

# Manual of BICA (Booking Invoice Confirmation App)

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## Introduction

Liberton Kirk uses SKEDDA's web application to book event activities of kirk halls. The SKEDDA website exports an excel file (.xlsx) contains booking data as required. A Kirt staff looks up the .xlsx file data, performs copying and pasting into a Microsoft's word document, editing into a booking contract and an invoice, finally exporting PDF documents as print out or attachments send to clients. It was time consuming and arbitrary, sometime just an email. The Kirk Centre is getting busy with more commercial booking. A standard book contract and invoice is required to indicate hall, time, requirement, equipment, payment, reliability, bank information, and more.

Liberton Kirk Management team has done a good job to generate the requirements and format of the book contract and invoice. These requirements were implemented in a utility software named BICA. The BICA promotes efficiency, automation, and standardisation. The BICA is rich user interface (Rich UI), stand-alone package, and single user desktop application as required. The BICA takes an excel file of data from the SKEDDA as input, regroup and processing, then produces both booking contract and invoice in PDF in standard format. The BICA is very simple to use, anybody without computing knowledge can use it with a few minutes training. It is a tool for a staff to work automatically and in standard way

The manual contains two parts:

1. Usage of BICA: for staffs to use the tool.
2. Technical Note for developers: for developer to improve, refine, modify, and add new function.

Currently the software was developed by a sole developer. It is welcome for you to join the development. The complete project files including source code is in GitHub:  
[ggyang2018/BICA at master \(github.com\)](https://github.com/ggyang2018/BICA)

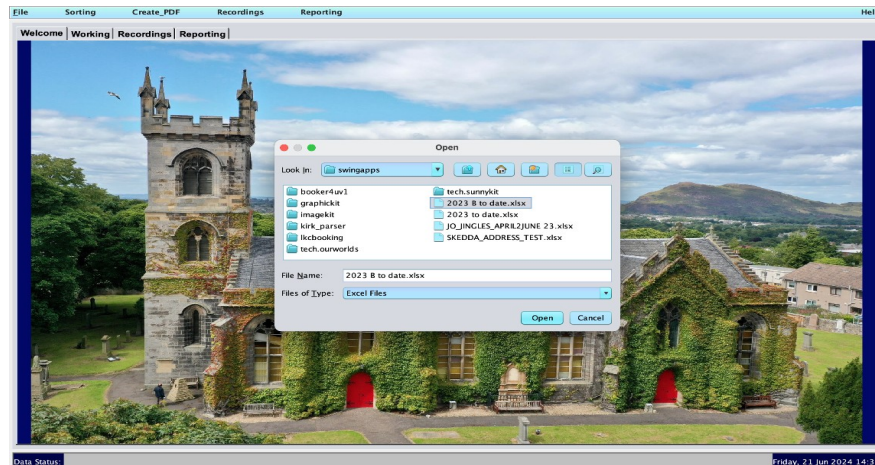
## Usage of BICA

This section describes how to use the BICA step by step.

**Step 1** load data from xlsx file: On the Menu File | Load xlsx to bring a file chooser



**Step 2** In the file chooser, select the xlsx data file, and click open button. The file chooser had filter out other types files, only the directories and xlsx file can be shown.



**Step 3** Load data on the Working Tab, then you could sort the data in terms of title, start time, space (hall). Sorting titles can make job easy, especially for multiple book contracts.

