Course 2 - Agile foundation and fundamentals

Inginerie Software

An universitar 2022 - 2023

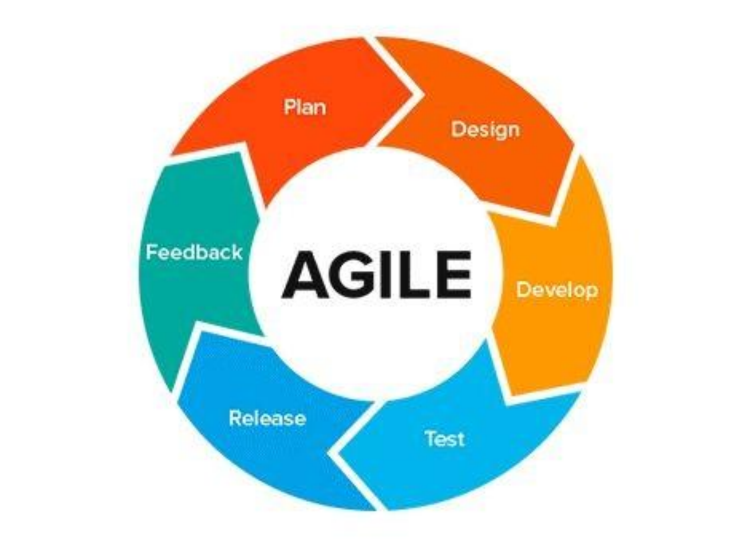
Agenda

- *Agile Foundation Introduction*
- *When is Agile Appropriate*
- *Agile Manifesto -> values and principles*
- *Project Charter*
- *Product Roadmap*
- *Product Backlog: Epic, Stories, Enablers*
- *Value-Based Prioritization*
- *Q&A*

Agile Foundation Introduction

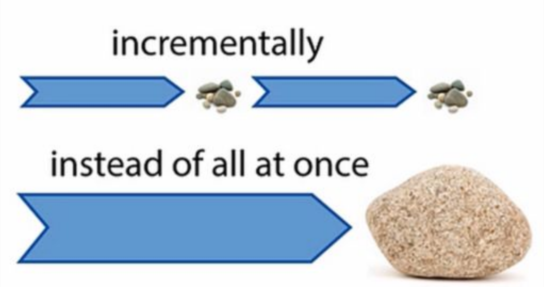
The Agile way

is a way to manage a project by breaking it up into several phases. It involves constant collaboration with stakeholders and continuous improvement at every stage. Once the work begins, teams cycle through a process of planning, executing, and evaluating.



Agile Foundation Introduction

Agile Project Management is an iterative approach to managing software development projects that focuses on continuous releases and incorporating customer feedback with every iteration



- Incremental delivery
- Early feedback
- Immediately add value

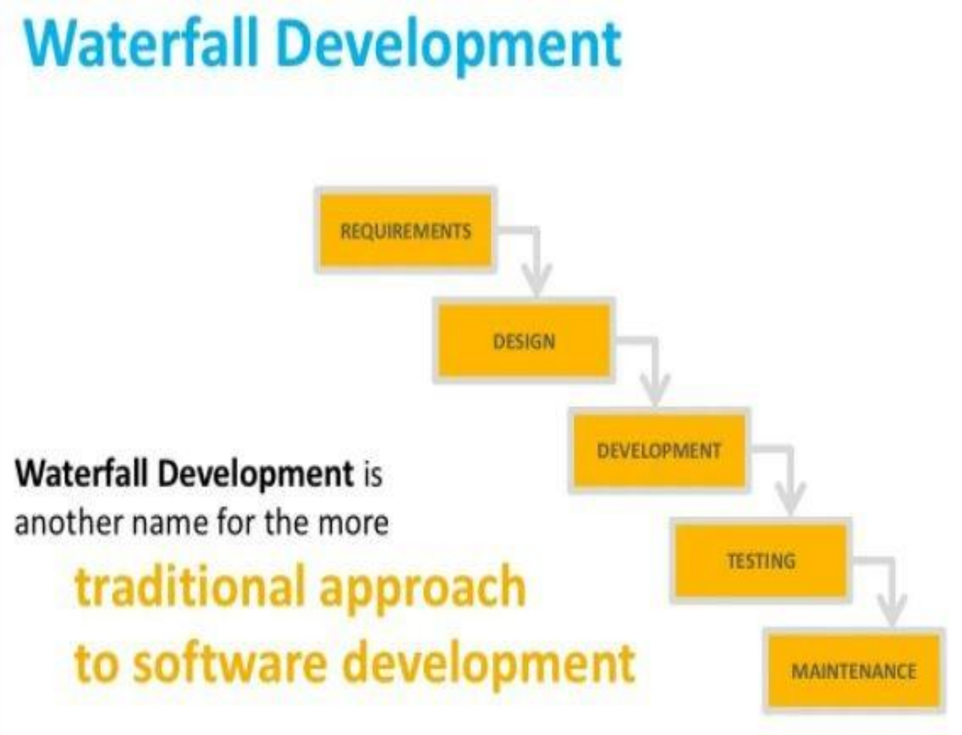
AGILE KEY ELEMENTS

PLAN
Plan what you are going to accomplish in a certain timeframe, deliver, learn, re-plan

DELIVER
Frequent delivery of a work product allows for immediate feedback and learning

