



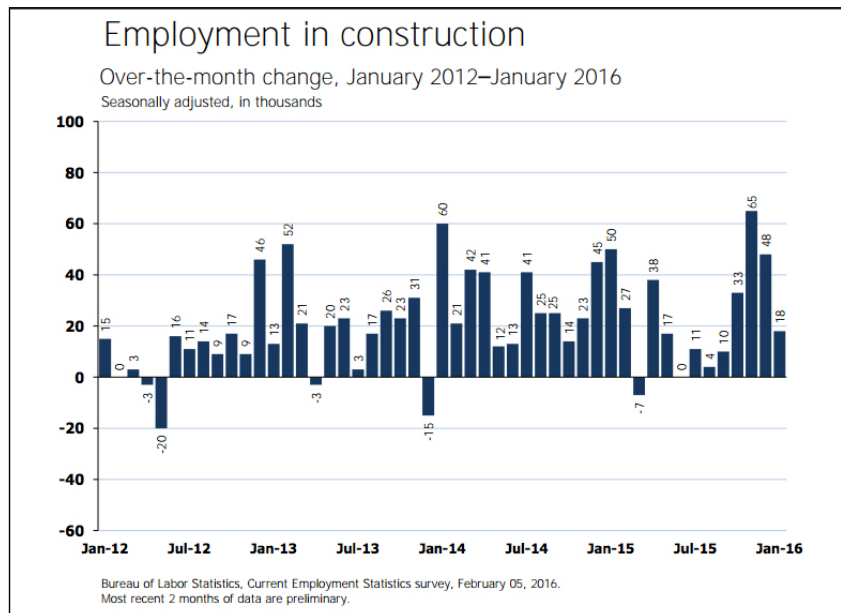
Inducing Agile Workforce Management in The Construction Industry

Booming Big

The construction industry renders a significant role in the development of any nation's economic and social progress. Along the years, this industry has been enjoying an indisputable expansion globally, especially in the developing countries. In reference to the Global Construction 2020 (2011), despite the global economic vulnerabilities, the industry is forecasted to grow to \$12 trillion by 2020, where it marks an escalation of almost 70 percent of the previous years (Beven, 2010). Commercial buildings, institutional buildings, single and multifamily housing developments are among the most common forms of project endeavors ventured in this industry. On the grand scales are the public works, which often features a federal and private collaboration with an extensive investment mode, like highway and bridge constructions. From the extravaganza architecture to the most fashionable outlooks, these projects are maturing and stabilizing in terms of the return on investment (ROI).

