Agile Project Management

Instructor

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| Ms-SPM

AGENDA

- Introduction
- Meet your instructor
  - Who am i ?
    - Education
    - Work experience
- Why I am teaching?
  - To learn
  - To share what I know

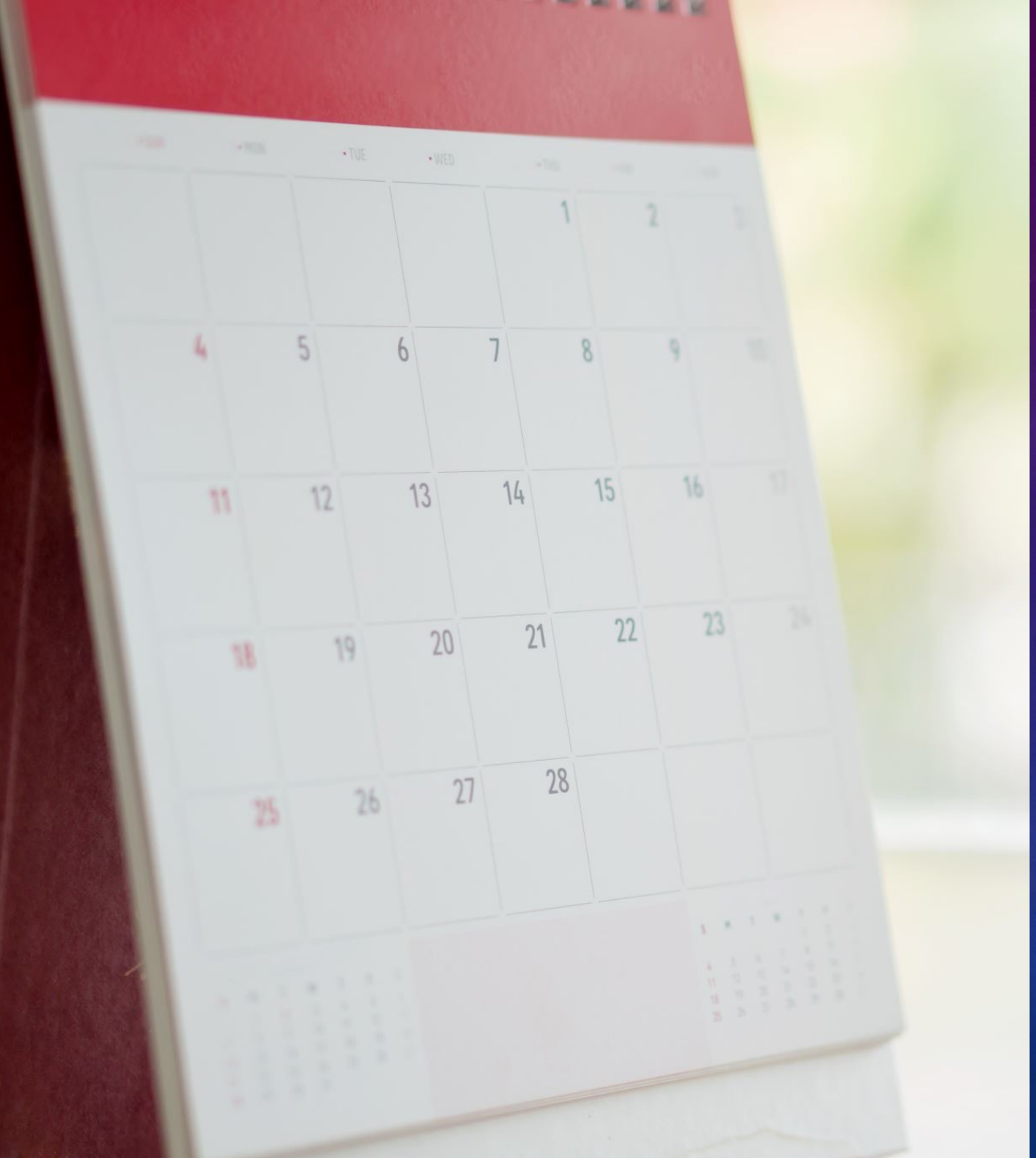
AGENDA

- “Ilm should make you humble.
- The more ilm you get, the more humble you should become !
- To make my profile better
- To know new people.

- My interests
  - Travelling
  - Reading
  - Hosting
  - Teaching
  - Occasional Video making.

Teaching Style

- Practical scenarios with minimum theory
- Discussion Based class
- Two way discussion, I will ask you your experiences
- Your version of the story



Teaching Style

- We ll be learning from each other by discussions
- No one knows everything
- The day you think you have learned enough is the day you progress stops.
- Quotes on ”Ilm”

AGENDA

- Teaching Style ?
  - We ll discuss about topics of mutual interests like team building, environment
  - How to keep environment of our class friendly and comfortable
  - Participation is extremely encouraged

Few Rules

- Although discussion is encouraged, no hate speech.
- Mobile Usage (When we have live classes), permissable but only incase of extreme necessity, please don’t play PUBG or COD or Counter Strike during class ☺

AGENDA

- **Class Timings**
- Saturdays – 6:00 pm – 9:00 pm
- In case of any Unexpected chutti – Due to any reason, We ll have to select an alternative day, will do it by Jamhoori Riwayat !

AGENDA

- Marks Distribution
  - 100 Marks Total
  - 20% Weightage is for class participation
  - 10% Quiz
  - 10% Assignments
  - 20% Mids
  - 40% Final
  - You ll have very good chance of Scoring an A as marks are distributed through out.
  - Key to get good Score ? - Listen to class discussions carefully

AGENDA

- Answer to Questions
  - I will try to answer the questions to the best of my knowledge.
  - Few Answers will be in next lectures so we will postpone the answer
  - Can discuss few answers in person as they will need 1-1 Discussion
  - Since no one can say ‘I know everything’. So theres a possibility I don’t have knowledge about a particular topic. We can mutually learn that thing.
  - If I don’t know the answer, I ll ask for any volunteers if he knows.
  - If no one knows, we can study about it and come back with an answer

AGENDA

- Examination Pattern?
  - No ratta based paper, no long huge paragraphs.
  - Short Q/A
  - Concept based and Understanding Based.
  - Few Definitions, that too wont need ratta, if you understood it well, you ll do great.
  - My Expectations have been set here. Now lets ask your expectations !

AGENDA

- **Breaks**
  - The second most thing that is demanded the most during whole semester {First is Ofcourse Sir GPA Dedain}
  - We will have two breaks, first break at Maghrib Azan so folks can have Prayers, 15 mins
  - Second break at Isha (If it happens in between) 15 mins
  - Third break, when I am extremely happy by the class performance (Rare Break) – 10 mins Hasbe Zaiqa !

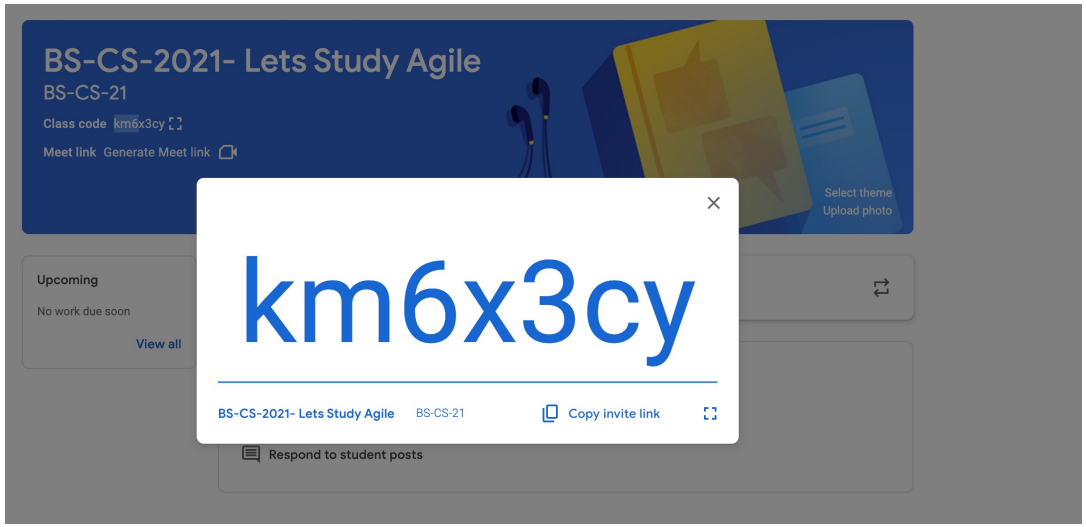
- **CRs**
  - We have any volunteers.

- **Communication Protocol**
  - Google Classroom.
  - CR to Class
  - Email address

CONTACT DETAILS

- Email address : ali.shan.v@nu.edu.pk Academic Queries
- Email address: ali.shan@securit.ai (Professional / Job Related Queries / Resumes etc)

GOOGLE CLASSROOM



AGENDA

What did we just do?

- We have clearly defined the expectations
- We have clearly defined what we are gonna do
- We *Retrospected* ourselves
- What is RetroSpect?
  - What went well?
  - What went wrong?
  - How to improve?