File	Sorting	Create_PDF	Recordings	Reporting	Help						
Welcome	Working										
Sort Titles											
Schedule	Start Start Times	End End Times	Duration	Space Co.	Title	Price	Payment	First Name	Last Name	Organisation	Teleph
Schedule 1	Sort by title ascending										
2023-03-01 09:30	2023-03-01 11:15	75.0	1.0	Post Worship Teas & Coffee	0.0			John	Youngs	Liberton Kirk	Tel: 02
2023-04-01 17:30	2023-04-01 19:00	90.0	1.0	SUNDAY CLUB	0.0			John	Youngs	Youth Worker	Tel: 02
2023-01-14 14:30	2023-01-14 17:30	180.0	1.0	Planes Classes	22.5			Nicky	Pender	Planes	Tel: 02
2023-01-04 10:00	2023-01-04 12:00	120.0	1.0	Toddler Group Cleaning Toys	0.0			Laura	Walker	Family Worker	Tel: 02
2023-01-04 10:00	2023-01-04 12:00	120.0	1.0	Prayer Gathering	0.0			John	Youngs	Liberton Kirk	Tel: 02
2023-01-04 10:00	2023-01-04 12:00	120.0	1.0	Accompanying	0.0			John	Youngs	Liberton Kirk	Tel: 02
2023-01-04 10:00	2023-01-04 12:00	120.0	1.0	CC Nicki White	140.0	Unpaid		Nicki	White	Community Integrated Care	Tel: 02
2023-01-04 10:00	2023-01-04 12:00	120.0	1.0	WMT	0.0			John	Youngs	World Mission Team	Tel: 02
2023-01-04 10:00	2023-01-04 12:15	135.0	2.0	General Parking Committee	0.0			Ruth	Dayles	Liberton Kirk	Tel: 02
2023-01-06 13:00	2023-01-06 15:00	120.0	2.0	93rd B Rainbows	5.0	Unpaid		John	Youngs	93rd B Rainbows	Tel: 02
2023-01-06 13:00	2023-01-06 17:00	240.0	2.0	Worms	0.0			Fiona	Devoxy	Liberton Kirk	Tel: 02
2023-01-06 13:00	2023-01-06 18:00	180.0	2.0	Guided Communion	0.0			John	Youngs	Liberton Kirk	Tel: 02
2023-01-07 10:00	2023-01-07 12:30	150.0	1.0	Team	37.5			Julie	McDonald	The Drama Studio	Tel: 04
2023-01-07 10:00	2023-01-07 12:30	150.0	1.0	Scottish Club	0.0			John	Youngs	Youth Worker	Tel: 02
2023-01-07 10:00	2023-01-07 12:30	150.0	1.0	Guided Communion	0.0			John	Youngs	Liberton Kirk	Tel: 02
2023-01-09 08:30	2023-01-09 10:30	120.0	1.0	Kilnridge Cafe	0.0			John	Thornhill	UK Cafes Manager	Tel: 02
2023-01-09 08:30	2023-01-09 10:30	120.0	1.0	Art Group	0.0			John	Youngs	Liberton Kirk	Tel: 02
2023-01-09 09:00	2023-01-09 11:30	120.0	1.0	Jo Jones	30.0	Unpaid		John	Dovey	Jo Jones Edinburgh	Tel: 03
2023-01-09 09:00	2023-01-09 11:30	120.0	1.0	Wish Mother and Baby Group	0.0			John	Youngs	Liberton Kirk	Tel: 02
2023-01-09 14:00	2023-01-09 16:00	120.0	1.0	Ladies Bedminton	0.0			Pat	Thornes	Ladies Bedminton	Tel: 02
2023-01-09 14:00	2023-01-09 16:00	120.0	1.0	Classical Music Exercise Class	0.0	Unpaid		John	Youngs	Exercise Class	Tel: 02
2023-01-09 14:00	2023-01-09 16:00	120.0	1.0	Kirk Session	0.0			John	Youngs	Liberton Kirk	Tel: 02
2023-01-10 07:30	2023-01-10 09:45	120.0	1.0	Upper Room Prayer Space	0.0			Alastair	Cameron	Liberton Kirk	Tel: 02
2023-01-10 07:30	2023-01-10 09:45	120.0	1.0	John and Ministry Team	0.0			John	Youngs	Liberton Kirk	Tel: 02
2023-01-10 07:30	2023-01-10 09:45	120.0	1.0	Baby Massage cancelled	0.0			John	Youngs	Liberton Kirk	Tel: 02
2023-01-10 07:30	2023-01-10 09:45	120.0	1.0	Exercise class for the over-60's	25.0			Rhona	Gordon	Exercise class for the over-60's	Tel: 02
2023-01-10 07:30	2023-01-10 09:45	120.0	1.0	Upper Room Prayer Space	0.0			John	Youngs	Liberton Kirk	Tel: 02
2023-01-10 10:00	2023-01-10 11:00	60.0	1.0	93rd B Rainbows	4.0	Unpaid		John	Youngs	93rd B Rainbows	Tel: 02
2023-01-10 10:00	2023-01-10 11:00	60.0	1.0	Boys Brigade	14.75			John	Youngs	Boys Brigade	Tel: 02
2023-01-10 10:00	2023-01-10 11:00	60.0	1.0	93rd B Rainbows	7.5			John	Youngs	93rd B Rainbows	Tel: 02
2023-01-10 10:00	2023-01-10 11:00	60.0	1.0	John and Ministry Team	0.0			Alastair	Cameron	Liberton Kirk	Tel: 02
2023-01-10 10:00	2023-01-10 11:00	60.0	1.0	Scottish Country Dancing	0.0			John	Youngs	Scottish Country Dancing	Tel: 02
2023-01-10 10:00	2023-01-10 11:00	60.0	1.0	Planes Classes NO CHARGE N.	0.0			Nicky	Pender	Planes	Tel: 02
2023-01-11 10:00	2023-01-11 10:30	30.0	1.0	Toddler group cancelled no heat	0.0			John	Youngs	Liberton Kirk	Tel: 02
2023-01-11 10:00	2023-01-11 10:30	30.0	1.0	Prayer Prayers cancelled no heat	0.0			John	Youngs	Liberton Kirk	Tel: 02
2023-01-11 10:00	2023-01-11 10:30	30.0	1.0	Hall opening, Rachel and Pete f.	0.0			Faustina	McCormack	Liberton Kirk	Tel: 02
2023-01-11 10:00	2023-01-11 10:30	30.0	1.0	Baby Massage NO CHARGE N.	0.0	Unpaid		John	Youngs	Baby Massage new company	Tel: 02
2023-01-11 10:00	2023-01-11 11:15	75.0	1.0	Planes	2.5			Anna	Potter	Planes	Tel: 02

