

2.1.1.3 Iterative development model

Not all life cycles are sequential. There are also iterative or incremental life cycles where, instead of one large development time line from beginning to end, we cycle through a number of smaller self-contained life cycle phases for the same project. As with the V-model, there are many variants of iterative life cycles.

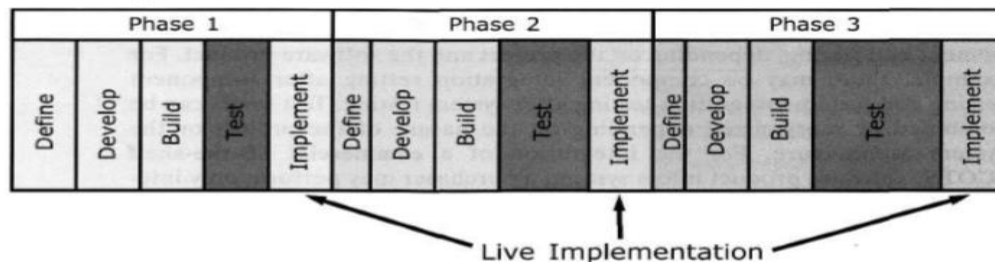


FIGURE 2.3 Iterative development model

A common feature of iterative approaches is that the delivery is divided into increments or builds with each increment adding new functionality. The initial increment will contain the infrastructure required to support the initial build functionality. The increment produced by an iteration may be tested at several levels as part of its development. Subsequent increments will need testing for the new functionality, regression testing of the existing functionality, and integration testing of both new and existing parts. Regression testing is increasingly important on all iterations after the first one. This means that more testing will be required at each subsequent delivery phase which must be allowed for in the project plans. This life cycle can give early market presence with critical functionality, can be simpler to manage because the workload is divided into smaller pieces, and can reduce initial investment although it may cost more in the long run. Also early market presence will mean validation testing is carried out at each increment, thereby giving early feedback on the business value and fitness-for-use of the product. Examples of iterative or incremental development models are prototyping, Rapid Application Development (RAD), Rational Unified Process (RUP) and agile development. For the purpose of better understanding iterative development models and the changing role of testing a short explanation of both RAD and agile development is provided