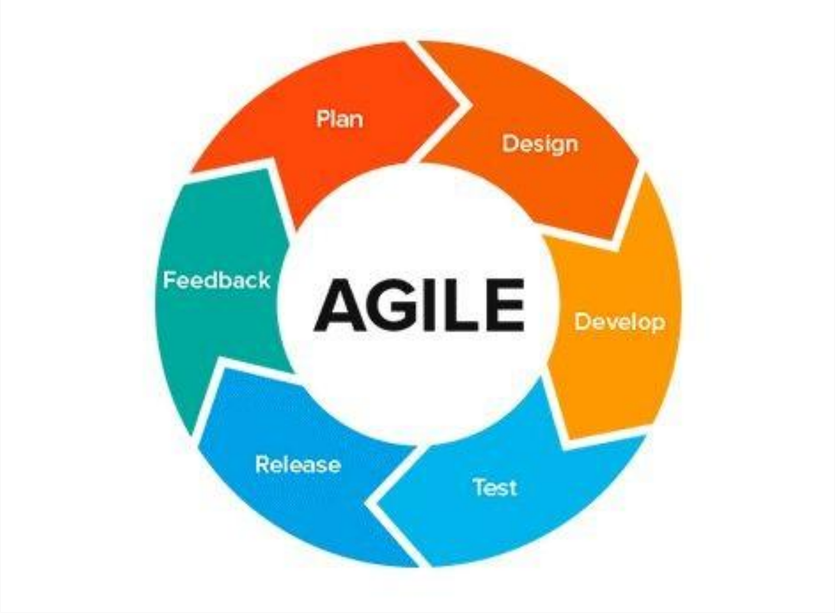
LEARN
Learn. Improve. Adapt

When is agile appropriate?



Waterfall Development

Waterfall Development is another name for the more traditional approach to software development



Software development processes. Waterfall vs Agile

Waterfall was the most common software development process.

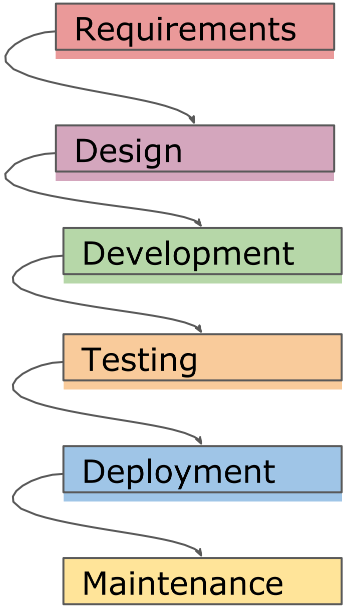
It is a phased approach to project and product delivery were requirements, design, and development are exhaustively completed in one phase and never revisited.

Waterfall is best for projects with **concrete timelines and well-defined deliverables**. If your major project constraints are well understood and documented, Waterfall is likely the best approach.

Waterfall model works well when:

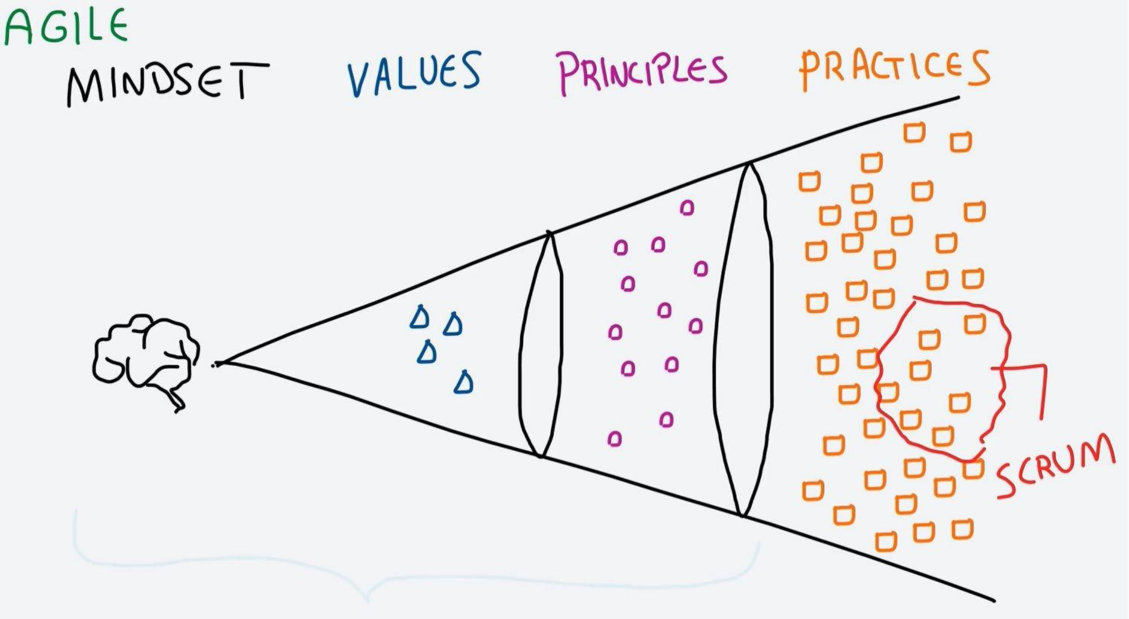
- Requirements are very clear and fixed.
- **Strict Regulatory** Requirements
- **Strict Processes** in Place
- No Product Owner Availability *
- Enhancement to Existing Products or development of the same feature
- Small sized projects *
- Fixed, Inflexible Time or Budget *
- **In Agile projects, some parts that are completely predictive can be managed in an waterfall manner, where an agile approach is not sutten and adequate plans are needed.**

***) and no Agile mindset at organisation level**



Software development processes. Waterfall vs Agile

Agile is not a process, is a MINDSET based on a set of values, on which principles and practices are applied, reviewed and updated.



