Effort Estimation Approach for Integrated Medical Warehouses

Abstract

Medical warehouses are architectural construct of an information system that provides users with current and historical decision support information. But medical warehouse projects suffer from overestimation of resources because of improper estimation approaches which do not suit well on poorly defined architecture of medical warehouses. In this paper, we have first proposed a framework for an integrated medical warehouse that covers the different aspects of health care management. Then we proposed an effort estimation approach based on this framework which is designed to be used at the very early stage of requirement analysis. The data from the three different set of data warehousing projects are studied and the linear regression approach is used to finalize the model. Final effort is estimated using the project size and the different adjustment factors. For analytical estimation of project size and its complexity, extended function point analysis is used and identified object are categorized and their complexity weight age is determined. The proposed approach is validated by studying three different set of projects having different level of complexity. First set contains eight business data warehousing projects completed in different domains. Second set contains medical OLAP projects and third set has clinical data marts. A set of questionnaire is used to
Estimate the complexity of the project, which has to be filled by the developers after completing the initial requirement analysis. The proposed effort estimation model shows a great improvement as compared to the earlier models used in effort estimation of medical warehousing projects.

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