



Chapter II

A Taxonomy of Stakeholders: Human Roles in System Development

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Abstract

Systems engineers have often paid too little attention to the nature of the so-called “users” of products under development. These are better called stakeholders, as many roles are involved, and few of those are in direct contact with the developed products. A simple and robust conceptual framework for classifying development stakeholders—a taxonomy—is proposed. The taxonomy is product-centric, with concentric “circles” denoting broad categories of the stakeholder. Within these, generic “slots” describe typical classes of the stakeholder; these are subdivided into “roles,” which are expected to vary at least in name with the domain. Examples are given, and a popular template is re-analysed using the framework. The taxonomy has immediate value in identifying and validating stakeholder roles in requirements’ elicitation. This helps to ensure that key viewpoints on requirements are not missed. That, in turn, reduces the risk of instability and failure during development.

Introduction

Motivation

The structure of stakeholder roles and their relationships, such as surrogacy, have only slightly been investigated in the requirements' world (although much more extensively in the political, ethical, and information systems' worlds: one reason for believing that an attempt at an interdisciplinary look at stakeholders may be worthwhile). Requirements' work almost inevitably involves dealing with stakeholders of widely-varying kinds and hence demands a commensurately wide range of elicitation techniques. The first step in identifying which techniques should be applied is, therefore, to identify the stakeholder composition for a new project; and this, in turn, demands a suitable taxonomy of stakeholders.

Too many projects focus their attention too closely on the product—perhaps especially when that is software—to the exclusion of non-operational roles and often even of secondary operational roles such as maintenance. I suspect this is due to “inside-out thinking,” where the “system” is seen as important and the “user” as secondary. Such thinking is a hangover from the past. When I was at the university, an IBM 360 mainframe occupied the only air-conditioned tower on the campus. Students were permitted to approach the card-reader with a deck of punched cards; only trained operators were allowed upstairs to see the computer itself. This was truly a priestly hierarchy (Greek *hieros* = holy, *arches* = ruler) of operator roles. As Christopher Locke writes, “Even the word ‘users’ is an artefact of the [command-and-control] mentality” (Levine, Locke, Searls, & Weinberger, 2000). It is time to move on from treating “the user as a computer peripheral” (in Julian Hilton’s words). The system is made for man, not man for the system.

Many industrial development problems seem in practice to be caused not so much by a failure to write requirements as by a failure to perceive that specific stakeholders’ viewpoints were relevant. That failure causes whole groups of requirements, typically those related to scenarios involving the missing stakeholders, to be missed.

A similarly unhappy result is obtained when one stakeholder, for example, a software developer, assumes one scope for a product, while another stakeholder, for example, a purchaser, assumes another. For instance, when a developer assumes that it will be sufficient to design, code, and test a piece of software, but the purchaser hopes to have everything set up and the operators trained, then the points of view of the installer, the trainer, and to some extent that of the operators have not been adequately considered and made explicit. Legal disputes and financial losses are then likely.

It seems likely that stakeholder composition is a good predictor of project risk; hence, it should be cost-effective to characterise projects at their initiation according to

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