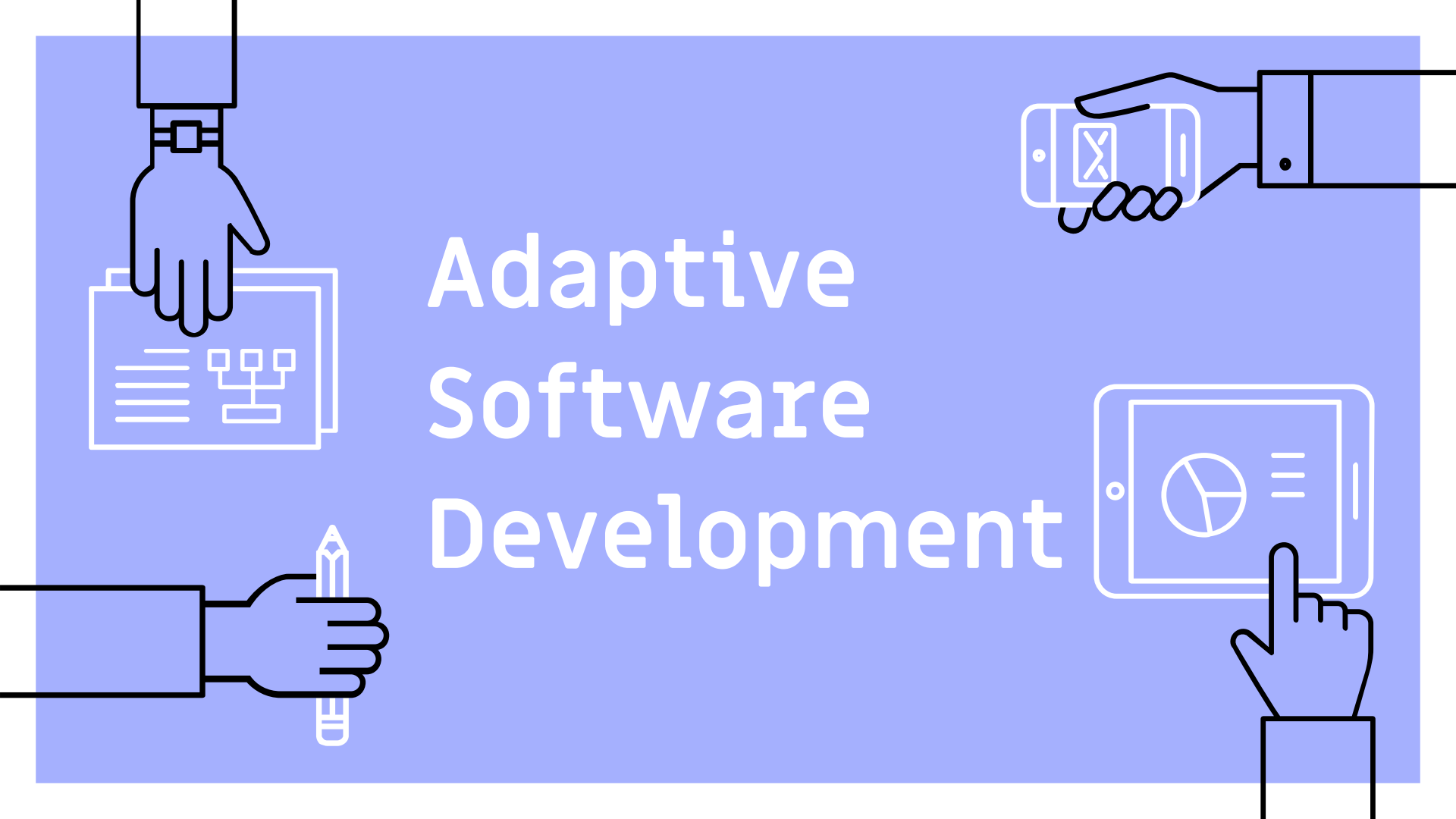
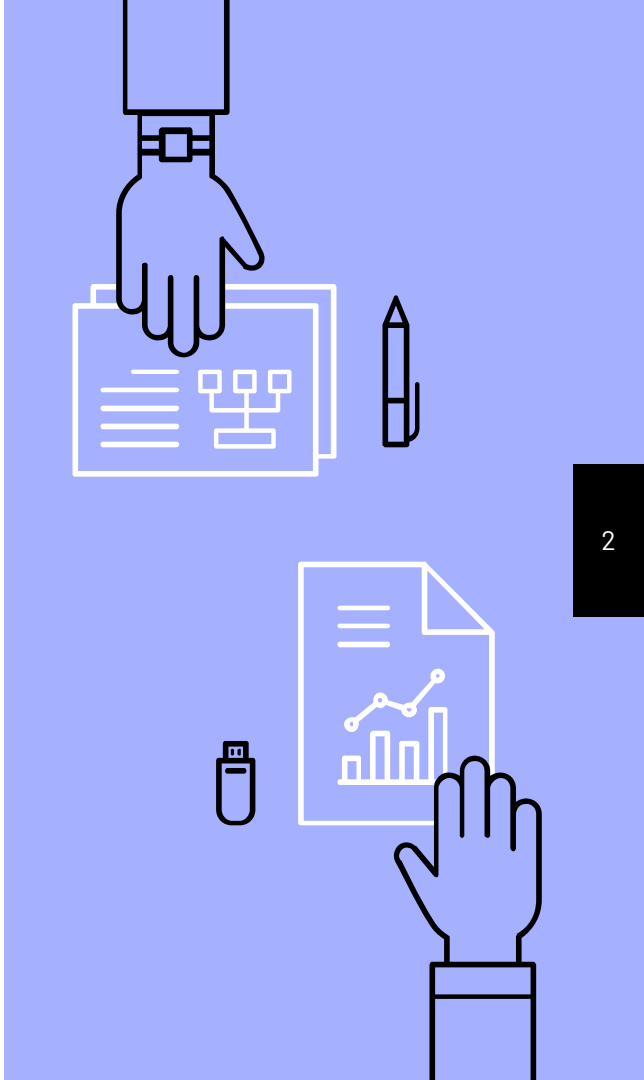
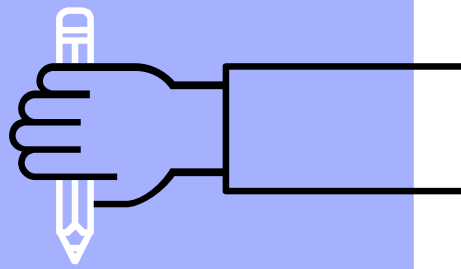
Adaptive Software Development



