



# CASE STUDY



By AbleOwl

## EXCEL AUTOMATION PROJECT

**Work done for**  
Toowong Private Hospital

**Summary**  
Toowong Private Hospital needed a system for managing patients in the ward. The system implemented displays the beds graphically on a large screen in the ward. The information includes details of patients, and assigned nurses for each shift.

**Price range of work done**  
US\$5,000-10,000.

Susan Jadkonis, Finance Manager, says "The application has been in use for 3 years and has run smoothly the whole time."

## Hospital ward management

Toowong Private Hospital offers a range of inpatient, day patient and community-based mental-health treatment.



<b>Website</b>	<a href="http://www.ableowl.net/">http://www.ableowl.net/</a>	
<b>Email</b>	<a href="mailto:info@ableowl.com">info@ableowl.com</a>	
<b>Phone</b>	USA	+(1) 310-917-1027
	Australia	+(61) 3 8400 4580
		+(61) 2 8038 5084
	New Zealand	+(64) 7 854 9276

AbleOwl offer Excel custom application development, presenter-led courses, webinar recordings on 60 one-hour topics, Knowledge Base, hotline support and the study and qualification Certified Professional in Excel for Finance.

# Hospital ward management

Toowong Hospital use an Excel sheet displayed on a large screen in a ward to show important information about patients clearly and to manage the ward.

**A large screen in the ward displays information about each patient in each room**

Toowong Hospital have a number of rooms with patients, nurses assigned to rooms at different times of the day and information recorded for each patient. The information appears on a board, that is, a large screen in the ward.

An Excel sheet displays that information as below. Many different staff use the application. Excel's formatting capabilities make the display clear and familiarity with Excel makes the application universally easy to use.

**A dialog box displays all data for a single patient on screen**

If information for a patient needs to be changed, the user selects a cell in the relevant row and clicks an *Edit row* button to display the data from that row in a dialog box as below. The dialog box shows all information for a patient on one screen. In addition, the dialog box makes input more reliable, checking nothing is missed and that all entries are valid. Entries cannot be made directly on the sheet.

En-suite	Room	Name	Status	D.O.B	Age	Admission date	Days	Diagnosis	Upcoming off	Discharge date	Comments	Leave status	Special diet	Phone calls	Risk	ITO	Snor-Under ing	23	Dr	Assigned nurse AM	Assigned nurse PM	MHN/PA
11	Share 1W	Ann Boleyn	INPT	23-Oct-1993	23	23-May	55	MDD	a	27-Jul	Leave with staff only.	N	Yes	Yes	H	Yes	No	P	ANNIE	PAM		
12	Share 2W	Ed Case																		AMISHA	DAMEN	
13	30																			ALAN		
14	3W																			AMISHA	DAMEN	
15	4																			ANNIE	TONY	
16	5	Allen Aldo																				
17	6S																					
18	6W	Arnold Ado																				
19	7D	Jon James																				
20	7W	Henry Hogg																				
21	Ni	SC1																				
22	Ni	SC2	Joyce Jones																	AA	Annie	MARGARET
23	Ni	100	Sarah Stone																	FF	ALAN	ANDY
24	Ni	10W	Peter Piper																	DD	CAROLINE	TONY
25	Share 11																					
26	Share 12D	David Dumpp																				
27	Share 12W	Carole Clark																				
28	13D	Sherry Seyt																		PP	MAOGE	TONY
29	13W	Heather Moc																		TT	Maggie	Liz
30	14D																			IP	Annie	MHNI
31	14W	Paul Perkins																		AA	JO	PAM
32	15D	Dougla Der																				
33	15W	Ralph Robert																				
34	16D	Rebecca Rit																				
35	16W	Robert River																				
36	17D	Robert Wrig																				
37	17W	Ryan Redm																				
38	18D	Sara Singer																				
39	18W	Sherry Sarz																				
40	19D	Sonya Sand																				
41	19W																					
42	20D	Doug Deep																				
43	20W																					
44	Share 21D																					
45	Share 21W																					
46	Share 22																					
47	Ni	23D	Calef Cook	INPT	5-Jun-1979	37	3-May	75	BPAD											AA	JO	RAMO
48	Ni	23W	Carmen Down	INPT	19-Dec-1985	30	19-Apr	89	PTSD, MDD, ADJUSTMENT DIO, AMPHETAMINE DEPENDENCE (REMISSION)											FF	Alan	Ramo
49	Ni	24D	Carole King	INPT																		
50	Ni	24W	Carrie Lode	INPT	31-Aug-1993	22	8-May	70	OOD, ?DEPRESSIVE DIO, BORDERLINE TRIATS													

Patient details cannot be changed on the sheet. Instead, the user calls up a dialog box, which more clearly shows the information and checks all entries before storing to the sheet.

