



TimeControl[®]

Creating your timesheet approval process

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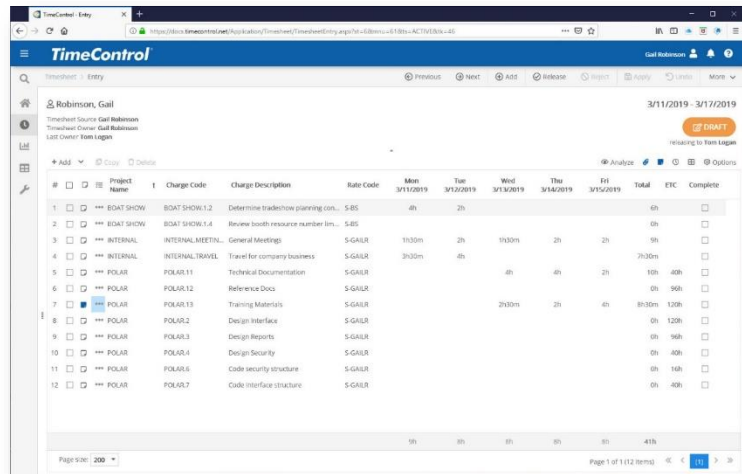
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HMS has been designing corporate timesheet systems since its first project in 1983. Our clientele includes organizations in both the public and private sector. Whether the client is a 10 user IT company or a Fortune 1000 multi-national, one aspect of timesheets that is universal is the desire to ensure that the data is complete and accurate and that involves creating an approval process.

The purpose of an approval process is to ensure the organization has collected a complete and accurate record of the time spent on the appropriate tasks and that the data has been accepted into the organization.

TimeControl has built its reputation around having a highly flexible and powerful approval process that must meet the requirements of more than one aspect of the organization at the same time. Approving data is highly dependent on the context from which it is approved. Human Resources might be interested only in the exceptions; the vacation time, sick leave or other absences. Payroll might be interested only in the total amount of time or the rates at which time was charge or any overtime that was incurred. Billing might be interested in the total hours spent on any one client and that the appropriate billing rates were used. Project Management might be interested in what hours were spent on which tasks and what the estimate to complete that task is. TimeControl must be able to accommodate all these perspectives within the same process and the approval process of each organization is unique.



When you are creating your own approval process with TimeControl, you build that process out of the many building blocks of functionality and capability within the system. This paper gives an overview of those building blocks. For more discussion about the challenge of matrix approvals, we recommend looking at the “Timesheet Approvals Challenge” white paper and the materials on Matrix Approvals on the TimeControl website at www.timecontrol.com/solutions/matrixapprovals.

TimeControl Approvals Building Blocks

Creating your own TimeControl approvals process starts with understanding the different capabilities written into the system and the degree to which each of them can be adapted to your needs.

The most useful way to work through these sections is to think of your business challenges and then see how combining features described here could be used to overcome those challenges. Those who have the most difficulty creating an approval process in TimeControl typically start off with a preconceived notion of how it should look and how it should work based on other systems they've used and then try to adjust the TimeControl functionality into those ideas. We've highlighted the most significant elements of the building process into categories below and they include:

Starting with Good data

If the purpose of an approvals process is to ensure complete and accurate timesheet data, then starting with data you can count on is a great place to begin. Some approvals processes concentrate on ensuring that the charge code is a valid one or that the department is properly spelled. TimeControl can do these things for you in the background by only allowing data that has been approved into the system for selection.

Employee Filters

Using filters in the TimeControl Employee table, you can refine the notion of good data even further by ensuring that only the data that meets certain criteria can be seen by any given user. These filters allow projects, charge codes and rate codes to be filtered on an employee-by-employee basis.

Drop-down values

When there is an option to write in a value or use a drop-down selection of values, we always vote for drop-down selection because of the remarkable increase in data integrity. If there is a list of departments, then you have a much better chance of getting everyone to say it the same way if they are just choosing from possible departments and not imagining what the department is called or wondering how it is spelled.

Default values

Why not start with the right value? TimeControl can. TimeControl allows users who have the same entries most of the time for project, charge or rate to make those a default so they don't need to go searching for them.

Pre-loading the right charges

TimeControl allows the preloading of several kinds of timesheet data. TimeRequest™ can pre-load statutory holidays and approved vacation entries before you even get to the timesheet. Then project management systems can be configured to pre-load assignments to your resource code along with the last estimate to complete information. Finally, you can elect to pre-load charges in your own personal preferences. Making these selections in advance guides the data to be the right choices before you do even the first minute of work in your week.

Validation Rules

Creating Business Validation Rules in TimeControl is a powerful method of testing the data that has been entered by the end user. Validation Rules can check virtually anything that can be defined in the data and Validation Rules can apply to everyone or only a select group. Rules can be simple such as “No more than 24 hours” or complex such as “No overtime unless a) you are entitled to overtime, b) have done more than 40 hours in a week and c) spent none of that 40 hours on sick leave”.

Multi-Level Organizational Approvals

TimeControl Approvals include the concept of multiple levels of approval for the entire timesheet so a supervisor, a contract manager, a manager, an administrator can all be along the approval path. This is for approving the entire timesheet in context. Line item approvals are a distinct element of the process discussed below

Batch Release

When a supervisor has a lot of timesheets to approve, they can take advantage of the Validation Rules by releasing a large volume of timesheets all at the same time. The Validation Rules will stop or pause on any timesheet that violates that rule and this allows a supervisor to release all the timesheets that are within normal parameters and to review in greater detail those timesheets that exceed the norm.

Alternate Users for When the Supervisor is Away

When a supervisor or manager or administrator will be out of the office for a few days or weeks, TimeControl allows their responsibilities to be delegated to someone else during that time. Logging into TimeControl as an Alternate gives you temporary access to the absent user's role and lets approvals move forward in their absence. TimeControl keeps track of who really did the approvals in its audit log.

Managing Missing Timesheets

Part of a complete approval process is ensuring that all the timesheets are accounted for. TimeControl includes functionality for this in a Missing Timesheet report, Missing Timesheet Notification and Timesheet Status on the Dashboard.

The approval implications of Partial Posting

Some organizations must release timesheets in mid-week in order to conform with payroll or billing rules that can't wait for the end of the week. In this case, timesheets must be released prior to them being complete. There are implications of this in the approval process when the end of the week arrives and the rest of the timesheet is completed.

Line Item Approvals with Project Manager Validation

TimeControl's unique *Matrix Approval Process for Labor Actuals*[™] includes the concept that there are different perspectives with different interests in what to approve on the timesheet. While the total hours, overtime pay and exception time-off might have been approved by a supervisor, a project manager or billing manager will have a much more significant interest in what the time was spent on line-by-line. The PM Validation screens were created for this purpose.

Line Item Approvals beyond Project Managers

TimeControl is able to create an approval process that adds additional axes to the Matrix Approval Process for Labor Actuals. Imagine an environment where there is the approval for the entire timesheet for payroll and non-project items then a separate approval for project managers before data is transferred into the project system and yet another account manager approval before data is transferred to billing and a client-side approval before data is transferred to a client's account. Line Item Approval adds the capacity of as many additional parallel approvals for line items as you wish. Just like Project Manager Validations, these approvals occur after the whole timesheet is posted but prior to data being transferred to particular systems.

Audit Log

Part of any good approval process is determining who did the timesheet, who released it for approval, who approved it or rejected it and when that all happened. The Timesheet Audit Log shows the movement of all timesheet approvals.

Adjustments with Debit / Credit

Even when approvals go well, there can be the opportunity for corrections at a later date. TimeControl's adjustment function is called Debit/Credit and it works just like any accounting system. You can remove hours from one line and you can add them to another. One option in TimeControl is to enforce "Balanced" Debit/Credits. If this option is enabled, then the total hours after all adjustments are complete must equal the total hours that were originally approved.

If the purpose of an approvals process is to ensure complete and accurate timesheet data, then starting with data you can count on is a great place to begin. If your previous timesheet system was paper-based or based on Excel then you might have experience with an approval process that concentrates on ensuring the charge code information, employee code information, the rate code information and project information is correct before you even think of the data entry of the hours on the timesheet.

When you develop your timesheet approval process in TimeControl, ensuring that the data that is selectable is already valid can make a huge difference. TimeControl has powerful integration capabilities with external systems so bringing in information from HR for employees that are being on-boarded and from project management systems for projects and tasks that work can be charged to can eliminate the ineffectiveness of invalid employee codes, project codes or task codes.

When a value must be entered in a table, TimeControl can be configured to present a drop-down list of values rather than just entering a typed-in entry. This list of values can even be populated dynamically from an external system. Imagine, for example, that you must choose from a possible list of account codes to attach to each project. That list is maintained in your ERP/Finance system. TimeControl is capable of using an external list of values for such a purpose so that only a current valid account code could be selected by that table in the user defined field in question.

