

# TOPIC: BUILDTech CONSTRUCTION MANAGEMENT SYSTEM

## ABSTRACT

**BuildTech Construction Management System** is a web application to manage all day to day operations required by the customer who is constructing an individual house. It provides information in a quick time according to the requirements that are to be fulfilled. It also provides a convenient method of online construction contracts. This system provides consistency of data and develops the user friendly and interactive website which will reduce the paper works, faster and easy work and save the time. The user can also reduce the time and effort in searching contractors by using this system. Based on the rating, we can see best contractors at the top. Labours can easily find jobs and also contractors can easily find best labours.

In this system there are mainly four users: Admin, Contractor, Labours and Customer. Admin is the one who manages all the accounts and this system. Admin can approve contractors based on an active license and users based on their mail id. The customer can easily interact with the admin through chatbox and other calling options and can update about the project details he wants to construct and can also make the payment to the contractor through online. The customer can also access the daily progress of the work through “daily progress report” option. He can easily select the contractor according to the rating of contractor’s performance. Contractor can see the project details that are updated by the customer, he can study the plan and requirements of the customers through chat-box, so that he can understand the actual requirements of the customer and prepare a detailed estimate of the project and send the estimate to the customer. If the customer is satisfied by the estimated amount, contractor take the project placed by the client and can make the payment made by the customer. When the contractor gets a contract he will evaluate whether the labours are available, and if they are available then the contractor assigns a worksite for the labours. Contractors make payment to labours. Labours can find the contractors nearby them and can send request to those contractors.

This system is made to help the customers for an easy and convenient way of constructing a house and also helps contractor’s to increase their work and income source. This system has all the features that are required

by the customer who is constructing any building and also has all the functions that are needed by the contractors to complete their work fastly.

## **Users of the System**

- Admin
- Contractor
- Customer
- Labour

## **Modules of BuildTech Construction Management System**

Our system has two main modules. One is the admin, and the other is the user. User module is again divided into three parts; either the user can be a contractor or a customer or a labour. Interfaces for both the users are different. Along with these, we have other interfaces which can user-centered as below:

### **➤ Admin:**

This module is present only for one account. That is, no one can register as admin after the one account is created. Admin account has all the privileges, to check any particular contractor or customer, to block any account, to calculate the payment, making changes into accounts of users etc.

- Verify contractor
- View users
- Manage database

### **➤ Contractor:**

This is one of the most important modules. This module helps customers to make their construction work easier. As there are two types of user accounts, the vendor is a kind of account which is asked at the time of user registration. Then after the registration, the contractor can see all the projects that are updated by

the customers for construction. So that , the contractor can study the plan details and requirements of the customer.

- Login to the portal
- Manage profile
- View project of Customer
- Study project details
- Prepare detailed estimation of project
- Contractor see site location
- Process payment online
- View labours
- Allocating duties for labours
- Payments to labours

➤ **Labours:**

- View profile
- Login to the portal
- View Contractors
- Send request to contractors

➤ **Customer:**

The user can be of two types and both the users will have different interfaces and after the user has registered. User as a customer can make the payment and can upload its project.

- User Registration
- Login to the portal
- Manage and View Profile
- Upload project

- View best contractors based on rating
- Online payment to contractors
- Add Feedbacks and Complaints

## **SYSTEM STUDY**

### **Existing System**

The current system is based on manual procedures. Means, all the records of about customers, contractors, shops, etc. are store manually into the file registers. They have to maintain that record for long duration, but maintaining all these records as manually is very difficult task. The present system of builder is done manually, which is too lengthy and tedious. To find one of the particular records manually through all the registers is very difficult and time expensive job. If we search for a contractor manually, it takes a lot of time and also very difficult.

### **Drawbacks of Existing System**

It is very difficult and time consuming to maintain all the details in to the registers when the organization is very big. Modifying the records is not very easy, since for a minute change the whole record would be required to re-enter. For instance, if the address of any contractor changes then locating that contractor and doing modification in registers is very tedious. It also takes much time for doing entry and checking of records. There is also possibility of mismatching of entries during entry of records. To make and maintain the different reports is also very tough and tedious job. Information is stored into registers, which requires large storage space. Searching particular record is very tedious job, since as a time passes the condition of the registers becomes bad. Every year, they have to maintain new registers. This system is less convenient in managing stakeholders including plan approval, less transparency, no standardized packages, project often delayed with no progress visibility, unskilled labour force and unmonitored quality of material and not all technology based. The current system has too much manual work and increases burden on workers but doesn't provide good result.

## Proposed System

To overcome the drawbacks of existing system and ease the working of such consultancies our project comes into the picture. Our software is multifunctional which includes customer introduction, contractor introduction, project details etc. The master file that is file which contains all the details of the data's which are kept for long time is contractor master and customer master. The contractor master contains all the details of completed projects, on-going projects, rates and details of different categories of house, daily progress report, payment options etc. The customer master contains personal details of the customer like customer id, customer name, profession, residential address, etc. This system is designed to help the customers to make the construction easy. The proposed system provides consistency of data and reduces the paper work. Also, the customer can easily select the contractor based on the rating of contractors performance .This helps the customer to fulfill his dream project construction with the help of a contractor through online. This system helps the customer to get its project done smoothly, efficiently and in less time and it helps the contractor to increase the work and income source. This system is made to help both the customer and the contractor.

## Advantages of Proposed System

- Provide information in a quick time according to the requirements that is to be fulfilled.
- Easier retrieval will be possible as multiple search facilities will be available.
- Convenient i.e 100% responsibility from plan approval to handover
- Security of data.
- The important process is integrated together for a proper functioning.
- Redundancy of data is removed.
- Inconsistency of data is removed.
- Transparent at every level including progress, payment, material purchase etc.
- Fixed pre-agreed project cost with standardized packages
- The Paper Work would be reduced to a greater extent.
- Customer can give plan details and requirements online.
- Customer can do online payment.

- Contractor can increase work and income.

## **QUESTIONNAIRE**

1. Do you have valid license?

Yes, I have valid license from PWD building construction sector.

2. What is your rate per square feet?

I am using good quality materials and labours with guarantee work. So I am charging an amount of 2500 rupees per square feet

3. Details of foundation, including details and drawings? Raft foundation is required

4. Do you provide any kind of guarantee for the building?

Yes, we provide 15 years guarantee for leak-proofed roof.

5. Requirement of quality of materials (cement, steel, electrification, flooring, painting etc.)

We use all materials in the A,B,C categories

6. How many running projects do you have now?

Presently I have 6 running sites including apartment project

7. Which is the expensive project you have done?

10 stored apartment near kanjirapally named national kingdom

8. What is quality status of your labours in different areas of construction? For masonry and plastering work I have 50 skillful north indian labours, all of them have an experience more than 5 years in construction ,for steel and shuttering work I have 25 malayali workers most of them are over 15 years experienced and electric and plumbing work is done by subcontractors

9. Do you have any record of labours identity?

Yes, we do have a record

10. How do you want me to settle the payment?

I need my payment before 1 week after handovering the work.

11. How would you provide essential working material on each worksite?

We are having a great rapport with all kind of dealers, so they can supply any materials at any time in the site according to the requirements.

12. Do there any agreement for the contracts?

Yes

13. How often contractors renew the license?

10 years

14. Where did you submit the bill after completing the work?

PWD