

Software Scheduling and Tracking using Visual Representation

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Abstract—In the real world, Project managers are given the deadline for the project before even having a chance to plan for it. This is a good reason why organization needs to get better at scheduling and tracking projects. To complete the software project within a specified time limit, allocation of a start and end date is done that determines the milestones and outcomes of the tasks. It is also important to determine which tasks are dependent on another task to complete its operation, save time, build consistency, enhance visibility scheduling along with special tracking features that will update the project manager about the shortcomings as well as delayed time line. Visual Representation of progress is another important feature of proposed system which is accomplished by pie-chart or graph. In the system, team Leader will update the progress weekly or monthly depending on the scope of the project. This information will reflect in the database and Project Manager will be notified automatically about updated status. Based on the data inserted by Team Leader of a Project, the Project Manager can be always updated about the current status of project. Team leader will be notified about his progress and whether the development is lagging behind schedule or on schedule. Representation using pie chart is used to show planned distribution of the allocated days and tracking bars for showing actual progress. The proposed system helps to retrieve useful information in less amount of time using visual aesthetics.

Index Terms— consistency, scheduling, software management, tracking.

I. INTRODUCTION

Software Development Scheduling and Tracking System encompasses a top visual tracking tool that not only manages the project, but does a time to time check and gives notifications. This software also holds all necessary prospects required for the scheduling, that includes list maintenance, time line graph and chart generation, phase completion tracking and most important is continuous checking and assistance of the software to the project manager.

Project scheduling & tracking is one of the critical management tasks as it dictates the time frames in which the

project will be completed, the budgets/costs in terms of resource requirements and the sequence of tasks to be completed. It allows project managers to track project schedule, resources, and budgets and project related assets in real time [3]. The project schedule can be viewed and updated by team members associated with the project, keeping everyone well informed on the overall project status. The requirement for managing software development is increasing because software is getting more complex and deadlines are getting tighter. The problem at hand clearly states that the software should provide an easy solution to the manager, not to increase the burden [3]. Efficient scheduling is important in order to complete a project in given amount of time. Allocation of resources is another matter of concern [8]. Tracking the progress is also vital since it allows the team to understand if everything is on schedule or lagging behind [9]. Many a times using such a software can be a boon but actually acts as a bane if the manager is not able to understand the software properly.

II. MOTIVATION

Development of project requires much precision while scheduling since everything else depends on the plan that is pre-defined. When things aren't on schedule then everything start falling like a house of cards. Efficient scheduling and tracking is important which cannot be done directly without using some tool. The tools available are good but much difficult to use and some of the features provided are irrelevant [1], [2]. To develop a tool that provides all the important features and is also user friendly is the main objective.

The main motivation behind the software is the actual need of the features against the unnecessary complications presented in the current software. The manager is required to be updated all the time. Since its human error that people, as humans, forget important things when the schedules get messed up, the software should act as a helping hand to the manager to work and take decisions so to optimize the result to the positive graph. The current scenario demands a fast adjusting software, that should, without wasting any of the precious scheduled time, optimize the best possible results and also track the data, so that the manager can take all important decisions in the real world, without having to worry about the data being updated, or being obsolete in case no steps are taken [5]. The software should provide good visual and eye catching data so that it can be well remembered as well as should be more interactive.

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III. PURPOSE

The proposed system helps Project Manager and Team Leader to interact and stay connected even when both are at two ends of the world. The product covers many useful and important requirements for the current as well as the future scenario. The proposed system allows the selection of the model for the development process, which will definitely help for suitable environment for developing the project. Process of scheduling and tracking is much complex than it seems but through this system it is simplified to such an extent that it becomes less tedious for everyone involved in the development process [4], [6].

IV. FEATURES

Important features included in the system involve.

A. Intelligent Visual Tracking

The software consists of three separate tracking progress bars, which indicate the project, phase and timeline status completion. When the phases along with the project, progress with time, the bars increment accordingly. The timeline is unique, it is compared all time and when the project delays, the timeline bar turns red and the project manager is alerted [9], [10]. The tracking logic calculates the dates for scheduling by using the current system date. But once the date is recorded, it is stored in database and then database is referred. The logic is implemented in such a way so that no one can alter the schedule by changing system date later on. Tracking is controlled by three progress bars and their functions are as follows; leftmost handles the phase progress, center one indicates the number of days remaining for the current phase and rightmost indicates overall usage of days allocated to the project. A marquee is provided which has continuous feed of live updates which determines the state of the project, whether it is going to finish in time or is delayed.