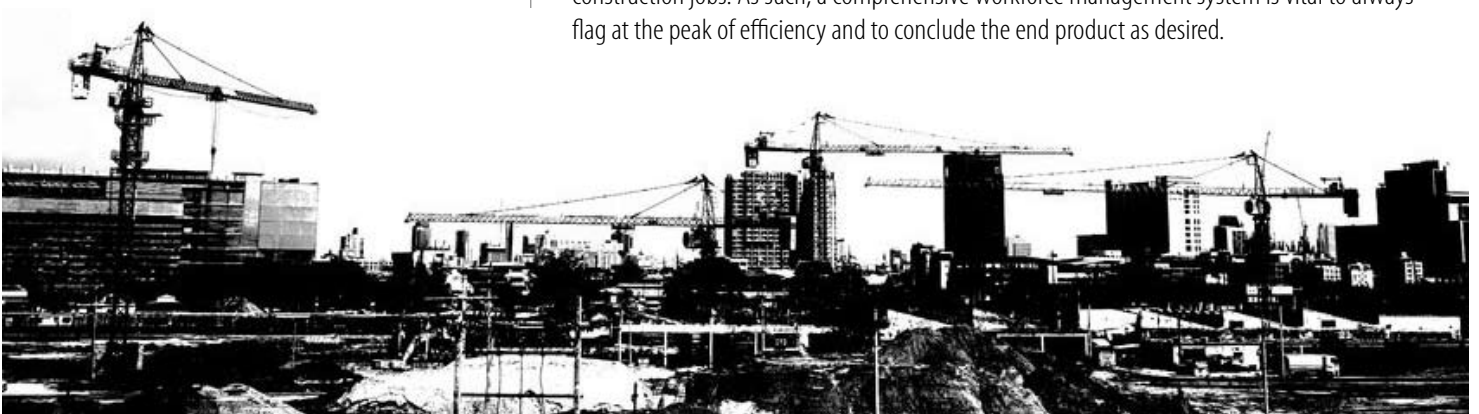
Flag at the Peak of Efficiency

Acknowledging the accelerated growth of this industry, many existing investors are actively looking forward to expand their territory within the industry. As the business aggrandizes, workforce management becomes the foothold of the company's growth. In the US alone the breakdown of the most recent construction recruits is pushing the up button by 18,000 as per the most recent statistic (January 2016). Meanwhile, jobs in construction of buildings advanced by 13,000, and residential building is predicted to share 8,000 of the gain. Residential specialty trade contractors added 13,000 jobs in January. (Bureau of Labor Statistics, Current Employment Statistics survey, 2016). (Refer to the graph below)



Realizing the rapid expansion, business owners are constantly looking for ways to further impose improvements on their workforce management to curtail disintegration. Studies drilling down on construction competence, in variation to productivity has reported 20 to 50 percent wastages derives from poor coordination and labour management. (Tulacz and Armistead, 2007). As such, a loss of \$15.6billion per year was recorded due to the lack of interoperability (Tulacz and Armistead, 2007).

Managing the construction labor pool can be rather challenging in terms of its rigid deadlines, flexible requirements of manpower mobility, foreign labor admissions and language barriers. Another considerably extensive part of this industry is the frequent third party involvements such as the local or federal state miscellaneous, comprising licensing affairs and at times the punctuation of public infrastructures, like a temporary re-routing of roads to make way for the construction jobs. As such, a comprehensive workforce management system is vital to always flag at the peak of efficiency and to conclude the end product as desired.



Expel the Hassle

According to K.K.Chitraka in the book “Construction Project Management”, manpower is one of the main factors in the successful execution of projects and there are many factors also that could affect the productivity of manpower such as weather condition, nature of work and leadership as well as labour turnover, sickness, and absenteeism. It’s imperative for project management to consider working hours, overtime and other incentives when deciding on the manpower schedules. Definitely, a schedule is not the total solution to fix the variables that can affect manpower’s productivity but by having an efficient schedule, these can be reduced significantly.

Some of the frequent complications faced by construction developers who are not equipped with a good Time Management System are inaccurate records, data tampering, unnecessary stress due to arguments between the workers and the management as a result of ambiguous data accumulations which sequence in overpaying or underpaying the construction employees. For instance, a sense of dissatisfaction may arise if the construction workers feel that the employers are counting short on their clock-in, clock-out time, when perhaps the situation might be a sole misunderstanding due to the poor attendance recording system and most importantly, the schedule of construction might be jeopardized when the manpower element is not properly managed by efficient system.

As for construction companies, which remained intact with the good old day’s manual attendance system, payroll management can be time-consuming, expensive and tedious. Despite the efforts of many re-checks, adopting a manual system is very much prone to human error. Understanding the importance of systematic and automated time attendance and scheduling system, the market has been constantly developing new solutions to facilitate the enormous growth in the construction industry. To keep up with the demand of the industry, construction companies need to opt and filter out the most compatible time and attendance system to manage their vast amount of manpower smoothly. It’s important to evaluate and understand the areas of improvements and the end result you are looking for before recruiting a solution.



What’s Trending?

