# Warehouse Inventory Management

## Aim and Description

Keeping track of stock is important, but it can be hard without a robust system in place, especially when some stock (spirits) must be stored within a bond until duty (tax) has been paid, as well as then being stored in a cage once duty has been paid.  
This is all required by the authorities to ensure tax is paid on every bottle required, and there must be records to prove this.

This system should make it easy for workers to log the input, output and various other stages of stock as it is prepared and stored, ready for sale.

In this case, there will be three primary stock types – gin, whisky and beer. Each must undergo a different process before it is ready to be sold.  
Whisky starts off as spirit before maturing in casks, then it can be bottles, labelled and stored before sales.  
Gin can be bottled immediately, but also requires labelling and in some cases farther packaging before being stored.  
Beer can be bottled, labelled and sold in a similar fashion but required no duty stamps, and does not require either storing in a bonded warehouse or cage of duty paid stock.

As well as obvious things such as quantity and alcohol percentage, another important factor to tracking this kind of stock is the batch – each time there is gin, whisky or beer is bottled that batch is assigned a gyle number, to ensure tractability.

Many of these records are written on paper, and copied onto spreadsheets.  
I believe a great deal of time could be saved by using a single system, which could be accessed by any department throughout the workplace – this will promote accurate precise record keeping.

## Requirements

### Functional

* Input liquid in volume for whisky, gin and beer,
* For all stock the following must be stored:
  + Name of the gin, whisky or beer type
  + Gyle number
  + The number of bottles
  + Bottle size
  + ABV
  + Location (ie. The bond, warehouse, or cage)
  + Duty stamp range
  + Duty paid or suspended
  + Labelled (Y/N)
* For whisky:
  + Cask type (ie. The wood used)
  + Time spent maturing
* For beer:
  + Storage container used (ie. Pin, firkin, keg, or bottle)
  + Best before date
* Output stock as sales, either as bulk orders or individually

### Non-functional

* Track the supply and use of the vast array of other stock required for production and packaging such as:
  + Casks
  + Bottles
  + Boxes
  + Labels
  + Caps, corks and swing-tops
* Track stock stored in an onsite shop

## Gathering Information

In this case it is hard to find something specific to reference here, however I believe my experience working in Eden Mill brewery and distillery’s packaging department has provided me with useful and relevant information, such as viewing what information is recorded, what is important and how to store it.

The current system, which serves a similar purpose, is broken up into various systems, some paper based, others using Google Docs.

## Resources and Materials

Various software will be used, predominantly the Microsoft Office suite for documentation and planning, provided by D&A College.

Development could potentially use a combination of Visual Studio, NetBeans, Notepad++, MySQL Workbench and Apex.

Hardware used to create the project includes PCs running Windows 7 Professional provided by D&A College as well as my personal PC running Windows 10 Education.

The end product will not be very demanding to run, however a Windows PC or laptop running Windows 7 or later is recommended.