**Step 4** Create book contracts: Click Menu item: Create PDF | Generate Contract to bring Contract Generator dialog box. The selected data will be grouped according to event title<client name>. Once select the group, all booking list will display on the panel (Not editable), modify the pdf file name, write the invoice number(compulsory), check the requirements, then click Generate PDF button. The information box will tell if success. You can repeat the procedure for other groups. Once finished, click the Close button to close the box.

File	Sorting	Create_PDF	Recordings	Reporting	Help
Welcome	Working				
Contract Generator					
Title List for Selection					
2023-03-16 14:30	2023-03-16 16:00	90.0	1.0	Post Worship Teas & Coffee	0.0
2023-04-01 17:30	2023-04-01 19:00	90.0	1.0	SUNDAY CLUB	0.0
2023-01-14 14:30	2023-01-14 17:30	180.0	1.0	Planes Classes	22.5
2023-01-14 18:30	2023-01-14 21:00	90.0	1.0	Toddler Group Cleaning Toys	0.0
2023-01-14 18:30	2023-01-14 21:00	90.0	1.0	Prayer Gathering	0.0
2023-01-14 18:30	2023-01-14 21:00	90.0	1.0	Accompanying	0.0
2023-01-14 18:30	2023-01-14 21:00	90.0	1.0	CC Nicki White	140.0
2023-01-14 18:30	2023-01-14 21:00	90.0	1.0	WMT	0.0
2023-01-14 18:30	2023-01-14 21:00	90.0	1.0	General Parking Committee	0.0
2023-01-14 18:30	2023-01-14 21:00	90.0	1.0	93rd B Rainbows	5.0
2023-01-14 18:30	2023-01-14 21:00	90.0	1.0	SUNDAY CLUB	0.0
2023-01-14 18:30	2023-01-14 21:00	90.0	1.0	Guided Communion	0.0
2023-01-14 18:30	2023-01-14 21:00	90.0	1.0	Kilnridge Cafe	0.0
2023-01-14 18:30	2023-01-14 21:00	90.0	1.0	Art Group	0.0
2023-01-14 18:30	2023-01-14 21:00	90.0	1.0	Jo Jones	30.0
2023-01-14 18:30	2023-01-14 21:00	90.0	1.0	Wish Mother and Baby Group	0.0
2023-01-14 18:30	2023-01-14 21:00	90.0	1.0	Ladies Bedminton	0.0
2023-01-14 18:30	2023-01-14 21:00	90.0	1.0	Classical Music Exercise Class	0.0
2023-01-14 18:30	2023-01-14 21:00	90.0	1.0	Kirk Session	0.0
2023-01-14 18:30	2023-01-14 21:00	90.0	1.0	Upper Room Prayer Space	0.0
2023-01-14 18:30	2023-01-14 21:00	90.0	1.0	John and Ministry Team	0.0
2023-01-14 18:30	2023-01-14 21:00	90.0	1.0	Baby Massage cancelled	0.0
2023-01-14 18:30	2023-01-14 21:00	90.0	1.0	Exercise class for the over-50's	25.0
2023-01-14 18:30	2023-01-14 21:00	90.0	1.0	Upper Room Prayer Space	0.0
2023-01-14 18:30	2023-01-14 21:00	90.0	1.0	93rd B Rainbows	4.0
2023-01-14 18:30	2023-01-14 21:00	90.0	1.0	Boys Brigade	14.75
2023-01-14 18:30	2023-01-14 21:00	90.0	1.0	93rd B Rainbows	7.5
2023-01-14 18:30	2023-01-14 21:00	90.0	1.0	John and Ministry Team	0.0
2023-01-14 18:30	2023-01-14 21:00	90.0	1.0	Scottish Country Dancing	0.0
2023-01-14 18:30	2023-01-14 21:00	90.0	1.0	Planes Classes NO CHARGE N.	0.0
2023-01-14 18:30	2023-01-14 21:00	90.0	1.0	Kilnridge Cafe cancelled no heat	0.0
2023-01-14 18:30	2023-01-14 21:00	90.0	1.0	Prayer Prayers cancelled no heat	0.0
2023-01-14 18:30	2023-01-14 21:00	90.0	1.0	Hall opening, Rachel and Pete f.	0.0
2023-01-14 18:30	2023-01-14 21:00	90.0	1.0	Baby Massage NO CHARGE N.	0.0
2023-01-14 18:30	2023-01-14 21:00	90.0	1.0	Planes	2.5