When we have user defined fields in the timesheet, you can even have these fields relate from one to the next. We refer to this as “Cascading fields”. In this situation, the possible list of field 2 might be dependent on the selection you made in field 1. Imagine you need a list of locations of which your organization has thousands. You might first pick the region in field 1, then see only those clients who have projects in that region, then choose the client from that list in field 2 and then see only those client locations relevant to that client in that region in field 3. Using these types of techniques conditions the data entered in TimeControl by end users to a very high level of quality before a timesheet is even submitted.

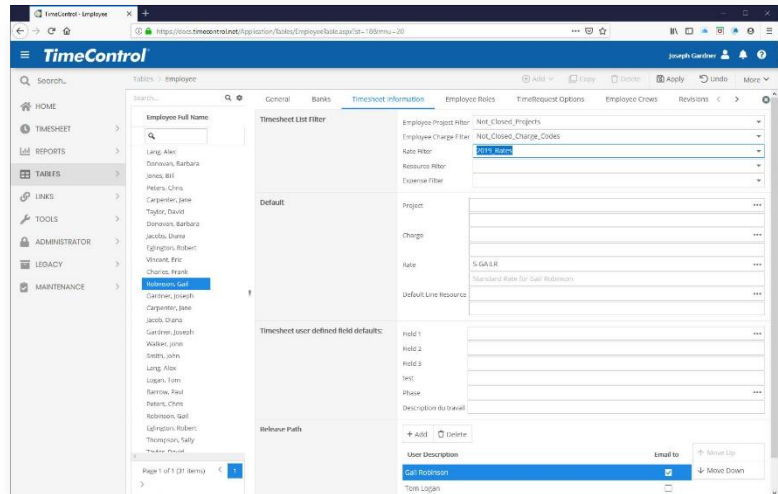
When we link possible charge codes to project management systems, we’re also able to have only the data which is current appear. A common complaint in manual systems is having timesheets submitted with hours allocated to a closed project. TimeControl can hide such data when a project is closed.

TimeControl’s data selections are similar when thinking of rates. Rate codes can be defined globally or at the resource or individual level. Then TimeControl only displays those rate codes which are specific to that particular employee.

In the TimeControl Employee Table, we can establish filters to constrain which projects, charge codes and rate codes will be visible to this particular employee.

Most organizations use this feature at some level to hide from the end-user data which couldn't possibly be appropriate for them.

In the Employee Table in the Timesheet Information tab, the Administrator can select from a list of possible filters in the three categories (project, charge and rate). The filter must be created in advance in the Filters module. Filters in TimeControl can be very static or highly dynamic. An example of a static filter might be to show "Only projects named 'Internal'". An example of a dynamic filter might be to show "Only projects which have a status of Open". In this case, whenever a project is marked as closed by the project manager, that project will no longer be selectable for this employee.



Filters can also include multiple conditions including the conditions of other filters (filter in a filter).

The concepts of filtering TimeControl Charge Codes and Pre-loading a timesheet with assignments is sometimes confused. Filtering a Charge Code means that the employee can **not** choose that Charge Code. Pre-loading a Charge Code because the employee was assigned to it means that the timesheet is showing a list of line items but that other selections might be possible.

There are a couple of cautionary notes while thinking about using Employee filters:

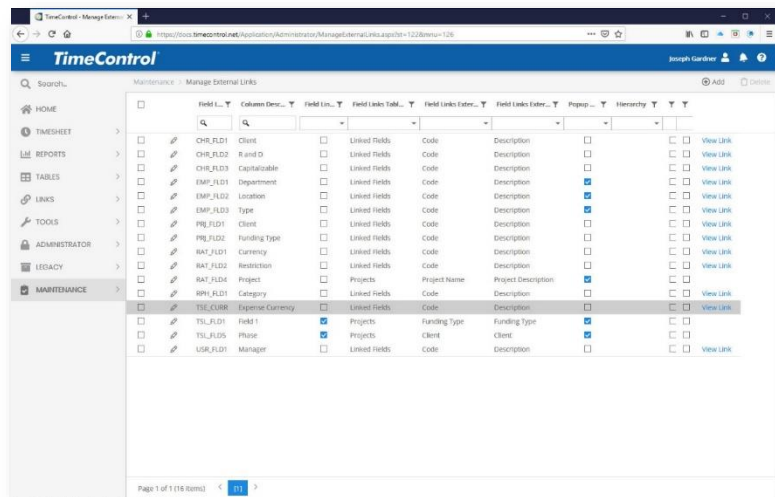
- If a charge code or a project is filtered, a line item that is preloaded that is filtered out will **not** appear even if it is in that employee's pre-load list.
- A filter could be created to show **only** those charge codes to which an employee is assigned. If that is the case, then an assignment would have to be made for that employee on that charge to have it selectable.
- Changing a filter to be less restrictive will not re-pre-load a timesheet. It will only make the charges which are no longer restricted available for selection.

When there is an option to write in a value or use a drop-down selection of values, we always vote for drop-down selection because of the remarkable increase in data integrity.

Drop down values can be used in numerous places in TimeControl. The first and most common is to attach a list of possible values to a user-defined field. For example, if you have defined a user-defined field in the Employee table for a Department, then using a pre-defined list of Departments will avoid reporting and exporting issues due to different people spelling a department a different way or misspellings or using departments that no longer exist. Approvals processes in the past that had to have someone review a timesheet to ensure the employee's definition would no longer be required.

The timesheet itself can have user defined fields. In this case, the end-user will be entering a value on each line of the timesheet. For example, perhaps your timesheet system requires that the employee select one of your locations where a task was accomplished. This data might be required later for reporting or exporting purposes to define tax or billing information. Using a list of drop down values here can ensure that only valid locations are selectable. Past approvals processes that required doing a timesheet review to check that timesheet locations were all from a proper list of values would no longer be required.

When drop-down values are combined with TimeControl's "Cascading Field" functionality, field values can depend on each other. In some timesheet environments, users must enter a billing code on their timesheet but should only choose the appropriate billing code based on the client. When we use cascading fields, we can select the client field from a list of values, then the 2nd billing code field could be defined to show only those codes appropriate to that client.



Why not start with the right value? TimeControl can. TimeControl allows users who have the same entries most of the time for project, charge or rate to make those a default so they don't need to go searching for them.

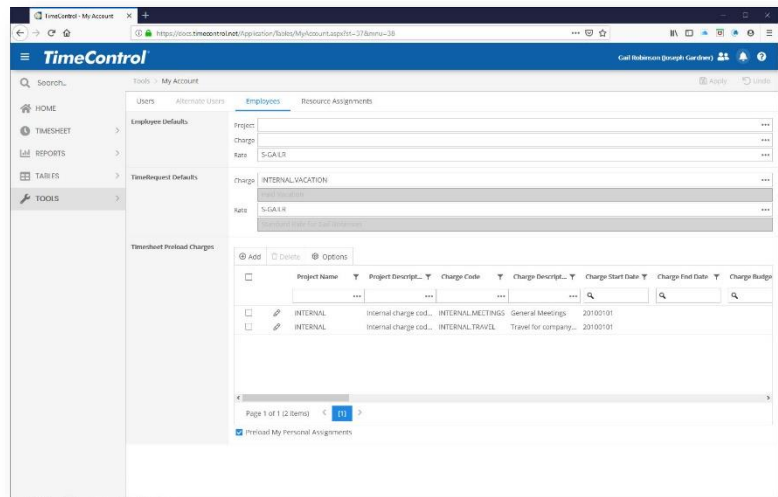
Some timesheet users will almost always use the same rate code or always work on overhead charge codes and thus always on the same project.

We can help users avoid inadvertently choosing the wrong project by letting them set default values. This can be done by the administrator or the end user themselves can update the default project, charge code and rate in their My Account area.

Past approvals that had to focus on back-office staff accidentally charging hours to the wrong project would no longer need to put effort here if the default values reduce these errors automatically.

When a default value is selected, it is automatically entered whenever a new line is entered on a timesheet through Insert, Append or Pre-loading.

If the user has selected Personal Pre-Loads or the Administrator has selected Assignment Pre-Loads then a default value for the Rate Code must be selected.



TimeControl allows the preloading of several kinds of timesheet data.

Pre-Loading the timesheet inserts timesheet lines at the moment the timesheet is created. This can serve to guide the timesheet data for that week to the charges that are likely to be selected.