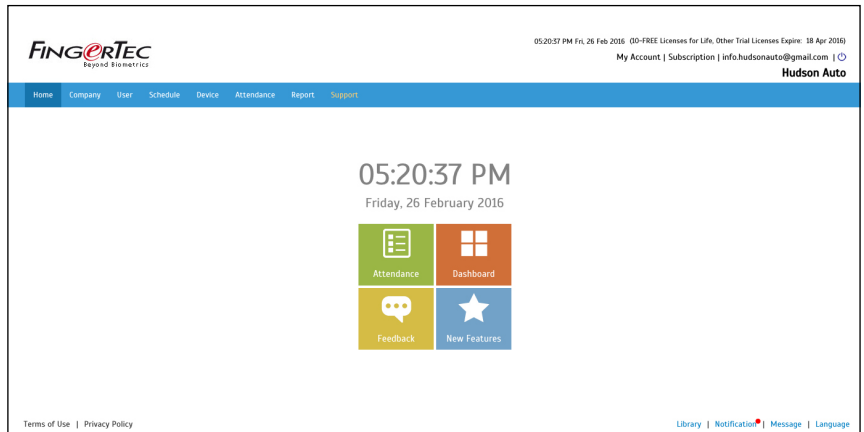
Cloud-Based Time and Attendance System

The world is moving like a speedball and evolving along, are the nature of the businesses and technologies. Every day there’s something new, something to improve on. As such, the Cloud-Based Attendance System is happily trending on the current mode, a solution that discards the need of a physical server and a set of in-house skilled manpower to operate and maintain the back-ends.

These systems are widely available in the market and are pretty much comprehensive whereby most package comes with the following features;

- i. Clock In & Clock Out Data Gathering Via;**
 - Biometric Terminals
 - Web Check-In
 - Mobile Check-In
 - NFC Tag Check-In
- ii. Set Rules Accordingly to Comply with Your Company’s Protocol**
- iii. Pay Roll Management**
- iv. Staff Scheduling**
- v. Reports and Analysis**
- vi. Cloud Based Data Storage**

TimeTec TA - A Case Study of an Efficient Workforce Management Solution available in the Market



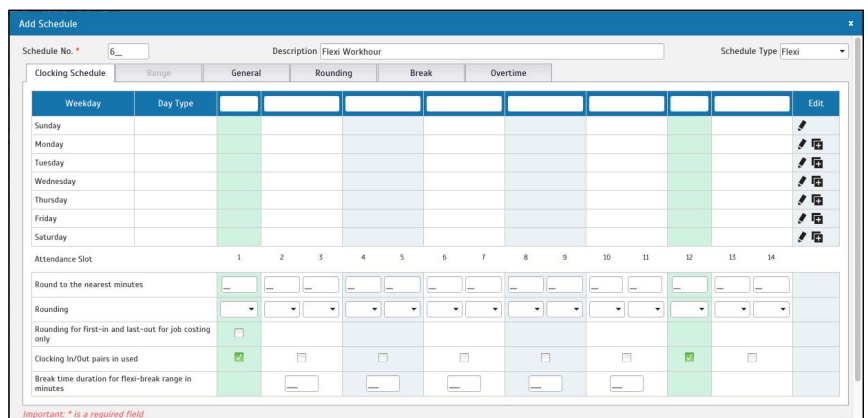
(TimeTec TA's dashboard)

One such paradigm of a good time and attendance system to complement the construction industry is TimeTec TA by TimeTec Computing Sdn Bhd. TimeTec TA is an all-rounded time and attendance system that acts as a preventive step for tardiness, absenteeism, and other counterproductive work behaviour through its automated system, making it easy for companies to track time and evaluate the performance of each individual employee. The attributes of this solution will assist construction businesses to operate at its abounding potential as it centralizes all clocking data and gratifies as a mutual convenience for both the employer to monitor attendance and the employees to record their attendance respectively.