AGENDA

- Retrospect is an Agile Concept
- Agile concepts are applicable in daily lives as well !
- So, lets have a look at our "*Tentative Course Outline*"

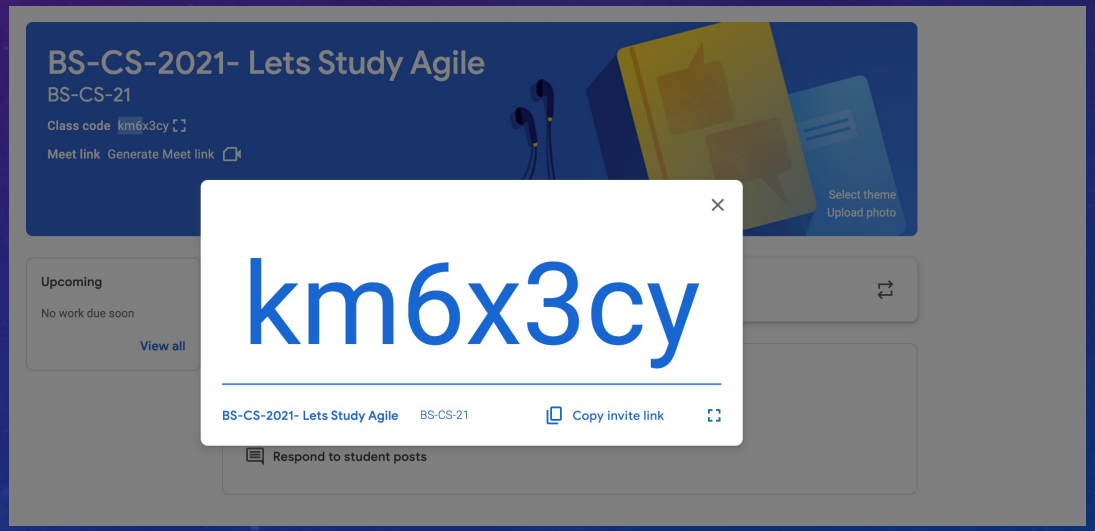
COURSE OUTLINE

- Refer to the pdf document - course outline - tentative.Pdf

AGENDA

- Your name
- Any internship or job you are doing or did in past
- Whats the most interesting thing, a unique thing about you or a good quality of yours.
- What do you want to improve in yourself?
- Your expectations from this course.

GOOGLE CLASSROOM



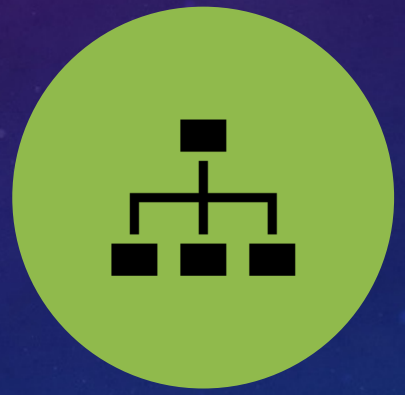
RECAP

- Ground Rules
- Agile
- Manifesto
- Retrospect
- ClassRoom reminder

Agile project management

AGILE

PROJECT



MANAGEMENT

What Agile is not?

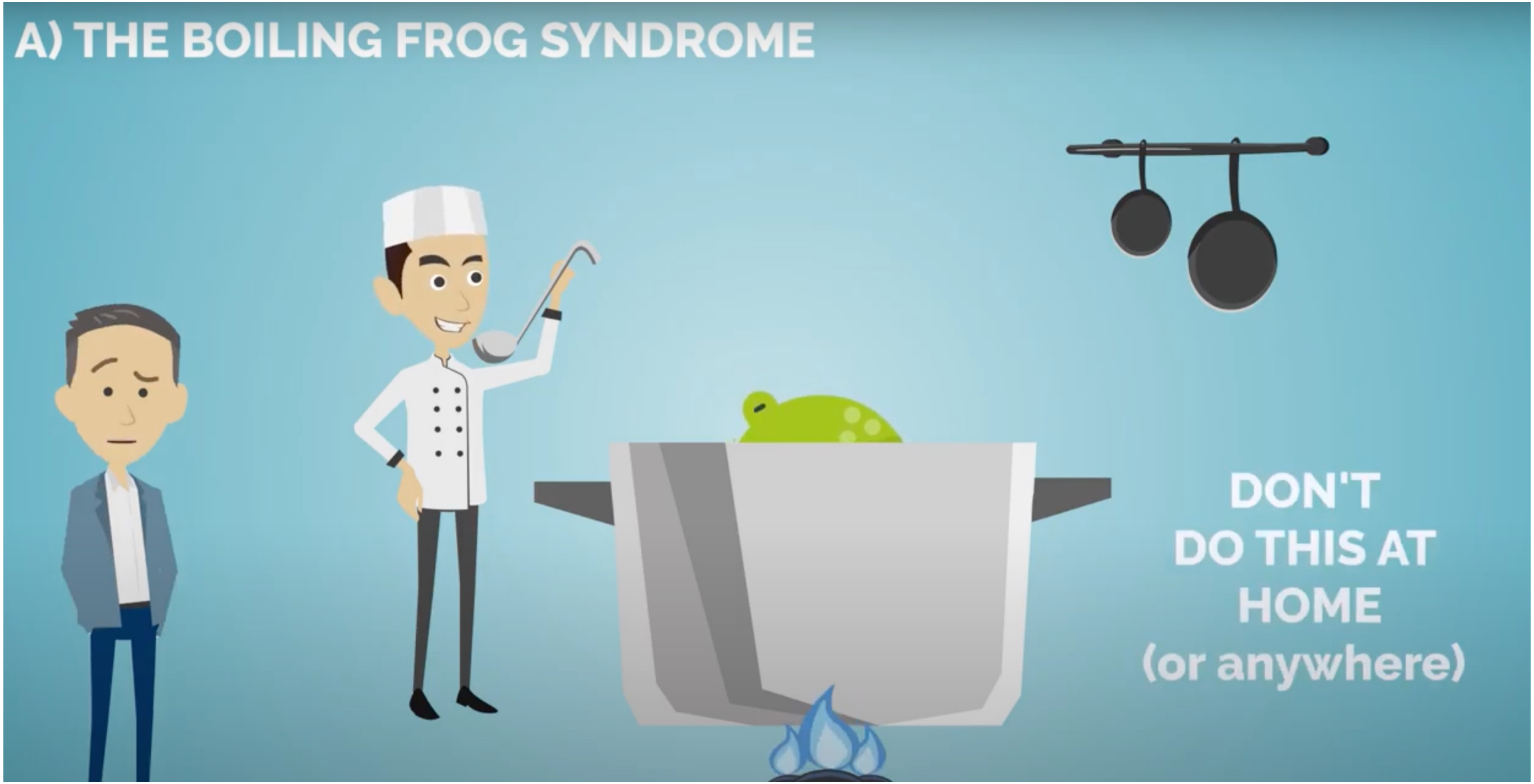
AGILE

WHATS NOT AGILE

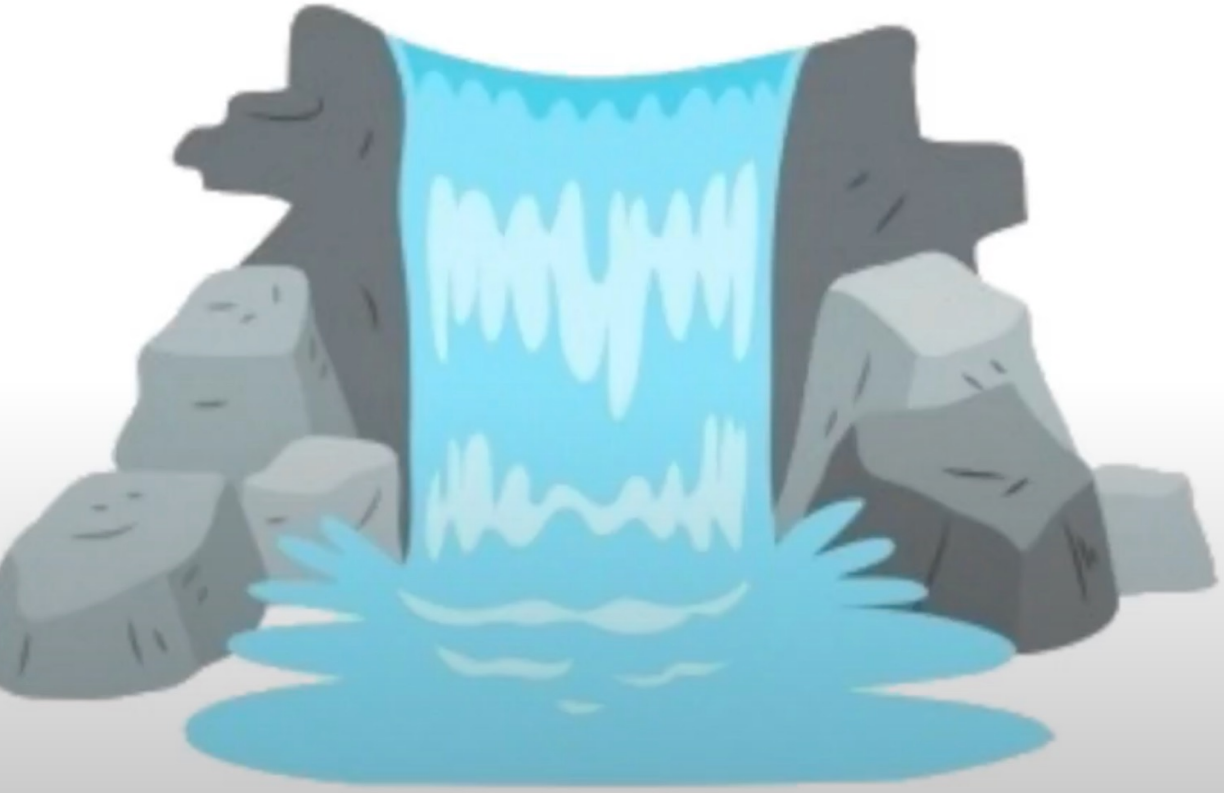
WHAT PEOPLE SAY?

