

# Sample Screenshots

## Java SE/JavaFX and Scene Builder 2.0

Please find below sample screenshots of x3 applications built using Java SE/JavaFX and Scene Builder 2.0:

Application	Description
1. Bank Account Manager	Advanced dashboard-based chart analysis of account history.
2. Sample Code	Source code and reference material repository using embedded JavaDB.
3. Classic Games	Poker, Pong, Missile Command and Space Invaders.

## Source Code

All source code can be found at:

<https://github.com/Paul-Surridge/Sample-Works/tree/main/Projects/Java>

Built using:

Netbeans: 12.1  
Java: 1.8.0\_261  
JDK: 8u261 Windows x64  
JRE: SE Runtime Environment 1.8.0\_261-b12  
Scene Builder: 2.0

Netbeans was used given that it had free support for JavaDB, however for convenience all x3 projects already contain x2 configuration folders 'nbproject' and '.idea' therefore either Netbeans or IntelliJ IDE can be used to review and immediately run..

# 1. Bank Account Manager

Advanced dashboard-based chart analysis of account history.

- A simple and intuitive way to review your own personal bank account history:
  - History: Categorize incoming/outgoing transactions in order to gain valuable insights into your spend and save habits.
  - Charts: View account data using bar, pie and line charts.
  - Compare: Layer multiple accounts, categories or entries to contrast and compare.
  - Integrity: Run checks to ensure that there are no missing payments or potentially suspicious activity.
  - Watch: Watch certain categories for any unexpected increases or changes.
  - Refunds: Monitor incoming refunds ensuring that they are received and of correct amount.
  - DD/SO: Monitor and review of your monthly direct debits and standing orders.
- All transaction history is uploaded and stored into local embedded JavaDB.
- All implemented through a simple, ergonomic, efficient and highly versatile dashboard.

## Dashboard

**Bank Accounts Manager**

2021						
View	Account	Bal Start	In	Out	-/+	Bal End
<input checked="" type="checkbox"/>	Barclays Current	20,198.43	72,921.13	25,926.78	46,994.35	67,192.78
<input checked="" type="checkbox"/>	Barclays Saving	77,114.30	79.62	0.00	79.62	77,193.92
<input checked="" type="checkbox"/>	Barclays ISA	1,267.38	431.76	0.00	431.76	1,699.14
<b>All Accounts</b>						
		98,580.11	73,432.51	25,926.78	47,505.73	146,085.84

**Incoming**

View Hist.			Freq.	Total
<input checked="" type="checkbox"/>	Interest (ISA)	18	71.76	
<input checked="" type="checkbox"/>	Interest (Save)	12	79.62	
<input checked="" type="checkbox"/>	Refund - Electric	1	14.46	
<input checked="" type="checkbox"/>	Refund - Rail	1	26.50	
<input checked="" type="checkbox"/>	Refund - Student Loan	1	880.17	
<input checked="" type="checkbox"/>	Salary	12	72,000.00	
<input checked="" type="checkbox"/>	ISA Receive From Current	12	360.00	
Income			45	73,072.51
Internal Transfers			12	360.00
<b>Total Incoming</b>			57	73,432.51

**Outgoing**

View Hist.			Freq.	Total
<input checked="" type="checkbox"/>	Waterstones Bookshop	4	58.03	
<input checked="" type="checkbox"/>	Work Expense - Food	56	289.40	
<input checked="" type="checkbox"/>	Work Expense - Rail Ticket	71	2,700.85	
<input checked="" type="checkbox"/>	Current Send To ISA	12	360.00	
Purchases			365	9,443.37
Direct Debit and Standing Orders			101	15,593.41
Other			15	530.00
<b>Total Spend</b>			481	25,566.78
Internal Transfers			12	360.00
<b>Total Outgoing</b>			493	25,926.78