Time Tec TA also provides data access to connected PCs anytime and performs comprehensive functions in a friendly user interface. On the plus note, the system will also ensure Application of Work and Pay Rules are intact with the company's protocols. Below are some of the insights depicted from the TimeTec TA;

Flexi Scheduling

Most construction project sites usually deploy around the clock. This is due to the compact time frame and budget constraints that the developers face, as the longer the construction work precedes, the more cash outflows on the miscellaneous expenses and utility fees. As such workers often times are required to work more than 24 hours with a flexible schedule, as they are paid on an hourly or per-day-count. For instance, the workers are allowed to clock in any time of the day but has to meet the mandatory working hours set by the company before clocking out. If it is 12 hours then the respective employee has to comply by and clock-out upon completing the 12 hours of pre-set shift in order to receive the salary as per the employment contract. Referring to the screenshot above, with TimeTec TA, the construction management will be able to record the attendance of their employees on a flexi mode. Users may select the schedule type as flexi and proceed with the attendance recording.



Regulating the Working Hours

In this kind of flexi scheduling pattern, employers often fall short as a time theft victims. To regulate and control wastage of resources, employers may set a series of rules such as "maximum and separation work hours to be considered as the same work day, double punching and etc as depicted in the screen capture above.

Add Schedule

Schedule No. * 6 Description Flexi Workhour Schedule Type Flexi

Enable/Disable User Define In/Out records (User press key button to define status during attendance reporting)

Enable/Disable user define work code for job costing records (User press key button to define status during attendance reporting)

Maximum work hours to be considered as the same work day :

Separation hours between an out clocking and subsequent in clocking to qualify for next day (i.e. break time) :

Last log out time to consider as same work day (Recommended for the last log out time after 12:00am) :

Double punch for consecutive clocking in a clocking slot if it is within minutes of :

*Important: * is a required field*

Schedule Setup Wizard Guide Me Submit Cancel

Monitoring Employee's Attendance Orderliness

Monitoring employee's attendance orderliness made easy via TimeTec TA's Attendance Sheet that displays all of the attendance data as well as the detailed information of each employee. Data in this sheet may be filtered by day, date, branches, attendance record, department, suspended and section.

Attendance Sheet

View user attendance data in this tab

Organization Structure Group Duty Roster All Show all clocking times. Generate Purge

22/02/2016 - 22/02/2016 Tardiness Suspended No Submit

No.	Date	TimeTec User ID	Name	Day Type	Schedule No.	In	Break	Resume	Out	Work	Overtime	Short Hour	Leave Type	Leave Hour	Remark	Edit
29	22/02/2016	3057	Lee Thing Hong	Workday	30	08:51 AM	12:38 PM	01:25 PM	06:40 PM	8:00	0.49		All		All	

Attendance Detail:

In	Lunch	Out
08:51 AM	12:38 PM	06:40 PM

The administrator can also edit the data on the attendance sheet if there's any miss punch or discrepancy on the data. For the HR personnel, this feature will be a great convenience to view and generate a series of reports such as reports on the employee leaves, extended breaks, absents, original clock in clock out data. Monthly report generation will no longer be a tedious process with such a paradigm adopted. On another plus note, the construction management may also enjoy a cost save on multiple skilled admin labours and ensure that the employees are genuine concerning their attendance discipline.

Update User Profile

Recommended image resolution is 150px X 150px. Maximum file size of image is 20KB.

Personal Information Employment Information System Information

Name * Marilyn

Alias Marie

Gender Female

Date of Birth 21/10/1975

Nationality Chile

Race Chilean

National ID 1258553

Religion

Home Address 509-3, Las Acacias, 1780

Mobile Contact +125866132

Email odbartmessi@gmail.com

Managing Users Swiftly

Users play a dominant part in all software. There will be no use for attendance software if there are no users in it. Therefore, the User Tab plays a significant role in TimeTec TA. Developers can manage their company's individual employee profile in this tab, add relevant information to the staff to complete the employment details, import user, delete a user, change user issuance date as well as send the password link to the employee if he/she forgets their login password.

Via this medium, the HR department may also use the accumulated data for future review purposes, for instance during an appraisal, salary revision and etc.