ASD HISTORY

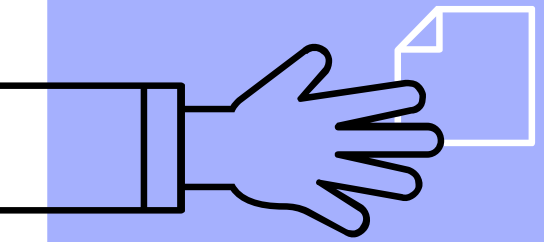
- Iterative software development process
- Proposed by Jim Highsmith and Sam Bayer
- Published in 2000
- Focused on rapid creation and evolution of software systems
- It is one of the agile development techniques





1.

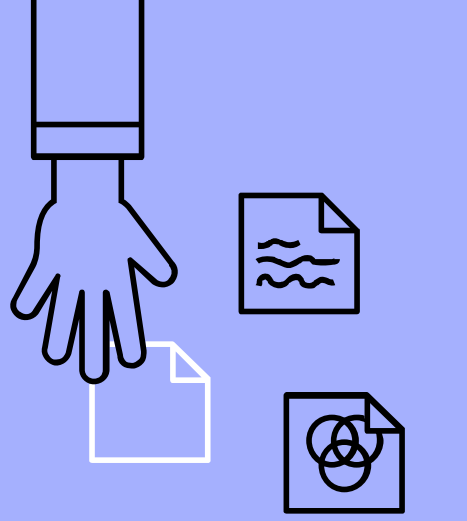
Principles, Values & Practices

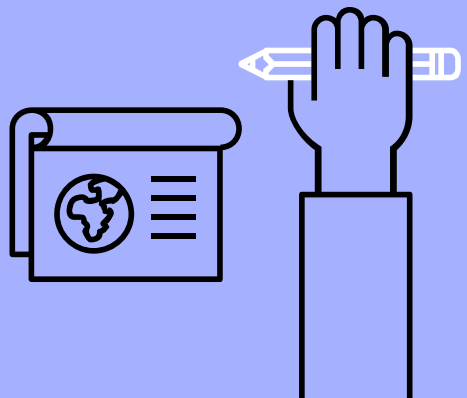


Replaces the traditional waterfall cycle which is feature-box oriented

Is time-box oriented

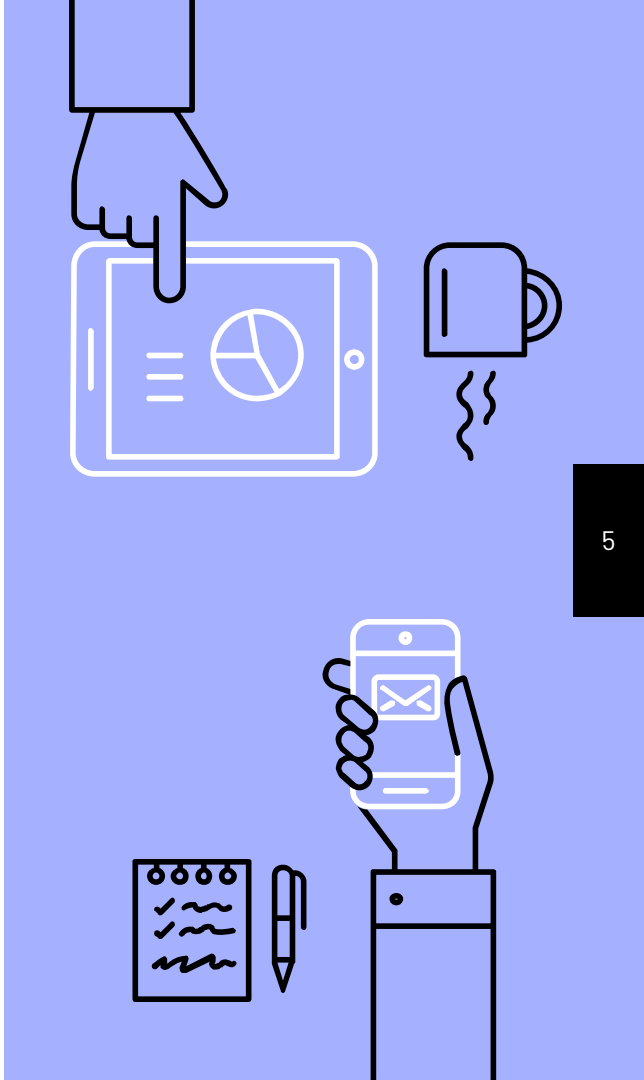
Characterized by constant change, re-evaluation and collaboration between parties

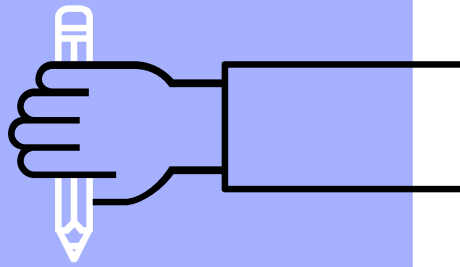




ASD life cycle has six basic characteristics:

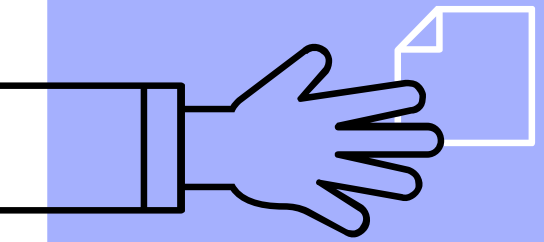
1. Mission focused
2. Feature based
3. Iterative
4. Time-boxed
5. Risk driven
6. Change tolerant