Agile Manifesto: values and principles

Individuals and interactions over processes and tools

Working software over comprehensive documentation

Customer collaboration over contract negotiation

Responding to change over following a plan

The 12 Agile Principles

Satisfy Customers Through Early & Continuous Delivery

By applying this concept, you will increase your process's agility and respond to changes. On the other hand, your customers will be happier because they will get the value they are paying for more frequently.

Welcome Changing Requirements Even Late in the Project

Change requests should be most welcome even at the late stages of project execution.

Deliver Value Frequently

This principle became necessary due to the extensive amounts of documentation. You will reduce the time frame for which you are planning and spend more time working on your projects.

The 12 Agile Principles

Break the Silos of Your Project

The goal is to create a synchronization between the people who create value and those who plan or sell it. This way, you can make internal collaboration seamless and improve your process performance.

Build Projects Around Motivated Individuals

Reducing micromanagement and empowering motivated team members, projects will be completed faster and with better quality. So, trust your team!

The Most Effective Way of Communication is Face-to-face

By communicating in person, you reduce the time between asking a question and receiving an answer. However, in the modern work environment where teams collaborate across the globe, it provides a severe limit

The 12 Agile Principles

Working Software is the Primary Measure of Progress

It doesn't matter how many working hours you've invested in your project, how many bugs you managed to fix, or how many lines of code your team has written.
If the result of your work is not the way your customer expects it to be, you are in trouble

Maintain a Sustainable Working Pace

Your goal is to avoid overburden and optimize the way you work so you can frequently deliver to the market and respond to change without requiring personal heroics from your team.

Continuous Excellence Enhances Agility

When you maintain operational excellence, you will have less trouble reacting to changes and maintaining agility.

The 12 Agile Principles

Simplicity is Essential

If you can do something in a simple way, why waste time complicating it? Your customers are not paying for the amount of effort you invest.

Self-organizing Teams Generate Most Value

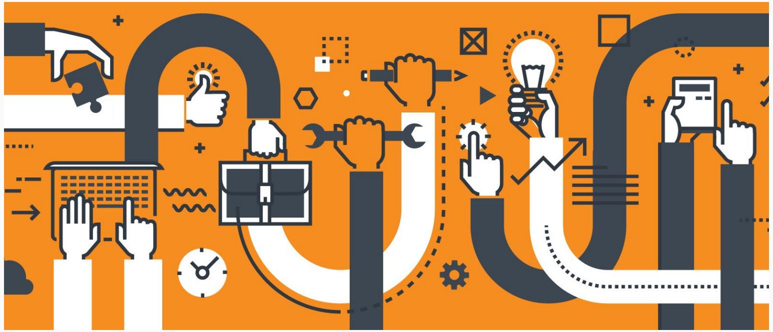
we realize that when provided with freedom, motivated teams generate the most value for the customer.

Regularly Reflect and Adjust Your Way of Work to Boost Effectiveness

By doing this, you will be able to experiment and improve your performance continuously. If things don't go as you've planned, you can discuss what went wrong and adjust to get back on track.

Project Charter

A project charter is a formal, typically short document that describes the project in its entirety and gives project managers the authority to act on behalf of a project.

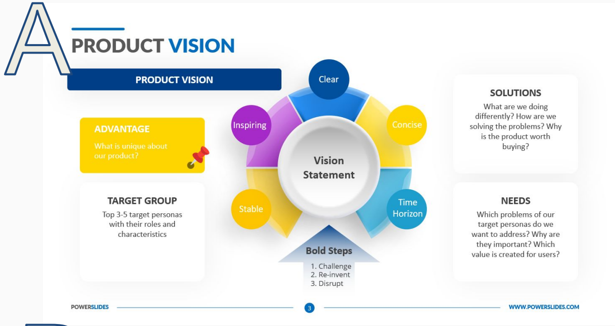


Project charters are necessary for ensuring the successful completion of all objectives, which is essential for any project, including Agile projects. They represents a living, updateable documents that serves as a roadmap through the Agile process. It outlines a project's scope, objectives, and deliverables, ensuring that everyone is working toward a common purpose.

Project Charter

The Project Charter consists of the following data elements:

A



PRODUCT VISION

PRODUCT VISION

ADVANTAGE
What is unique about our product?

TARGET GROUP
Top 3-5 target personas with their roles and characteristics

Vision Statement

Clear

Concise

Time Horizon

Bold Steps
1. Challenge
2. Re-invent
3. Disrupt

Stable

Inspiring

SOLUTIONS
What are we doing differently? How are we solving the problems? Why is the product worth buying?

NEEDS
Which problems of our target personas do we want to address? Why are they important? Which value is created for users?

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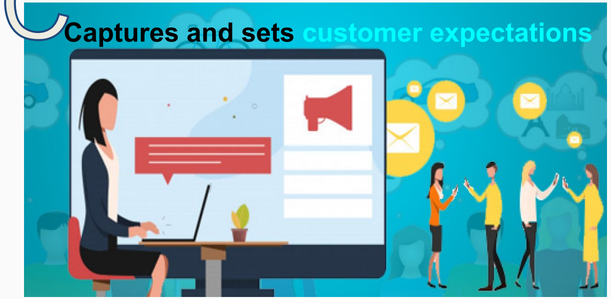
B