Manage User

Manage your company's user profile in this tab; add relevant information of the staff to complete the employment details and you can also issue new password to any of the users. User Count : 13 / 30 NEED MORE LICENSE? Manage

TimeTec User ID	Name	Company / Branch	Department	Section	Designation	Mobile Contact	TimeTec Account Issuance Date	Last Sign In	Suspended	Edit
1	Qash	Malaysia	Sales & Marketing		Manager	123-1234567	01/06/2015		No	
2	Jason	Malaysia	Human Resources		Executive		01/06/2015	07/07/2015 23:53:44		
5	Natta	Dubai	Sales & Marketing		Senior Manager		01/06/2015	22/02/2016 11:59:03		
17	Qasim	Malaysia	Human Resources		Senior Executive		01/07/2015			
18	Salma	Dubai	Sales & Marketing		Executive		28/07/2011			
11	Kylie	Dubai	Human Resources		Manager		15/08/2015			
12	Khloe	Dubai	Sales & Marketing		Executive		14/08/2015			
14	Nigel	Malaysia	Technical Support		Technician		08/09/2015			
30	Fredrick	Malaysia	Board of Directors		CEO		04/11/2015			

Avoid Feuds in Volatile and Mobile Job Scope Management

Often times a particular developer will have more than one construction site with different job scopes from the crane operators, pipefitters, glaziers, to the carpenters and pile drivers. With TimeTec TA's System, employers may be versatile in allocating a series or different job scopes to different individuals and even to assign or transfer the employees to multiple sites. The system supported by GPRS trails and biometric terminals will auto synchronize working hours regardless the location and the respective job type to produce a cost analysis.

timeTec | JOB COST ANALYSIS

Date and time the report was printed: 12/8/2014 10:55:15
Page no. of report: 1 / 1

FingerTec TimeTec
Name of company: Timetec Computing Sdn Bhd
Name of report: Job Cost Analysis
Name of employee: 01/05/2014 - 01/05/2014

Date	Weekday	Day Type	Schedu	In	Out	Work	Overtime	Dif OT	Work Code	Remark		
Branch: Themovan												
1	2	User ID	Joe Sliwow								Job/work code	
01/05/2014	Thu	Workday	13	07:15	09:30	2.25	0.00	0.00	15	Minor Service		
				09:33	11:00	1.45	0.00	0.00	20	Major Service		
				11:00	12:30	1.50	0.00	0.00	22	Tyre Alignment		
				13:45	15:30	1.75	0.00	0.00	32	Aircond Service		
				15:40	17:01	1.05	0.30	0.00	20	Major Service		
Working schedule that the employee belongs to						0.00	0.00	0.00	Description of Job/work code			
						15	Minor Service	2.15	0.00	0.00		
						20	Major Service	2.30	0.18	0.00		
						22	Tyre Alignment	1.30	0.00	0.00		
						32	Aircond Service	1.45	0.00	0.00		
						8.00	0.18	0.00				
						15	Minor Service	2.15	0.00	0.00		
						20	Major Service	2.30	0.18	0.00		
						22	Tyre Alignment	1.30	0.00	0.00		
						32	Aircond Service	1.45	0.00	0.00		
						8.00	0.18	0.00	Total work hour, overtime and different OT			

This report is exclusively for the Job Cost option at the flexi schedule. It displays the users' multiple break time and also the job's work code for the break time.

A multi-million dollar construction company in Malaysia has subscribed to TimeTecTA with the objective to manage its workers at multiple sites.

The company's major requirements were that the system should address and curb the rampant buddy-punching occurrences and at the same time should be able to monitor attendance clocking activities remotely and in real time. The combination of FingerTec biometric GPRS terminals and TimeTec TA's on-line time attendance system perfectly met their requirements. They sign for a 2-yr contract for 240 users and the user base is expected to increase to two thousand users in a year.

Dispense all tedious calculations, report accumulations, as TimeTec TA is outfitted with a cloud-based interface for branch management, HR, admin and other staff to access the system without much bickering.

References

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- Chitkara, K. K. (1998). *Construction project management*. Tata McGraw-Hill Education.
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