

Ethical and Programmed concerns

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Software project management is the collection of techniques used to develop and deliver various types of software products. This developing discipline traditionally includes technical issues such as the choice of software development methodology, how to estimate project size and schedule, how to ensure safety, what resources to reuse and which programming environment to use for the development.
- The discipline also includes management issues such as when to train personnel, what are the risks to the project success, and how to keep the project on schedule. These choices are then embodied in a software project management plan. None of the traditional software project management materials address the ethical issues that arise because of the choices made during software development.
- Consequently, these materials do not provide any insights as to how to address these issues. In this paper we identify several critical ethical issues that arise in most software projects and provide a proactive way of addressing these issues which is consistent with most professional software development standards. Software project management is the collection of techniques used to develop and deliver various types of software products.
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- These choices are then embodied in a software project management plan. Software project management addresses both the process of software development and the desired functional characteristics of the final software product. A complete software project management plan is the design, implementation, control and test strategy for a software development process.
- Developing software is frequently complicated involving many people from different areas and with different skills, experiences and social attitudes. There are many

operational decisions to be taken during this extended activity. There are many different approaches to control the complexity of this activity which can be viewed at two levels.

- There are those approaches which are concerned with high level decisions and processes such as the Capability Maturity Model and the ISO series, and there are methods which deal with the details of the day to day activities of the project managers and software development teams.
- These latter methods include COCOMO, PRINCE and Function Point Analysis. Relevant ethical principles must be established in order to identify the ethical issues associated with software project management.
- Ethics comprises both practice and reflection van Luijk, It is sufficient to consider only ethics practice in this paper because software project management is concerned primarily with action that guides others towards some common goal rather than conceptual reflection of the role and value of project management.
- An interesting list of generic questions was devised by John McLeod in Parker et al, pp to help determine the ethical nature of actions within IT. These are relevant to software project management because they address many of the project management tasks with the exception of full consideration of the supplier customer relationship.
- The software project is concerned with the delivery of an output by a supplier the project team to a customer under some agreement. It is irrelevant whether this is an inhouse arrangement or whether it is between two independent organisations or whether it is a combination of both. According to Velasquez, , such an agreement is concerned with output quality and moral liability.
- Velasquez argues that the principles of due care and social cost must take effect in these situations so that suppliers accept their obligations to customers and the wider community to provide goods and services that are adequate and beyond moral reproach. Whilst it is recognised that the development of a piece of software might have its own special set of problems and challenges that have to managed there are many similarities in all software projects that means it is worth considering a generic approach which will lay down foundations for the management of all software

projects.

- How to Run Successful Projects, in the British Computer Society Practitioner Series, OConnell, provides details of the Structured Project Management SPM approach. He explains that SPM is a practical methodology that, as De Marco and Lister, state, is a quotbasic approach one takes to getting a job donequot. This appears to be a generic approach which is practical rather than conceptual and provides practitioners with realistic guidance in undertaking the complex activity of project management. SPM comprises ten steps as shown in Figure .
- The first five steps are concerned with planning and the remaining five deal with implementing the plan and achieving the goal.
- OConnell states that most projects succeed or fail because of decisions made during the planning stage thereby justifying the fact that half of the effort expended in the SPM approach is on preparation.
- As mentioned previously, establishing the right scope of consideration is essential in defining acceptable project goals. The scope of consideration is influenced by the identification and involvement of stakeholders.
- In traditional software project management the stated needs of the customer are the primary item of concern in stating the project objectives. Recently, there has been some recognition that in defining how software will address those needs the customer is also presented with a predefined set of constraints which limit the customers freedom of expression McCarthy, .
- There is a mutual incompatibility between some customer needs, for example, the amount of code required to make a system easy to use makes a system difficult to modify. The balancing of these items is an ethical dimension in the development of a software product. But such considerations are limited in scope to the customer.
- Investigating organisational I Srelated projects led Farbey, Land and Targett, to conclude that regarding evaluation of IT investment, quot... the perception of what needed to be considered was disappointingly narrow, whether it concerned the possible scope and level of use of the system, or the range of people who could or should have been involved ...quot.

- they discovered, with the exception of vendors, all stakeholders involved in evaluation were internal to the organisations. The reason for this restricted involvement is that these are the only stakeholders originally identified in the traditional project goals