C

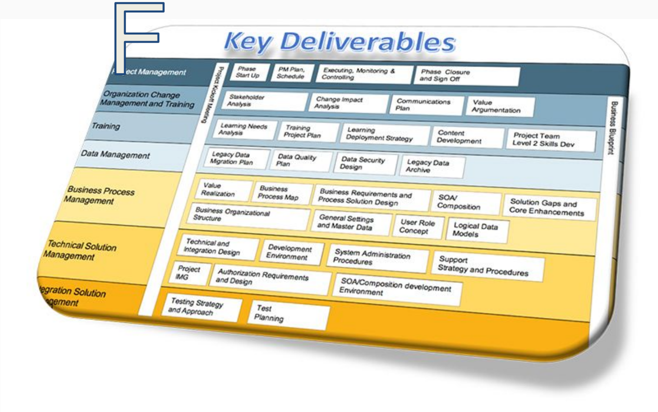

Captures and sets customer expectations

D

Project Sucess Criteria

E

F



Key Deliverables

Project Management: Phase Start Up; PM Plan, Schedule; Executing, Monitoring & Controlling; Phase Closure and Sign Off

Organization Change Management and Training: Stakeholder Analysis; Change Impact Analysis; Communications Plan; Value Argumentation

Training: Learning Needs Analysis; Training Project Plan; Learning Deployment Strategy; Content Development; Project Team Level 2 Skills Dev

Data Management: Legacy Data Migration Plan; Data Quality Plan; Data Security Design; Legacy Data Archive

Business Process Management: Value Realization; Business Process Map; Business Requirements and Process Solution Design; SOA/ Composition; Solution Gaps and Core Enhancements; Business Organizational Structure; General Settings and Master Data; User Role Concept; Logical Data Models

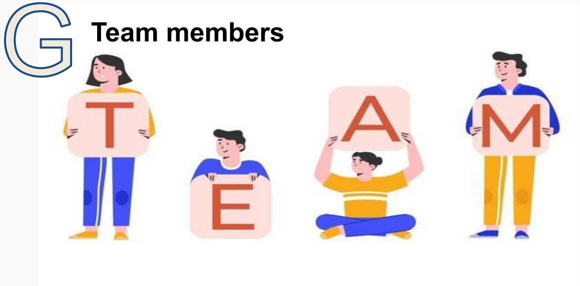
Technical Solution Management: Technical and Integration Design; Development Environment; System Administration Procedures; Support Strategy and Procedures; Project IMG; Authorization Requirements and Design; SOA/Composition development Environment

Integration Solution Management: Testing Strategy and Approach; Test Planning

Project Charter

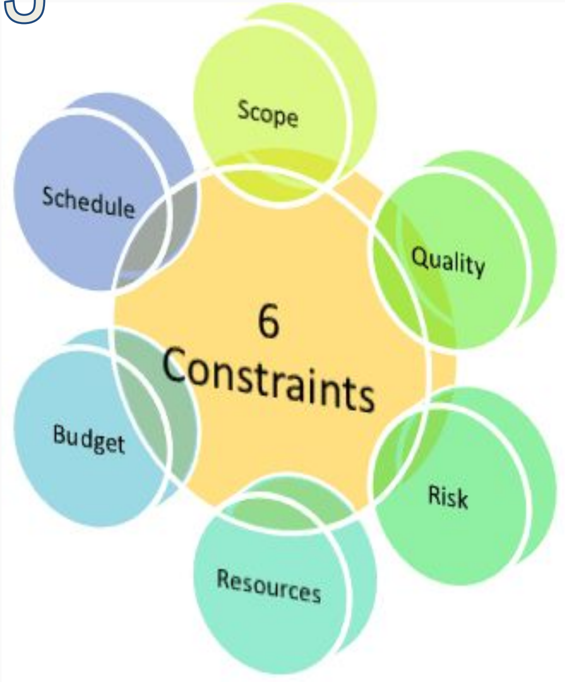
The Project Charter consists of the following data elements:

