

USER PROCESS (UP)

UP is an open software engineering process (SEP) that models the who, when and what of developing software. The basis of UP approach was “divide and conquer” also known as component-based development.

UP elements

UP have three Key elements. They are:

- Iterative and incremental
- use case and risk driven
- Architecture centric

UP is an iterative and incremental process

UP aims to build robust system architecture incrementally. The iterative aspect of UP is to break a large software development project down into a number of smaller “mini projects” which are easier to manage and to complete successfully. Each of these “mini projects” is an iteration. Technical risks are assessed and prioritized early and are revised during each iteration.

Use Case and risk driven

Use cases are used for:

- 1) identify users and their requirements
- 2) aid in the creation and validation of the architecture
- 3) help produce definitions of test cases and procedures
- 4) direct the planning of iterations
- 5) drive the creation of user documentation
- 6) direct the deployment of the system
- 7) synchronize the content of different models
- 8) drive traceability throughout models

Architecture-Centric

with the iterative and incremental approach different development activities are done concurrently

the system's architecture ensures that all parts fit together

Iteration

Iterations are subprojects or mini projects of a large software development project. It contains all the elements of a normal software development project i.e – Planning, Analysis and design, Construction, Integration and test, an internal or external release. Baselines are the results of each Iterations.

Baselines

Baseline comprises a partially complete version of the final system and any associated project documentation. It is an internal (or external) release of the set of reviewed and approved artifacts generated by that iteration. They are the products of iteration.

Each baseline,

provides an agreed basis for further review and development

can be changed only through formal procedures of configuration and change management.

Baselines build on each other over successive iterations until the final finished system is achieved.

Increment

Increments are the difference between two consecutive baselines. They constitute a step toward the final delivered system.

Because of the use of increment and baselines UP is known as an iterative and incremental lifecycle.

Iteration workflows

UP have five core workflows. The five core workflows are:

Requirements – capturing what the system should do

Analysis – refining and structuring the requirements

Design – realizing the requirements in system architecture

Implementation – building the software

Test – verifying that the implementation works as desired.

Figure 2 represents the iteration workflows.

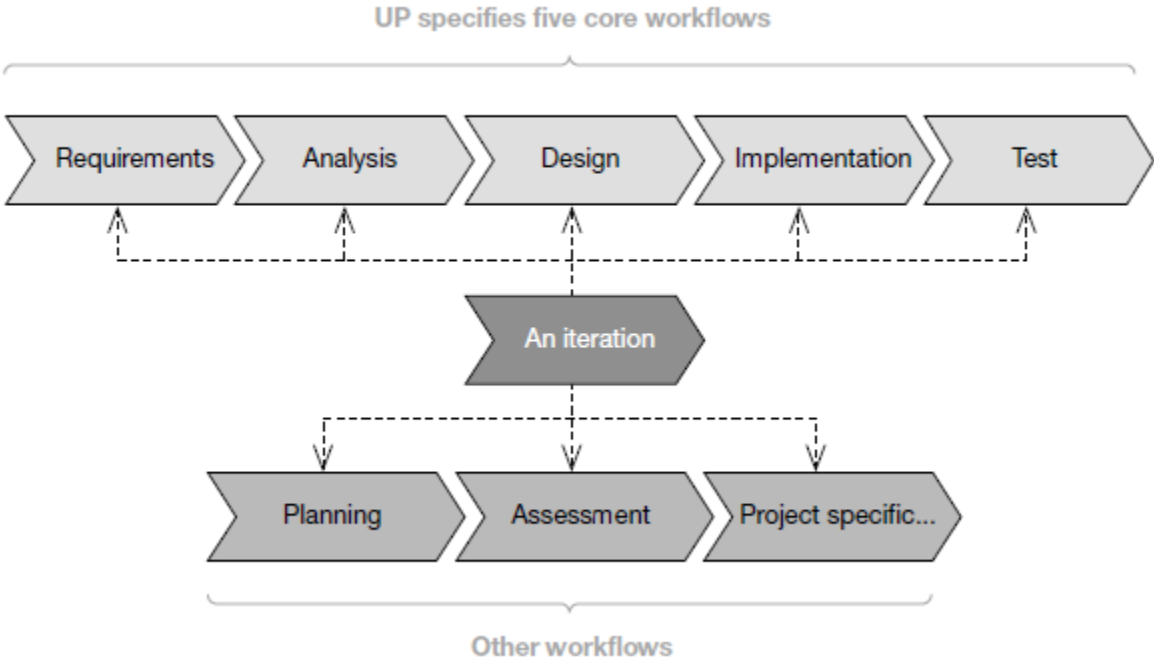


Figure:2 iteration workflows

Two possible ways of scheduling iterations are,

Time-ordered sequence of iterations – where each leads on to the next. Schedule iterations in parallel – here proper understanding of the artifact dependencies are needed.

Iterations are grouped into phases. Phases provide the macrostructure of UP.

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