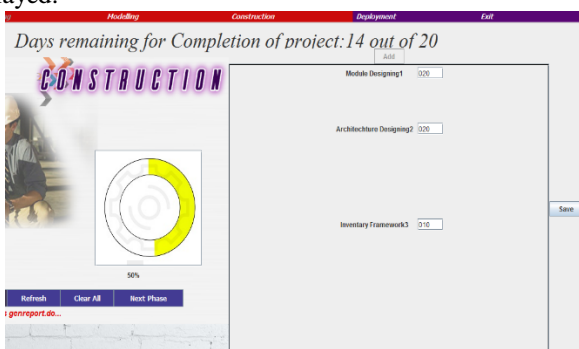


Fig.1 Construction Progress Tracking

B. Project Planning

The software consists of a tree view structure that clearly mentions the main tasks, sub tasks and its children tasks as well. The software incorporates simple GUI for adding and

removing the tasks. One of the unique feature is that the project manager can take snapshots of the task tree structure for reference.

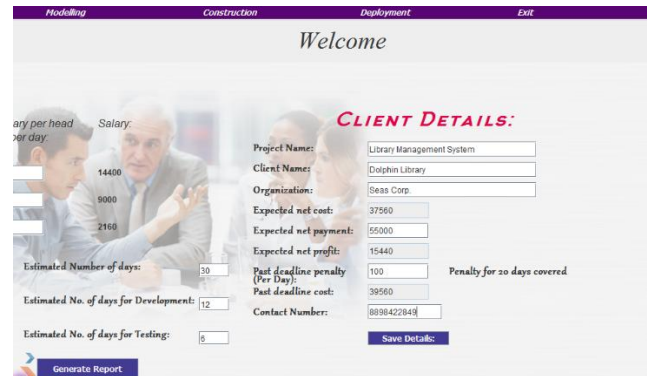


Fig .2 Communication Phase

C. Management Helper

The proposed system helps the project manager to determine the flow of the software, gives timely inputs, and also helps to track the reminders and schedules that are lagging behind.

V. PROBLEMS WITH CURRENT SYSTEM

Traditional SDLC methodologies sometimes fall short in the new e-business software environment. Some methods are often too “heavy” to keep up with the pace of e-business software development projects. In response to this problem, so called “light” SDLC methodologies have recently been developed and put to use. Methodologies are considered light because of the reduced documentation and managerial effort required. The requirement for managing software development is increasing because software is getting more complex and deadlines are getting tighter. The problem at hand clearly states that the software should provide an easy solution to the manager, not to increase the burden. Efficient scheduling is important in order to complete a project in given amount of time [7]. Many a times using such a software can be a boon but actually acts as a bane if the manager is not able to understand the software properly.

VI. FUTURE SCOPE

The current system does not provide exact cost estimation features, it mainly focuses on scheduling and tracking that is dealing with time and deadlines of the project. Multiple new features can be added to improve cost estimation and cost analysis. Mobile application for the system can be developed to provide much easy access to the system on the fly. Website can be enhanced to give access to users anywhere using cloud services. Live feeds can be provided to keep everyone updated.

VII. LIMITATIONS

There is no android application to accompany the main system. System is limited to be used by Project Manager and Team Leaders, more specialization at developer level is not implemented. It cannot be applied for any other projects except for software development.

VIII. RESULTS

The results show various calculations performed in the final phase that is deployment phase:

Expected cost to make the project = Bills for the duration of project + Salary of employees

Penalty = [Estimated days from communication phase - Confirmed days from communication phase] * Penalty decided per day

Re-imburement calculation:

A = Expected cost to make the project/estimated days from communication phase

B = Expected cost to make the project/confirmed days from plan phase

Cost saved per day = B – A [This gives us cost we save per day by completing project before schedule]

Difference in days = Estimated days from plan phase - confirmed days from communication phase

Re imbursement = Cost saved per day * Difference in days

Actual cost = Expected cost to make the project + Penalty (if any) – Re-imburement (if any)

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