G **Team members**

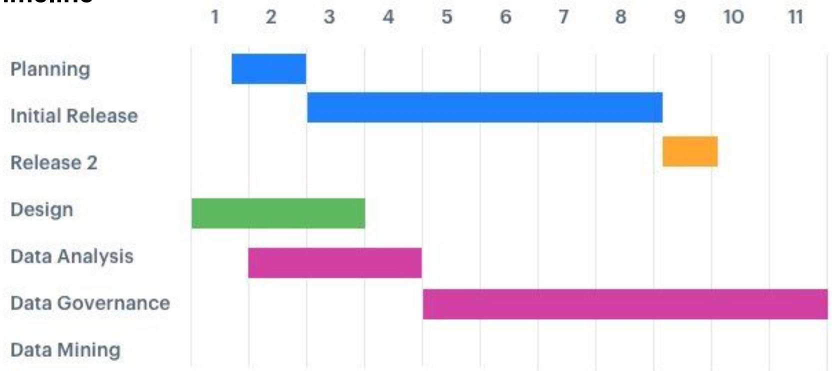


I

J **Assumptions and constraints**



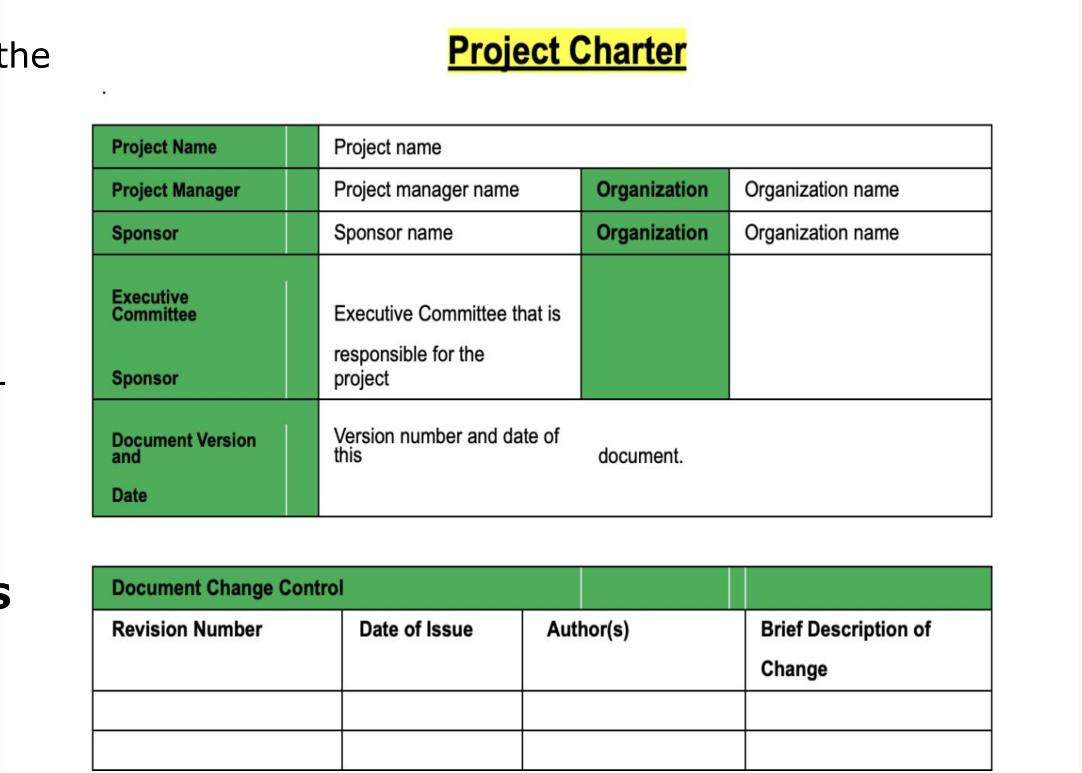
H **Timeline**



Project Charter

From a project management perspective, the document:

- Establishes the **vision state** for the project
- Defines key **goals** and requirements
- Captures and sets **customer expectations**
- Defines project participants and their **roles**
- Defines **limits and constraints**
- Establishes all **resource** needs and overall cost targets
- Creates a high level view to the **WBS** and schedule
- Initiates **negotiation and tradeoff**
- Ultimately **define success**.



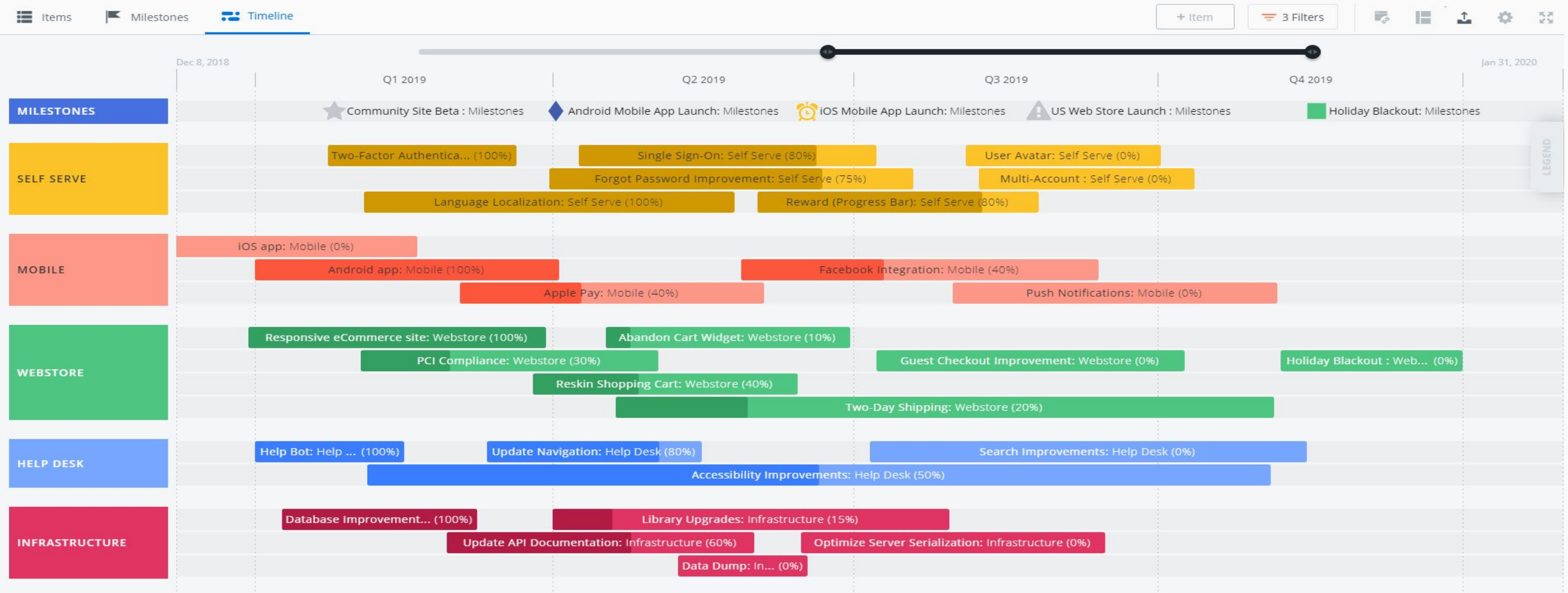
Project Charter

Project Name	Project name		
Project Manager	Project manager name	**Organization**	Organization name
Sponsor	Sponsor name	**Organization**	Organization name
Executive Committee **Sponsor**	Executive Committee that is responsible for the project		
Document Version and Date	Version number and date of this document.		