**Barclays Current - Spend - Per Category**

**Barclays Current - Total Incoming / Total Outgoing**

**Barclays Current - Purchases - Per Month**

**History**

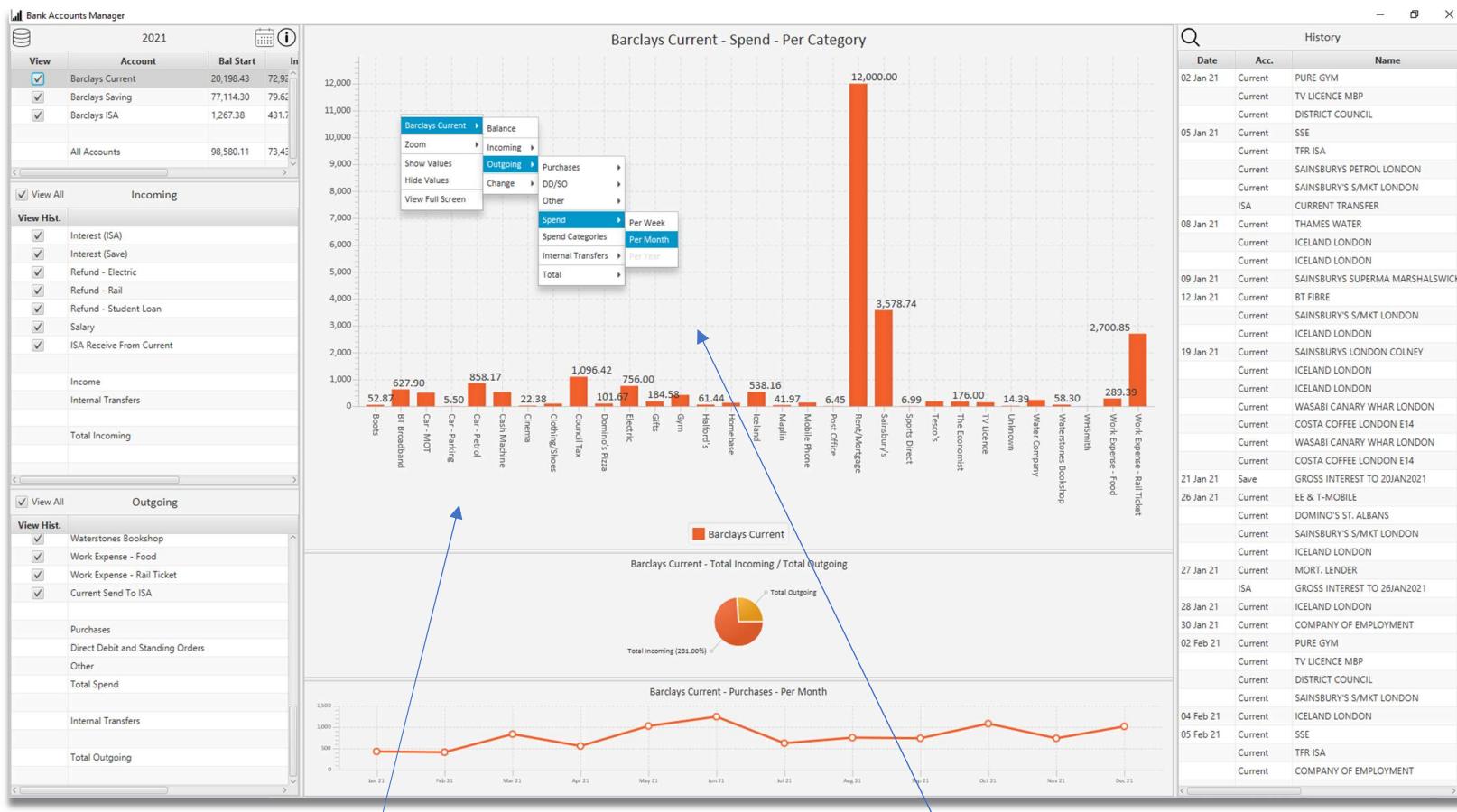
Date	Acc.	Name	Type	In	
02 Jan 21	Current	PURE GYM	DD	Gym	
	Current	TV LICENCE MBP	DD	TV Licence	
	Current	DISTRICT COUNCIL	DD	Council Tax	
05 Jan 21	Current	SSE	DD	Electric	
	Current	TFR ISA	SO	Current Send To ISA	
	Current	SAINSBURYS PETROL LONDON	VIS	Car - Petrol	
	Current	SAINSBURYS S/MKT LONDON	VIS	Sainsbury's	
	ISA	CURRENT TRANSFER	CR	ISA Receive From Current 30.00	
08 Jan 21	Current	THAMES WATER	DD	Water Company	
	Current	ICELAND LONDON	VIS	Iceland	
	Current	ICELAND LONDON	)))	Iceland	
09 Jan 21	Current	SAINSBURYS SUPERMA MARSHALSWICK	VIS	Sainsbury's	
12 Jan 21	Current	BT FIBRE	DD	BT Broadband	
	Current	SAINSBURYS S/MKT LONDON	VIS	Sainsbury's	
	Current	ICELAND LONDON	)))	Iceland	
19 Jan 21	Current	SAINSBURYS LONDON COLNEY	VIS	Sainsbury's	
	Current	ICELAND LONDON	)))	Iceland	
	Current	ICELAND LONDON	)))	Iceland	
	Current	WASABI CANARY WHAR LONDON	)))	Work Expense - Food	
	Current	COSTA COFFEE LONDON E14	)))	Work Expense - Food	
	Current	WASABI CANARY WHAR LONDON	)))	Work Expense - Food	
	Current	COSTA COFFEE LONDON E14	)))	Work Expense - Food	
21 Jan 21	Save	GROSS INTEREST TO 20JAN2021	CR	Interest	13.10
26 Jan 21	Current	EE & T-MOBILE	DD	Mobile Phone	
	Current	DOMINO'S ST. ALBANS	VIS	Domino's Pizza	
	Current	SAINSBURYS S/MKT LONDON	VIS	Sainsbury's	
	Current	ICELAND LONDON	)))	Iceland	
27 Jan 21	Current	MORT. LENDER	SO	Rent/Mortgage	
	ISA	GROSS INTEREST TO 26JAN2021	CR	Interest	0.27
28 Jan 21	Current	ICELAND LONDON	VIS	Iceland	
30 Jan 21	Current	COMPANY OF EMPLOYMENT	CR	Salary	6,000.00
02 Feb 21	Current	PURE GYM	DD	Gym	
	Current	TV LICENCE MBP	DD	TV Licence	
	Current	DISTRICT COUNCIL	DD	Council Tax	
04 Feb 21	Current	SAINSBURYS S/MKT LONDON	VIS	Sainsbury's	
05 Feb 21	Current	SSE	DD	Electric	
	Current	TFR ISA	SO	Current Send To ISA	
	Current	COMPANY OF EMPLOYMENT	CR	Salary	6,000.00

