



Construction Tiger



These are exciting times in the world economy and the construction Industry is booming all over. The effects are especially evident in the gulf and Pan-Asian region. The advent of new technologies in the industry has fueled the insatiable need to build bigger and build higher. This need has made it imperative for the construction industry to adapt automation in design, estimation and planning and execution. The need for quality and optimum usage of resources is the driving factor for such needs.

With the boundary-less commerce around the world and phenomenal growth in the availability of Internet, the need for suitable web based tools has been a dire need.

Construction Tiger precisely addresses these needs. Construction Tiger is a suite of web-based software tools that helps the construction industry in managing the

entire gamut of construction activities with ease. These tools integrate very easily with any existing standard ERP implementations and supplement the functionality. This spells significant saving and immediate Return on Investment. The Construction Tiger suite primarily targets the global construction industry and features the following modules:

- Quantity Estimator
- Project Planner
- Project Billing
- Specification and Work Item Manager
- Bid pre-Qualification Management
- Sub-Contractor Manager
- Communicator

The client as well as the construction company has a vested interest in completing the construction within a well-planned time period and at an affordable cost. The current pain points are in the accuracy of Estimations and optimum resource utilization through proper planning and tracking. These needs are being addressed by making the Estimator, Planner and Billing modules available on priority to the user community.

Modules in the Construction Tiger suite are currently available in client deployable model and will soon be available in Application Service Provider (ASP) model too. The suite has been developed using the open-source Java technologies, which lessens the cost of investments for the customers, in-turn gives a quick Return on Investment. Information security is always paramount and the role-based authentication mechanism ensures adequate protection and confidentiality.

The integration between the Estimator and Planner makes it easier to

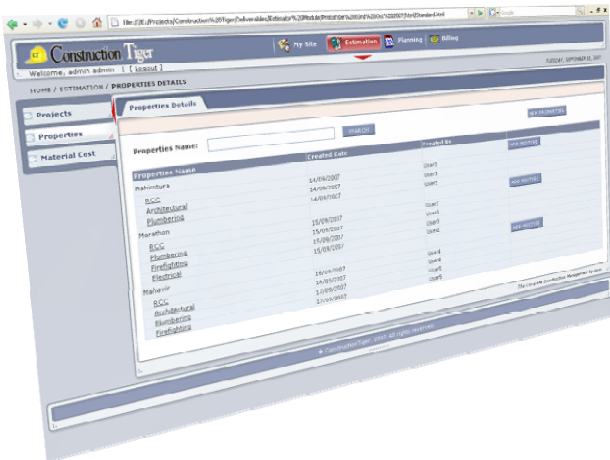
- estimate the resources,
- plan construction activities,
- plan procurement of resources on the basis of the construction plan,
- order management,
- prepare financial budgets and financial inflows/outflows

Estimator

The Estimator module of the Construction Tiger suite of products helps in estimating the material quantity on the basis of design drawings and estimation norms and then arrives at material cost. The estimations are done using standard specifications and are completely based on the engineering parameters, drawings and schedules. Consultant's specific variations on these are also allowed to be specified.

These estimations are complemented with the procurement plan feature of Planner module.

Estimator module features the inclusion of multiple construction units within a project and allows uploading drawings in any standard



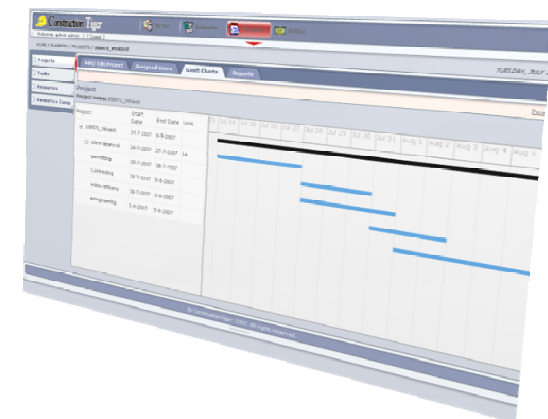
formats such as ".dxf" along with the schedules (Either in MS Excel or in any Industry standard database). Project level pre-assigned estimation types viz., RCC, Architecture etc., mix types, drawing types viz., Floor, Plinth, Flat Slab, and Footing etc., are supported. Estimator then uses in-built construction engineering formulae to generate the various estimation reports at the detailed and consolidated levels. The quantity reports for Concrete, Steel, Sand and cost reports for Cement, Steel, Slab, Column and Beam are generated based on the mix types and the drawing types.

