A PRACTICAL APPROACH FOR SOFTWARE PROJECT MANAGEMENT

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ABSTRACT

Software project management is introduced in this work and its place in the project management discipline is established. There is a lot of interest in the development of Project Management Software (PMS). A new PMS categorization has been proposed. Next, we'll describe our project management software solution. Compared to other PMS, our web-based and collaborative PMS is praised. With the tool's design, we're primarily focused on making it easy to use and expand its capabilities.

Key words: Project Management, Software Project Management, Project Management Software

I. Introduction

According to Kerzner, "the planning, arranging, directing and regulating of corporate resources for a relatively short-term purpose that has been set to achieve certain goals and objectives" constitutes "project management." In 1950, project management was formally recognised as a distinct field from management. Getting the task done, under budget, and on schedule are the three pillars of successful project management. These are the three most important project restrictions that must be constantly monitored by project managers. It is the job of the project manager to strike a balance between these three limitations.

From the beginning to the end, all projects may be broken down into smaller components or activities (tasks).

When a project is started, the first step is to determine what kind of project it is, as well as what kind of constraints (costs, time, etc.) it has.

Execution is the process of completing the work outlined in the project management plan in order to meet the project's objectives.

Monitoring and controlling - determining the current state of a project and making required adjustments to return it to its original course

When a project has been completed, it is referred to as "closing" or "termination."

Variations of these phases are widely used in a wide range of industries. There's always the possibility that a project won't make it to the end, thus not every step will be visited. Planning and monitoring may be lacking in certain projects. Steps 2, 3, and 4 can be repeated in certain designs.

Subdivision of project management in which software projects are planned, monitored, and controlled is software project management. A big or sophisticated software development endeavour necessitates that each step of software development be treated as a separate project, with all the phases of a separate project. Because it is the most often used framework for defining the software development process, the Waterfall model. Alternatives to the waterfall model include the "spiral" and "prototype" models, as well as "staged" and "rapid application development" models.

II. Project management software (PMS)

Project completion on time and on budget is an extremely challenging endeavour. Only around 40% of big IT projects are completed on schedule and on budget according to a 1995 study of 100 organisations. The project needed a new breed of software to assist it be better managed and guarantee that it is deliverable and better control of the budget. Many forms of software, including scheduling, cost control and budget management, resource allocation and allocation, collaboration software, communication, quality management, and documentation or administration systems, are referred to as project management software. Many PMS are now accessible, ranging in price from a few hundred dollars to several thousand dollars, thanks to technological advancements, lower personal computer costs, and widespread Internet use. There are several types to choose from. However, the majority of PMS can no longer be categorised since they have migrated to other areas. This is an example of how to categorise PMS.
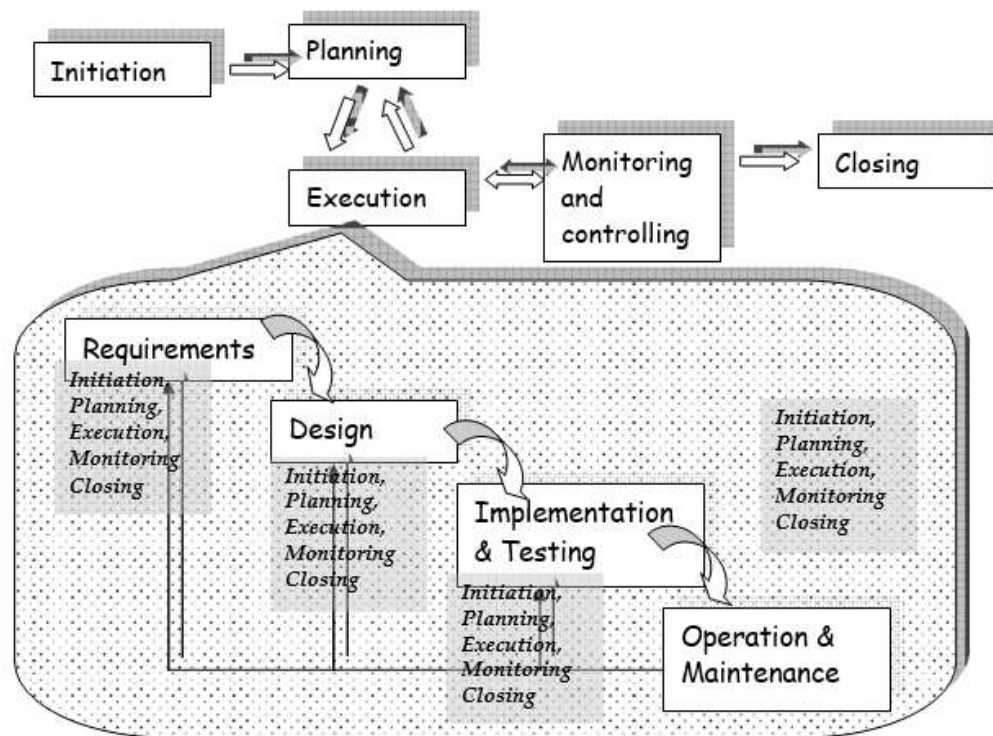
Software project management is introduced in this work and its place in the project management discipline is established. There is a lot of interest in the development of Project Management Software (PMS). A new PMS categorization has been proposed. Next, we'll describe our project management software solution. Compared to other PMS, our web-based and collaborative PMS is praised. With the tool's design, we're primarily focused on making it easy to use and expand its capabilities.