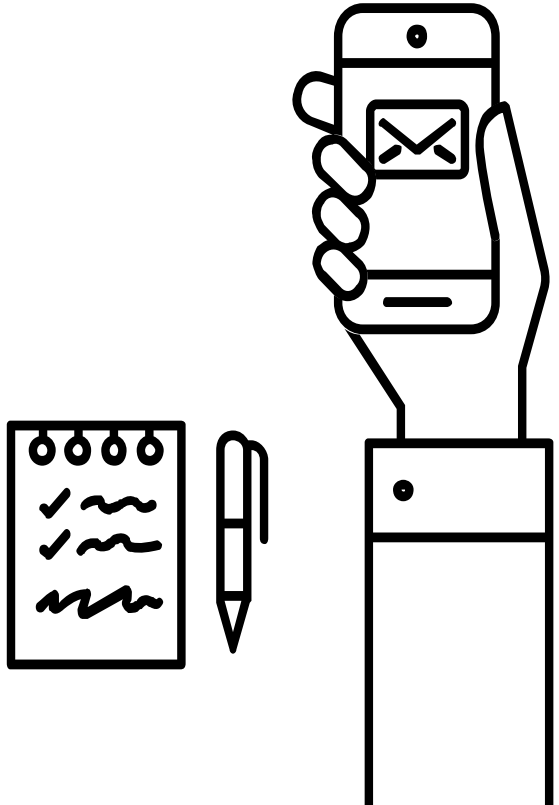


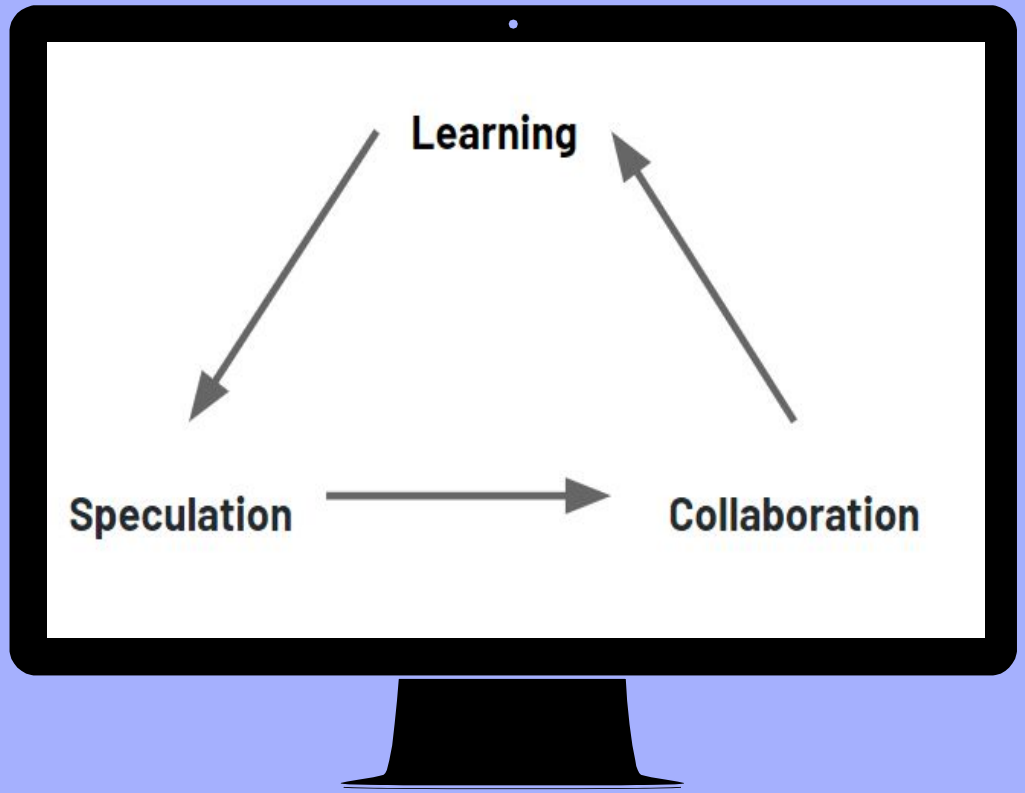
2.