**When the user clicks OK, the application checks for mandatory entries**

So, there are a number of mandatory entries such as status, admission date and doctor. When the user clicks OK, the application runs various checks and, if any fail, the user needs to correct and try again. Otherwise, the data will not be saved.

The immediate feedback and forced correction is an advantage of dialog box entry compared to entry directly on the sheet. In addition, for on-sheet entry, if you allow cut and paste, cells can be corrupted by cut and paste or dragging.

**The users can easily include patient photos**

As you see, the dialog box displays a photograph of the patient. For a new patient, the staff take a photo, save the photo file to the computer and then simply click the *Find photo file* button in the dialog box and browse for the file.

**The application automatically saves the data to a text file ...**

When the user clicks the OK button of the dialog box, the data stores into the patient's row on the sheet. However, the workbook does not save. It could be made to save automatically, but there is a better solution. Even if a workbook saves in just a few seconds, that nevertheless means a wait before the next action can be taken.

... which means the data saves instantly

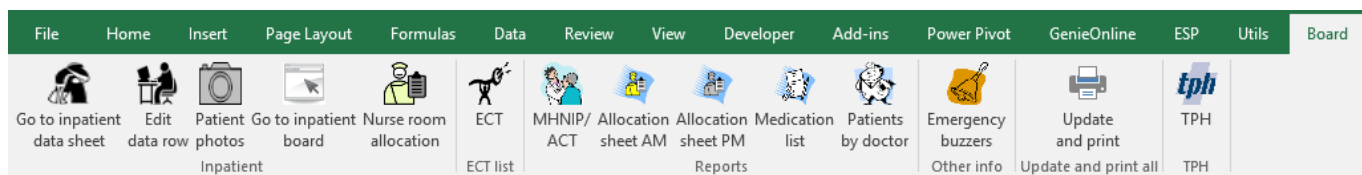
The solution is to automatically save the data on the sheet to a text file. When the workbook opens, the text file automatically loads into the sheet. Text files open and save many times faster than an Excel file. In this case, as the text file is small (8K as opposed to 1000K of the Excel file), the time to open or save is virtually zero.

Another benefit of the separated data is that updates are seamless

Another benefit of the data being stored to a separate file is that we at AbleOwl can send an updated Excel file to the client without their need to copy data from the existing file to the updated one.

