

# USER PROCESS STRUCTURES AND PHASES

## UP structure

Figure 3 shows the structure of UP.

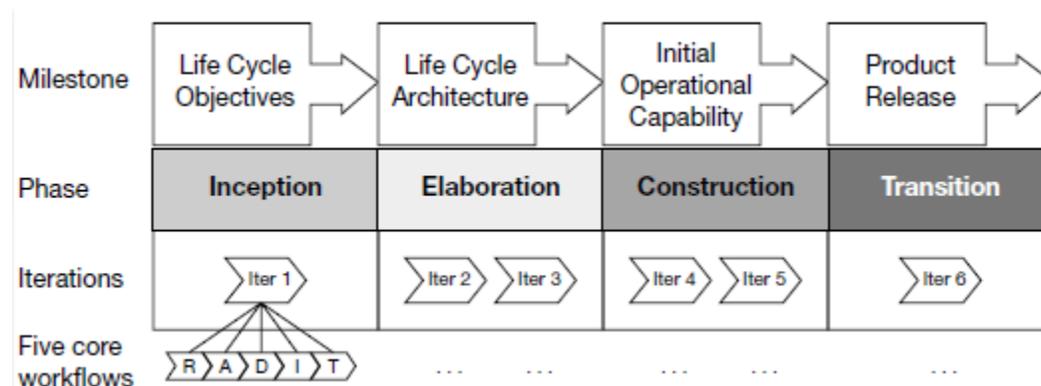


Figure: 3 UP structure

UP *has four phases* – Inception, Elaboration, Construction, and Transition – each of which ends with a major milestone. Within each phase we can have one or more iterations, and in each iteration we execute the five core workflows and any extra workflows.

The exact number of iterations per phase depends on the size of the project, but each iteration should not last formore than two to three months. Figure 4 is the key to understand how UP works.

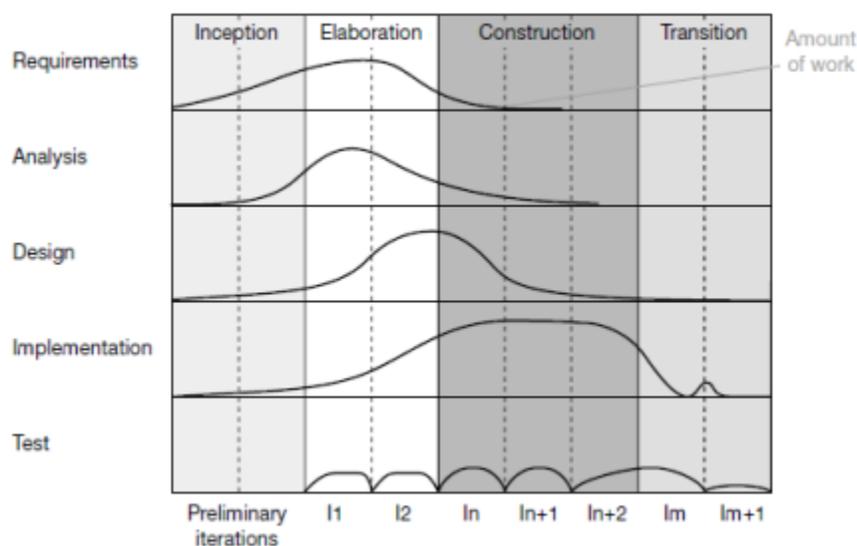


Figure:4 Working of UP

The curves show the relative amount of work done in each of the five core workflows, as the project progresses through the phases. As Figure 4 shows, in the Inception phase most of the work is done in requirements and analysis. In Elaboration phase the emphasis shifts to requirements, analysis and some design. In Construction phase the emphasis is clearly on design and implementation. Finally, in Transition phase the emphasis is on implementation and test.

The amount of work done in each core workflow varies according to the phase. One of the great features of UP is that it is a goal-based process rather than a deliverable – based process. Each phase ends with a milestone that consists of a set of conditions of satisfaction, and these conditions may involve the creation of a particular deliverable or not depending on the specific needs of your project.

### **UP phases**

Every phase has *a goal, a focus* of activity with one or more core workflows emphasized, and *a milestone*.

#### **Inception phase:**

Inception is about initiating the project.

Inception goals include – establishing feasibility, creating a business case, capturing essential requirements, identifying critical risks.

Inception focus is on requirements and analysis workflows. Some design and implementation might also be done if it is decided to build a technical, or proof of concept, prototype.

Inception Milestone makes use of goal-oriented approach which sets certain goals that must be achieved for the milestone to have been reached. The milestone for Inception is the Life Cycle Objectives. The Life Cycle Objectives includes defining system scope with the help of use case models, capturing Key requirements, etc...

**Elaboration phase:** Elaboration is about creating a partial but working version of the system – an executable architectural baseline.

Elaboration goals include

create an executable architectural baseline

refine the Risk Assessment

Define quality attributes

capture use cases to 80% of the functional requirements

create a detailed plan for the construction phase

formulate a bid that includes resources, time, equipment, staff and cost.

Elaboration focuses on the core workflows as follows

requirements – refine system scope and requirements

analysis – establish what to build

design – create a stable architecture

implementation – build the architectural baseline

test – test the architectural baseline.

Elaboration milestone is a Life Cycle Architecture. The Life Cycle Architecture includes UML Static Model, UML Dynamic Model, UML Use Case Model, revising risk assessment through, etc..

**Construction Phase:** Construction evolves the executable architectural baseline into a complete, working system.

The Goal of Construction is to complete all requirements, analysis and design, and to evolve the architectural baseline generated in Elaboration phase into the final system. A key issue here is maintaining the integrity of the system architecture.

Construction Focus includes the kind of work undertaken in each workflow. They are,

requirements – uncover any requirements that had been missed

analysis – finish the analysis model

design – finish the design model

implementation – build the Initial Operational Capability

test – test the Initial Operational Capability

Construction Milestone is Initial Operational Capability where the software system is finished ready for beta testing at the user site. It includes the UML model, test suite, the software product, User manuals, etc...

**Transition Phase:** Transition is about deploying the completed system into the user community.

Transition Goals includes

correct defects

prepare the user site for the new software

tailor the software to operate at the user site

modify the software if unforeseen problems arise

create user manuals and other documentation

provide user consultancy

conduct a post project review

Transition Focus includes the kind of work undertaken in each workflow. They are,

Requirements – not applicable.

Analysis – not applicable.

Design – modify the design if problems emerge in beta testing.

Implementation – tailor the software for the user site and correct problems uncovered in beta testing.

Test – beta testing and acceptance testing at the user site.

Transition milestone is Product Release. Here beta testing, acceptance testing and defect repair are finished and the product is released and accepted into the user community.

Source : <http://praveenthomasln.wordpress.com/2012/04/08/user-process-s8-cs/>