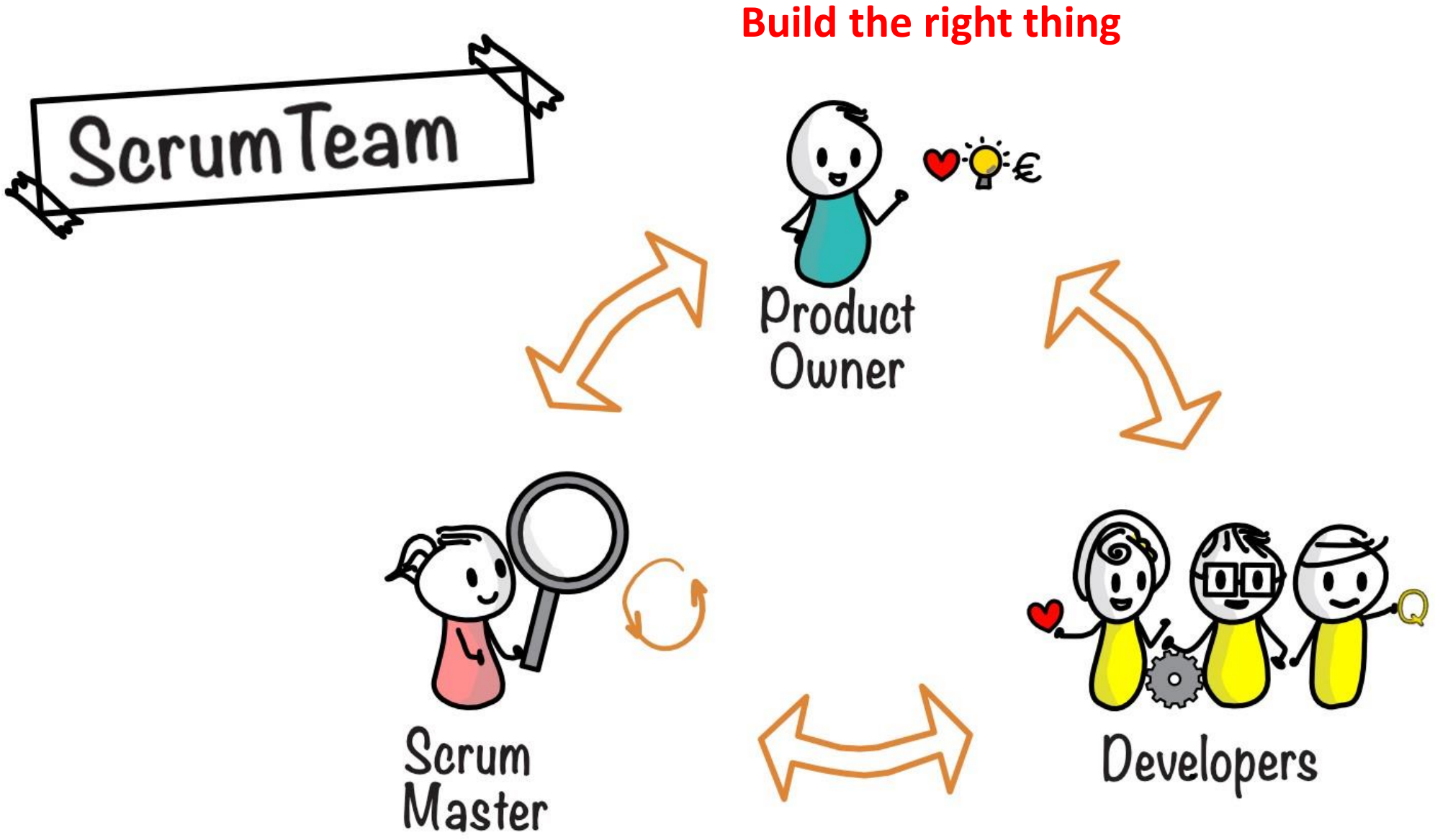
- ✓ The agile mindset
- ✓ **SCRUM process**
- ✓ User stories

EXPLAIN

SCRUM – Organisation of a SPRINT



EXPLAIN


Build the right thing
Scrum Team
Product Owner
Scrum Master
Developers
Build it fast
Build the thing right

