

# Hours Management Tool

By Andrew White

## Overview

A GUI program built with Python, Tkinter and Sqlite3, that tracks employees additional working hours.

## Introduction

Restaurant businesses can be very seasonal with high demand in the holiday season and low demand out of that period. This requires staff to work more hours in peak season and fewer in the off, greatly affecting their monthly income throughout the year.

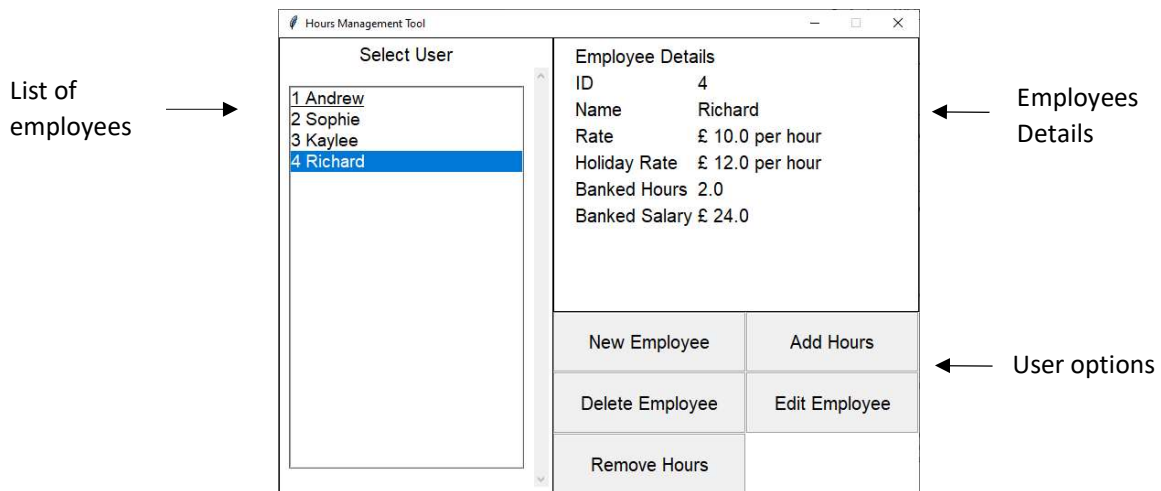
The Hours management tool allows administrators of the business to keep a record of the extra hours employees have worked and don't want to get paid for immediately, so they can choose to be paid at a later date when available hours are lower. The employee can choose to bank both peak and off-peak hours.

## Development

Hours management tool was developed using Python 3.6.4, sqlite3 and Tkinter for Python3 on the atom editor. Created, tested and run on Windows 10. All data is saved to the sqlite3 database.

## Operation

### User Interface



The main user interface allows the user to select the employee that they want to view or edit. Once the user is selected in the list box on the left their details are displayed in the upper right panel. The details include:

- ID – Unique employee number
- Name
- Rate – Standard hourly rate of pay
- Holiday Rate – holiday hourly rate of pay

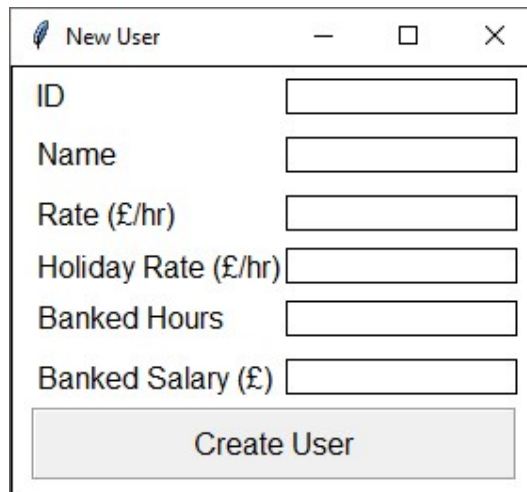
- Banked hours – how many hours holiday or non that the employee has asked to be banked and has not currently been paid for
- Banked salary – the total amount owed to the employee that they have elected to Bank

In the lower right panel of the program the user can select 5 different options:

- New Employee – Add a new employee to the system
- Add Hours – Add more hours to the selected employees banked hours
- Delete Employee – Remove the selected employee from the system
- Edit Employee – Edit the standard and holiday hourly rate of the employee
- Remove Hours – When the employee decides they want to be paid for banked hours remove these hours from the system

### New Employee

If the administrator selects the new employee option, the following screen is displayed.

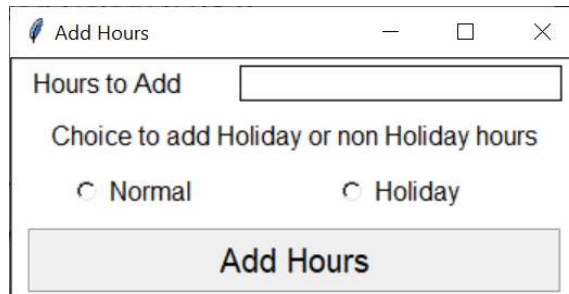


The 'New User' dialog box is a standard Windows-style window with a title bar containing a feather icon, the text 'New User', and standard minimize, maximize, and close buttons. The main area contains six labeled input fields stacked vertically: 'ID', 'Name', 'Rate (£/hr)', 'Holiday Rate (£/hr)', 'Banked Hours', and 'Banked Salary (£)'. At the bottom of the dialog is a large, light-gray button labeled 'Create User'.