POLAROID
35-40mm
AUTOFOCUS
I-Type film

OPURTUNITY COST


A) THE BOILING FROG SYNDROME
DON'T
DO THIS AT
HOME
(or anywhere)

WATERFALL



REQUIREMENTS

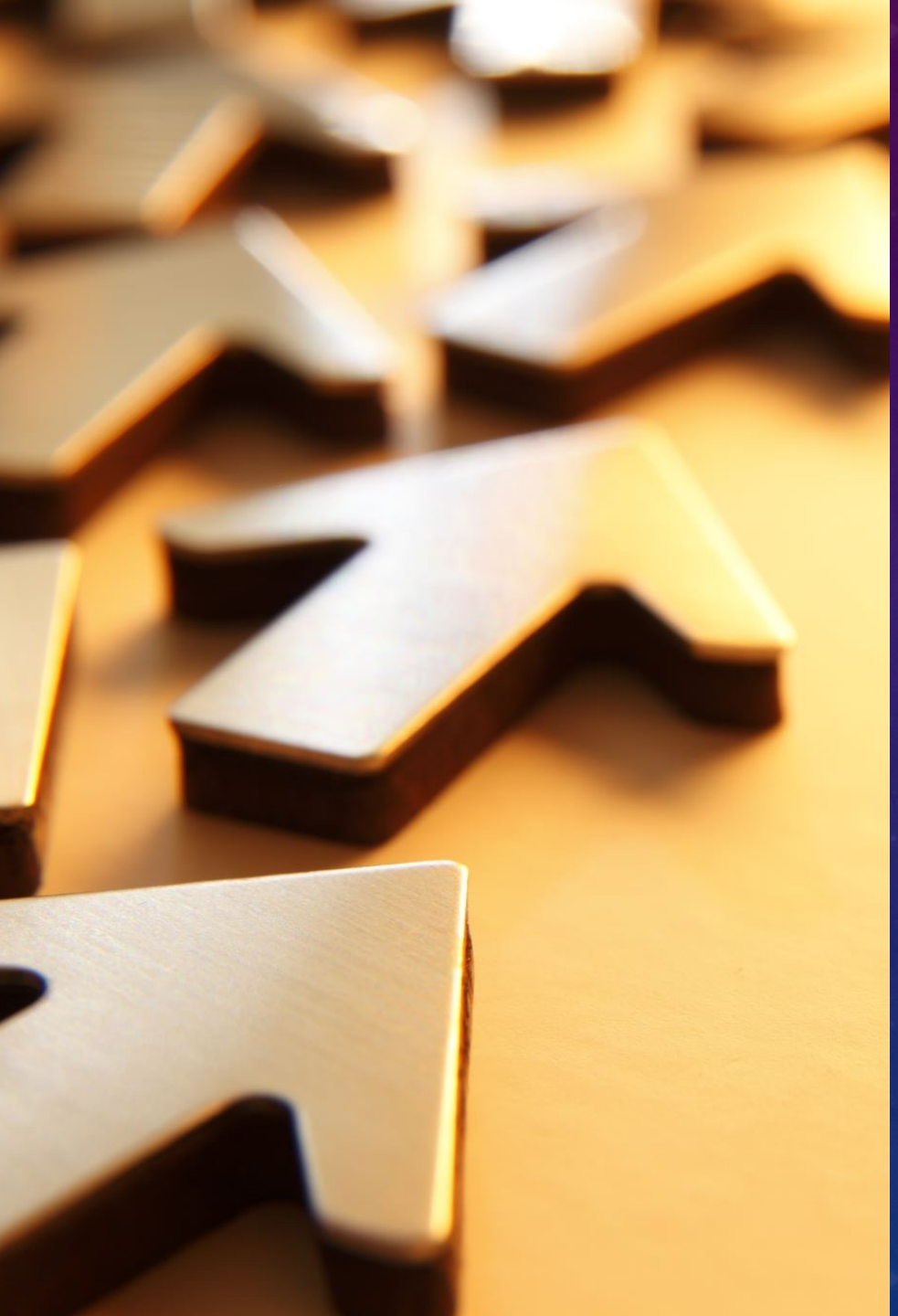
SYSTEM DESIGN

IMPLEMENTATION

TESTING

DEPLOYMENT

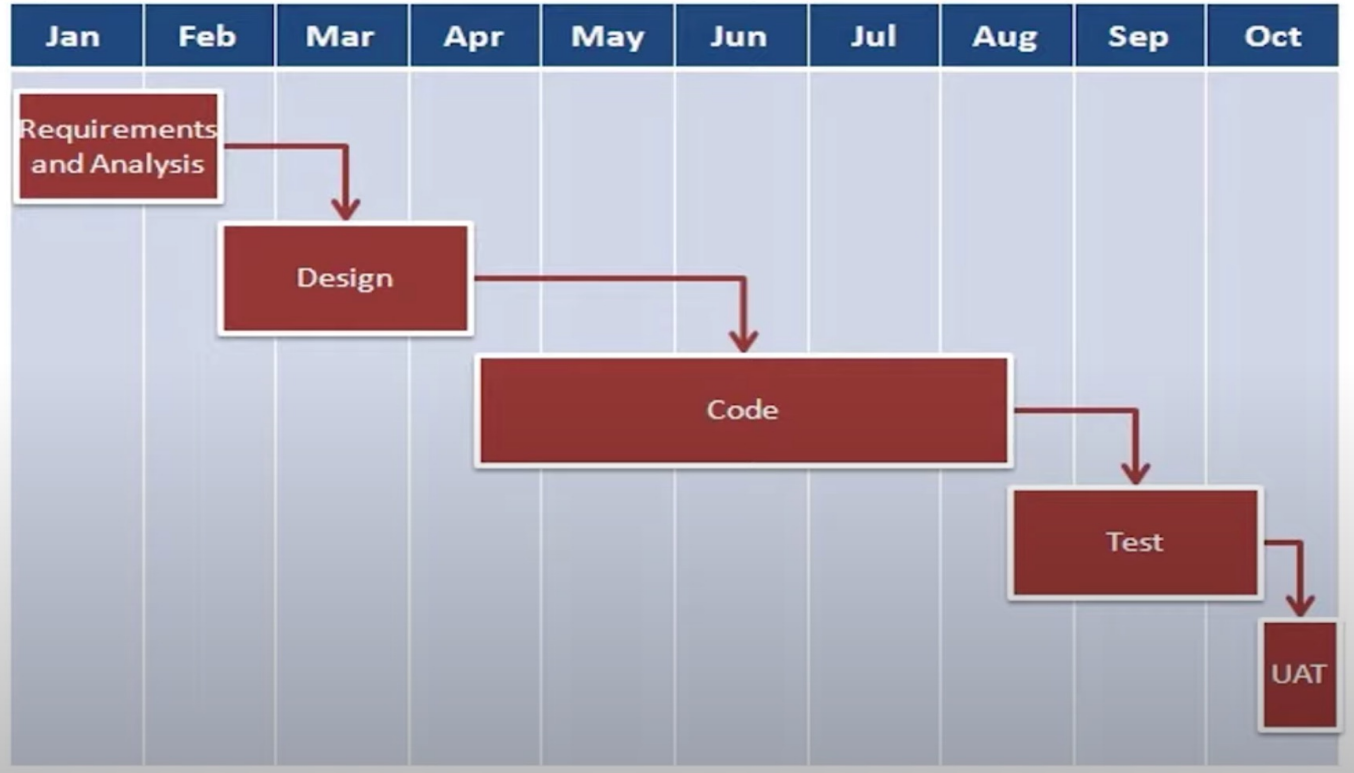
MAINTAINANCE



WATERFALL

1. Step by step
2. Sequential model – That is It works in a sequence
3. Linear Model following top down approach, Just like its name suggests WaterFall
4. Next step won’t start, unless current step got completed.
5. Very rigid
6. Changes couldn’t be brought easily when required
7. Emphasis on following Processes and Tools
8. Extensive Documentation needed
9. Customer wont get to see the product unless the time of UAT.
10. Extensive Planning

WATERFALL VS AGILE



WATERFALL

- Observe the time line in above figure.
- How it linearlly goes on
- Where can we use waterfall?

1. When the scope is fixed
   - No changes required
   - Because changes are costly
   - Need time
2. When customer envolvement is least
3. Project is Relatively simple and you have done it many times before
4. Requrirements are Static – Customers know well in advance what they want

COMPANIES THAT DIDN’T ADAPT

- Biggest mobile phone manufacturers

- 2008 – Most Valueable Brands
- So what went wrong?

  Nokia decided to focus on hardware and

  Neglected the updates in Software.

  Result is in front of you !

BlackBerry
11:35AM
4G
box
03
in
sym

- They had possibility to buy google in 5 billion dollars.

- Google is now worth 245 billion, 50 times more !

Boiling frog syndrome

- Friend-relation
- Global warming
- Bad boss ?
- Bad job?
- Smoking

What is a Project?