GAME

30 MIN

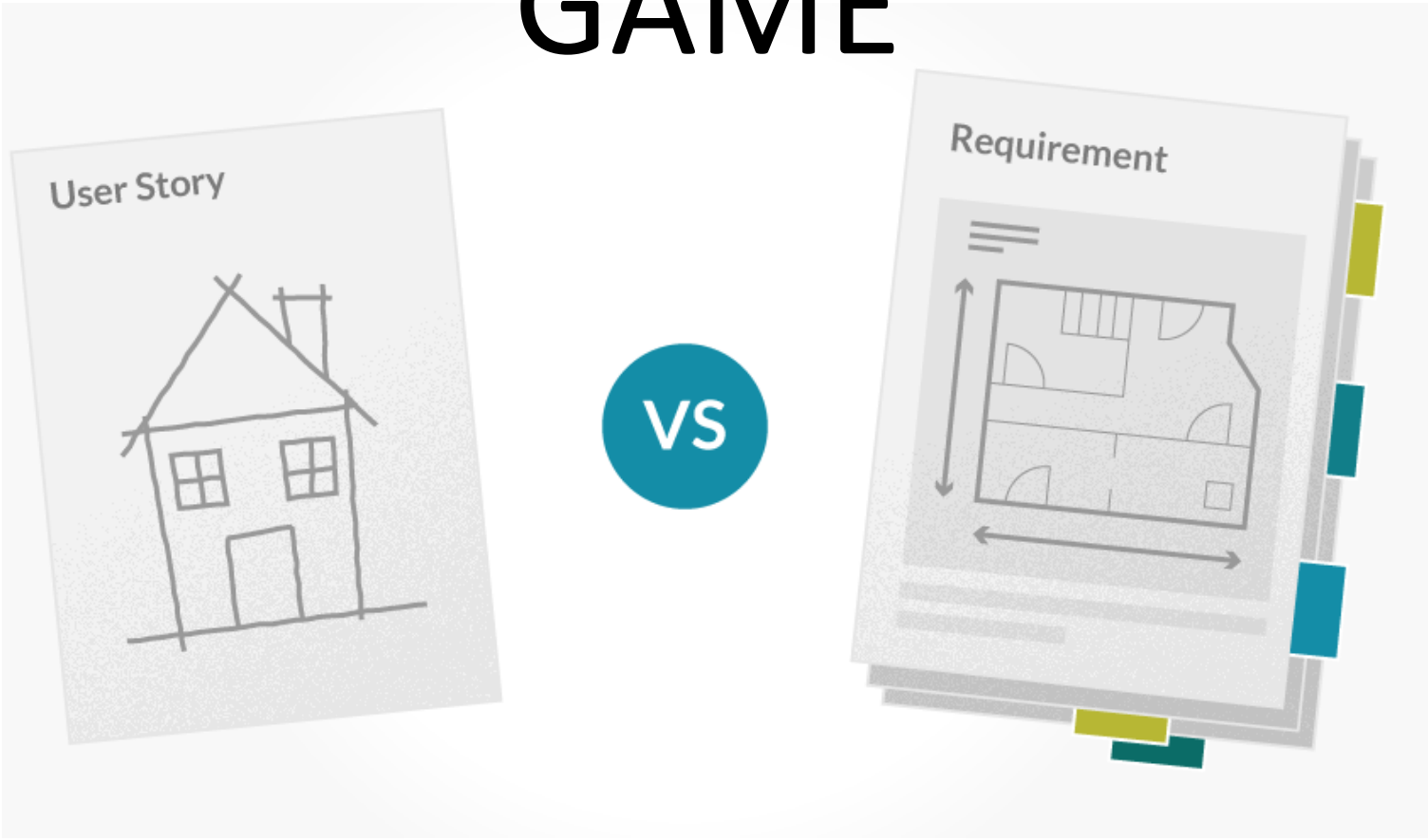
X25

2 TEAMS OF 25 STUDENTS

https://tastycupcakes.org/2014/11/user-stories-vs-requirements/

USER STORIES *VS* REQUIREMENTS

GAME



HOW TO WRITE USER STORIES

Here's an example:

**As a CEO,
I want to track my subordinates' progress, to ensure the organization's goals are met**

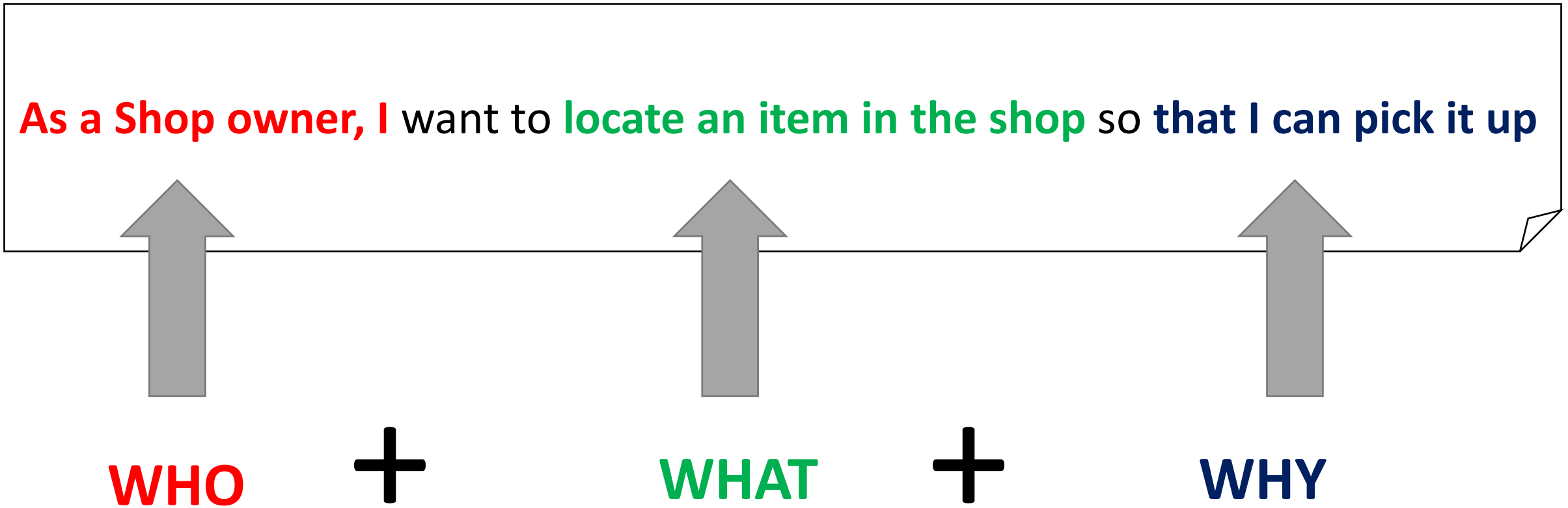
EXPLAIN

Example of user stories

As a user I want to be able to reset my password
As a user I want to edit items
As a user I want to export data
As an administrator I want to define KPI's for my sales team
As a user I want to view my data on mobile
As an administrator I want to send alerts when new leads come in
As a user I want to create a report of my data
As a user I want to update my reminder settings when a date is added
As a user I want filtering enhancements
As an administrator I want to configure views of data

EXPLAIN

User stories are short, simple feature **descriptions**
told from the perspective of your customers



Are those user stories **good or bad** ?

1 As a user, I can browse products my color so that I can quickly find what I'm looking for

2 As a developer, I want to finalize the database table changes and additions for the release so that we don't have to make changes to the model later.

3 As a return user, I can see products I've already purchased to help inform my decision.

4 As a Manny's food service customer I need to save my list so that later I can save a copy, print, or email the list for other uses

5 *As a Manny's food service customer, I want to see different food item types displayed in different colors—RGB = #FF0000 for meats, #A52AFA for grains, and #808000 for vegetables and fruits—so that I can quickly identify my food items by food type.*

Are those user stories **good or bad** ?

1 As a user, I can browse products my color so that I can quickly find what I'm looking for

2 As a developer, I want to finalize the database table changes and additions for the release so that we don't have to make changes to the model later.

This story has no business value and a user ("developer") who is not really a system end user.

3 As a return user, I can see products I've already purchased to help inform my decision.

4 As a Manny's food service customer I need to save my list so that later I can save a copy, print, or email the list for other uses

Too many So that : what Is the real requirement ?

5 *As a Manny's food service customer, I want to see different food item types displayed in different colors—RGB = #FF0000 for meats, #A52AFA for grains, and #808000 for vegetables and fruits—so that I can quickly identify my food items by food type.*

Too mush specified no space for innovation

THE 3C'S OF USER STORIES

Card

A card provides a written description of the story. This is used for planning and estimation

Conversation

This represents discussion between users, team, product owners, etc. It helps build a shared understanding

Confirmation

These represent conditions that need to be satisfied to ensure that the story meets all requirements

Title:	**Priority:**	**Estimate:**
User Story: As a [description of user], I want [functionality] so that [benefit].		
Acceptance Criteria: Given [how things begin] When [action taken] Then [outcome of taking action]		

GAME

30 MIN

X4

TEAM 4

Write **user stories** for your Restaurant Management System

3 users

- The waiters
- The cooks
- The manager