

MATCHING ELEMENT OF KNOWLEDGE FOR SOFTWARE PROCESS IMPROVEMENT.

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Abstract

In this presentation a matching scope management and project planning, Managed Requirements, Requirement Development method by component for efficient operation is proposed. The operational range-specifications based on the containment relationship between business process and software process by objectives.

The motivation for this study is to improve software process for develops Unified Model relationships into PM3 and CMMI. The goal of this method is to define optimal patterns for simplify invoked operations by solving an estimate examination of software process.

Result of the analysis with relationship process in component, that is processing Scope planning, Scope change control, Scope definition (Business)/ (Technical) and Acquirer and estimates is defines object in terms of cost, schedule, performance and project effort.

Keywords: matching scope management, knowledge management, PM3 and CMMI.

1. Introduction

The standard CMMI [6] a framework for improving the software development process, which popular applied in today. Software development process expedient to organization, which are process complex. The standards mentioned above. Is consistent with the standard of PM3 [1], [2] the quality of software process and coupled with the development of personnel within the organization. Organization has the potential to provide project management software can efficient, so organization have developed complex software. It can take a concept of CMMI and PMMM used to assess the quality of software development process.

The research study component and present Component Matching of scope management and project planning requirement development and managed requirement for software process improvement. By using unique facture of a component matching of the conceptual framework. The refer related factors to the matching of component by knowledge. The research has a follow design. 1. Matching to component by knowledge as well. 2. Factors that may have an impact on the relationship of the elements.

The benefits of this research are to simplify the process of software quality evaluation and reduce documentation for project management and system analysis in assessment or software process improvement.

2. Process Area to Category.

CMMI [6] (capability maturity model integration) model are collections of best practices that help organizations to improve their processes. These models are developed by product teams with member from industry, government and the software engineering institute (SEI). However, PM3 [1], [2] (project management maturity model has help organizational environment needed

for project success is ultimately created by management. The way managers define structure and act toward projects is critical to their success or failure and consequently the success or failure of the organization.

2.1 Scope Management

Scope management consists of the processes required to ensure that the project includes all the work required and only the work required to complete the project successfully. Scope management has the component 5 listed below.

- Scope planning and management: this covers the “how to” of defining the project scope.
- Requirements definition (Business): this is the assessment and development of processes, procedures and standard relating to the collection of the business-related requirements of projects.
- Requirements definition (Technical): this is the assessment and development of processes, procedures and standards relating to collection of the technical requirement of the project.
- Scope change control: the process of incorporating additions, changes and deletions top the project.

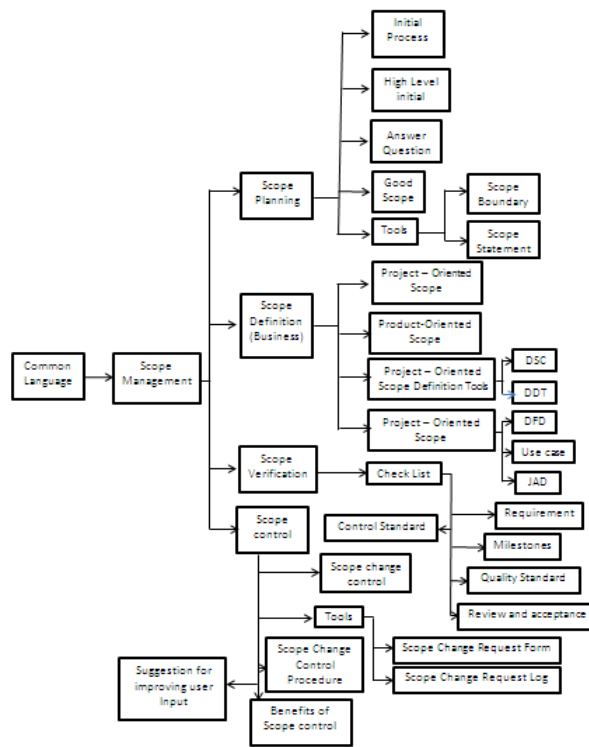


Fig 1. Process Area to Scope Management

2.2 Project Planning

One of the keys to effectively managing a project planning, the project planning process area involves the following activities:

- Developing the project plan
- Interacting with relevant stakeholders appropriately.

- Getting commitment to the plan
- Maintaining the plan

Project planning is based, which is a guide for directing and controlling the project and framework for integrating activate essential to acquiring an operation and product or service. (Fig 2)

The acquisition strategy and constraints, availability of assets and technology, consideration of acquisition methods, potential supplier agreement types and terms, and support for the project throughout the project lifecycle.