- Temporary Endeavor
- Time Bound
- Creates a Unique Product
- Service
- Result

Examples

- Constructing a House
- Designing a new Smart Phone
- Creating an LMS
- Launching a Space Ship
- Setting up a Call Centre

Project is NOT

Doing Daily Tasks

Answering Phone

Making Coffee

Replying to Emails

Attending Meetings

They all are Business as Usual i.e every day ongoing normal activities

- Doing Daily Tasks
- Answering Phone
- Making Coffee
- Replying to Emails
- Attending Meetings

Program and Portfolio

Program - A group of related projects is called a program.

Portfolio—A portfolio is a group of related programs, with the objective to deliver business outcomes.

CONSTRUCTION COMPANY

Project—Construction of a house

Program—Construction of a housing complex

Portfolio—All the housing projects of the company

AEROSPACE ORGANIZATION

- Project—Building the launch vehicle

- Program—Successful launch of a satellite

- Portfolio—All the active satellite programs

IT ORGANIZATION

- Project—Development of the shopping cart module

- Program—Development of a fully functional e-commerce website

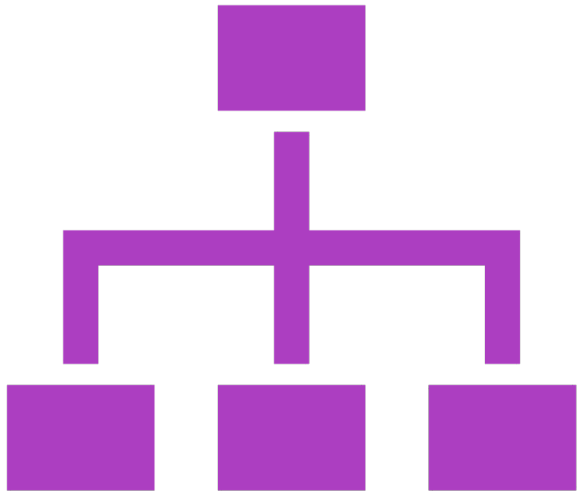
- Portfolio—All the websites developed by the company so far

RECAP

- KODAC
- PROJECT, PROGRAM
- PORTFOLIO
- WATERFALL
- WHERE TO USE AGILE

SKILLS FOR A PROJECT MANAGER

?



SKILLS

- Leadership
- Motivation
- Management
- Communication
- Decision making

SKILLS

- Coaching
- Time management
- Trust building
- Political and culture awareness
- Conflict management

SKILLS

- Business Skills
- Technical Skills
- Negotiation
- Team Building
- Influencing

DECISION MAKING

As much as we like to think we're open-minded and impartial, a ton of different biases are continually influencing us.

Affecting our thinking, behaviours and decisions

While some are openly apparent, many biases are unconscious; **you may have no idea you're under the influence of a bias that's distorting your way of thinking**

SURVIVORSHIP BIAS

CONFIRMATION BIAS

Pre-Existing Believes that make your decisions biased

Examples?

Left Handed People

Social Interaction

A dogs incident

A sales woman

Medical research

HALO EFFECT

HALO EFFECT

- A kind co-worker
- A nice looking restaurant
- An actor endorssing a product
- Student

what is

THE BANDWAGON EFFECT?

FEW BIASES THAT EXIST

- Confirmation Bias
- Availability Heuristic
- Survivor Ship Bias
- Halo Effect

	Urgent	Not Urgent
Important	#1 Do	#3 Plan
Not Important	#2 Delegate	#4 Delete

norberthires.blog

1 Do First

High Urgency
High Priority

Important Task

2 Delay

High Priority
but Not so Urgent

Schedule to complete

3 Delegate

High Urgency but
not High Priority

Can be done
by someone else

4 Don't Do

Low Priority
Low Urgency

Distraction

RECAP

- Skilss for a Project Manager
- Decision making Biases
- Halo Effect
- Eisenhower matrix