**Step 5** All create book contracts are stored in a embedded database. Go to recording TAB with Booking sub-tab, and click the menu item Recordings|Refresh Bookings to display stored booking contracts. First select a contract, you can view the contract's book list, and contents including administration note.

File	Sorting	Create_PDF	Recordings	Reporting	Help		
Welcome   Working   Recordings   Reports			View Book List				
Bookings   Invoices			View Book List				
FILE_NAME	INVOICE_NBR	CLIENT	EVENT_TITLE	CLIENT_EMAIL	CLIENT_TELEPHONE	ORGANISATION	BOOK_STA
con0240813_2.pdf	83	Lorna Carr	Baby Sensory	hellobithesensorysessions.com	Tel: 07525 270427	Sensory Sessions	Ready for
con0240813_3.pdf	93rd	93rd B Rainbows	93rd B Rainbows	catbruk@yahoo.co.uk	Tel: 07940 407658	93rd B Rainbows	Invoice ha
con0240813_4.pdf	Guide 1	93rd Guide Unit	93rd Guide Unit	93rdguideunit@gmail.com	Tel: 07732 375289	93rd Guide Unit	Invoice ha
con0240813_5.pdf	Art Group 1	Art Group	Art Group	janemcgrath7@gmail.com	Tel: 07557 470602	Art Group	Invoice ha
con0240821_3.pdf	AAA	David Colley	Building Meeting	david.colley@btinternet.com	Tel: 0133 663 3757	Libertion Kirk	Ready for
con0240821_4.pdf	B12	Carol-Anne Barnes	Baby Massage	cCarol-Anne@btinternet.co.uk	Tel: 07793 541304	Baby Massage new company	Ready for
con0240813_5.pdf	Baby Massage	Carol-Anne Barnes	Baby Massage	Young@churchofscotland.org.uk	Tel: 07793 541304	Libertion Kirk	Invoice ha
con0240813_5.pdf	Baby Massage	Carol-Anne Barnes	Baby Massage	cCarol-Anne@btinternet.co.uk	Tel: 07793 541304	Baby Massage new company	Ready for

Printed: 31 Jan 2024 - 40 Dec 2023 - Date str: 1926 - Sorted by: str: ascending

Friday, 21 Jun 2024 11:58

File		Sorting	Create_PDF	Recordings	Reporting			
Welcome   Working   Recordings   Reports				Recordings				
Bookings   Invoices				View Book List				
FILE_NAME	INVOICE_NBR	CLIENT_NAME	EVENT_TITLE	CLIENT_EMAIL	CLIENT_TELEPHONE	ORGANISATION	BOOK_STA	
con0240813_2.pdf	83	Lorna Carr	Baby Sensory	hellobithesensorysessions.com	Tel: 07525 270427	Sensory Sessions	Ready for	
con0240815_1.pdf	Rainbow 1	Carltona Twiss	93rd B Rainbows	icatrbruk@yahoo.co.uk	Tel: 07940 407658	93rd B Rainbows	Invoice ha	
con0240815_2.pdf	Guide 1	93rd Guide Unit	93rd Guide Unit	93rdguideunit@gmail.com	Tel: 07732 375289	93rd Guide Unit	Invoice ha	
con0240815_3.pdf	Art group 1	Art Group	Art Group	janemcgrath7@gmail.com	Tel: 07557 470602	Art Group	Invoice ha	
con0240821_3.pdf	AAA	David Colley	Building Meeting	david.colley@btinternet.com	Tel: 0133 663 3757	Libertion Kirk	Ready for	
con0240821_4.pdf	B12	Carol-Anne Barnes	Baby Massage	cCarol-Anne@btinternet.co.uk	Tel: 07793 541304	Baby Massage new company	Ready for	
con0240815_5.pdf	Baby Massage	Carol-Anne Barnes	Baby Massage	Young@churchofscotland.org.uk	Tel: 07793 541304	Libertion Kirk	Invoice ha	
con0240815_5.pdf	Baby Massage	Carol-Anne Barnes	Baby Massage	cCarol-Anne@btinternet.co.uk	Tel: 07793 541304	Baby Massage new company	Ready for	