There are four sources of Pre-Loading:

1. TimeRequest™ Wizard

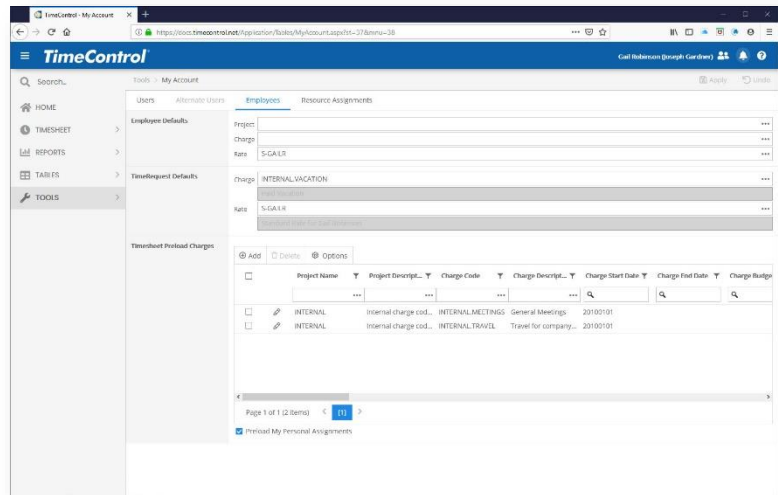
First, the TimeControl Administrator can use the TimeRequest Wizard to pre-load an entry for a day for many users at once. This is often used to pre-load statutory holiday information into a particular day. If, for example, Christmas Day is a statutory holiday for all salaried employees, then entering a timesheet line for that day with 8 hours of time on the appropriate charge and rate can serve to avoid those people who accidentally forget to enter it. Approval processes that had to review all timesheets in a week when there was a statutory holiday to ensure everyone entered it properly would no longer be required. If a user does their timesheet on a week when there is such a pre-loaded line but has to unexpectedly work that day, they can edit the line as required.

2. TimeRequest Vacation

The TimeRequest feature allows users to request time off in advance. This request is submitted for approval to the user's supervisor. If the request is approved, it will then become an automatic pre-loaded timesheet line complete with the number of hours for each day of the TimeRequest. Past approval processes that had to verify a timesheet when there was a vacation or time off line item to ensure that the time was appropriately approved would no longer be required.

3. Assignment Pre-loads

TimeControl's links with project management tools like Microsoft Project, Primavera and Open Plan allow bi-directional integration that includes the transfer of resource assignment information from the project management tool to TimeControl. When integrated with a project scheduling tool, it is common to have TimeControl pre-load an employee's timesheet with the assignments allocated to that employee. TimeControl can set a filter in the Employee table that selects which assignments from the scheduling tool to pre-load. For example, a common filter for this situation would be to show all assignments for this employee that are incomplete and have a start date less than 10 days in the future. That would show any overdue assignments that are still not complete, this week's assignments and next week's as well. All other assignments in the future would be in the system but not pre-loaded.



This powerful function prevents accidental selection of similarly named but incorrect tasks and helps guide the employee to those charges that they are most likely to be working on this week. Approvals that had to focus on the task selections of each employee will be avoided.

4. Personal Pre-loads

Finally, TimeControl allows each user to select charge codes that they would like to add to their own timesheet in order to avoid looking for those line items each time. End users can select charges to pre-load in their My Account area. For example, an employee might have business travel as a regular part of every week. Even though this charge code is not associated to a particular project, they must look up the charge item in the list of overhead tasks each week. Using Personal Pre-Loads means the employee can select the charge for business travel one time then it will appear on all timesheets automatically in the future.

Whenever a pre-load eliminates the requirement for an end-user to look up a charge item, it eliminates the opportunity to inadvertently select the wrong charge item. This serves to lower the approval effort as these items will already be properly selected by the employee in advance.

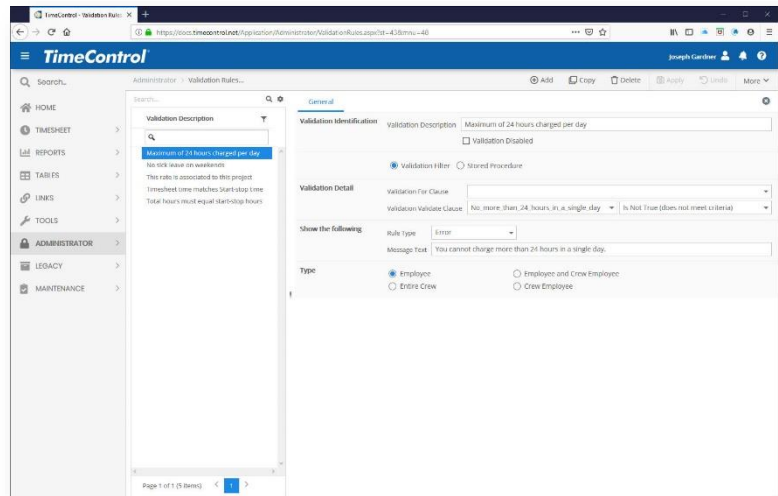
It is important to note the distinction between Pre-Loading and Filtering. Filters in the Employee Table for Project, Charge and Rate determine what Projects, Charges and Rates are selectable in a timesheet. The Pre-Loading only adds those items defined in advance to be added to this timesheet.

- Therefore, if a charge is defined to be pre-loaded but when the timesheet is created at the beginning of the week and that charge is impossible due to the filters for that employee, that charge will not appear.
- Even if a timesheet has been pre-loaded, this does not preclude the employee from selecting additional lines by clicking Append or Insert. The employee will then see all projects and charges which are possible for them to select from based on the Employee Table filters
- A combination of these features that some Administrators adopt is to create a filter for projects and charges that is based on the assignments. There are instructions for this on the TimeControl Blog (blog.timecontrol.com). In this situation, pre-loads could be set on or off as desired but the only projects and tasks an employee could select from would be those to which he or she was assigned.

TimeControl's Business Validation Rules is a powerful method of testing the data that has been entered by the end user.

Validation Rules are applied at the moment the timesheet is released and it is checked each time it is released. You can make rules that apply to everyone or any selected group and you can have an unlimited number of rules in any TimeControl system.

Validation Rules are defined with two filters defined in the Filter Table. These filters will determine first, which timesheets are to be checked and second, what they are to be checked for. The first filter might be used to make some rules applicable only for certain groups of people. For example, you might wish some rules to apply to contractors that will be different than those applied to salaried staff.



Rules can check virtually anything that can be defined in the data. Rules can be simple such as “No more than 24 hours” or complex such as “No overtime unless a) you are entitled to overtime, b) have done more than 40 hours in a week and c) spent none of that 40 hours on sick leave”.

A validation rule can be either a warning or an error. For example, you might have a rule that says “Warning: you have charged overtime on this timesheet. Please double check it before releasing for approval”. Or, you could have a rule that says “Error, you cannot charge overtime unless you have done at least 40 hours of regular time this week.”

TimeControl includes an interface for making the filters that will be used for rules and filters can include dynamic macro values. For example, you can make a filter identifying a date two weeks from today by entering [TODAY+14] in the appropriate area of the filter dialog. Filters can also include other filters which can make creating complex filter conditions a bit more understandable. One of the most powerful aspects of creating a filter however, is that it can be created with pure SQL. The interface allows a skilled implementer to use SQL commands to define a review of data that can check almost anything. Some users have taken advantage of this to create validation rules that reach even outside of TimeControl itself. For example, one user created a validation rule that checked if the banked vacation hours located for this user in the HR system's database would be exceeded by the current timesheet. There is virtually no limit of the types of rules that can be created.

There are a few cautions that come along with validation rules:

1. Rules are so open that they can contradict each other. You could configure TimeControl with two rules: a) Timesheets are valid if they have hours only during the week and b) Timesheets are valid if they have hours only during the weekend. If these

two rules are applied to everyone, no timesheets will ever be releasable. It is important to keep track of what rules you have created to ensure that timesheets can be properly completed

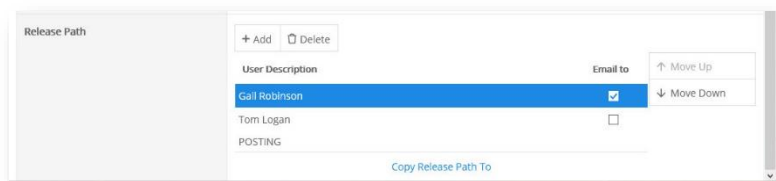
2. When deploying TimeControl for the first time, resist the temptation to have hundreds of rules. It is easier to get acceptance of the system when there is only a handful of rules to get the system started. You can then introduce new rules once you are underway, introducing perhaps one or two rules per week for the most commonly viewed errors. A system that has so many rules that end users are unable to figure out how to release their timesheet is at risk of failing due to a lack of acceptance.

Multi-Level Organizational Approvals

TimeControl approvals allow the organizational approvals with an unlimited number of levels. This part of the approval process is designed to look at the entire timesheet in context as opposed to line-item-approvals which is discussed in the Project Manager Validation section.

In the TimeControl Employee Table, we define the “Release Path” of approvals for the timesheets of this employee. The users listed in this section will be the only ones who can enter a timesheet for this individual. In the example to the right, Gail Robinson is the employee and her user name appears first, followed below that by Tom Logan who is her supervisor and who will review the timesheet as soon as it is released. Then Tom will release the timesheet to “Posting” from where TimeControl will post the timesheet.

The timesheet header shows the source user who created this timesheet, the current owner and where the timesheet will be released to next. The employee name and number for this timesheet are displayed separately in the header on the left hand side of the screen.



There is no limit to the number of levels for each employee’s release path. Some employees might be allowed to release their timesheet immediately to “Posting”, relying only on the automated Validation Rules to check it. Other employees might have only their one supervisor reviewing the timesheet as Gail does above. Other employees might have a supervisor who then releases to an administrator who then releases to posting. The more levels there are, the more complex the approval process becomes.