PROJECT CONSTRAINT

PROJECT CONSTRAINT

They constraint the choices

A limiting factor

Effects the execution of project

PROJECT CONSTRAINT

Can Impact Quality

Delivery

Overall Project Success

Constraints

- Scope
- Time
- Risk
- Quality
- Cost

THE TRIPLE CONSTRAINT

SCOPE

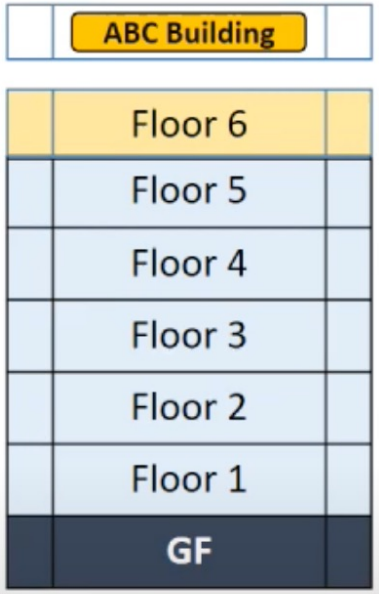
TIME

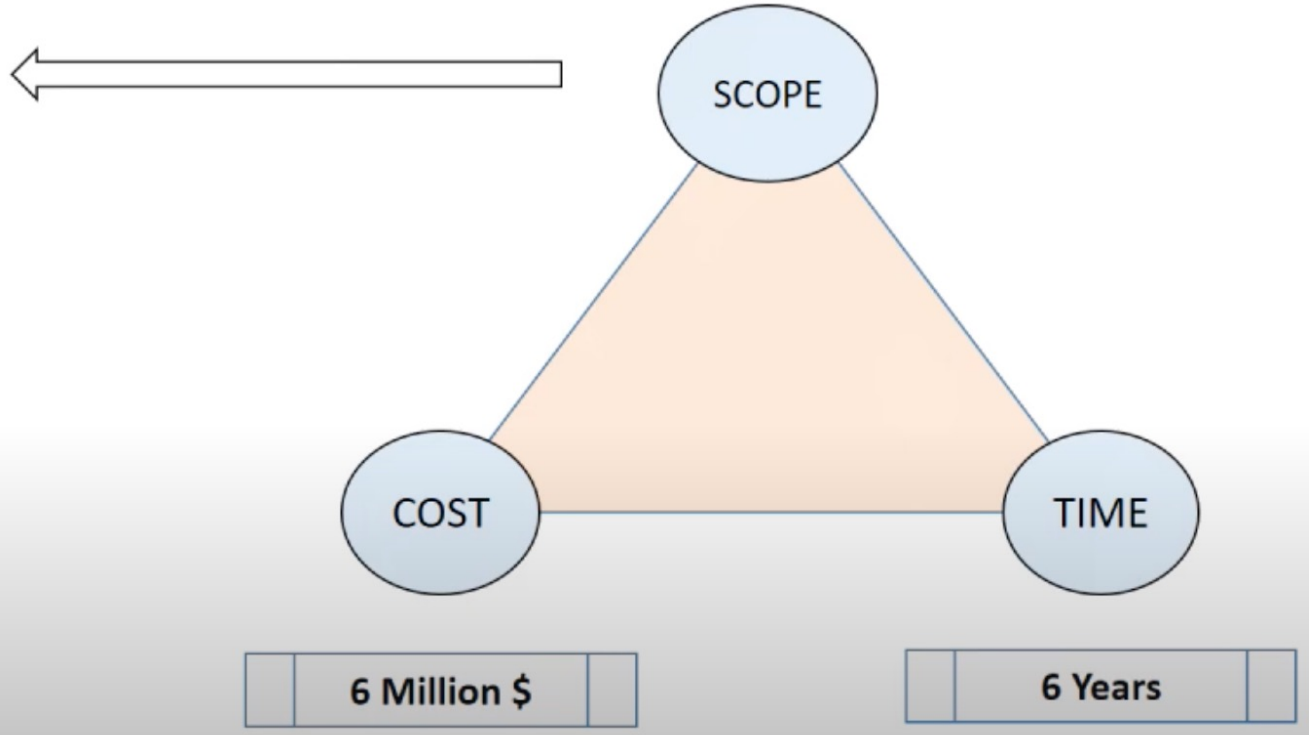
COST

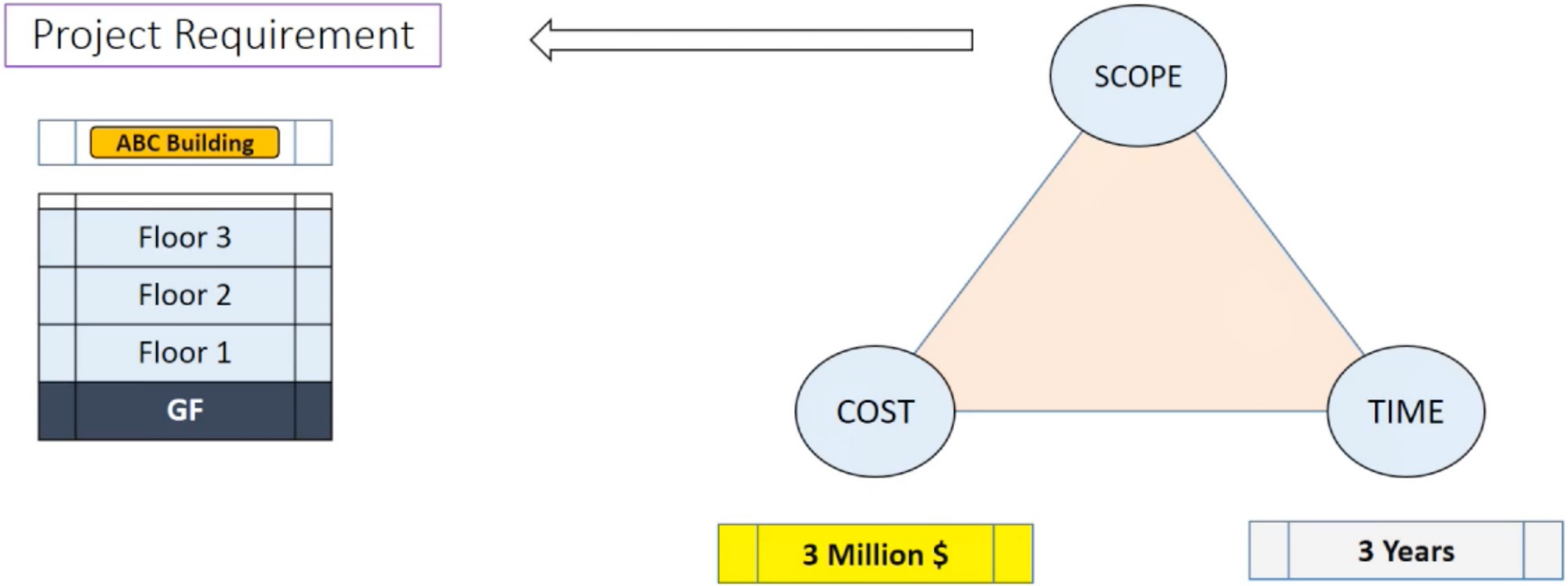
THE IRON TRIANGLE

- Cost
- Time
- Scope

Project Requirement

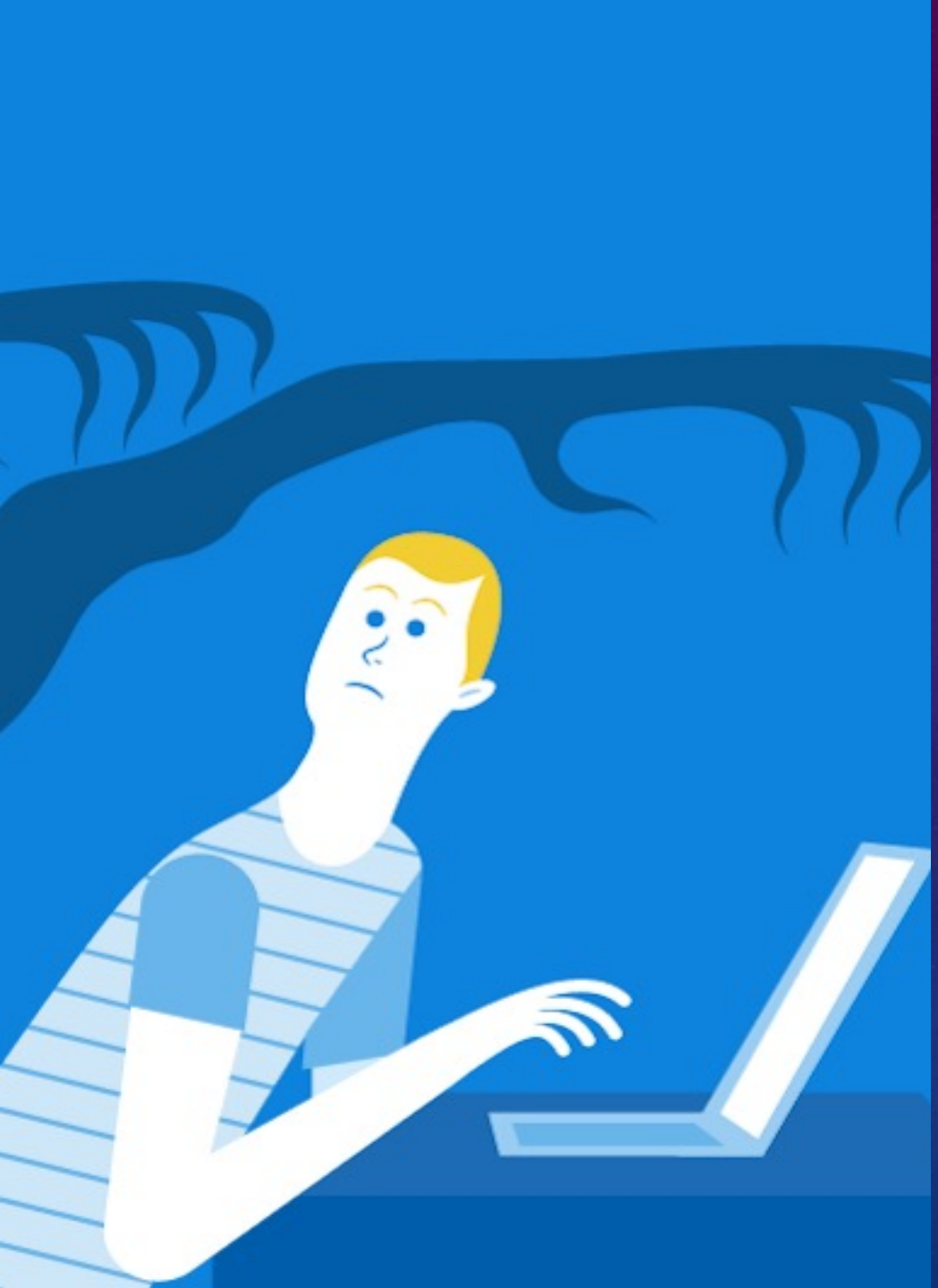





Project Requirement
ABC Building
Floor 3
Floor 2
Floor 1
GF
SCOPE
COST
TIME
3 Million $
3 Years

THE TRIPLE CONSTRAINT

- Change is any one will impact at least one of the other two.
- Examples:
  - Scope ++→Time++ and/or Cost++ • Time--→Scope-- and/or Cost++
  - Cost--→Scope– and/or Time++



SCOPE CREEP

Scope creep is how a project’s features, requests, and requirements increase from its initial scope over the course of the project life cycle.

RISK

- An uncertain event or condition that, if it occurs, has a positive or negative effect on a project's objectives.

Risk with a potential positive impact is called an oppurtunity

Risk with a negative impact is called a threat

POSITIVE RISKS

- A potential upcoming change in policy that could benefit your project.
- A technology currently being developed that will save you time if released.
- A grant that you've applied for and are waiting to discover if you've been approved.
- A request for additional resources, materials, tools, or training that will make your project more efficient if provided.

ISSUE VS RISKS

Risks are future uncertainties, they have no current impact on the project, but could have a potential impact on the future.

Issues are generally well-defined certainties that are currently happening on the project: so there is no need for conducting a probability assessment as we would for a risk.

Risks, if not addressed in time, may become issues.

ISSUE VS RISKS

A project team member might leave the company is a risk whereas the one who has already left is called a issue.

Supply of equipment might be delayed is a risk whereas if the equipment was supplied late then it is an issue.

Approval from the Government authorities might happen early is a risk (opportunity). But is the approval happens before time then it is a windfall.

RISK EVALUATION

- Should be identified and evaluated based on two factors
- Probablity of the risk to happen “P”
- Impact of the risk “I”
- Risk Score = p * i

RISK ATTITUDE

Risk Attitude shows the natural inclination or basic nature of stakeholders or organizations if they are willing to take risk or not

THREE TYPES OF RISK ATTITUDE

RISK ATTITUDE

- Risk Appetite
- Risk Tolerance
- Risk Threshold

RISK MANAGEMENT PROCEDURE

- Risk Identification
- Risk Assesment
- Risk Prioritization
- Risk Mitigation
- Risk Communication

RECAP

RECAP

- Constraint
- Project Constraint
- The Iron Triangle
- Quality
- Risk
- Risk attitude
- Risk vs Issues

RISK TYPES

KNOWN UNKNOWNS

- An organization is aware of the risk but is uncertain of its occurrence or impact
- Rainy day
- Employee leaving
- New competitor entry
- You can associate a probability
- You can estimate an impact
- Priority of a risk: Probability * Impact
- Refine knowledge, reduce the gaps

UNKNOWN UNKNOWNS

- Those risk that you can’t / couldn’t identify.
- These are risks which the company doesn’t even know that they don’t know

Sucessful product ?

Building a product succesffuly, doesn’t mean building a sucesful product.

So what do you think, is a succesful product?

Value Creation for Customers and End Users.

A succesful product is which creates value for its ***Customer*** and ***Consumer***.

Customer vs Consumer ?

Sucessful product ?

Customer is who buys or pays for the product or a feature.

Consumer is the one who uses the Product or feature

In many Cases a Customer could be the consumer as well but its not necessary in every case

Any examples?

SUCESSFUL PRODUCT ?

- Is it logical to build a product succesfuly then to build a succesful product?
- Is it logical to give more importance and emphasis on the process and documentation then the final working product itself?
- Before Agile was Introduced, this was the case with most of the Software Development processes.
- A lot of emphasis was given to ***Documentation***.
- More importance was given to following a contract, then to deliver a successful product
- What was being developed didn’t meet customers expectations - Reason? Customers them serve don’t know what they want, or most of the times

AGILE IS A SET OF

Values

principles

When TO USE AGILE

- When there is No Clear Definition of the Final Product
- When changes are needed in scope frequently
- You have to accommodate changes rapidly
- Customer Involvement is the most
- Customer feedback is needed at various stages and is the most important
- Value has to be delivered early

Agile

- What is Agile ?
- Dictionary Meaning ?
- Common Meaning?
- Meaning from Different Perspectives.