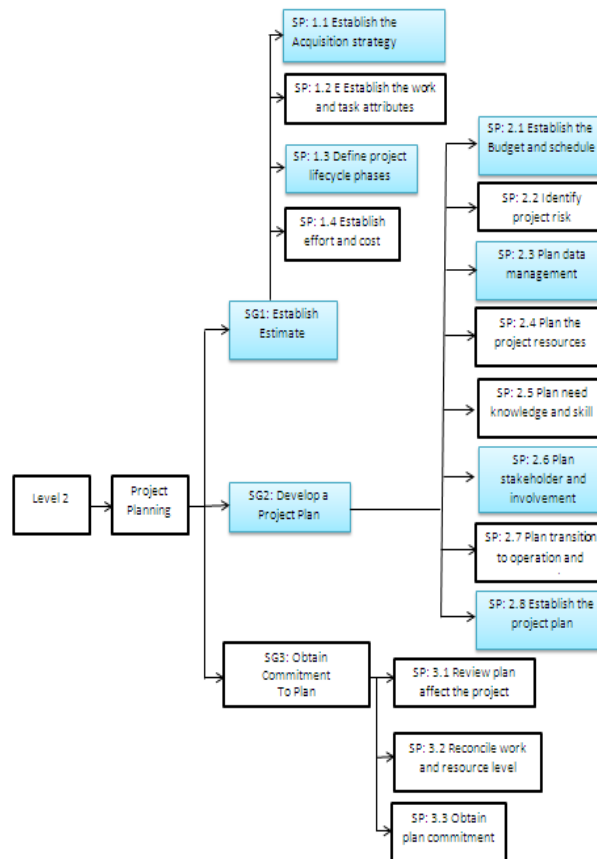


Fig 2. Process Area to project planning

2.3 Managed Requirements

The Requirement Management (REQM) is to manage requirement of the project's products and product component and to ensure alignment between those requirements and the project's plans and word products.

Requirement management processes manage all requirements received of generated by the project, including both technical and nontechnical requirement as well as requirement level on the project by the organization. In particular, if the acquisition requirements development process area is implementing, the resulting processes will generate customer and contractual requirement to be management by requirement management process.

Throughout the process areas, where the terms “product” and “product component” are used their intended meaning also encompass services, service systems and their components. (Fig.3)

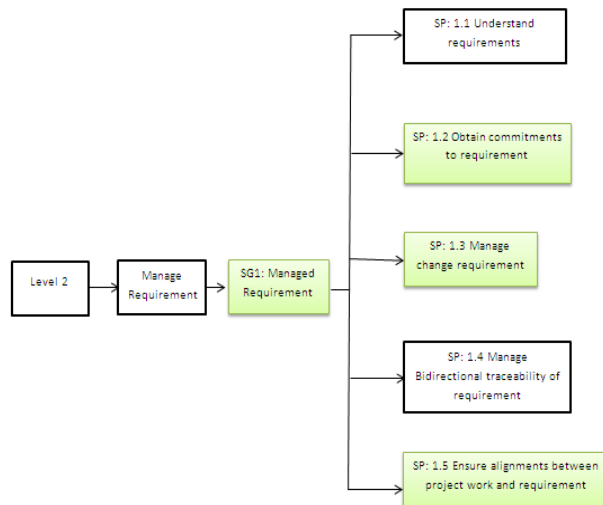


Fig 3. Process Area to Managed Requirements

2.4 Requirement Development

The Acquisition Requirement development (ARD) is to elicit, develop, and analyze customer and contractual requirement.

The process area describes to types of requirement: customer requirements. Which address the needs of relevant stakeholders for which one or more products and services will be acquired, contractual requirement, which are the requirements to be addressed through the acquirer’s relationship with suppliers and other appropriate organization. (Fig 4)

Requirements are the basis for the selection and design or configuration of the acquired product.

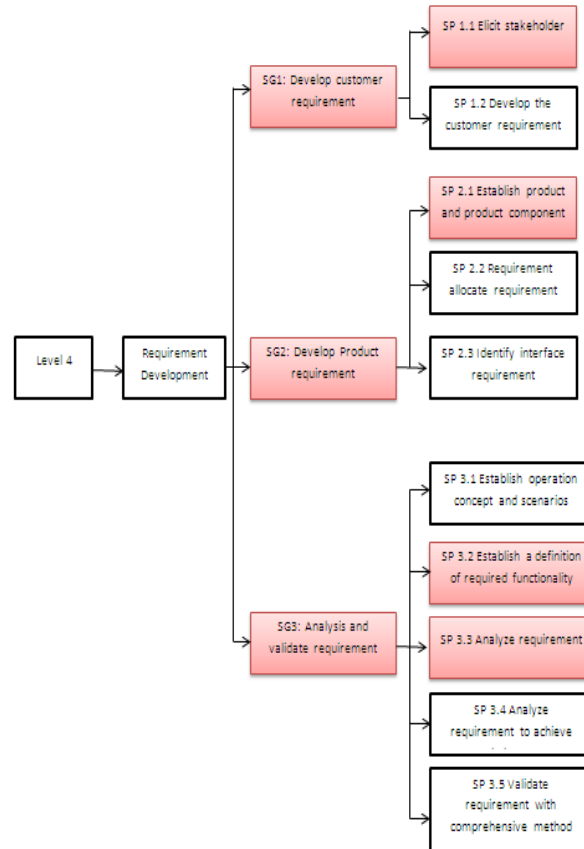


Fig 4. Process Area to Requirement Development

3. Relate work

Fumio Komiya, Tetsuo Kusuzaki, Norihisa Komoda (1999): in introduces the B to B EC system, the important to reform the current state of business process. Generally problems in business process matters-of-fact: (1) Business process itself is complex. (2) Business rule is not established. (3) Business process includes various retard factors of computerization. This paper presents an approach for design a new business process more easily and in lesser period. This method consists of the following steps:

- The ideal is the targeted company, while Select a business template.
- The organization has selected template by inputting necessary specifications, such as maximum period and required of negotiation with potential suppliers, acceptable response time and security.
- Generate combining the Image units of business operations.

Ching-Seh Wu and Dick B. Simmons (2000): The realistic and objective software project plan of the software development process can not be managed in an effective, most critical activity in the modern software development process. In Overruns of one or two hundred percent are common. Other Software projects never deliver. Managers have difficulty understanding and visualizing software development process defined in a software project plan.

Yasuhiko Nagai, Kiminori Sugauchi and Michio Suzuki (1994): These papers present an efficient OS1, which are optimized scope-patterns decision method. The scope-patterns are CMIS for operational range-specifications based on the containment relationship between managed objects and objects to managed objects are forced to decide the scope parameters by following step of managed objects.

- mapping displayed objects to managed objects
- translating operator-specified operational ranges based on various kinds of relationships (geography,
- selecting effective scope-patterns for machine processings

4. The matching Relation by component

The Relations matching framework between CMMI and PM3 to describe the relationship in detail the advantage and disadvantage of the relationship.

Table 1: matching of scope management and project planning

Scope Management	Project Planning
-Scope definition(Business)	SP: 1.1 Establish the Acquisition strategy
-Scope planning	SP: 1.3 Define project lifecycle phases
	SP: 2.1 Establish the Budget and schedule
	SP: 2.3 Plan data management
	SP: 2.6 Plan stakeholder and involvement
	SP: 2.8 Establish the project plan

From table 1: Relationship to Scope management and Project planning as follows:

- Scope planning and SP 1.1, SP 1.3 is work schedule and various processes, which is various productivity of project. Such as Acquirer and estimates is defines object in terms of cost, schedule, performance and project effort.[9]
- Scope definition (Business) and SP 2.1, SP 2.3, SP 2.6, SP 2.8 are definition that information. Which has related to project (need to do) and what project that are not related to project (not need to do). For used as a basic for future decisions, such as systems development life cycle, project plan, tools, add customer and document plan all.

Table 2: matching of scope management and Requirement Development

Scope Management	Requirement Development
-Scope planning	SP 1.1 Elicit stakeholder
-Scope definition(technical)	SP 2.1 Establish contractual requirement
-Scope change control	SP 3.2 Establish a definition of required functionality
	SP 3.3 Analyze requirement

From table 2: Relationship to Scope management and Requirement Development as follows:

- Scope planning and SP 1.1, SP 3.23 is work schedule and various processes, which is various productivity of project. Such as Stakeholders, Quality attribute and function deployment, meeting customer requirement and identify key requirement.[7], [8]
- Scope definition (Technical) and SP 2.1 is confirmed and officially recognized as a legitimate program perfect and support is Addition to technical requirement and contractual requirements cover nontechnical stakeholder needs.
- Scope change control and SP 3.3 is ensuring that control with any change to project must be done right and changes have been made. Should be explained in writing to the people who are involved with the project. For example Proposed requirements change.[11]

Table 3: matching of scope management and Managed Requirements

Scope Management	Managed Requirements
-Scope planning	SP: 1.2 Obtain commitment to requirement
-Scope change control	SP: 1.3 Manage requirement change
	SP: 1.5 Ensure alignments between project work and requirement

From table 3: Relationship to Scope management and Managed requirement as follows:

- Scope planning and SP 1.5 3 is work schedule and various processes, which is various productivity of project. Such as review project plans, requirement and work product resulting from change to the requirements baseline.[3]
- Scope change control and SP 1.2, SP 1.3 is ensuring that control with any change to project must be done right and changes have been made. Should be explained in writing to the people who are involved with the project. For example resulting change in project plan, change to existing commitment should be negotiated before project participants commit to a new requirement or requirement change and requirement change impact report.[10],[11]

5. Conclusion and Future Work

The paper presented an approach for Component Matching for software process improvement. The approach is based on i) component on based knowledge of 2 concept is same. ii) Has been confirmed by an interview of the organization. iii) The research study of the matching of the software process. [5], [6] and business process [12], [4]

Future Work: The approach used to develop tools to simplify the different, such as documentation, Meeting, Cost Benefit et cetera, Which is tools can be used inspection the quality of the software process. The organization or industry can put to further use. This research study was next to developing model for software process improvement next.

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