Review x1 or more accounts simultaneously

In-depth chart analysis

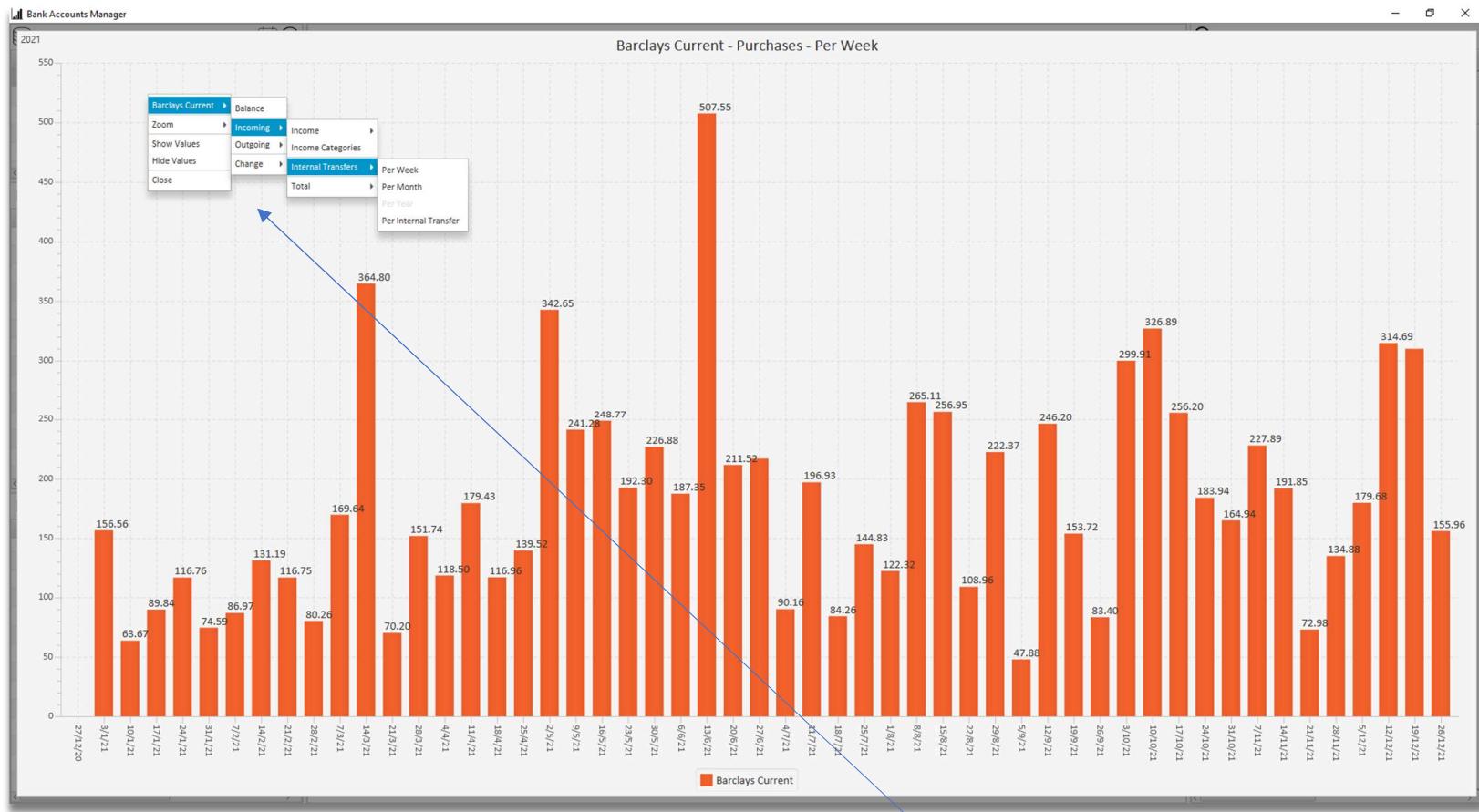
Clear searchable and filterable history

Review incoming/outgoing categories