Document Change Control			
Revision Number	**Date of Issue**	**Author(s)**	**Brief Description of Change**

Product Roadmap

A product roadmap is **a shared source of truth that outlines the vision, direction, priorities, and progress of a product over time**. It is a plan of action that aligns the organization around short and long-term goals for the product or project, and how they will be achieved.


Items
Milestones
Timeline
+ Item
3 Filters
Dec 8, 2018
Jan 31, 2020
Q1 2019
Q2 2019
Q3 2019
Q4 2019
LEGEND
MILESTONES
Community Site Beta : Milestones
Android Mobile App Launch: Milestones
iOS Mobile App Launch: Milestones
US Web Store Launch : Milestones
Holiday Blackout: Milestones
SELF SERVE
Two-Factor Authentica... (100%)
Single Sign-On: Self Serve (80%)
User Avatar: Self Serve (0%)
Forgot Password Improvement: Self Serve (75%)
Multi-Account : Self Serve (0%)
Language Localization: Self Serve (100%)
Reward (Progress Bar): Self Serve (80%)
MOBILE
iOS app: Mobile (0%)
Android app: Mobile (100%)
Facebook Integration: Mobile (40%)
Apple Pay: Mobile (40%)
Push Notifications: Mobile (0%)
WEBSTORE
Responsive eCommerce site: Webstore (100%)
Abandon Cart Widget: Webstore (10%)
PCI Compliance: Webstore (30%)
Guest Checkout Improvement: Webstore (0%)
Holiday Blackout : Web... (0%)
Reskin Shopping Cart: Webstore (40%)
Two-Day Shipping: Webstore (20%)
HELP DESK
Help Bot: Help ... (100%)
Update Navigation: Help Desk (80%)
Search Improvements: Help Desk (0%)
Accessibility Improvements: Help Desk (50%)
INFRASTRUCTURE
Database Improvement... (100%)
Library Upgrades: Infrastructure (15%)
Update API Documentation: Infrastructure (60%)
Optimize Server Serialization: Infrastructure (0%)
Data Dump: In... (0%)

Product Roadmap

Why are product roadmaps important?

Roadmaps help create alignment and excitement around a product strategy

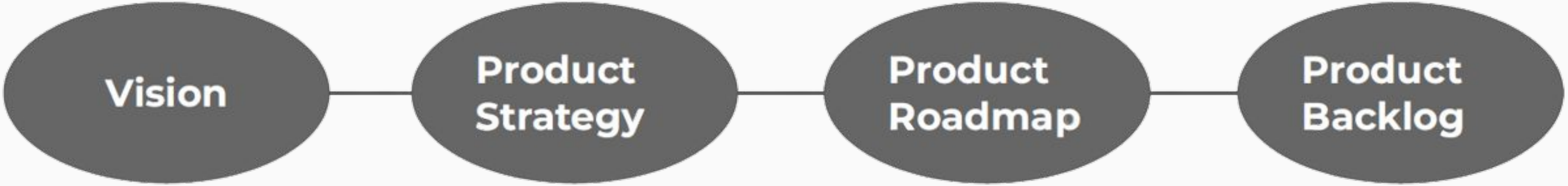
This visibility works to the product manager’s advantage from top to bottom

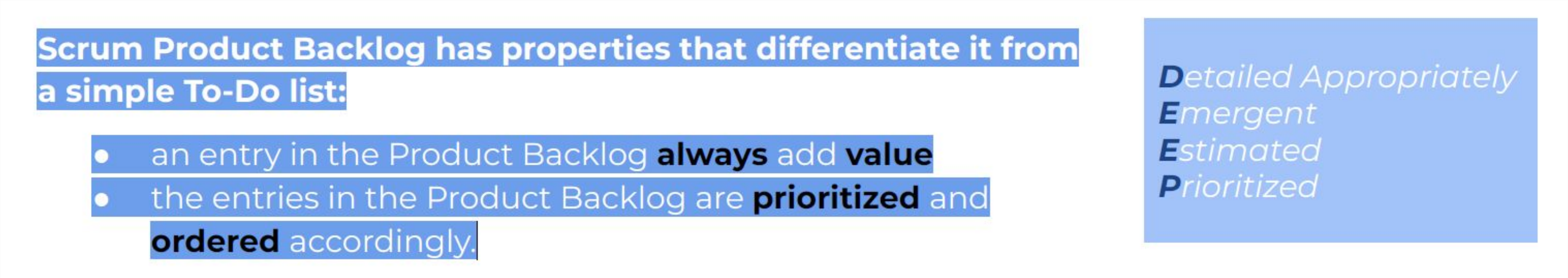
Roadmaps facilitate cross-functional team collaboration and clarity around priorities

A product roadmap is a powerful channe of communication

Product Backlog: Epics, Stories, Enablers

A product backlog represents a list of the new features, changes to existing features, bug fixes, infrastructure changes or other activities a team may deliver to achieve a specific outcome