III. The Requirements Elicitation in the Preparation Phase

However, Scrum does not specify how to arrange and describe all project requirements at the beginning of Scrum iterations (sprints). Stakeholders and team members are all included in this document's purpose of establishing a clear project scope boundary. It also includes the business case and contractual agreement. Although the criteria were solid on

their own, the lack of cohesiveness between them necessitated many revisions to the initial definition of requirements, which was based on the organization's previous experience. Scrum is a project management framework, not a methodology for gathering and analysing requirements. Each company needs to pick one. The company opted to use a requirements elicitation approach in order to get a high-level functional specification that covers the domain model, the high-level requirements specification, and the application map navigation in this situation. In order to fulfil the agreed upon schedules and prices, this high level functional specification aims to improve requirements cohesiveness and reduce project deviation.

IV. Sprint Design

As outlined by Scrum, it is the responsibility of the development team to carry out activities such as analysis, design, implementation, and testing within the sprint. Accordingly, the company chose to adopt analysis and design before the "sprint planning" conference in order to better understand the needs and decrease estimate deviations. "Sprint design" is viewed as a methodical exercise that is used to have a better understanding of the project prior to coding. Sprint design must be a time-boxed activity like other scrum tasks. For a four-week sprint, this means that "sprint design" should last no more than three days.

V. Sprint Test

After each sprint, the product's quality was not up to snuff. The business decided to form a quality team to test user histories in accordance with best practises. Sprint reviews revealed that user stories that were executed early on were of higher quality than those completed later, especially those that required integration work, after a few iterations. User stories of poor quality were found to have received insufficient testing due to the sprint deadline having passed and the team declaring them "done" when they were not. Even though it had been initially planned that additional sprint time would be devoted to integration testing, it turned out to be counterproductive in terms of project tracking since the expected work for integration testing skewed early sprint progress. This seemingly inconsequential tidbit became a source of frustration for the team as sprints came to a close with delays that weren't discovered until the very end. By adding a new phase called "sprint test" before the "sprint review," integration tests were removed from the development process. That's 20 percent of the work that was originally allotted for each sprint. This is called a "sprint test," and it is carried out by the quality assurance team. The "sprint review" is an opportunity for the development team to address the most critical flaws before moving on to the next phase. It is termed "sprint tuning" and must be done in accordance with the "sprint test" time limit. The "sprint test" enhances product quality while lowering output because it is a high-risk activity that can lead to failure.

VI. A PMS SOLUTION

In recent years, the development of PMS has been a major focus in the software management area. Companies, project management offices, and end users all have different wants and needs, and they should all look for a PMS that caters to their demands. Project management systems are expected to improve functions that offer managers more control over the project while not sacrificing the capacity of members to interact and utilise them effectively. Svet is our PMS solution, and we'd like to introduce it to you.