Accurate estimation of the quantity and cost of construction materials helps create practical and realistic plans for the construction activity. Availability of these estimation reports over the Internet, helps the builder or construction engineer a quick and easy reference of required information from anywhere in the world.

Planner

The Planner module facilitates the planning, execution and tracking entire construction activities optimally. Details of various construction stages and the time schedules are visible and traceable at all levels.

Entire project planning and tracking can be handled with the help of Planner. It is a fully featured construction industry specific planning module that helps the project manager and his team in planning, managing and reporting progress and the resource utilization. The module helps in defining and assigning the resources & resource compositions to the various tasks within a project. This in-turn helps in arriving at procurement and material order plans.



Major features of the planner include resource planning, procurement planning, task management and tracking, flexible reporting, Cash flow projections, Cost and variance analysis. Email alerts to all affected users are a standard feature.

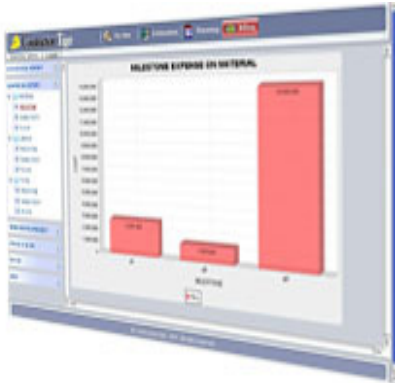
Gantt View of the Planner provides timelines of the various activities within the project. The grid form of task entry simplifies the definition of all the tasks and readjust based on the specific requirements of the scheduling. The estimated quantity utilization of resources / resource compositions can be defined at the task level. Task hierarchy within a project helps in grouping the tasks. Definition of

predecessor tasks help in scheduling the activities in the order of prioritization.

Quantity Distribution feature of the planner module automatically calculates the day-wise distribution of estimated resource quantities for the entire task duration (using linear distribution pattern and other distribution patterns) and allows editing to change the pattern of distribution. The task level day-wise quantity distribution helps in arriving at the material procurement, order plans and cash flow projections. Important reports generated by the Planner module are Overview Reports, Current Activity Reports, Cost Reports, Assignment Reports, Workload Reports, Procurement Plans, Material Order Plans, Critical Tasks, Task Tracking Reports, Cash flow Reports and Variance Reports.

Billing

Any builder would like to know the break-up of the costs of their project. Further, they are also interested in linking of work progress with linking of contractor billing, cost of material actually consumed during execution process. Construction Tiger presents billing solution for the real estate in which the builder will be in position to know the payables towards Labour, Material and Machinery (towards multiple parties). Using this data, the Builder can release those payable as and when the actual execution takes place, on a milestone basis.



Main purpose: The Builder is able to know how many milestones (with sub activities, units) are there, for knowing project cost (material, labor, machinery). Milestone cost is needed for cash flow planning. Sub-activity cost within Milestone cost is also significant to the Builder.

Alternative Purpose: Executor/Contractor (while executing) also can use this system

- a) to track their internal costs (independently) and
- b) the bills that they need to raise to the builder.

Looking Ahead

Some of the functionality of the modules in the pipeline is described below:

Specification & Work Item Manager

This is very handy tool which helps real estate companies to generate the specifications for different projects along with the quality /brand of the material. This also helps out in listing various work items to be executed in the project. This in turn, helps in the reconciliation and budgeting.

Bid pre-Qualification Management

Pre-Bid Management caters to the complete needs of Marketing Activities for construction Companies- and offer a single window interface for the whole Marketing team. It covers the entire operational chain viz., scanning of news, targeted project-searching, JV partners and formation of JV, preparation of Pre-qualification, systematic storage for scanned certificates, digital photographs and templates for preparation of the Company Profile - Business Promotion Material.

Sub-Contract Manager

Sub-Contract Manager or Job Coding is an extensive application for monitoring the Subcontractor billing and reconciliation of construction materials. It is likely to have three modules: Mapping, Quantity Computation and JOB Code

Communicator

Users will be able to communicate with the teams through SMS interface of this application. It enables the managers to be in constant touch with the staff working at various sites. This would result into more managed, fast and secure operations. Project monitoring and tracking through SMS updates will be supported.



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