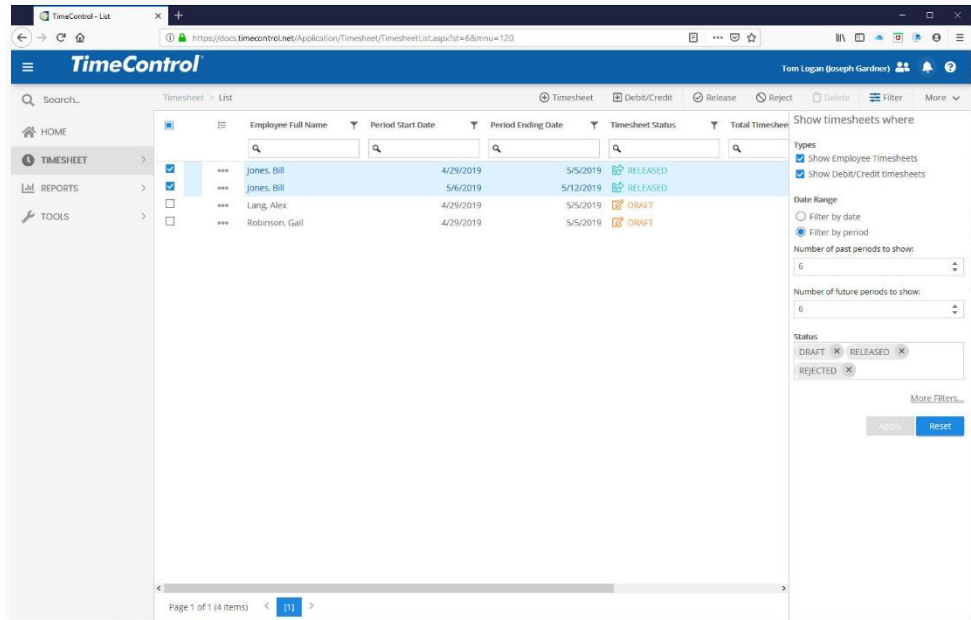
A common request is to have contractors have to release their timesheet to a contract manager and then to their direct supervisor or to the supervisor first, then a contract manager. When a timesheet is rejected, it goes back one level and each time the timesheet changes owner, TimeControl can log this change in the Audit Log.

Anyone in this release path can create a timesheet for this person. So, in the above example, both Gail and Tom could create this timesheet. In some situations, there is a desire to allow a clerk to create timesheets on behalf of someone else. This could be accomplished through Alternate Users but it can also be accomplished by entering the clerk first in the release path. In this case, the clerk would appear first, then the employee, then the supervisor. In this example, if Alex was creating a timesheet for Gail, the timesheet would be released directly to Tom.

The Notify flag to the right of the user name is designed to tell TimeControl which user should be notified by a Missing Timesheet email. This is particularly important if the clerk type of example, as described above is being used.

When a supervisor has many timesheets to approve, they can release multiple timesheets at once using the Batch Release function. Used in conjunction with Validation Rules, this can be a big time saver.

Batch Release can be executed in the Timesheet List by clicking on multiple timesheets and then clicking the Release button. This might be appropriate if the number of timesheets under one's control is a small number. The



Batch Release function can also be activated from the Tools Menu in which case a very high number of timesheets could be released simultaneously.

Since the supervisor need not review each timesheet first, there is a risk that there may be an error on one of the timesheets but this can be caught using the automatic Validation Rules. If, for example, a rule was created that said “This rule should apply only when the person releasing the timesheet is not the source who created it (i.e. someone along the release path) then make a warning (not an error) which checks a certain criteria and then holds the timesheet back for manual review.” This type of rule would then release all the timesheets which passed the validation rule and would keep for review only those timesheets that exceeded the threshold. Since the rule would be a warning, not an error, the supervisor could review those timesheets that have triggered the rule one by one and then override the warning by insisting the timesheets when they release the timesheet again.

Alternate Users for when the supervisor is away

When a supervisor or manager or administrator will be out of the office for a few days or weeks, TimeControl allows their responsibilities to be delegated to someone else during that time. The delegate can then log in as though they were the person who is absent and have all the rights and privileges the absent user normally has.

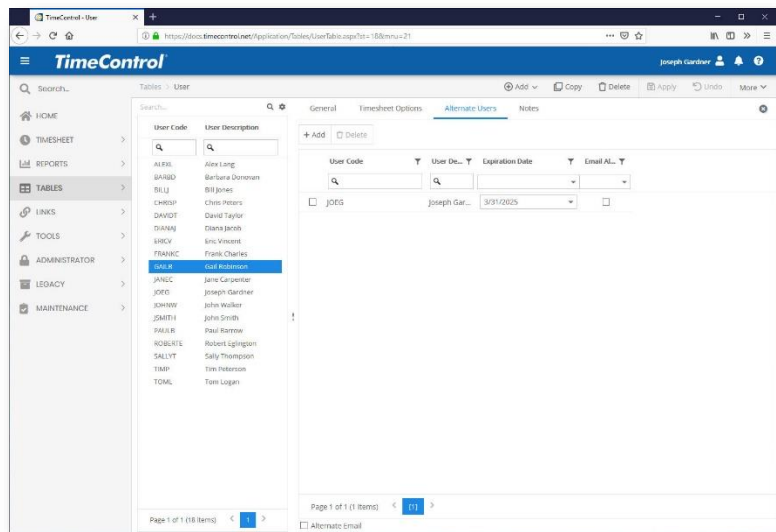
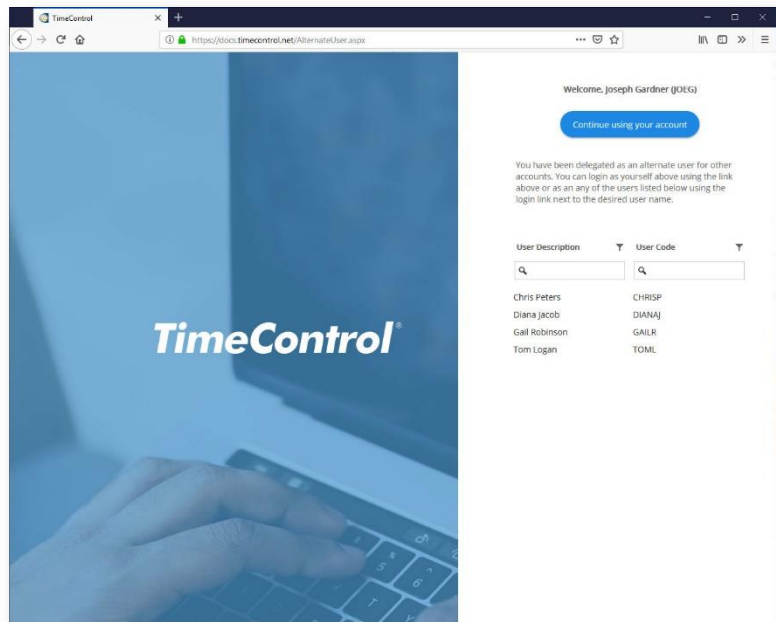
This feature can be activated by an Administrator within the User Table or each user can activate the feature in their My Account area.

To activate the feature, the user must name an active user by selecting them from the drop-down list and enter an Expiration Date when this delegation privilege will expire.

If a user logs in and has been granted Alternate privileges by other users, they will see the option on the login page just as we've shown above. In the example above, the User Joseph Gardner can elect to log into TimeControl as himself or as Barbara Donovan or Jane Carpenter.

If Joseph selects Barbara, he will see Barbara's name at the top of the TimeControl screen and all the options, restrictions and privileges that Barbara would normally see will be presented to Joseph. Joseph will be able to see the users and timesheets that Barbara would normally see and perform her duties on her behalf.

When a user is logged in as an alternate, TimeControl records who really performed certain functions in the background. So, if a user releases a timesheet, the audit log will record both the name of the user who was absent and the alternate user who took their place.



Managing Missing Timesheets

Part of a complete approval process is ensuring that all the timesheets are accounted for.

TimeControl has several elements of functionality to ensure that all timesheets are collected.

First of all, in the timesheet header, you can see who currently owns a timesheet. This allows us to determine several things when we want to look for what timesheets are not yet posted for the week. We can determine if the timesheet was created, if it was started but never released, if it was released but never released to posting and if it was posted.