Roles, Artefacts, Activities, Techniques & Tools



You do not navigate a company to a predefined destination. You take steps, one at a time, into an unknowable future. ... In the final analysis, it is the walking that beats the path. It is not the path that makes the walk.




Learning
Speculation
Collaboration

SPECULATION

Relies on bug and user reports to guide the project

The Speculation step is divided in project initiation phase and adaptive cycle planning

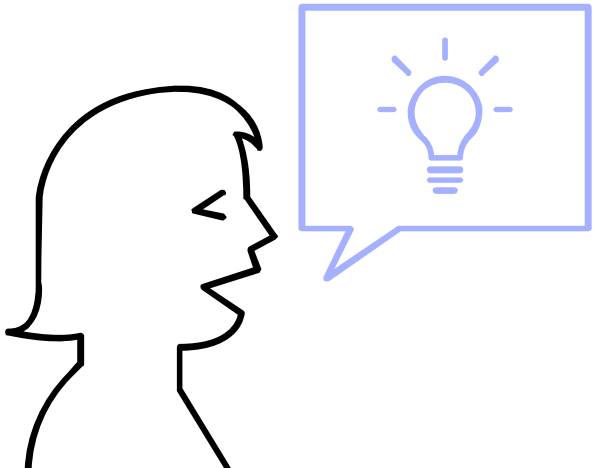
In the project initiation phase, the team and clients gather and determine the project's:

- Constraints
- Mission
- Organization
- System requirements
- Estimated size and scope

In the adaptive cycle planning phase, the client decides on which features take priority and the team assesses their risks and dependencies. Then a time box is set for the development of the next features, and is fixed regardless of whether the features are finished or not

COLLABORATION

Effective collaboration between teams is key and the client must give feedback

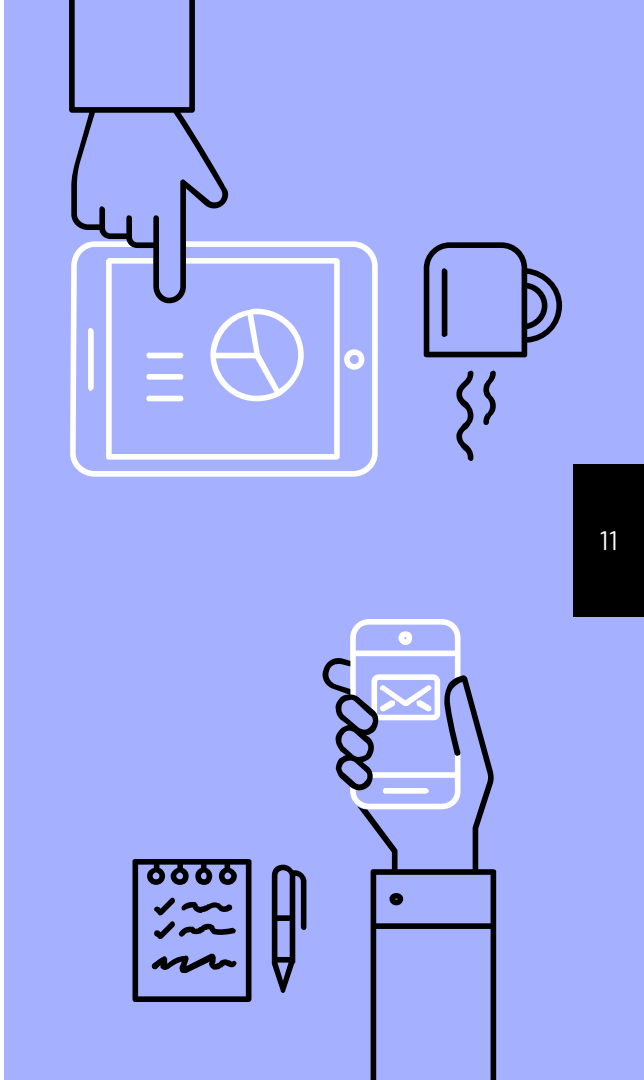


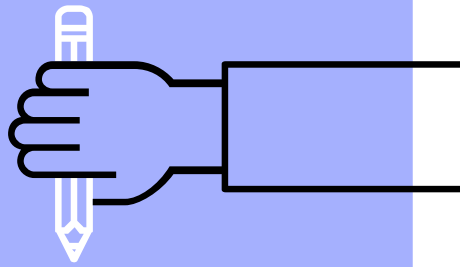
The efforts for balancing the work based on predictable parts of the environment, planning and guiding them, and adapting to the changes caused by various factors, such as technology, requirements, stakeholders and software vendors are the main focus.