Agile

- The dictionary says Agile means – “Able to move quickly and easily”
- For example – He is Agile like a Cheetah !
- Agility means quickly adapting to changing situations.
- Being Flexible
- Agile doesn’t make decisions for you
- It gives you a platform to make your own decisions and improve the process

AGILE MANIFESTO

- In 2001, 17 Developers, jot down a ***manifesto*** which they called "Agile Manifesto".
- Manifesto means – Declaration, Announcement, Publication.
- Mid 17th century: from Italian, from manifestare, from Latin, 'make public'.
- Agile Manifesto consists of 4 Core Values
- Agile Manifesto Consists of 12 Principles
- We will discuss these values and principles with examples one by one

What Agile Is NOT?

A Methodlogy

A Framework

A Process

So, Agile is as Defined in the “Agile Manifesto” as set of Values and Principles that help develop a better software.

Agile is a set of “Beliefs” that teams can use to make “Decisions” and use “Practices” to Develop a software.

Agile Tells us Best Practices and its up to us to implement them

AGILE

AGILE VALUES

- Individuals and Interactions
- Over
- Process and tools

VALUE 001

- Social Interactions are very important for **Mental Health**.
- A person is Present but is Absent minded !
- If a person is not present physically, how will he work properly?
- Mental health then reflects on physical health.
- Long term stress can turn into anxiety which can eventually turn into depression
- A good compliment, will boost your day.
- You will work more effeciently and effectively.

STRESS

Stress is the "psychological, physiological and behavioural response by an individual when they perceive a lack of equilibrium between the demands placed upon them and their ability to meet those demands, which, over a period of time, leads to ill-health" (Palmer, 1989).

THE FEAR EXPERIMENT

STRESS AT WORKPLACE

- **Unclear Goals**
- Extended hours
- Near impossible deadlines
- Demanding colleagues
- Unappreciative bosses

SOCIAL INTERACTIONS

If at a work place, there is only one way interaction i.e.

Commands are being given, the one at the receiving end will never get his share to speak his views.

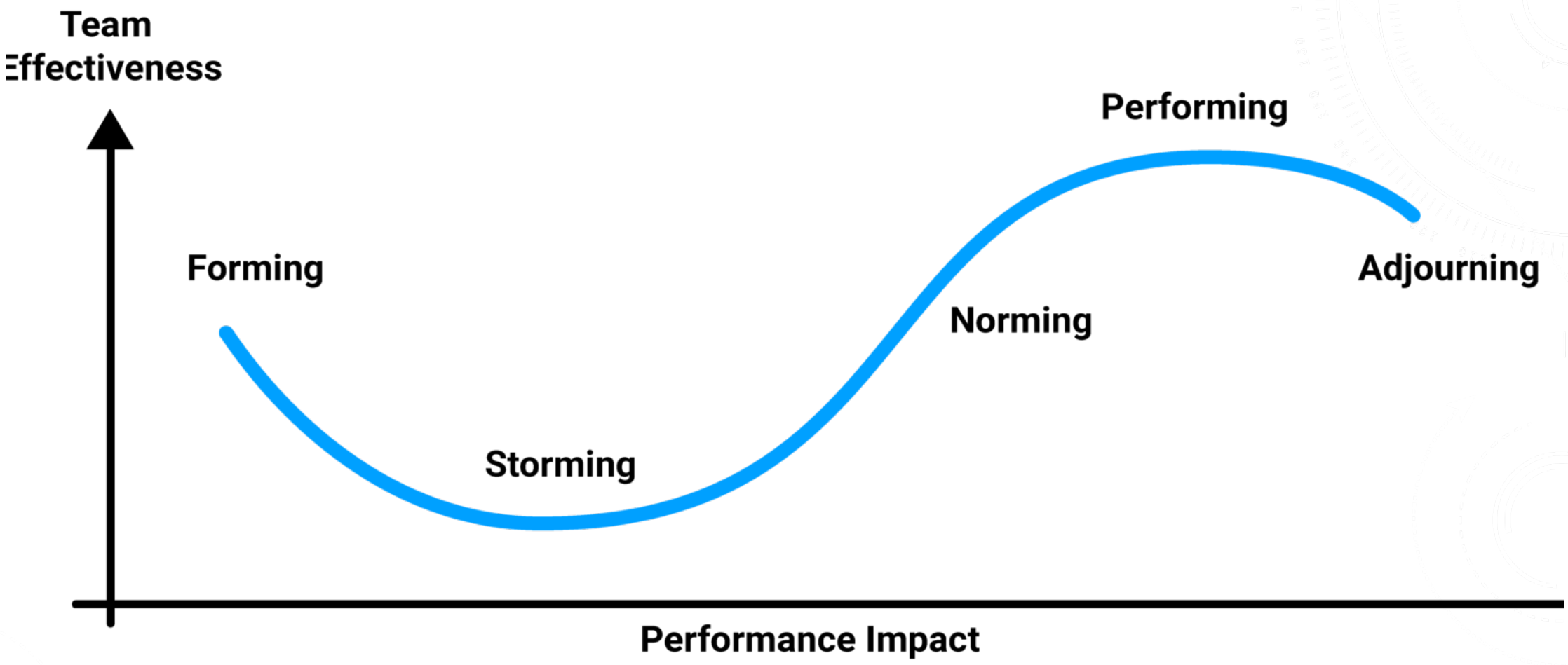
SOCIAL INTERACTIONS

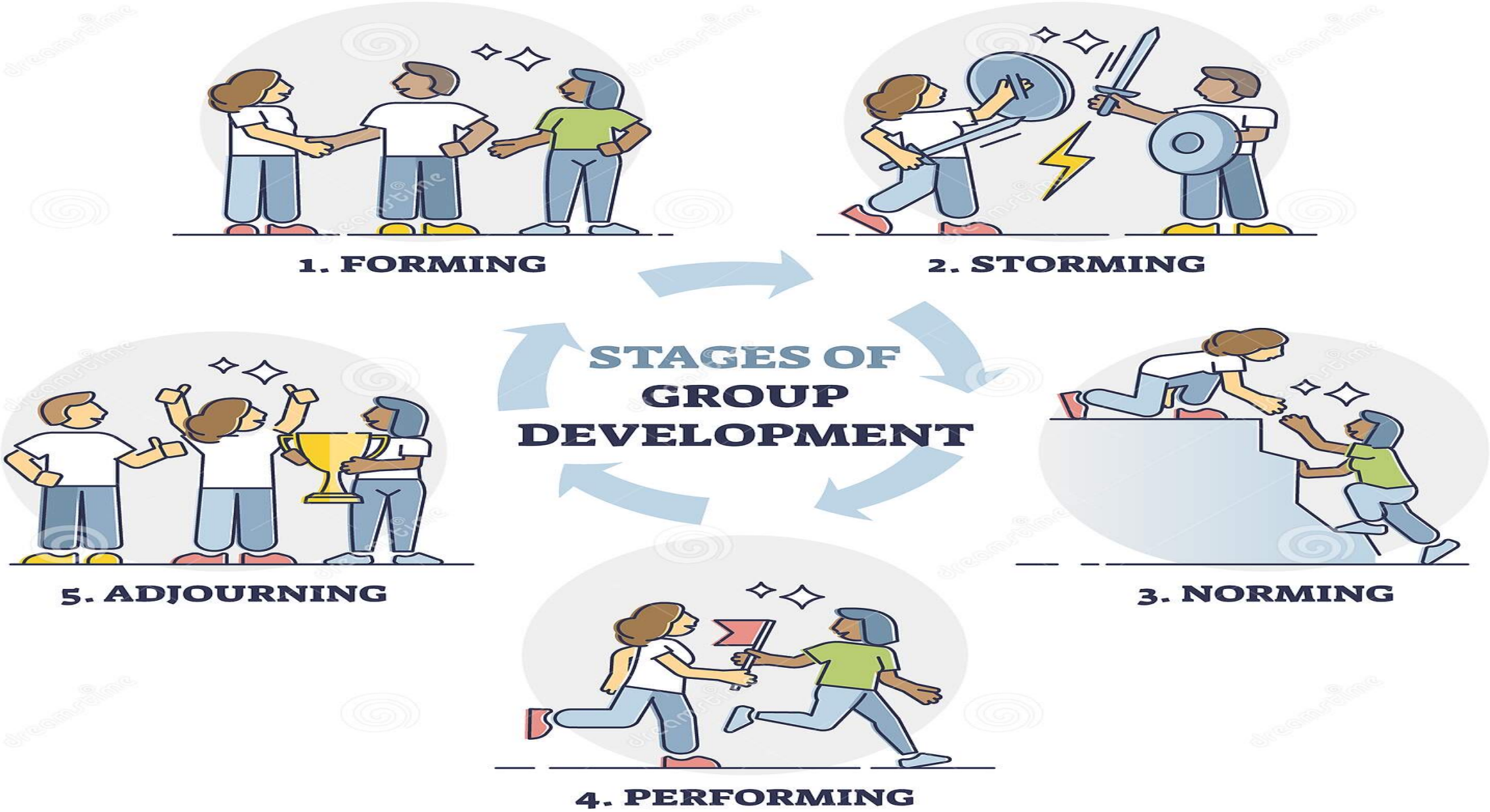
- Lesser interactions will lead to mis-understandings about goals, objectives, tasks.
- Social Media is not an alternative for face to face interactions.
- *A research says, people using social media in access are more isolated then the people not using social media or using it in moderation*
- 1 Good friend is Better then 5000 social media friends whom you will never meet
- Do you agree?
- A good Watch | Netflix – Social Dilemma. (Lets discuss about it someday)

DIFFERENT KIND OF TEAM MEMBERS

- Performers
- Doers
- Less Effective Doer
- Potential Trouble Source
- Suppresive Person

TUCKMANS MODEL


Team
Effectiveness
Forming
Storming
Norming
Performing
Adjourning
Performance Impact



dreamstime.com
ID 219890499 © VectorMine

FORMING

FORMING

This is often experienced as a fun stage

Everything is new

Team has not yet encountered any difficulties with the project.