Employee Code	Employee First Name	Employee Last Name	Employee Full Name	Timesheet Owner Description	Timesheet Status	Period Ending
JCHRW	John	Walker	Walker, John		MISSING	5/19/2019
JCHRW	John	Walker	Walker, John		MISSING	5/19/2019
JCHRW	John	Walker	Walker, John		MISSING	5/20/2019
JCHRW	John	Walker	Walker, John		MISSING	4/28/2019
ERICV	Eric	Vincent	Vincent, Eric		MISSING	5/19/2019
ERICV	Eric	Vincent	Vincent, Eric		MISSING	5/19/2019
ERICV	Eric	Vincent	Vincent, Eric		MISSING	5/20/2019
ERICV	Eric	Vincent	Vincent, Eric		MISSING	4/28/2019
SALLYT	Sally	Thompson	Thompson, Sally		MISSING	5/19/2019
SALLYT	Sally	Thompson	Thompson, Sally		MISSING	5/19/2019
SALLYT	Sally	Thompson	Thompson, Sally		MISSING	5/20/2019
SALLYT	Sally	Thompson	Thompson, Sally		MISSING	4/28/2019
DAVIDT	David	Taylor	Taylor, David		MISSING	5/19/2019
DAVIDT	David	Taylor	Taylor, David		MISSING	5/19/2019
DAVIDT	David	Taylor	Taylor, David		MISSING	5/20/2019
DAVIDT	David	Taylor	Taylor, David		MISSING	4/28/2019
JSMITH	John	Smith	Smith, John		MISSING	5/19/2019
JSMITH	John	Smith	Smith, John		MISSING	5/19/2019
JSMITH	John	Smith	Smith, John		MISSING	5/20/2019
JSMITH	John	Smith	Smith, John		MISSING	4/28/2019
GALLR	Gail	Robinson	Robinson, Gail		MISSING	5/19/2019
GALLR	Gail	Robinson	Robinson, Gail	Gail Robinson	MISSING	5/19/2019
GALLR	Gail	Robinson	Robinson, Gail		MISSING	5/20/2019
GALLR	Gail	Robinson	Robinson, Gail		MISSING	4/28/2019
CHRISP	Chris	Peters	Peters, Chris		MISSING	5/19/2019

TimeControl uses the Submit Start and Submit Finish dates in the Employee Table to determine what timesheets it should expect. These fields are sometimes misinterpreted to be Start of Employment and End of Employment. While those dates might also conform to when you'd like to start and end tracking timesheets for an employee they don't always. In a new TimeControl deployment, we usually want to start tracking timesheets from the date the system goes live. If we enter the start of employment date in the Submit Start field in the Employee Table, the employee might get a notice from TimeControl that they are missing weeks or years even of timesheets.

TimeControl makes an expected timesheet list for a Missing Timesheet Report. This report can make a list of timesheets that were expected and their current status: Missing, Owned by ... and Posted.

TimeControl can also send an email to users whose timesheets are not complete for a given period. The email can be sent on demand or on a set schedule. Multiple email message can be created. A Missing Timesheet Notification email can be defined to go only to those employees whose timesheets have not been created, only to those who have timesheets in their control which have not been released/approved or to both.

Since there can be multiple automated email notices, you could set up the following schedule for example:

1. Create a notice to automatically go out on Wednesdays at noon but only to those who have not yet created a timesheet for the week saying "We notice that you've not yet started your timesheet for the week. Remember our best practices state that you should keep track of your time in your timesheet daily."
2. Create a notice for Friday at 3pm to go out to those who have timesheets in their control or whose timesheets are missing saying "It's Friday and please don't forget to submit your timesheet before leaving for the week."

3. Create a notice for Monday at 10am to all those who have timesheets still outstanding. "The following timesheets are in your control and we need them posted in order to complete last week's records."

You can make any number of automated email notifications.

The Approval Implications of Partial Posting

Some organizations must release timesheets in mid-week in order to conform to payroll or billing rules that can't wait for the end of the week.

TimeControl can accommodate this by creating timesheet periods with different lengths so that timesheets can end in the middle of a week and start again for the balance of the week. For clients who do not like the idea of multiple timesheets in a week for this purpose, TimeControl also accommodates mid-week end of periods through posting only a part of the timesheet. We call this Partial Posting. This affects a very small percentage of TimeControl deployments but when this function is activated, there is an implication to the approval process.

#	Project Name	Charge Code	Charge Description	Rate Code	Mon 4/29/2019	Tue 4/30/2019	Wed 5/1/2019	Thu 5/2/2019	Fri 5/3/2019	Total	ETC	Complete
2	POLAR	POLAR.11	Technical Documentation	S-GAILR	8h	8h				16h	40h	<input type="checkbox"/>
3	POLAR	POLAR.13	Training Materials	S-GAILR			4h	4h	4h	12h	12h	<input type="checkbox"/>
4	POLAR	POLAR.7	Code interface structure	S-GAILR			4h	4h	4h	12h	40h	<input type="checkbox"/>

In partial posting, TimeControl posts the timesheet lines which have hours entered in the days up to the partial posting date. If the partial posting date was done this week on a Wednesday for example, TimeControl would release all those lines that had hours in them up to and including Wednesday. If a line already had hours entered in it for days later in the week, TimeControl duplicates the line and moves the entries for later in the week into the duplicate line.

Since the release of the timesheet data is being done in the middle of the week, there is no way for validation rules to be applied. Rules such as “Your timesheet must equal exactly 37.5 hours,” for example would certainly fail. For the same reason, we don't release the partial timesheet data to the supervisor. Partially posted data bypasses both the organizational approvals and the automated validation rules to put the data directly into a posted state. The timesheet however is not yet released. That process must still be done at the end of the week. However, if there was an error in the posted data, the employee might have to reverse an entry in order to correct the error and make the timesheet release-able.

Let's say an employee accidentally entered 44 hours on Monday when they meant to type in 4. The timesheet will likely get caught at the end of the week by an automated validation rule that checks for “no more than 24 hours in one day”. The employee can correct this by making a copy of the offending posted line and entering “-40” in the correct day. This will then be posted as part of the completed timesheet.

It is important to remember that even if you've done partial posting, the regular approval process must still occur at the end of the week in order to close out the timesheet.

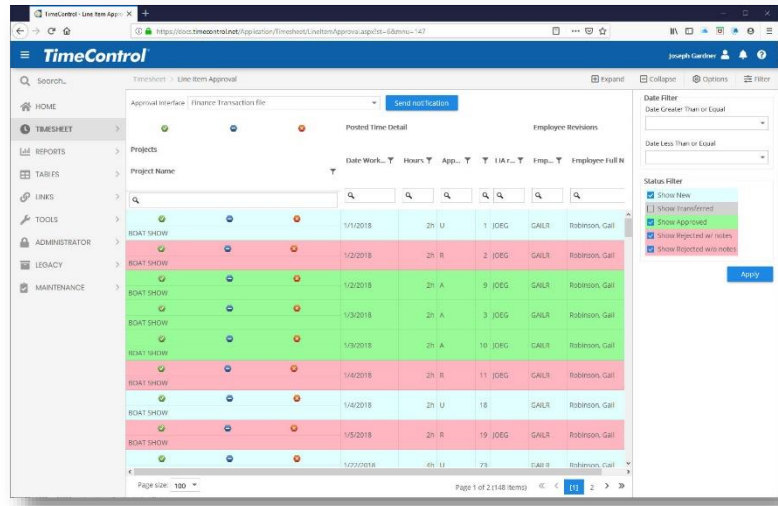
Line Item Approvals with Project Manager Validation

Aside from all the functionality for looking at the complete timesheet, there is also the ability to do line-item approvals using the Project Manager Validation module. This module shows a list of all hours organized by:

Project

- ↳ Charge code
- ↳ Resource assignment
- ↳ Employee
- ↳ Line item

This module is typically restricted in the User Profiles to show the project manager only those entries which are part of projects they own based on the Project Owner field in the Project Table.



The project manager can accept or reject or mark as unread any line item. TimeControl provides an option in the link to the project management tool to skip any records which are not accepted in the Project Manager Validation module. Project managers can also edit or update the estimate to complete for that assignment or the overall ETC for the activity. From this module, the project manager can see other activity information. They can do the approve/reject line by line, or at any point up the data hierarchy; the employee, the assignment, the charge or the project in its entirety.

If the project manager has been given the right to do so, he or she can instantly adjust any entries they believe are in error by clicking "Adjust". This will present the user with the original timesheet in Debit/Credit mode and allow reversing entries to undo the line item in question. TimeControl can be configured to require "Balanced Debit/Credits" which in this case would require that the project manager not just reverse an offending entry but then move the data to the correct charge. Since there is a complete line-item audit of who made changes, TimeControl will be able to show who made edits to the timesheet data and recreate the original timesheet along with all changes.

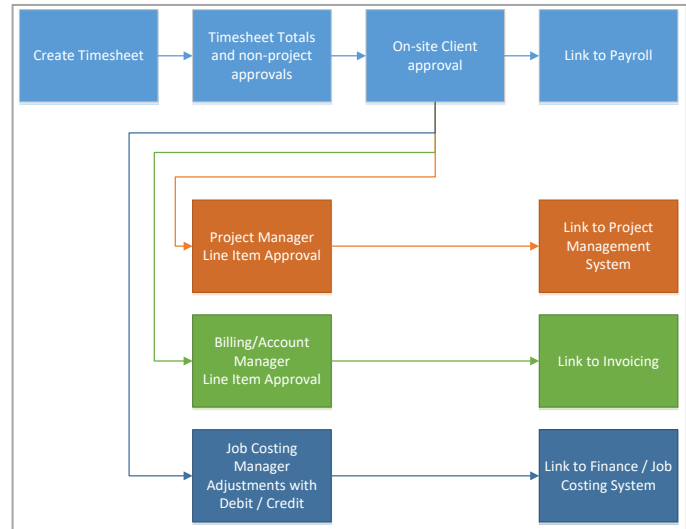
This functionality is part of TimeControl's unique *Matrix Approval Process for Labor Actuals™* which shows how there are different perspectives of timesheet data and different interests in what to approve on the timesheet. While the total hours, overtime pay and exception time-off might have been approved by a supervisor, a project manager or billing manager will have a much more significant interest in what the time was spent on line-by-line.