In this high-information-flow environment, in which one person or small group can't possibly "know it all," collaboration skills (the ability to work jointly to produce results, share knowledge, or make decisions) are paramount.

LEARNING

- The learning cycles are based on the short iterations with design, build and testing
- Knowledge is gathered by making mistakes based on false assumptions and correcting those mistakes
- Focus groups, Technical reviews and Project *Postmortems* are conducted in this phase.
- Getting feedback from the customers is the first priority in this phase of Adaptive projects
- Derived from the concept of marketing focus groups, customer focus group sessions are designed to explore a working model of the application and record customer change requests.





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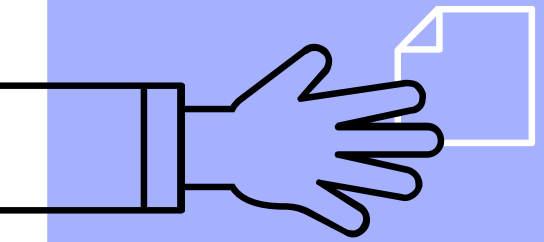
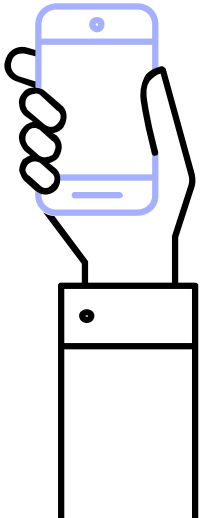
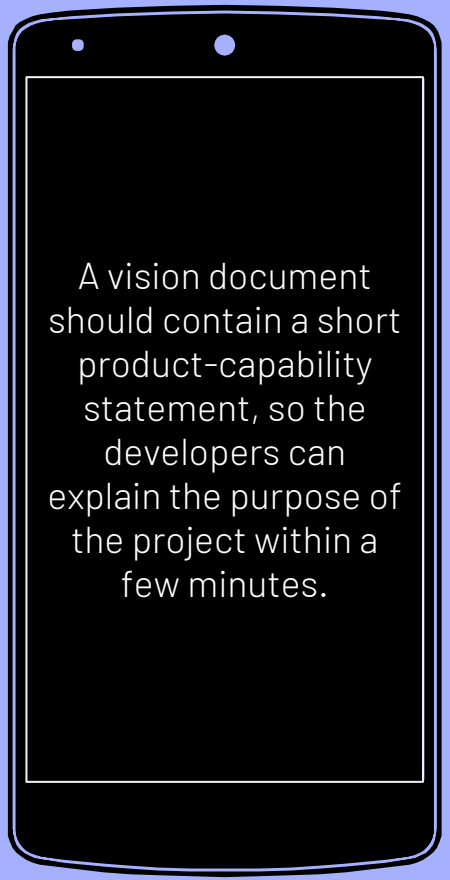
Artefacts



Project Vision (Charter)

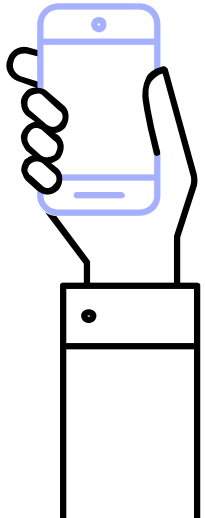
The project vision is recorded in a document, or artifact, which establishes a focus for the project and identifies the foundation on which to build the team's commitment.





Project Data Sheet (PDS)

The PDS is the minimum deliverable from any project initiation activity. Whatever the detailed contents of a project vision paper, a one page PDS should also be developed.