Close

Printed: 01 Jan 2021 – 10 Dec 2021, Data size: 19288, Sorted by title in ascending order

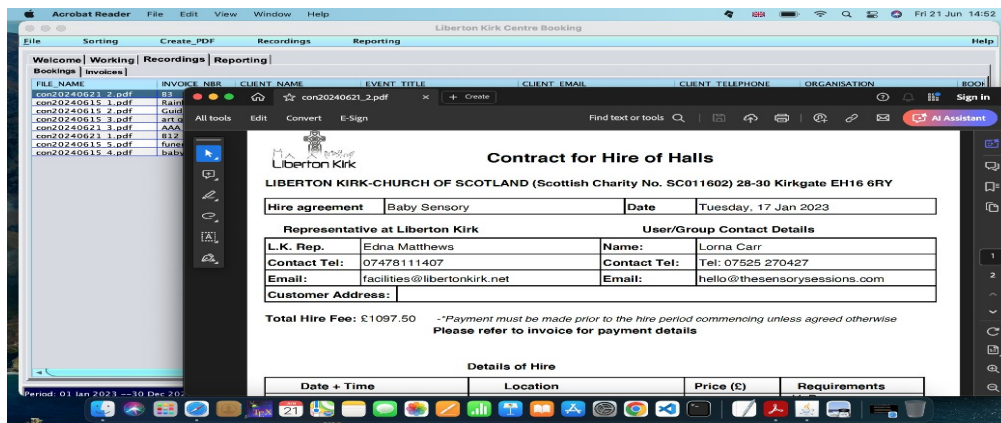
Friday, 21 Jun 2024 12:41

File	Sorting	Create_PDF	Recordings	Reporting	Help		
Welcome   Working   Recordings   Reporting   Bookings   Invoices							
FILE_NAME	INVOICE_NBR	CLIENT_NAME	EVENT_TITLE	CLIENT_EMAIL	CLIENT_TELEPHONE	ORGANISATION	BOOK_STAT
con0240813_2.pdf	83	Lorna Carr	Baby Sensory	hellobithesensorysessions.com	Tel: 07525 270427	Sensory Sessions	Ready for
con0240813_3.pdf	93rd	93rd B Rainbows	93rd B Rainbows	catbruk@yahoo.co.uk	Tel: 07940 407658	93rd B Rainbows	Invoice ha
con0240813_4.pdf	Guide 1	93rd Guide Unit	93rd Guide Unit	93rdguideunit@gmail.com	Tel: 07732 375289	93rd Guide Unit	Invoice ha
con0240813_5.pdf	Art group 1	Art Group	Art Group	janemcgrath7@gmail.com	Tel: 07557 470602	Art Group	Invoice ha
con0240821_3.pdf	AAA	David Colley	Building Meeting	david.colley@btinternet.com	Tel: 0133 663 3757	Libertion Kirk	Ready for
con0240821_4.pdf	B12	Carol-Anne Barnes	Baby Massage	cCarol-Anne@btinternet.co.uk	Tel: 07793 541304	Baby Massage new company	Ready for
con0240815_5.pdf	Baby massag...	Carol-Anne Barnes	Baby	Booking Contents	Tel: 07793 541304	Libertion Kirk	Invoice ha
Type: Book_Contract Action ID: 1dea1739fa2b482466d01702a89d0b1 Invoice Number: 83 Client Name: Lorna Carr Event Title: Baby Sensory Client Email: hellobithesensorysessions.com Client Tel: 07525 270427 First Date: Tue, 12 Jan 2024 09:30 - 11:00 Duration: 37 hours and 30 minutes Hall Space: Anderson Hall, Recreation Hall Organisation: Sensory Sessions Create Date: 2024-06-21 14:44:00.691188 Update Date: 2024-06-21 14:44:00.691188 Book Status: Ready for Invoice PDF file Name: con0240813_2.pdf Notes: write note here.....							
<div>OK</div>							

