

General Description

Bar Code System for Registration of Attendance at General Meetings

Background

In 2012 St Albans U3A had a membership of around 800, with sometimes over 200 members attending the regular fortnightly general meetings. A record of people attending these meetings was kept by using preprinted checklists at the door as members entered. Long queues of members waiting to enter was quite common, and it was decided to implement a bar code based computerised registration system. The system was introduced in May 2012, and it has been extremely successful in terms of reducing queueing and has allowed the attendance records to be easily retained and analysed to provide planning information for the Executive Committee. Some other U3A's around the UK have successfully adopted this system as the basis for their own implementation.

Overview

All of our members are issued with a preprinted membership card which in addition to their name, unique membership number and expiry date contain a bar code containing their membership number. New cards are issued each year, in a new colour for easy identification. Our membership database is held on computer in an Excel spreadsheet, and is maintained by our Membership Secretary. Information is extracted from that database to produce the membership cards.

At general meetings, including AGM and groups fairs, the bar code registration system is set up near the entrance to the hall and all members are registered as they arrive. The bar code system comprises two laptop computers, one of which has two hand held bar code scanners attached to it.

Both laptops are set up before the meeting with an Excel spreadsheet containing information extracted from the membership database, in particular every members name, membership number, address, date of annual subs payment and date joined. This information is held in a hidden worksheet within this Talks Registration spreadsheet, and there is a second Attendance worksheet containing an empty, pre-formatted and protected table, where the membership number is entered, and the table will display the members name, a warning if their subs are overdue, and a message if they are a new member or haven't attending a meeting before.

We have a group of volunteer members who act as our registration team on a rota basis, and there are two of them at each meeting, one for each laptop but both can use one of the bar code scanners. When a member arrives at the meeting their membership card is scanned by one of the registration team, which causes their membership number to appear in the Attendance table, and using that number the table will automatically display their name, a warning if subs are overdue, and a message if they are a new member or haven't attended a meeting before. No keyboard entry is necessary.

The second laptop is used to manually enter details if a member has forgotten to bring, or lost, their membership card, to look up a membership number if a person has forgotten theirs, to record new members if they have joined at the meeting (their details won't be in the system yet), and record non-member visitors.

Following the meeting the attendance information is then loaded into our Talks Attendance Database for subsequent long term storage and analysis.

Technical Notes

Membership Cards and Bar Codes. Originally our membership cards were produced by manually copying data (member name and membership number) into a temporary spreadsheet, adding the expiry date, then using this in conjunction with a Word template and mail merge operation to produce a Word document with all of the membership cards. The bar code is obtained by installing a new font (IDAutomationCode39) into Word, which when applied as a font to a selection of text (the membership number) will cause it to be displayed and printed as a bar code. This document was then sent to a professional print shop for printing and cutting the cards. More recently the print shop that we use has produced their own template (still using this special bar code font) and we just supply the Excel spreadsheet containing the data. The IDAutomationCode39 font is free for use by not for profit organisations and can be downloaded from the internet.

Bar Code Scanners. We have used the Cipherlab 1070 LOW COST USB CCD Barcode Scanner, which plug into a USB port and, for us, worked out of the box". We have them connected via a powered USB hub, as we found that the laptop USB ports could not deliver sufficient power for them to work reliably. More modern laptops may not need this USB hub. The scanners are available in the UK, for £30 to £40.

Laptop Computers. Only a very basic specification laptop is needed, sufficient to run Excel 2007 or later. Ours were surplus from computer classes, running Windows XP, Vista or Windows 7. As they are dedicated to this use, no antivirus is installed, network connections are disabled, and basic menus and desktops are set up. The spreadsheet used on both laptops is basically the same, except that different worksheets are hidden.

Spreadsheets and Copying Data. Initially all of the data copying between spreadsheets (for membership cards, setting up the bar code laptops, transferring data to the talks attendance database) was done by hand just using copy and paste from one spreadsheet to another. Since then almost all of this process has been automated by using Excel macros and is much quicker and less prone to error.

Security. As personal information is held, all of the spreadsheets involved and the laptops are password protected and these passwords changed regularly.

Some Pictures

The Attendance worksheet with a number of (fictitious) entries

St Albans U3A Talks Attendance on: 05/11/2013					
6		Total Attendance			
No.	Forename	Surname	Subs Unpaid	New Member	
59	Justine	Branch			
103	Gabriel	Craft			
56	Hammett	Burris	Subs Unpaid		
49	Megan	Curtis			New Member
150	Number Not Found				
99	Gail	Harvey			

The Member Lookup worksheet (second laptop only)

Surname	Forename	Member No	Address 1
Allen	Catherine	114	96 TriStreetique Road
Austin	Declan	61	20 Mauris Road
Beck	Ori	66	26 In Streetreet
Bishop	Reece	39	52 Phasellus Avenue
Bishop	Jael	38	8 Facilis Road
Branch	Justine	59	131 In Avenue
Brennan	Rana	57	30 Non Avenue

The New Member and Visitor worksheet (second laptop only)

New Members			05/11/2013		Visitors (£2 fee)		
Total			2		Total		1
No.	Surname	Forename	Surname	Forename			
119	Martins	Gladys	Heddon	Michael			
123	Olney	Winifred					

The Setup worksheet containing the data copied from the Membership Database (both laptops)

No	Surname	Forename	Address 1	Paid Subs	Date Joined
114	Allen	Catherine	96 TriStreetique Road	17/08/2013	19/06/2009
61	Austin	Declan	20 Mauris Road	UNPAID	11/07/2004
66	Beck	Ori	26 In Streetreet	30/09/2013	30/09/2013
39	Bishop	Reece	52 Phasellus Avenue	08/08/2013	18/07/2004
38	Bishop	Jael	8 Facilis Road	08/08/2013	06/10/2005
59	Branch	Justine	131 In Avenue	12/08/2013	25/03/2013

An example of our Membership Card



Card Front

In an emergency please contact:
<input type="text"/>
On telephone number (include country code):
<input type="text"/>
Medical/Allergy Information:
<input type="text"/>

Card Rear

The Cipher Lab Bar Code Scanner



The following documents have been produced which describe the setup and operation of our system in more detail:

- Barcode System Setup Guide
- Barcode System User Guide
- Barcode System Technical Guide

For more information, or to arrange a visit to see the St Albans U3A system in operation, please contact:

datareg.stau3a@gmail.com