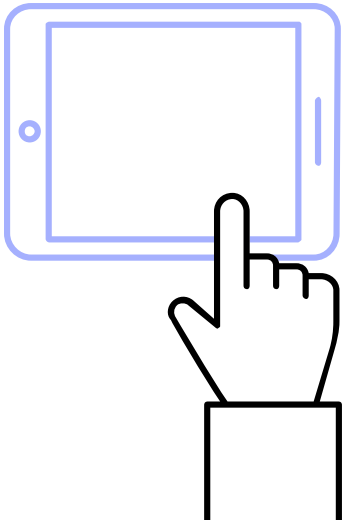


The PDS includes the following details:

-Clients / customers;
-Project objective statement;
-Features;
-Client benefits;
-Performance / quality attributes;
-Architecture;
-Issues/risks;
-Major project milestones;
-Core team members;

Product Mission Profile

It's an important tool for documenting focus, a contract between the development group and the executive sponsor or primary customer.

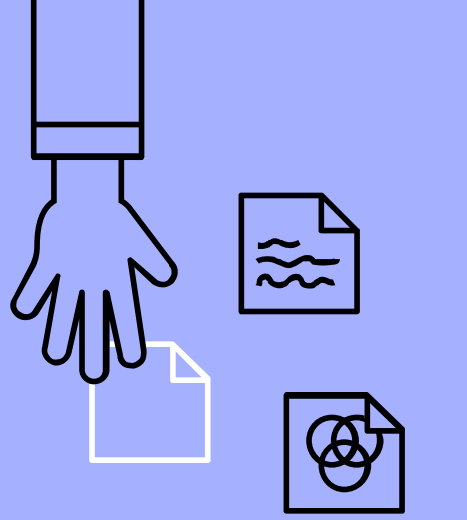


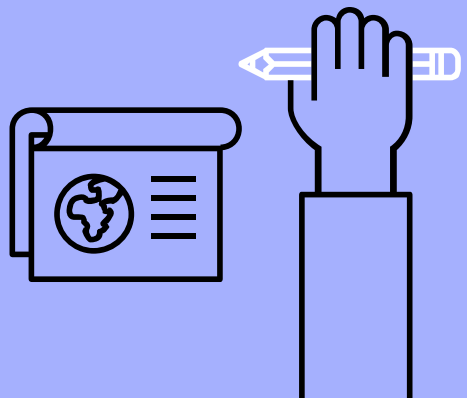
Mission Profile Matrix

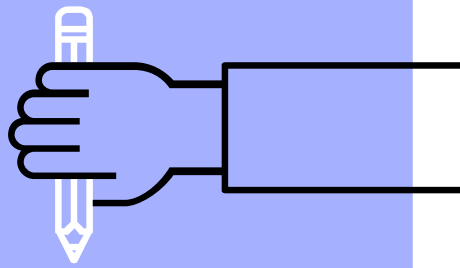
Product Quality Dimensions	Priority Level		
	Excel	Improve	Accept
Scope (Features)	♦		
Schedule		♦	
Defects			♦
Resources			♦

Project Specification Outline (PSO)

- It provides the stakeholders and core project team members with a reasonable understanding of the boundaries and scope of the development effort
- Is the baseline for size estimation.
- Facilitates adaptive cycle planning and is accomplished by assigning product features to specific cycles.
- The specification outline's primary objective is to define the features or functionality of the product