Line Item Approvals beyond the Project Manager

For many organizations, the ability to do matrix approvals with approvals at both the Finance and Project levels will be more than they had hoped for in their timesheet system. Some organizations will have requirements that go a little further.

Imagine the following business challenge. We need to do approvals for work at a client site.

1. Once the timesheet is entered, it needs to be approved by the onsite supervisor.
2. Then it needs to be approved by an onsite client representative. This will allow invoices to the client to be approved with almost no delay when the end of the month comes because the client will have effectively already signed off on the timesheet.
3. Once we're certain of the totals on the timesheet, we need to have the project manager approve of the time before it is sent back to update the project management progress. This will be done with PM Validations just as was previously described.
4. But we also have two other interests in approvals. First, the Billing or Account Manager needs to review the timesheet data on a line-by-line basis before timesheet data is transferred to the invoicing system.
5. Finally, the Job Costing Manager needs to review the timesheet data and labor costing data on a line-by-line basis before sending it to the Finance system.



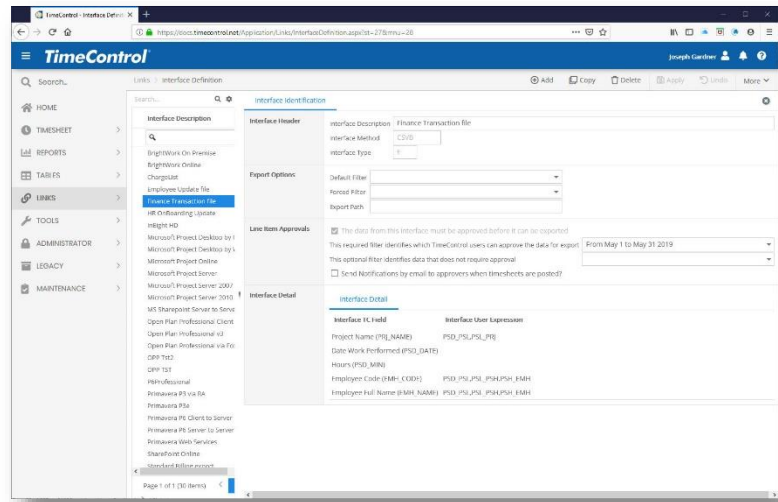
We accomplish the additional approvals with the help of the Line Item Approval function.

Line Item approvals allows us to create an unlimited number of parallel line item approval mechanisms, each associated to a link to an external system.

Just like Project Manager Validations allows us to create a matrix approval process, Line Item Approvals lets us create additional line item definitions which will work simultaneously to the project approvals.

To create Line Item Approvals, we first need to create an export link in the Link Interface area. The Export Tables Link must be of the type CSVB or Batch Export. This means that when you create the Table Export, you must select the option for Batch Tracking. You can then include whatever fields from whichever linked tables your particular link may require just as with any Export Link.

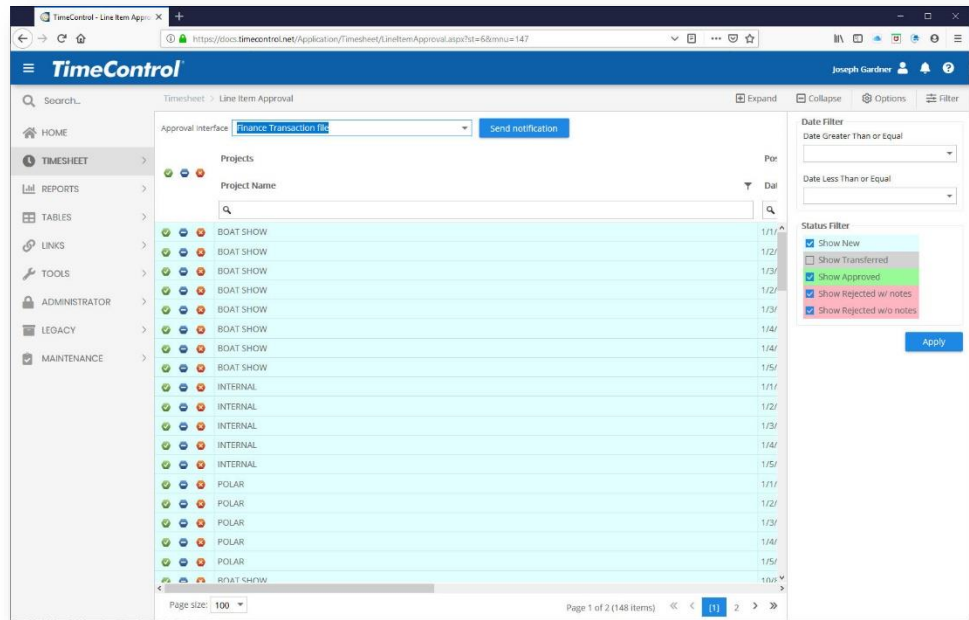
One of the options in the Link Interface Definition is to define this Link as requiring approvals prior to exporting data. So, once the defined link is created from the Link Table Export area, go to Link Interface Definitions, locate the Link definition you've just created and click the option for "The data from this interface must be approved before it can be exported".



You can optionally include a filter of items that do not require approval to be included in the export. This is sometimes done to include overhead type lines or other lines that fit your own acceptance criteria and which do not require manual review.

Now, this Link Definition is available in the Line Item Approvals

When you start Line Item Approvals, a list of all possible Line Item Approvals will be available from the drop down list at the top of the screen.

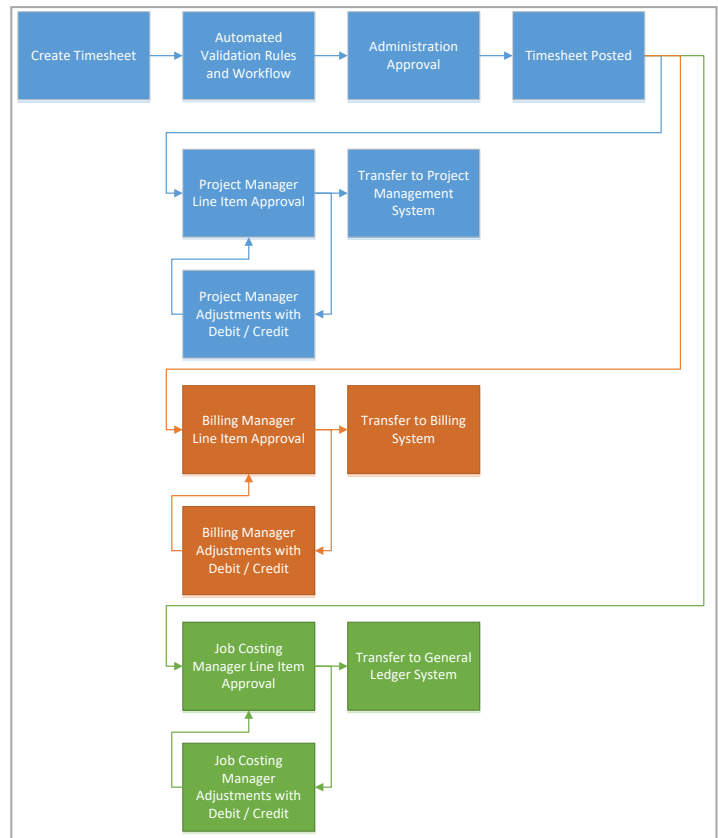


Select the appropriate Line Item Approval definition in the drop down and TimeControl will display the interface just like is found in Project Manager Validations.

Using this mechanism, we can create reiterative processes that all work in parallel.

Each branch of the process includes its own review, adjust, transfer mechanism and each can work independently. An overall administrator can use the transfer records for each batch to ensure an orderly closing of each period whenever it is appropriate.

It may not be obvious, but the same timesheet records are being sorted through and filtered for each of these approval paths. This may mean that the same timesheet is seen by different people in different ways as only part of the timesheet may be of interest to each party. In some cases there may be conflicting interests in each line item. If this is so, workflow can identify changes and email the appropriate party or a process of hierarchy of approvals can be defined to see who has the final say on adjustments.



There is sometimes concern in such a process that there may be hours that are thrown back and forth from one person to another with no agreement ever being reached. The transparency of exactly who is making changes and when makes this an unfounded concern. If a manager arrives to make an adjustment to certain hours, they will already be able to see all previous adjustments on a line-by-line basis with the name of the user who made that adjustment and when. This transparency makes the pushing of hours back and forth an unpopular exercise.

