

## **Requirement Engineering Process**

A requirement is defined as a condition or capability that must be met or fulfilled by a system to satisfy a contract, standard, specification, or other formally imposed documents. The requirements defined for a system should be: correct, consistent, verifiable and traceable. Requirements engineering is the process of eliciting, understanding, specifying and validating customers' and users' requirements. It also identifies the technological restrictions under which the application should be constructed and run. It is an iterative and co-operative process with the objective to analyze the problem, to document the results in a variety of formats and evaluate the precision of the results produced.

Whenever a software application is built, be it for the Web or not, the development team has to acquire certain knowledge about the problem domain and the application's requirements. The elicitation and specification of these requirements is a complex process as it is necessary to identify the functionality that the system has to fulfill in order to satisfy the users' and customers' needs.

Although there is a lack of a standardized process supporting requirements handling and guaranteeing the quality of the results, best practice in the development of general software applications provide a set of techniques. Such techniques are also recommended by some Web methodologies for requirements

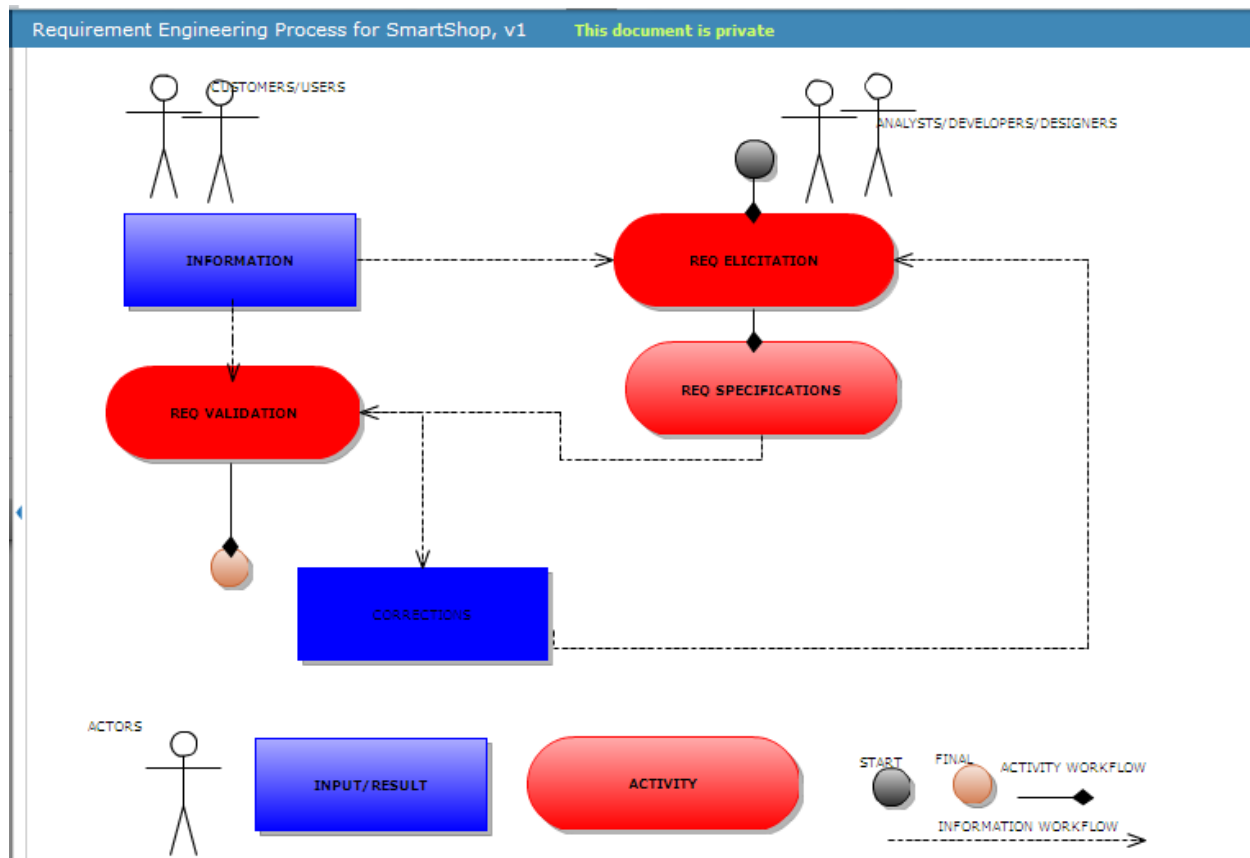
specification of Web applications. The technique we followed is Rational Unified Process.

Rational Unified Process (RUP) implements software development best practices and is a use case driven, architecture centric and iterative development process. It provides a framework that can be customized to suit the size, complexity and other characteristics of the project.

This iterative process of requirements engineering consists of three main activities:

- ✓ requirements elicitation
- ✓ requirements specification
- ✓ requirements validation

Below Figure shows the process of requirements engineering adopted in our project, SMARTSHOP. It is represented as a UML activity diagram and is part of the iterative development life cycle, which in the case of Web applications has the tendency to continue during the whole life of the application.



The process starts with the requirements elicitation. We collected the information from the users and customers. Information is gathered from different sources, such as documents, legacy applications and by interviewing our friends. Finally, the requirements validation is performed to find out if there are some inconsistencies, mistakes or undefined requirements. The specification-validation process is iterative and may be executed several times in our project.