The user can access all commands from a custom ribbon

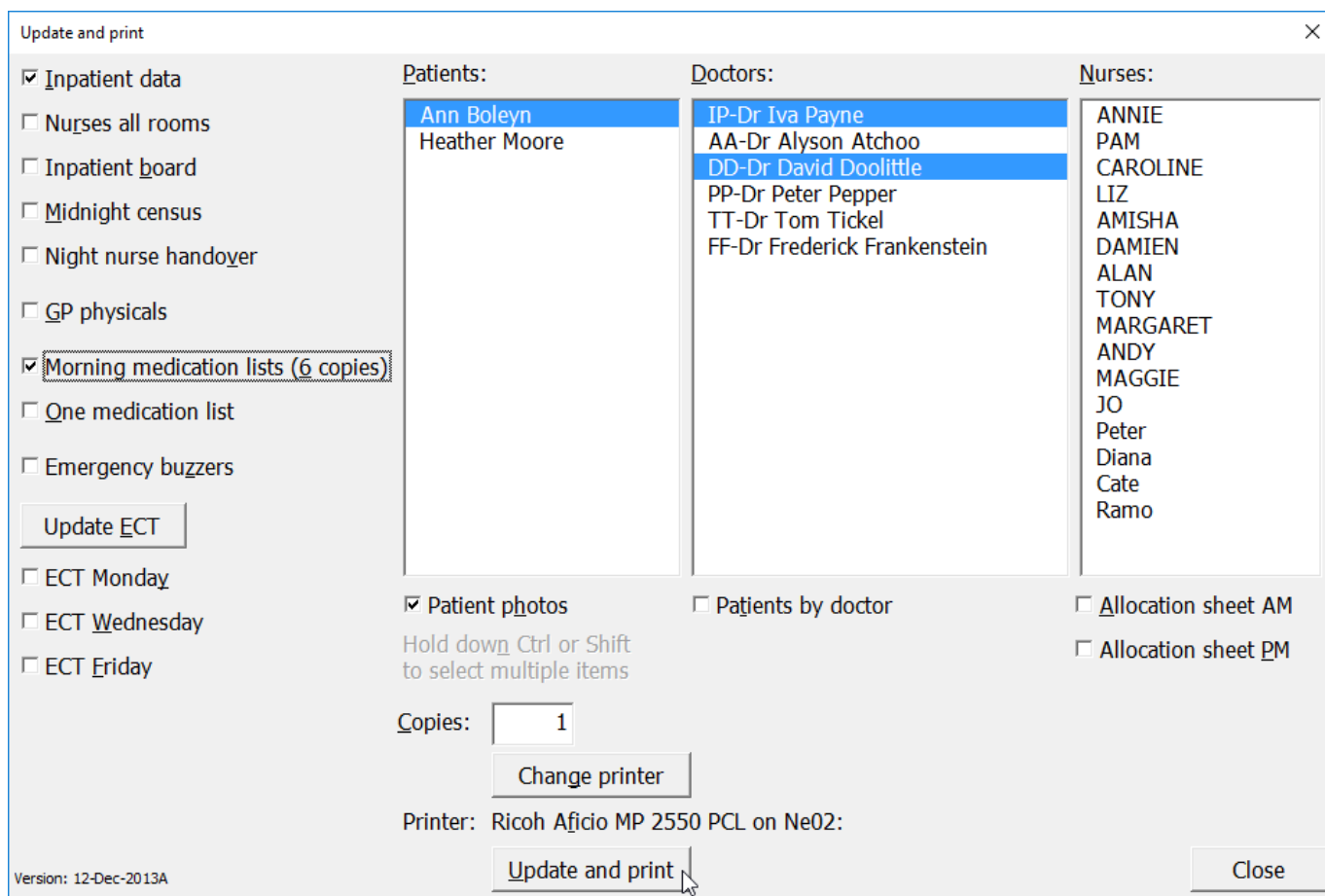
The application has many different sheets and reports. Users can access all they need from a custom ribbon as shown below. When the workbook is open, the word Board appears on the menu. The user clicks on Board to see the ribbon.



Users can access all they need from the custom ribbon that appears when the workbook opens.

Multiple reports can quickly be printed from a single dialog box

*Update and print* is one of the buttons on the custom ribbon. When the user clicks the *Update and print* button, the *Update and print* dialog box appears as below. From there, the user can select multiple reports to update and/or print. Some of the reports are for individual patients, doctors or nurses. The user can select one or more and print each one selected.



Update and print any or all of the reports from a single dialog box.

**Excel provides a reliable application with clear display and efficient operation**

Salient points to make about the application are:

- The formatting capabilities of Excel make the display clear to a wide range of staff who use the application. Familiarity with Excel also makes the application easy to use.
- A dialog box displays all data for one patient clearly on one screen, checks for missed entries and avoids possible corruption that can occur with on-sheet entry.
- The data stores automatically after each change though not to an Excel file but to a text file instead, which means that there is no delay.
- Storing the data separately from the workbook means that updates can be seamlessly provided.
- A custom ribbon means that the user can run all commands from a single easy-to-access location.
- A single dialog box for reports makes it efficient to update and print multiple reports.

**Susan Jadkonis, Finance Manager, says “The application has been in use for 3 years and has run smoothly the whole time.**

**Little support has been needed but on the few occasions they were needed, which were mainly for enhancements, AbleOwl have been easy to deal with and have provided timely and efficient support.”**

Susan Jadkonis, Finance Manager, says “The application has been in use for 3 years and it has run smoothly the whole time with no issue through changes of equipment and software including different Windows and Excel versions.

The benefits between the old application and the new are: the AbleOwl version is more robust than previous versions as users are not editing or saving directly to the spreadsheet, rather they are using the input screen. We also have a built-in system where the text file containing all the data is saved as a backup file automatically at a preset time everyday. This not only provides a backup data storage should there be a system malfunction, it also provides a historical record of our inpatient data.

We also use this database with a touchscreen whiteboard, therefore the custom ribbon allows all users to easily scroll through data with a touch of the screen rather than having to use a keyboard.

Little support from AbleOwl has been needed, but on the few occasions they were needed, which were mainly for enhancements, AbleOwl have been easy to deal with and have provided timely and efficient support.”