Part of any good approval process is determining who did the timesheet, who released it for approval, who approved it or rejected it and when that all happened. The Timesheet Audit Log is optional and is turned on or off

by the Administrator in the System Preferences. When it is turned on, the Audit log makes a new line each time a timesheet's ownership changes. If the timesheet is released from the source user who created it to the supervisor for approval, then at the moment the supervisor gets ownership, a new audit log entry is created. If the supervisor rejects the timesheet back to the source, an audit log entry is created. If the timesheet is released through batch release, an audit log entry is created. If the timesheet is moved by an administrator due to an absent employee using the Change Timesheet Ownership function, an audit log entry is created.

Release log type	Period Ending Date	Owned by	Owner	Status	Transaction Type	Resource	Timestamp
Release log employee name: Barrow, Paul							
Timesheet was released	4/5/2015	JOEG	JOEG	DRAFT DRAFT	NORM	JOEG (CTO)	11/11/2015 18:17:00
Timesheet was released	4/5/2015	JOEG	POSTING	RELEASED RELEASED	NORM	JOEG (CTO)	11/11/2015 18:20:00
Timesheet was released	4/5/2015	POSTING	POSTING	POSTED POSTED	NORM	JOEG	11/11/2015 18:21:00
Release log employee name: Carpenter, Jerk							
Timesheet was released	3/16/2010	POSTING	POSTING	POSTED POSTED	NORM		8/26/2010 14:26:00
Timesheet was released	3/16/2010	POSTING	POSTING	POSTED POSTED	NORM		8/26/2010 14:26:00
Timesheet was released	3/23/2010	POSTING	POSTING	POSTED POSTED	NORM		8/26/2010 14:26:00
Timesheet was released	7/20/2010	POSTING	POSTING	POSTED POSTED	NORM	JOEG	3/22/2014 13:01:00
Release log employee name: Odoewas, Barbara							
Timesheet was released	7/6/2010	POSTING	POSTING	POSTED POSTED	NORM		8/26/2010 14:26:00
Timesheet was released	3/16/2010	POSTING	POSTING	POSTED POSTED	NORM		8/26/2010 14:26:00
Timesheet was released	3/23/2010	POSTING	POSTING	POSTED POSTED	NORM		8/26/2010 14:26:00
Timesheet was released	7/20/2010	DRICY	BABED	DRAFT DRAFT	NORM	JOEG (CTO)	11/11/2015 18:16:00
Release log employee name: Ogiligan, Robert							
Timesheet was released	3/23/2010	POSTING	POSTING	POSTED POSTED	NORM		8/26/2010 14:26:00
Timesheet was released	3/23/2010	POSTING	POSTING	POSTED POSTED	NORM	JOEG	3/22/2014 13:01:00
Release log employee name: Ingens, Lee							
Timesheet was released	1/22/2016	LEUGENE	LEUGENE	DRAFT DRAFT	NORM	LEUGENE	3/19/2016 10:54:00
Timesheet was released	1/22/2016	LEUGENE	POSTING	RELEASED RELEASED	NORM	LEUGENE	3/19/2016 10:54:00
Timesheet was released	1/22/2016	POSTING	POSTING	POSTED POSTED	NORM	JOEG	3/19/2016 10:54:00
Release log employee name: Cardone, Joseph							
Timesheet was released	3/23/2010	POSTING	POSTING	POSTED POSTED	NORM		8/26/2010 14:26:00
Timesheet was released	8/8/2010	JOEG	POSTING	RELEASED RELEASED	NORM		9/17/2010 05:57:00

If a user releases or rejects a timesheet while logged in as an Alternate, TimeControl records both the user name of the person who logged in and the person they logged in as.

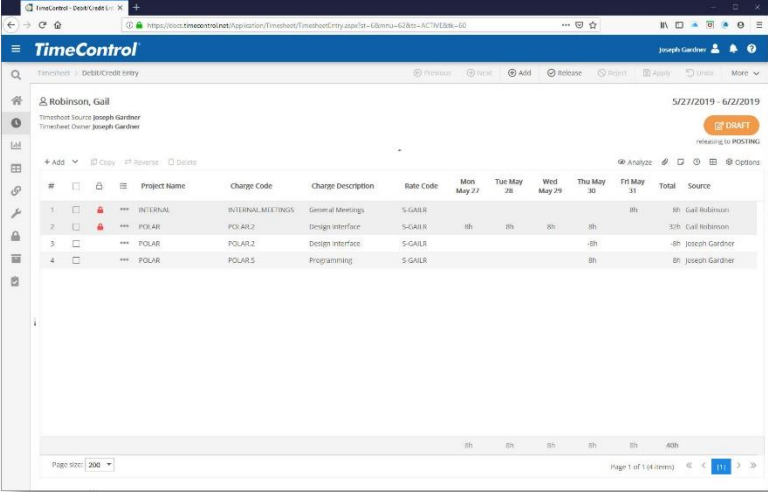
The audit log can be an essential tool in identifying when timesheets are being rejected too often or when a timesheet was approved or released for approval.

Adjustments with Debit / Credit

Even when approvals go well, there will always be a desire to for corrections at a later date.

TimeControl's adjustment function is called Debit/Credit and it works just like it sounds, as in any accounting system.

A system preferences option is to have Debit/Credits be "balanced". If this is activated, then you can remove hours from a line, but must add the same number of hours to another line.



#	Project Name	Charge Code	Charge Description	Rate Code	Mon May 27	Tue May 28	Wed May 29	Thu May 30	Fri May 31	Total	Source
1	INTERNAL	INTERNAL MEETINGS	General Meetings	S-CALR					8h	8h	Gail Robinson
2	FOUR	FOUR.2	Design Interface	S-CALR	8h	8h	8h	8h		32h	Gail Robinson
3	FOUR	FOUR.2	Design Interface	S-CALR				8h		8h	Joseph Gardner
4	FOUR	FOUR.5	Programming	S-CALR				8h		8h	Joseph Gardner

The Debit Credit works most commonly like this: The original timesheet is presented with the lines that have been posted in grey in read-only mode. The user name of the person or persons who added the posted lines thus far are identified on the far right of each line. The user either selects an existing line and clicks "Reverse" or adds a new line and enters negative entries to negate the effects of one of the lines above. When balanced Debit Credits are activated, the user must then also add a new line with positive values to end up with the exact same number of hours that were started with.

The user name of the person entering Debit/Credit lines will appear on the far right. The approval path for these adjustments is flexible. It can be configured so that the changes go to the original user (a DCAA requirement) for approval or it can be posted immediately.

If Balanced Debit/Credit is not activated, then the totals for the timesheet could change. If an approval process has been established to ensure that the people doing changes to an existing timesheet never change the totals but instead only redistribute the hours, then Balanced Debit/Credits is essential.

The Debit/Credit function can be access from the Timesheet Tab or from the Project Manager Validation screen and access is controlled from User Profiles.

However you create your own TimeControl Approval mechanism, you'll do so largely through the functions we've described in these pages. More information on all of these functions is available in the Reference Guide. This guide is part of every TimeControl system and can be accessed online in the free TimeControl Hosted Trial system. A direct link to the Reference Guide can be found in the Resources section later in this guide.

Deploying an approval process is a change management project. You will be changing from however you do timesheet approvals now to the newly designed approvals process in TimeControl. Even if many of these aspects are the same in TimeControl as what you are used to, the process is different. At HMS we have found that following some basic guidelines improves the acceptance of the approval process:

❑ **Start simple**

The more complex you make the process on the first day, the harder it will be to get acceptance from the end users. If there is a way to have it be simpler to start, then take advantage. It's much easier to slowly introduce more rigor into a system that is already accepted as part of one's weekly routine than it is to get users to stop resisting a complex process.

❑ **Less automated Validation Rules is more**

Whenever HMS presents TimeControl, some administrative personnel light up when we talk about all the constraints that can be created in the automated Validation Rules. They envisage hundreds or perhaps thousands of possible tests of the data to ensure that no possible error can leak through. While it's true that TimeControl can have hundreds or thousands of Validation Rules, we recommend starting with a handful – 5 or 6 rules is a good starting point.

Imagine having a new system with a hundred rules. The users are told to start using TimeControl and they do their timesheet. It seems to be going well until they try to release. Uh oh – they've hit an error. They correct that error and try to release again. Hmmm, another error. They might try 3 or 4 times before giving up. Starting with a small number of the most obvious rules is the fastest path to acceptance of the system. New rules can be introduced one or two at a time over a period of months.

❑ **Keep Track**

Documenting your approvals process is key to its success. It's natural for personnel and management to change. If you don't document why you created an approval process in a particular way, the next person who has to manage it will have little chance of supporting it properly.

Create a process guide with diagrams where possible and screen shots of how you've configured your TimeControl. The business justification for each configuration change will be an effort that pays dividends later when changes to the system could be made.

❑ **Using the approval mechanism of External Systems**

Some organizations question whether they can maintain the approval mechanisms already present in the external systems that TimeControl will be linked to. There's nothing in TimeControl that will prevent such external systems from doing what approval

verification exists, but it is important to remember that if there is a problem in the approvals within the external system, the error won't come back automatically to TimeControl to be corrected. It is generally best to catch errors as close to the point they were created as possible. If the person who entered the data that is beyond the threshold of a rule can see the error instantly, they have the best chance of correcting it. For this reason, HMS recommends putting as much of the approval process into TimeControl as possible.