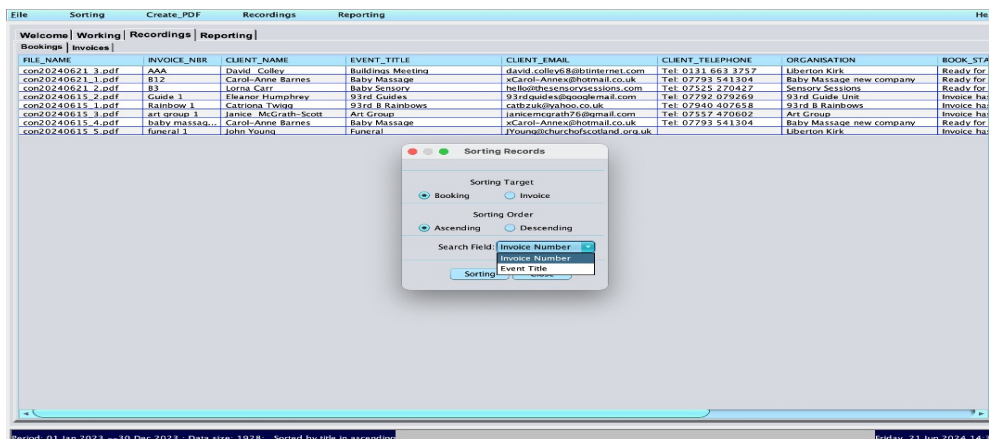
Printed: 01 Jun 2024 14:40 Dec 2024 Data since 1822 Sorted by date in ascending

Printed: 21 Jun 2024

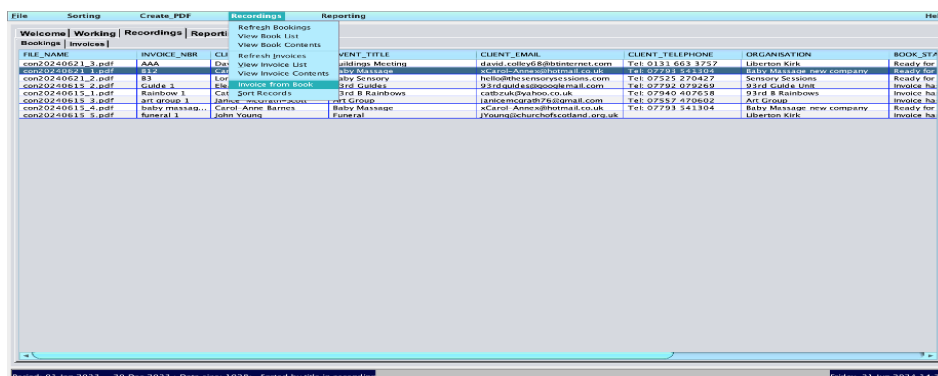
If you double click the PDF file name, it will bring a local app to display the PDF file.



**Step 6** Lookup and sorting these book contracts: The record contains pdf file name and status about ready for invoice or invoice being done. You can sort these contracts in terms of invoice number or event title. Click the menu item Recordings|Sort Records to display the Sorting Records Box. Choose the target as Booking/Invoice, order as Ascending/Descending, select the search field: invoice number/event title, then click sorting.

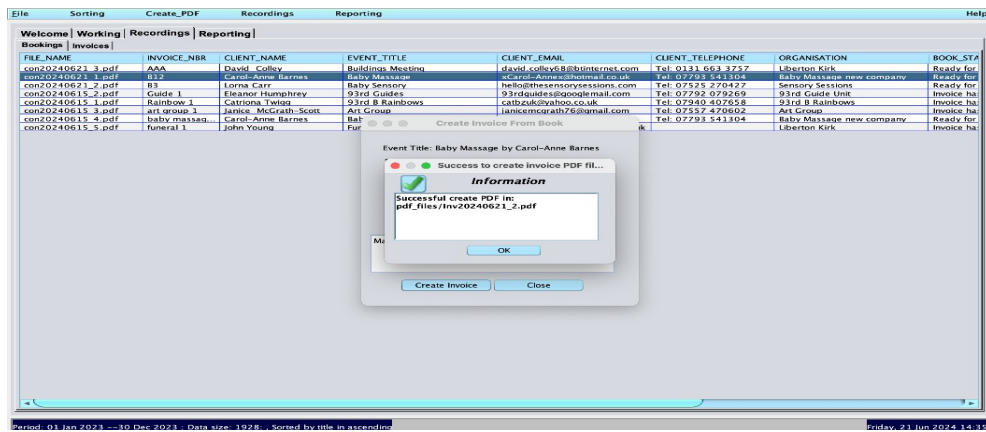


**Step 7** Click the menu item Recordings | Invoice from book to bring the invoice box. It will create a invoice PDF from the selected booking.