Ensure acceptance

Feel comfortable

Exchange information

Avoid conflict

Highly filtered picture of ourselves

STORMING

STORMING

During this stage, the team tries to accomplish the work

Power struggles may occur

There is often chaos

Individuality is being focussed

Confusion among team members.

STORMING

- Conflict, different operational styles
- Frustration between members
- Misperceptions
- Compete for influence
- Harsh comments
- Hallway conversations
- Sub Teams

NORMING

NORMING

This is when the team begins to mature.

Sort out their internal differences

Find solutions to work together.

Leadership Evolves

NORMING

- Communication increases
- Issues are tackled
- Focus is maintained
- Skills are valued
- Blame is replaced by responsibility

PERFORMING

PERFORMING

The team becomes its most cohesive.

It operates at its highest level in terms of performance.

The members have evolved into an efficient team of peer professionals who are consistently productive.

PERFORMING

Focused on Objective

Constant communication

Open to new ideas and solutiion

Respect, trust, honesty goes up

ADJOURNING

- Task acomplishment
- Good feelings about achievements
- Recognition
- Good Byes
- Tie loose ends

Tuckman's Theory of Group Development

the e-learning network

RECAP

VALUE 001

That's why agile manifesto says.

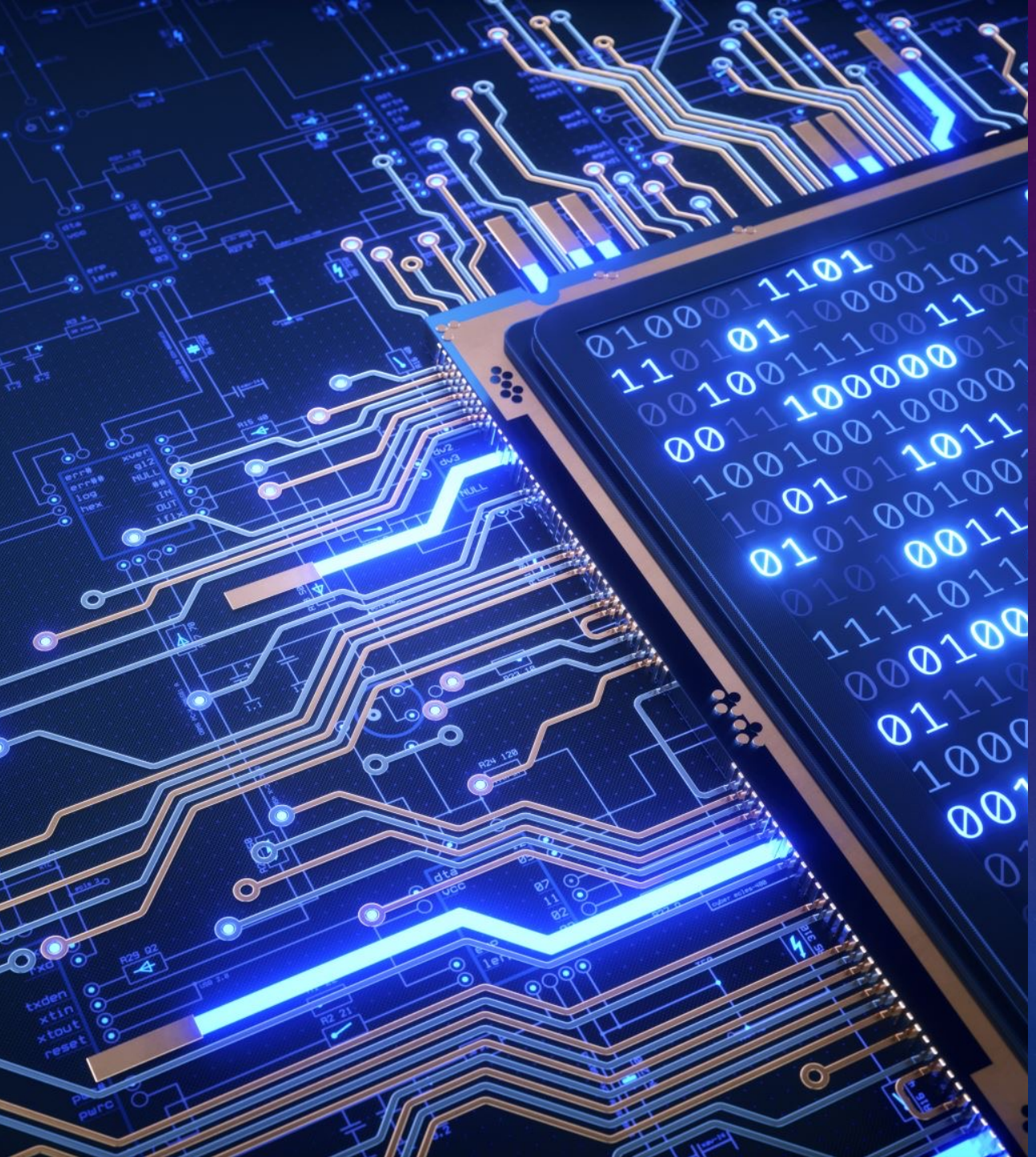
We should have competent people working together,

thinking and sharing

giving their point of views

Process and tools should be followed only unless they are making things easy and effective for us

VALUE 02



Lots of Documentation, before the Software Started

- Features
- Requirements
- Specifications
- Layouts
- Test cases

VALUE 02

- Example of extensive documentation - Constitution
- Innovation doesn’t come from rigid processes
- It comes from free minds
  - Discussions
  - Ideas
  - Brainstorming
  - Thinking

VALUE 02

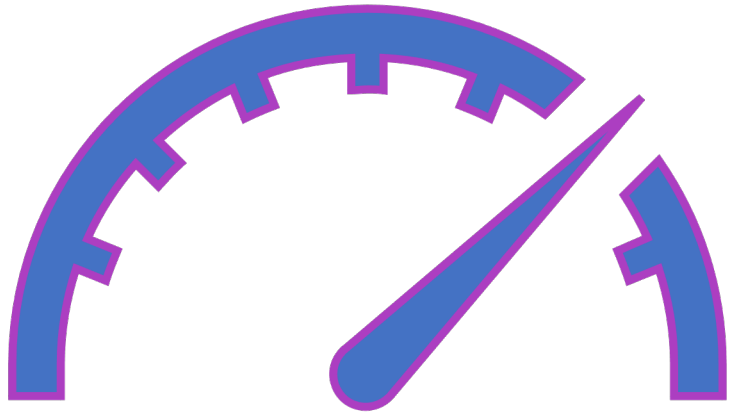
A basic software with basic features should be created first and should be given to the end users

Based on the feedback, continue development

Rectify mistakes	Improve experience	Add value directly to users

VALUE 002

Competitive advantage is extremely important when it comes to early and timely delivery of value !



WHAT IS COMPETITIVE ADVANTAGE?

- Advantage over competitors gained by offering consumers greater value.
- Either by means of lower prices.
- By providing greater benefits and service that justifies higher prices.
- By Providing a Unique solution earlier to the Customers facing a Problem.

MINIMUM VIABLE PRODUCT | MVP

- ***A minimum viable product***, or MVP, is a **product** with enough features to attract **early**-adopter customers and validate a **product** idea **early** in the **product** development cycle. In industries such as software, the MVP **can** help the **product** team receive user feedback as quickly as possible to iterate and improve the **product**.

VALUE 002

- In addition, software requirements definitions are often
- **Laborious** | **Requiring considerable time and effort**
- **Protracted** Lasting for a long time or longer than expected or usual.

VALUE 003

Customer collaboration

Over

Contract negotiation

VALUE 003

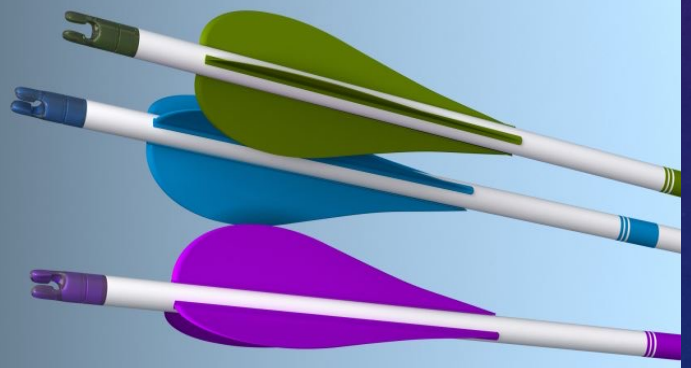
- In traditional methods, customer was involved at the beginning to negotiate a contract
- Then in the middle if any changes or re-negotiation has to be done
- Then after project completion
- Development process was more focused on to fulfil what’s written in the contract.