If you are going to do additional approvals in your external HR, Payroll, Finance or Project system, then you will need to create a feedback mechanism in your process to correct the data in TimeControl.

TimeControl Approvals Resources

The Timesheet Approvals Challenge white paper

https://www.timecontrol.com/pdf/whitepapers/timesheet_approvals_challenge.pdf

This white paper discusses the challenges of Matrix Approvals and outlines HMS Software's *Matrix Approval Process for Labor Actuals*™. This white paper is a must if you must do approvals for both project management and HR purposes or if you are considering implementing multiple timesheet systems to accommodate different aspects of the organization. Additional information on the Matrix Approval process can be found on the TimeControl website at <https://www.timecontrol.com/use-cases/matrix-approvals>.

Use Case Scenarios

www.timecontrol.com/use-cases

We have created numerous solution portals with resources for different situations. In many of these situations we discuss some aspect of the approvals process. There are use case scenarios for project management, HR, Billing, linking with different products, specific approvals to be compliant with the DCAA and more.

TimeControl Free Hosted Trial

Freetrial.timecontrol.com

You can try TimeControl yourself to see or try any of the features that have been described here. Go to freetrial.timecontrol.com to register for the free trial.

TimeControl Blog

blog.timecontrol.com

The TimeControl blog contains numerous discussions of approvals done in different circumstances and tips and techniques on how approvals functionality can be used. It's a good place to keep up on tips from the TimeControl technical and deployment staff.

Easy to use Interface

- Full web-based browser interface with multiple browsers supported
- TimeControl can be implemented within a SharePoint interface or a Microsoft Project Web Access interface
- Scalable user profiles facilitates use for data entry users yet provides full functionality for administrators
- Multilingual with multiple languages included
- Unlimited charge codes displayed in simple, hierarchical drop-down lists
- Unlimited free-form notes for each line item and each timesheet
- E-mail-enabled. E-mail messages sent for system notices such as rejected timesheets or missing timesheets
- Scheduleable E-mail notification for missing or unapproved timesheets.
- Predefined timesheets based on resource assignments from the project management system or by user input

Robust Architecture

- Open database architecture; support for Oracle, Microsoft SQL Server, Sybase and MySQL databases
- N-tier architecture makes system scalable for 10 to 100,000 users
- Unlimited rate codes per employee
- Field-level security. Make any field visible, value read-only, or invisible
- Complete redefinition of every field label
- Complete auditability of timesheet data
- User-defined fields on every table
- Add pop-up data validation for each user-defined field
- Allows charges to be linked to a specific project or project-independent
- Multiple overhead charge types
- Filter charge codes, projects and rates visible to any employee

Web Interface

- MyTimeControl™ home page dashboard gives extensive and customizable dashboard information to employees

Mobile App

- The free TimeControl Mobile App is available on Google Play for Android devices or the Apple store for iOS devices

Approval Process

- HMS's unique *Matrix Approval Process for Labor Actuals*™
- Unlimited automatic Validation Rules are user defineable, flexible and can be applied globally or to any group or even an individual
- Unlimited manual validation levels in which each employee can have a unique approval routing
- Project Managers or Account Managers can preview and redistribute hours prior to linking with a project management system or exporting to Finance

Links to Project Management

- Direct integration with popular project management systems such as Microsoft Project, Project Server and Project Online, Oracle-Primavera Pro and Primavera EPPM, Hard Dollar, VersionOne, BrightWork, ARES PRISM, JIRA and Deltek EPPM
- Supports multiple project management systems and multiple versions simultaneously
- Customizable import/export function to interface with virtually any finance or ERP system including SAP, Oracle, PeopleSoft and Microsoft Dynamics
- Interface can be integrated directly into SharePoint, Microsoft Project Web Access or stand alone

Time-off Request

- **TimeRequest**™ module allows vacation, personal or other leave time to be requested
- TimeRequest allows multiple levels of approval
- TimeRequest automatically populates future timesheets with approved time off

Flexible Reporting

- Excel-like reporting format allows output to any Windows-compliant printer or reports can be saved as Excel, XML or HTML files
- Reporting Wizards allow an unlimited number of reports to be created and saved for later use
- Unlimited levels of data selection, filtering and sorting
- Drill Down Analyzer provides instant ad-hoc analysis of data at any level

Expense Reports

- Users can enter non-labor costs on their timesheet
- Unlimited number of expense items per timesheet line item
- Expenses can be tracked back to a project management and/or finance system

Government Compliance

- Complies with requirements for DCAA, European Time Directives, FMLA, the California Wage Laws and Sarbanes-Oxley

Hardware Requirements

- Server:
 - Internet Information Services
 - MS SQL Server, Oracle or MySQL database
- Browsers:
 - Chrome, Firefox, Safari, Edge, Mozilla and Internet Explorer
- TimeControl Mobile App:
 - Android phones and tablets, Apple phones and tablet

Available Online or On-premise

- Available for purchase for an on premise implementation or Online as a subscription in the cloud

HMS Software Partial Client List

Engineering/Construction

CANAM
Koch Business Solutions
Keppel Floatec
JRI Engineering (Chile)
Aegion
Andritz
SCX (UK)
Foster Wheeler
ESI Inc of Tennessee
Karridale (Australia)

Manufacturing

Tennant
Volvo-Novabus
Esterline Advanced Sensors (UK)
Kirchhoff Automotive
Progress Rail
Enerkem
Scheidt Bachmann
ASL Environmental Sciences

Defense / Aerospace

Aero Info (a Boeing Company)
CAE Electronics (Australia)
General Dynamics (Australia)
Safran

Government

USCG (United States Coast Guard)
SFMTA (San Francisco Mass Transit)
Ville de Montreal
AEMO (Australia)
Alachua County
RBQ (Régie du Bâtiment du Québec)
City of Rocklin
Ross Valley Sanitary

Technology

AMD
EXFO
R2.ca
Ricoh
March Consulting
Accedian
Videojet
Scisys (UK, Germany)
Ascendant (Bermuda)

Financial

Centre de Recherche Informatique de Montréal
MCAP
Residential Mortgage
Value Recovery
Vancity

Health/Pharmaceutical

Conduent
Sandoz
Zoetis

Conservation

Kawartha Conservation
Minnesota Land Trust
Conservation Ontario

Other

Kelly Services
Reebok-CCM
Pontoon Solutions
US Properties

Engineering/Construction

Aecon Construction
AeroInfo
Koch Business Solutions
Kongsberg Devotek
Thompson Beta

Gas / Utilities

Gulf South Pipeline
Acergy
Petrocon
VenCorp
Foster Wheeler

Manufacturing

Alcan
Parker Hannifin
Ultra Electronics
Tennant
Wagner Spray Tech
Vision Systems
Electro Motive
GE Sensing
Tommy Hilfiger

Defense / Aerospace

Bombardier Inc.
CAE Electronics
Lockheed Martin
Rolls Royce
SAAB
Army Corps of Engineers

Government

Amsterdam Port Authorities
Atlanta Airport
Dutch Railway
Government of Saskatchewan
Railway Procurement Agency (UK)
Ville de Montreal
City of Winnipeg

Technology

Arivia
CSI Piemonte
EDS
Face Technology
Fuel Plus Software
GE Access
Microsoft
Positron
Psion Teklogix
Inventure
Fujitsu

Telecommunications

Cable & Wireless Bartel
Ericsson
EXFO
Motorola
Philips Semiconductors
SARA Amsterdam
Stratos Global

Financial

Standard Life
Development Bank of Canada
Alliance One
Centre de Recherche Informatique de Montréal

Health/Pharmaceutical

Boehringer Ingelheim
National Health Service (UK)
Azko Nobel (Organon)
RTS Thurnall
Canadian Institute for Health Info
logen
Registart

Education

Johnson and Wales University
Eastern Michigan University
Queens University
McGill University

About HMS Software

HMS Software, a division of Montreal, Canada-based Heuristic Management Systems Inc., is a leading provider of enterprise timesheet and project management systems.



Founded in 1984, HMS Software's expertise in implementing enterprise project-management and enterprise timesheet systems is recognized worldwide by some of the world's best known organizations. HMS's signature product, TimeControl, an enterprise timekeeping system designed to serve the needs of both Finance and Project Management, is distributed worldwide through an extensive list of distributors and dealers located on every continent with representatives in the US, the UK, Australia, Mexico, Europe, Asia, South Africa and the Middle East.

HMS Software's client list includes some of the world's leading corporations in the telecommunications, IT, finance, engineering, defense/aerospace and government sectors including such organizations as Aegion, CANAM, CAE, the City of Montreal, Electromotive Diesel, EXFO, Foster Wheeler, Kelly Services, the Government of Quebec, Pontoon Solutions, Reebok-CCM, Rolls Royce, Sandoz, SEFA, Volvo Novabus, Zoetis, and hundreds of others. HMS maintains offices in Montreal, Quebec and Toronto, Ontario. For more information about HMS, please visit www.hmssoftware.ca.

TimeControl

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