The user can then fill in all the new employee data into the fields. When they click create user the data will be saved to the sqlite database. The form has data validation in it to ensure that the user enters all the data and the right type of data in each field. The name field will not accept numeric characters or symbols. The Rate, Holiday Rate, Banked Hours, Banked Salary hours fields will only accept numerical characters and a decimal point. Once the create user button is clicked the new employee will appear immediately in the select user list box in the main interface.

### Add Hours

When the user clicks the Add Hours button on the main interface, they will see the following:



The 'Add Hours' dialog box is a standard Windows-style window with a title bar containing a feather icon, the text 'Add Hours', and standard minimize, maximize, and close buttons. The main area contains an input field labeled 'Hours to Add'. Below this is the text 'Choice to add Holiday or non Holiday hours' followed by two radio buttons: 'Normal' and 'Holiday'. At the bottom of the dialog is a large, light-gray button labeled 'Add Hours'.

Here the user can add the number of additional hours the employee has worked that they have elected not to be paid for and select if they were completed in the holiday period or not. The form is set up so that only one option can be selected, and the hours must be numerical characters. Once the Add Hours button has been clicked the hours will be added to the employee's total in the database and the hours will be multiplied by the appropriate hourly rate and this sum will be added to the overall banked salary.

The screenshot shows a window titled "Hours Management Tool". It is divided into two main sections. On the left, under the heading "Select User", there is a list box containing four items: "1 Andrew", "2 Sophie", "3 Kaylee", and "4 Richard". The item "4 Richard" is currently selected and highlighted in blue. On the right, under the heading "Employee Details", the following information is displayed: ID 4, Name Richard, Rate £ 10.0 per hour, Holiday Rate £ 12.0 per hour, Banked Hours 4.0, and Banked Salary £ 48.0. Below the details, there is a grid of five buttons: "New Employee", "Add Hours", "Delete Employee", "Edit Employee", and "Remove Hours".

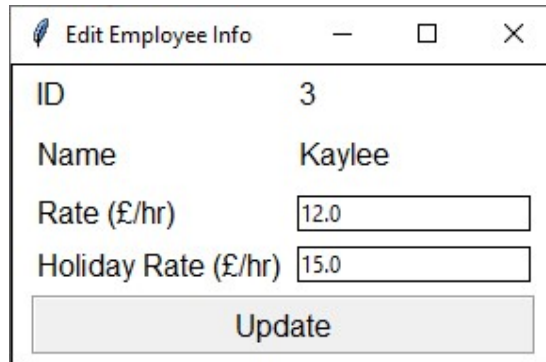
### Delete Employee

If the user selects an employee from the list and then clicks the Delete Employee button they will be prompted if they are sure they want to remove the selected employee, if they click yes the user will be deleted from the database. If they select no they will be returned to the main interface with no change.

The screenshot shows a small dialog box titled "Delete". It contains a question mark icon and the text "Are you user you want to delete employee 4?". At the bottom of the dialog, there are two buttons: "Yes" and "No". The "Yes" button is highlighted with a blue border.

## Edit Employee

If the user wants to update the employee's hourly rates, they can do so by clicking edit employee.



A dialog box titled "Edit Employee Info" with a feather icon, a minus button, a maximize button, and a close button. It contains a table with the following data:

ID	3
Name	Kaylee
Rate (£/hr)	<input type="text" value="12.0"/>
Holiday Rate (£/hr)	<input type="text" value="15.0"/>

At the bottom is a large "Update" button.

Here the Rate and Holiday Rate fields can be edited. They can only accept numerical characters and a decimal point. If the user clicks update the employees hourly rate will be updated, these changes will be saved to the database and displayed in the employee details on the main interface.

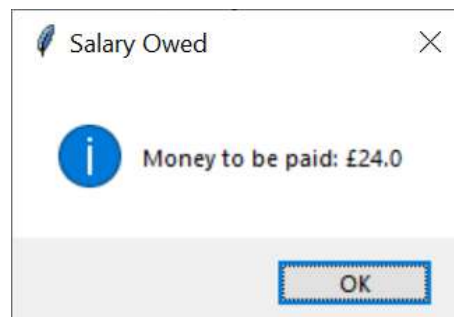
## Remove Hours

When an employee decides they want to receive payment for their banked hours the user can click remove hours.



A dialog box titled "Remove Hours" with a feather icon, a minus button, a maximize button, and a close button. It contains a label "Hours to Remove" followed by a text input field. Below the input field is a large "Remove Hours" button.

The following dialogue box will appear. Here the user can only enter numerical characters into the field. Although the user can add Holiday or Standard hours to the bank, when hours are removed the program simply divides the banked salary by the banked hours to calculate an averaged hourly rate. This averaged rate is multiplied by the hours to be removed to calculate the sum owed to the employee. This amount is displayed in a message box and that amount of banked salary is removed from the database along with those banked hours.



A message box titled "Salary Owed" with a feather icon and a close button. It contains an information icon (a blue circle with a white 'i') and the text "Money to be paid: £24.0". At the bottom is an "OK" button.