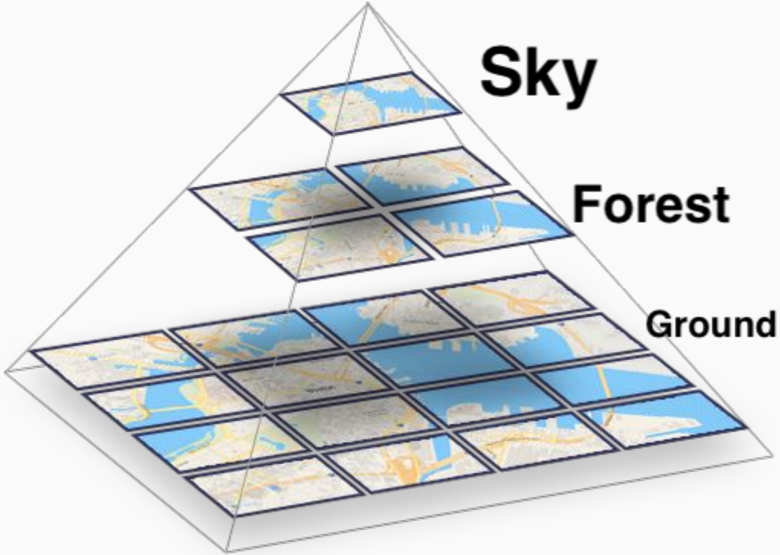



Scrum Product Backlog has properties that differentiate it from a simple To-Do list:

- an entry in the Product Backlog **always** add **value**
- the entries in the Product Backlog are **prioritized** and **ordered** accordingly.

D_etailed Appropriately_
E_mergent_
E_stimated_
P_rioritized_

Product Backlog management process



- **Sky - very high-level** ; business or concept level; **low accuracy**: deviations of up to 100%.
- **Forest - high-level**; feature level; **medium accuracy**: deviations of up to 50%.
- **Ground - refined** items, **mandatory for sprint planning**; **higher accuracy:** deviations of up to 20%.

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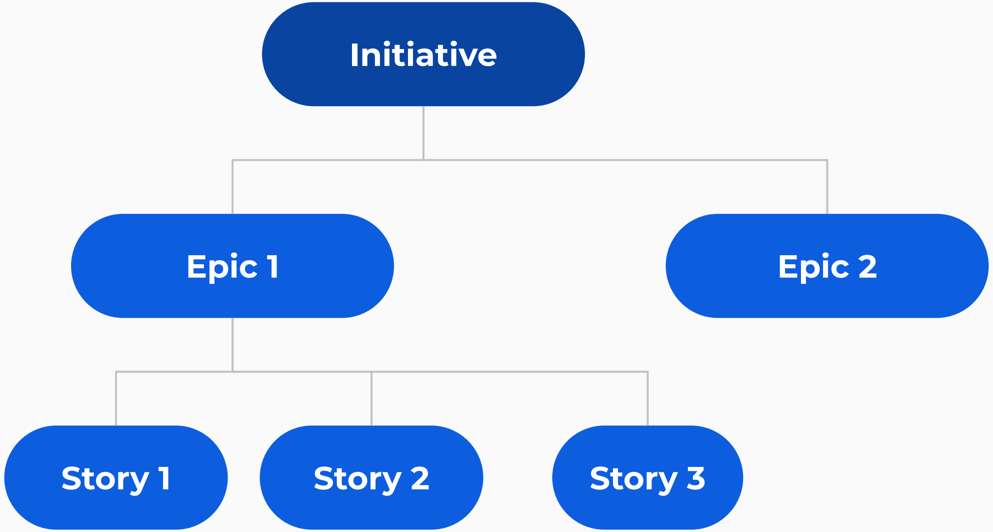
Product Backlog Structure