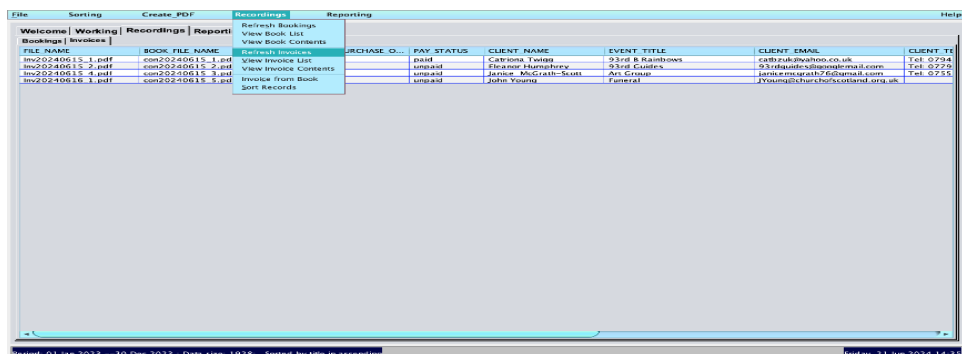


Fill the PDB box with necessary information, such file name, purchase order, additional note, etc. then click Create Invoice button to create the invoice pdf file. An information box tells if success.

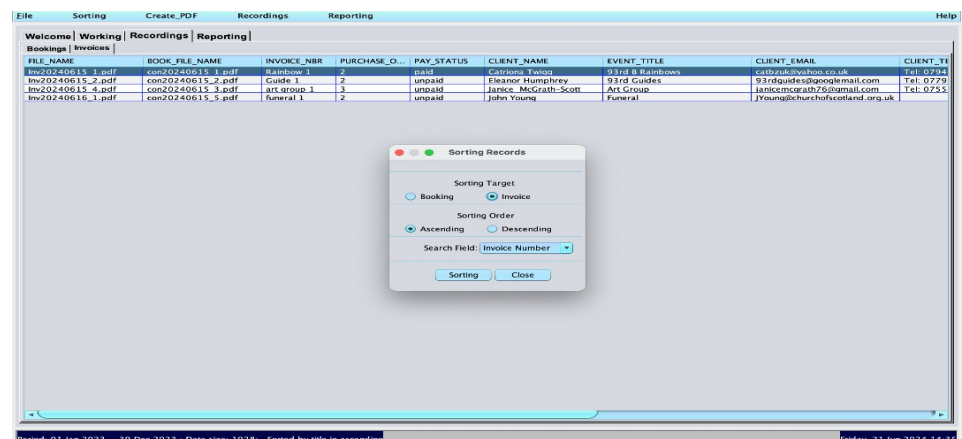




**Step 8** Invoice operations: similar to bookings, all invoice data are stored in the database. The operation is very similar to booking; go to Recordings Tab with Invoice sub-tab, click Recordings| Refresh Invoice to retrieve invoices from database and display. It also can view booking list , contents, and sorting invoice in terms of invoice number or event title.

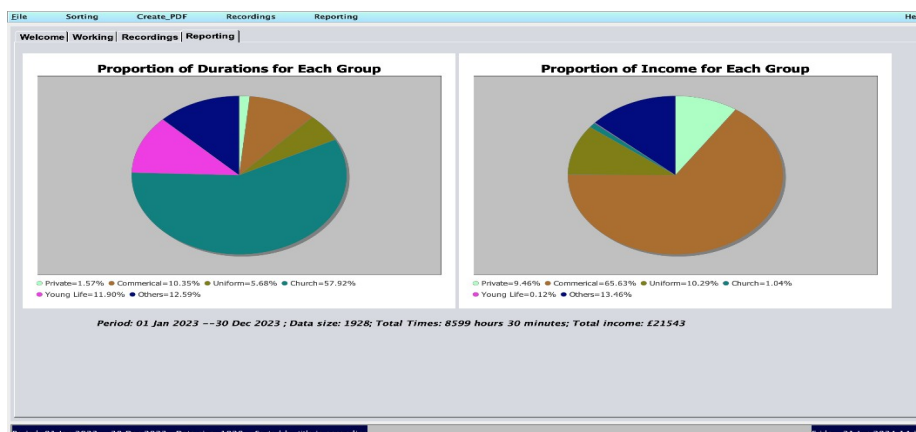


A record contains invoice file name and booking file name. Once the invoice being created, the corresponding booking record' status would be set as Invoice Done. The package would not allow you to duplicate the invoice. The invoice sorting:

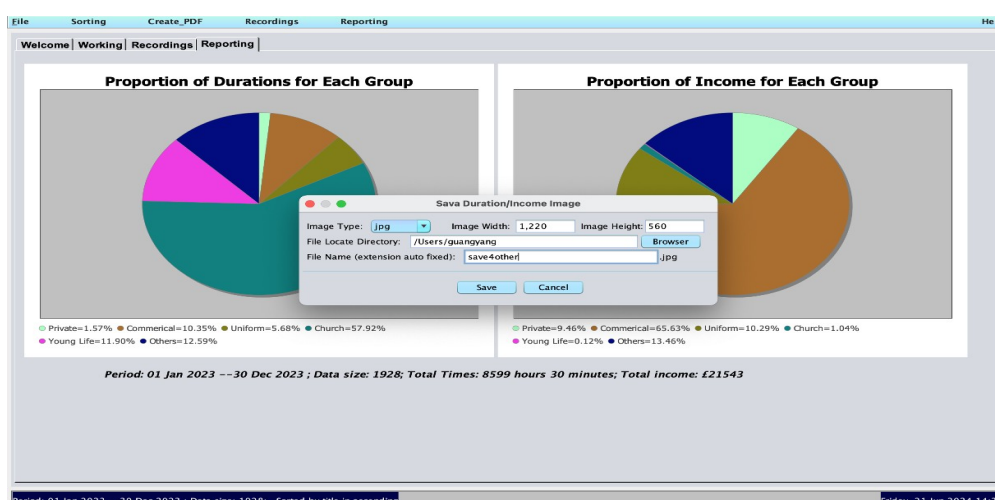


Once xlsx data being load, you could directly create invoice from data by click the menu item Create PDF | Generate Invoice after select data. It has a similar selection box and PDF generate box. If book contracts already stored in database, you could create the invoice without load xlsx data.

**Step 9** Statistical Data Display: make sure the xlsx data being loaded due to statistics of xlsx data, then click the menu item Reporting | Duration and Income, it shows:



To save the image into .jpg file, click the menu item Reporting | Save as Image to display the save dialog box, fill the dimension, location and file name, then click the Save button



**Step 10 Backup and Cleaning:** the structure of software contains a executable jar file: BICA.jar, a lkcddata directory as a database to hold data, a pdf\_files directory as file store for all generated pdf files, and a log directory for store logging file. Backup is to copy the the lkcddata and pdf\_files directories onto somewhere else and affix date stamps on these directories. Cleanup is to delete the two directories, beware the recycle bin should be clear in case of it overrides your working directory by accidentally recover action.

## Trouble Shooting

**Problem:** Sometimes the contents not rendering or not updating properly.

**Solution:** It may be caused by tab indexing issue, just click another tab then back to this tab to force UI to update.

**Problem:** Sometimes the booking or invoice table are not updated.

**Solution:** Keep refresh the booking or invoice table from menu to sync data with database.

## Technical Note for Developers

Project files including source code at: <https://github.com/ggyang2018/BICA/tree/master>

The development tools:

programming language: Java version 21 (Latest Long Time Support by now)  
integrate Development Environment (IDE): IntelliJ IDEA  
build tools: gradle with Kotlin DSL (domain specific language)

Libraries(package) being used and

1. using [apache.poi](#) package to parse excel files and transform to java data objects.
2. group these data object according the combination of event title and client name.
3. using [apache.pdfbox](#) to produce pdf files for both booking contract and invoice.
4. The data to create pdf files will stored in an embedded database ([hsqldb](#))
5. Statistically parse the excel data file and generated pie chart to indicate groups proposition in terms of income and duration using [jfreechart](#) library.
6. An interactive GUI based on [javafx.swing](#) makes these operations feasible and visible.
7. [Apache log4j](#) framework is for logging.

Due to sole development and time scope, there were only limited technical discussions. There are some rooms for improvement, refinement and new functionality. It might be contains following or more:

1. Tab indexing and menu item interaction: menu item enable/disable according to current tab choice.
2. Data field configuration: date field was hard coding, it may be put into property for flexibility.
3. Better looking and feel:
4. Logging refine: current logging is coarse only for system error. It may be refined into operations
5. And more ...