VALUE 003

- **Value for Customers?**
- **There for the Goal for Delivering to Customers would be to increase the Benefit and Reduce the Price**

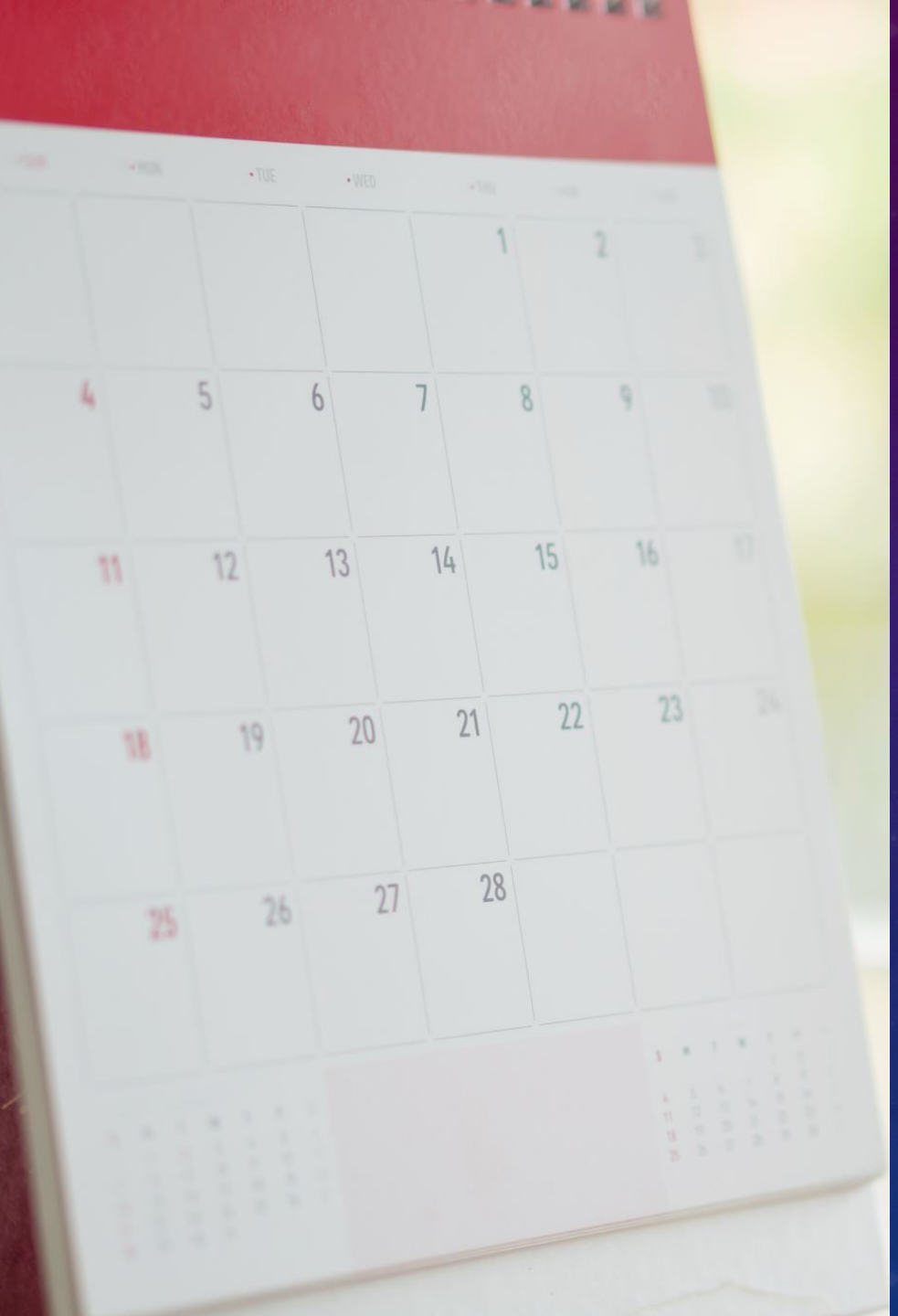
VALUE 003

- Instead of What the customer wants
- If software is developed without consistent customers feedback, then output is not what is satisfactory for the customer
- In Agile, whatever is being developed is also being seen by the customer
- Whenever customer sees project is going in the wrong direction, he can steer it in the right direction by providing the feedback.



VALUE 003

- Schwaber (2007), said that in using traditional practices *about 50%* of the time is spent on *requirements, architecture and specification*, and that all this is done even before building any functionality.



- *However, 35% of the requirements change and 65% of the features described by the requirements are never or rarely used.*

- Augustine (2005), the traditional project management approaches are not compatible with the complexity and dynamic change of software.

VALUE 004

Respond to change

Over

Following the plan

VALUE 004

What happened in Waterfall or Traditional methods

- Create detailed plan and then follow through out
- Traditional methods hated change
- Who else hated change?
- Rigidity kills change

Respond to change over following the plan

- In Agile, the agility lets us have a plan and then make changes as the event unfolds,
- Example, a new UI element discovered,
- A new animation to be added,
- A new functionality to be added
- A new feature that a competitor is having we wanted to add that
- New events are not seen as obstacles.

Respond to change over following the plan

Chin (2004), there are situations in which traditional methods have significant limitations, for example, when the degree of innovation is high.

Difference between Agile and Traditional Management Approaches

(Hoda, Noble and Marshall 2008)

Categories	Traditional	Agile
Development Model	Linear Models (WaterFall)	Iterative
Focus	Process	People/Interactions
Management	Control	Facilatate
Customer Involvement	During requirment definitions and on the Delivery and some where in middle	Always involved
Product Features	All included	Develop Most important first
Testing	At the end of Development cycle	Iterative
Documentation	Comprehensive	Only when neccesaary

EXAMPLE STATEMENTS

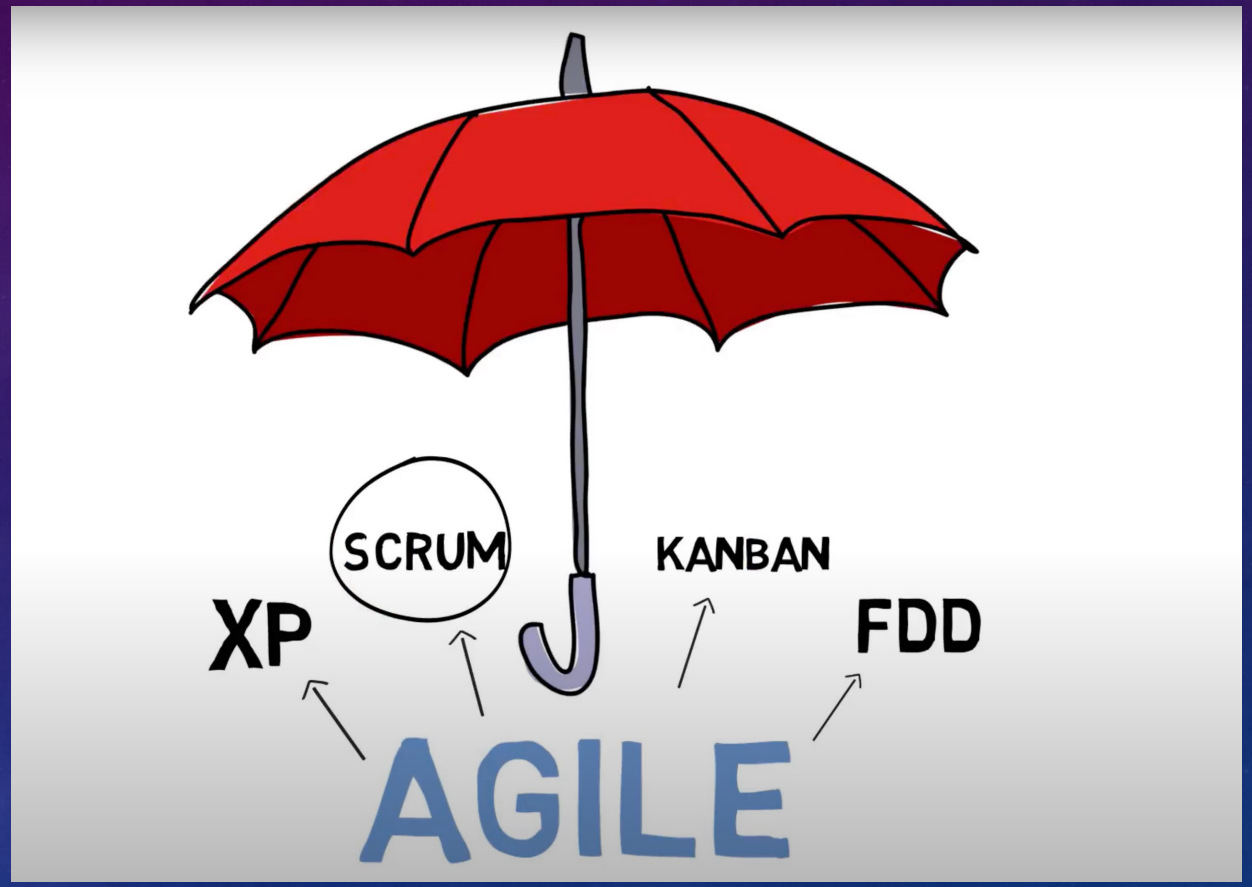
Read the following statement – which value of agile does it violate.

- Example – "*There is a project, where we have to collect requirements from the business owner. Our boss asks the business owner to list down all the requirements and sign off on them before beginning the work*".

FRAMEWORKS OF AGILE

SO, Agile is an Umbrella term Under which there are many frameworks.

- Scrum
- XP
- KANBAN
- Crystal
- Lean Development
- Feature Driven Development



SOME RELATED RESEARCH WORK

- Cervone (2011) said that when considered the traditional project management approach *several disadvantages* are immediately evident.
- The enormous effort required during the project planning phase is often so broad that about half of the project funds are spent even before any development work begins.

¡GRACIAS!