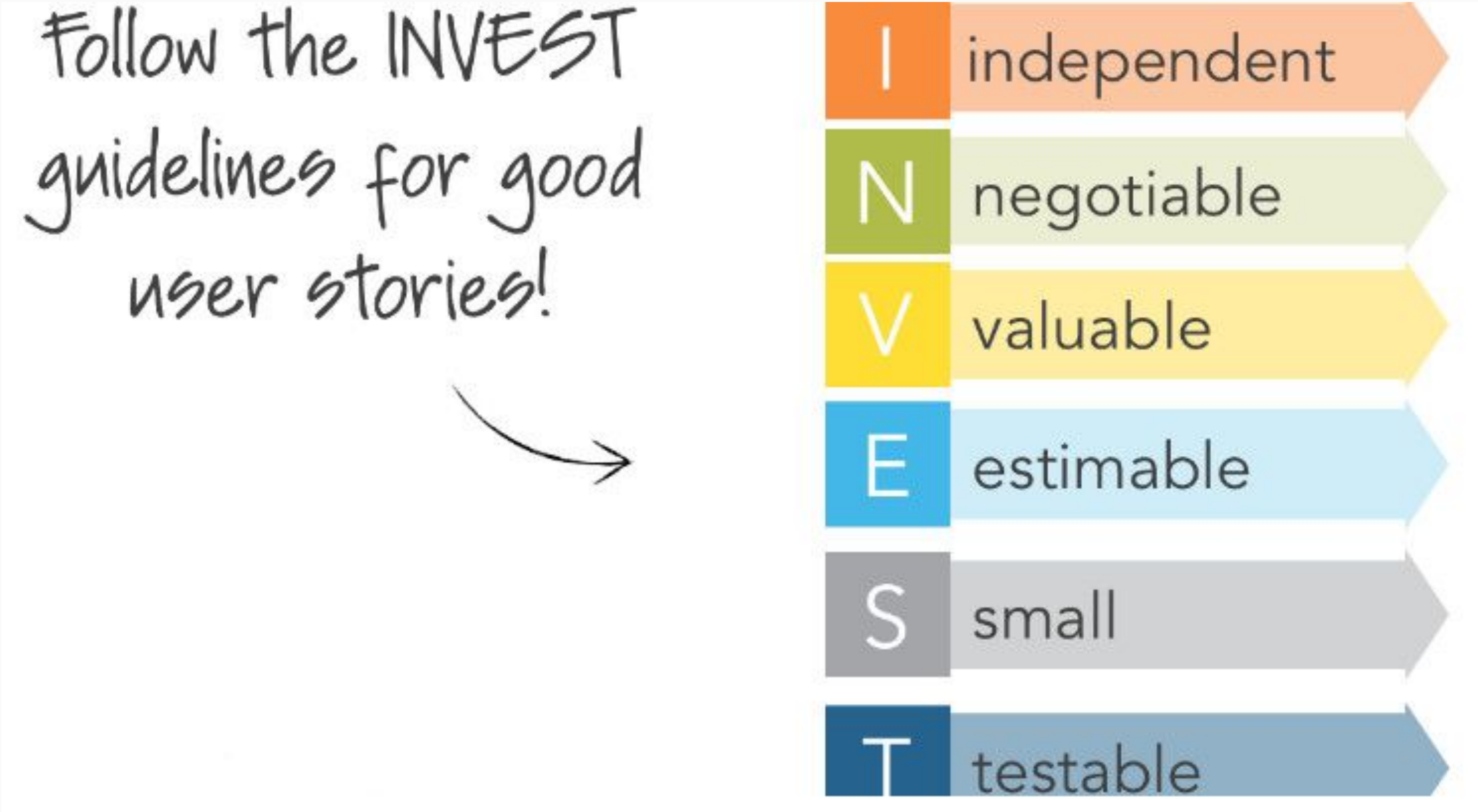


Collections of epics that drive toward a common goal

Large bodies of work that can be broken down into a number of smaller tasks (called stories).

"***user stories***," are short requirements or requests written from the perspective of an end user.

Product Backlog: Epics, Stories, Enablers



Follow the INVEST guidelines for good user stories!

- I independent
- N negotiable
- V valuable
- E estimable
- S small
- T testable

Value-based Prioritization

Value-Based Prioritization is a core principle of the SCRUM framework, a popular methodology for agile software development.

The process of prioritization involves determining what must be done now, and what can wait until a later date within in the project. Within the SCRUM framework, three factors influence prioritization:

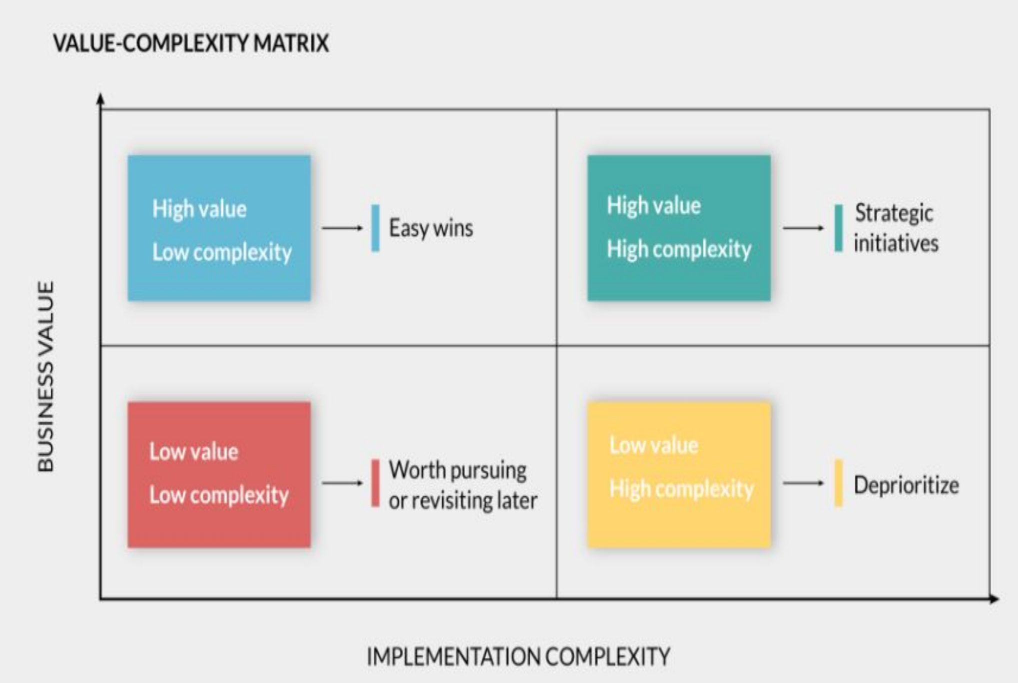
- Value
- Risk or uncertainty
- Dependencies or story matrix

By evaluating each of these factors, SCRUM teams prioritize user stories to deliver maximum value to the customer in the least amount of time.

Value-based Prioritization

Business "value" depends on strategic objectives: a feature's usefulness for customers, employees, or suppliers; its ability to generate revenue, traffic, or publicity; positive impact on product performance, security, and reliability.

Useful for addressing **uncertainty** about underlying assumptions: how long a feature might take to complete, how much it might cost, your team's ability to execute, or how much executive support a project might receive.



VALUE-COMPLEXITY MATRIX

BUSINESS VALUE

High value Low complexity → Easy wins

High value High complexity → Strategic initiatives

Low value Low complexity → Worth pursuing or revisiting later

Low value High complexity → Deprioritize

IMPLEMENTATION COMPLEXITY

Dependency between User Stories means that **if US2 needs US1 then you must do US1 before US2**. Though the 'INVEST' criteria is applied for the stories as much possible, still there is dependency between stories because of the functional flow. Only when one is implemented the other can be started

Fastest growing tech company in Romania by Deloitte Fast 50

Course 2 - Agile foundation and fundamentals

Q&A