It is a web-based PMS: Svet runs on Flash, PHP, and MySQL, and can be accessed via a web browser. Every user in the system has a human resource associated with him or her, so when they log in, their personal information is shown, making it easier for them to utilise the system and ensure their safety and well-being.
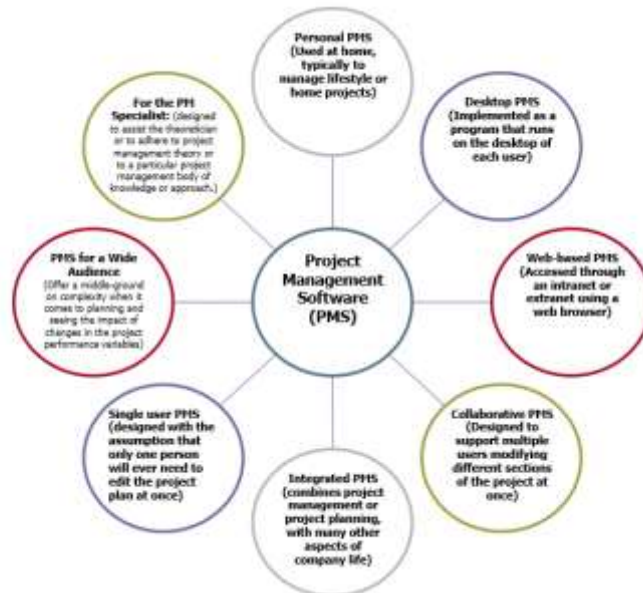
Multiple projects can be managed by Svet, who also has a higher management level than most. According to Svet, the following is the proper order: Each project might contain a variety of tasks to accomplish one or more goals. The projects are scheduled to begin and end on particular dates. When a project's goals are met on schedule, it is considered a success.

Svet's task and project creation is comparable to MS Project's, however there is an additional degree of grouping here. There are a lot of processes involved in creating and editing tasks in the free web-based project "dotproject," which may be found at http://www.dotproject.net/.

Its graphical user interface is visually appealing, cohesive, intuitive, basic, and simple to operate. The tool's user interface is simple and elegant, making it straightforward to use. All windows are distinguished by subtle colours and easy-to-use controls. You may access all of your views (notebooks, tasks, timesheets and projects) with a single click. All of the information is well labelled, and it is easy to understand and use. That makes it a breeze to get about the project. The lack of keyboard shortcuts is due to the fact that this is an online application. Figures 3 and 4 depict the Note Book and Timesheet Panes in the main window. Simple, straightforward, and consistent interfaces make it easy to change the data provided (all of which is saved in the MySQL database).

An appropriate number of options are available: For small and medium-sized businesses, it was developed to give the practical requirement of features that are easy to learn: administration, user and client management, a database repository, a calendar, a discussion forum, an email-based system for communication, etc. are all included in the package. You may easily move the notes about the scene by dragging and dropping them. The technology monitors the note's movement to ensure that the time and date are correct. The user can switch between the Bulgarian and English versions as soon as a partial internationalisation is achieved.

VII. Conclusion

It is the purpose of this article to describe our efforts in Project Management. PMS development is a fast-moving field of study, and it's impossible to predict what may happen in the years to come. Software project management is introduced in this work and its place in the project management discipline is established. The research proposes a categorising method for existing PMS. Next, we'll describe our project management software solution.

We may classify Svet as an integrated PMS solution based on the categorization we created in Section 2 and the assessment criteria we presented. Small and medium-sized businesses will benefit greatly from Svet's project management and user-friendly features, which we've aimed to achieve through the design of the app. Varna advertising centre "Extreme" has lately started using Svet. As a result of this endeavour, "Extreme" and Svet's use in other businesses will be assured.

When compared to Microsoft Project, Svet's native web-based nature is the most noticeable distinction. Svet may be accessible from any sort of computer without installing software, despite the fact that it lacks several functionality of MS Project. Svet's ability to easily expand the scope is another major advantage: adding a new project and a task using Svet is equally simple and standard; even there is an extra grouping level here - it is meant to allow many users altering different areas of the plan at once. When compared to the free web-based project "dotproject," the process of creating a new project and a task is more cumbersome. In addition to project monitoring, Svet provides project users with the ability to communicate with one other via their own project lists, calendars, and notebooks, all of which are linked to their projects. In addition, a very adaptable and unique notebook is being developed. For example, the most visible distinction between "dotproject" [4] and Svet is the latter's superiority in terms of providing information and conveying ideas.

VIII. References

Harold Kerzner, Project management: a systems approach to planning, scheduling, and controlling, Edition: 9, John Wiley and Sons, 2006, http://en.wikipedia.org/wiki/ Wikipedia.

Overview of Project Management, Tim Perkins, Software Technology Support Center/SAIC Roald E. Peterson, Software Technology Support Center/SAIC Larry Smith, Software Technology Support Center, http://www.stsc.hill.af.mil/crosstalk/2003/01/ perkins.html. http://www.dotproject.net/, dotproject (version 2.1.1)

Portfolio Project Management. Microsoft project 2003, 2003. [Online; accessed 28 November-2007] http://www.portfoliopm.com/Proj%202003_Soln.htm. http://klambauer.info/pms.pdf, Project organisation seminar, 2007