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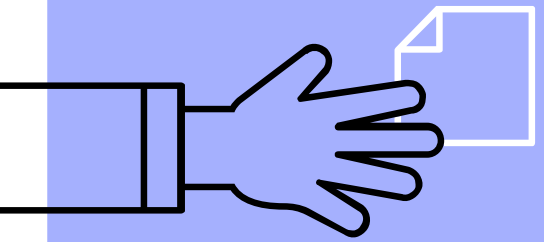
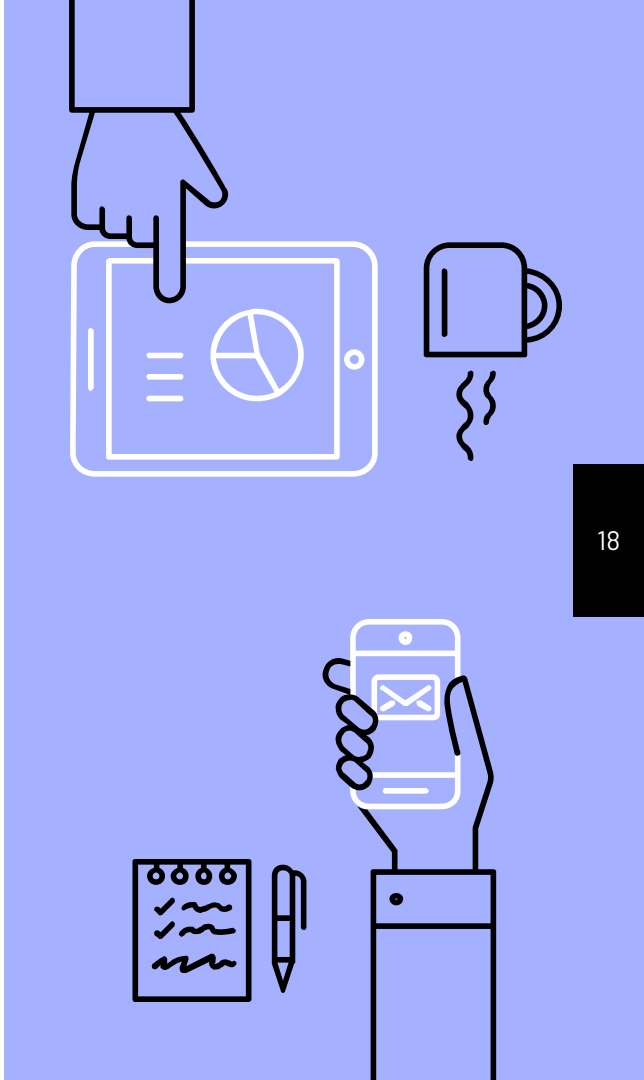
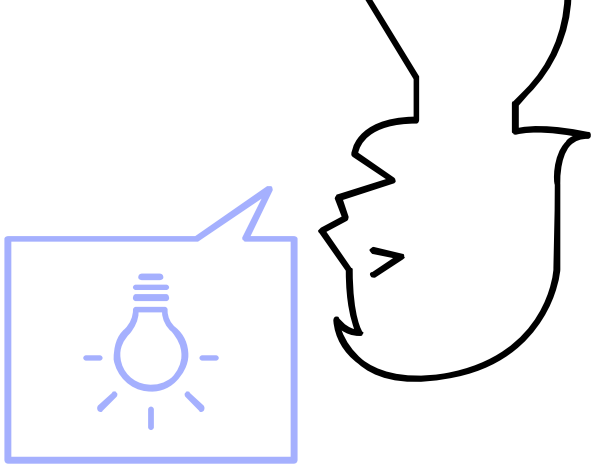
Pros and Cons

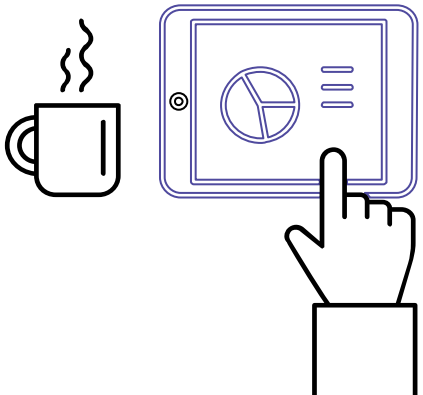


- Allows for transparency because developers explain the state of the project to the client before, during and after each stage.

- Generates high quality software, breaking down the project into components, concentrating on high quality development, testing of one component at a time, aids in producing a high quality end product.







- Requires a lot of the client's insight, thus requiring a lot of time from them
- Due to the lack of predictability, it is hard to develop the business case for the project and makes it even more difficult to negotiate for fixed prices and cost of the projects
- Testing at every stage helps deliver quality products but increases the cost of the project in the long run and brings a lot of projects to failure.

THANKS!

Any questions?

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