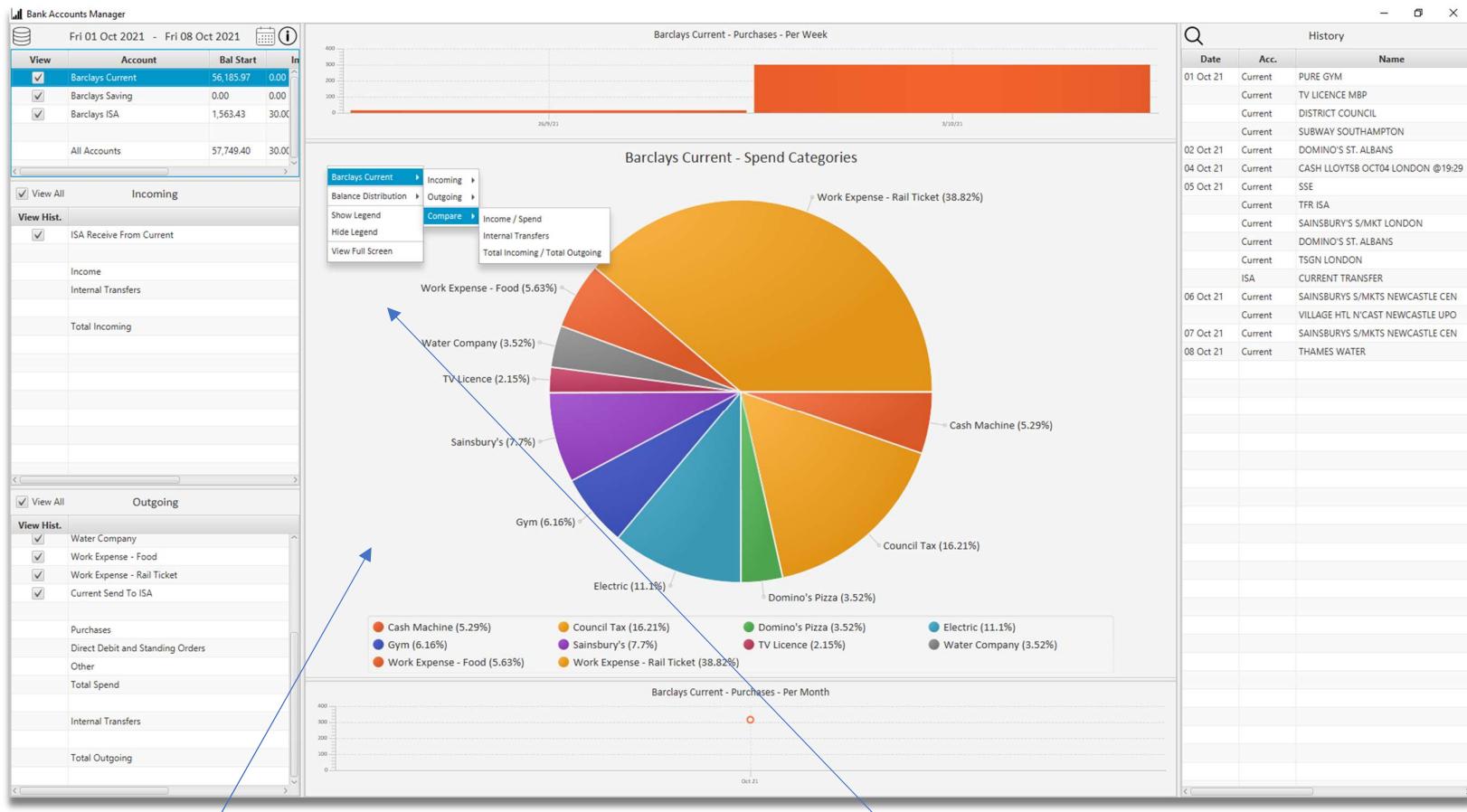
Double click on any window, table or chart to expand

Right click on any chart or table for all available views/options



All charts can be viewed full screen

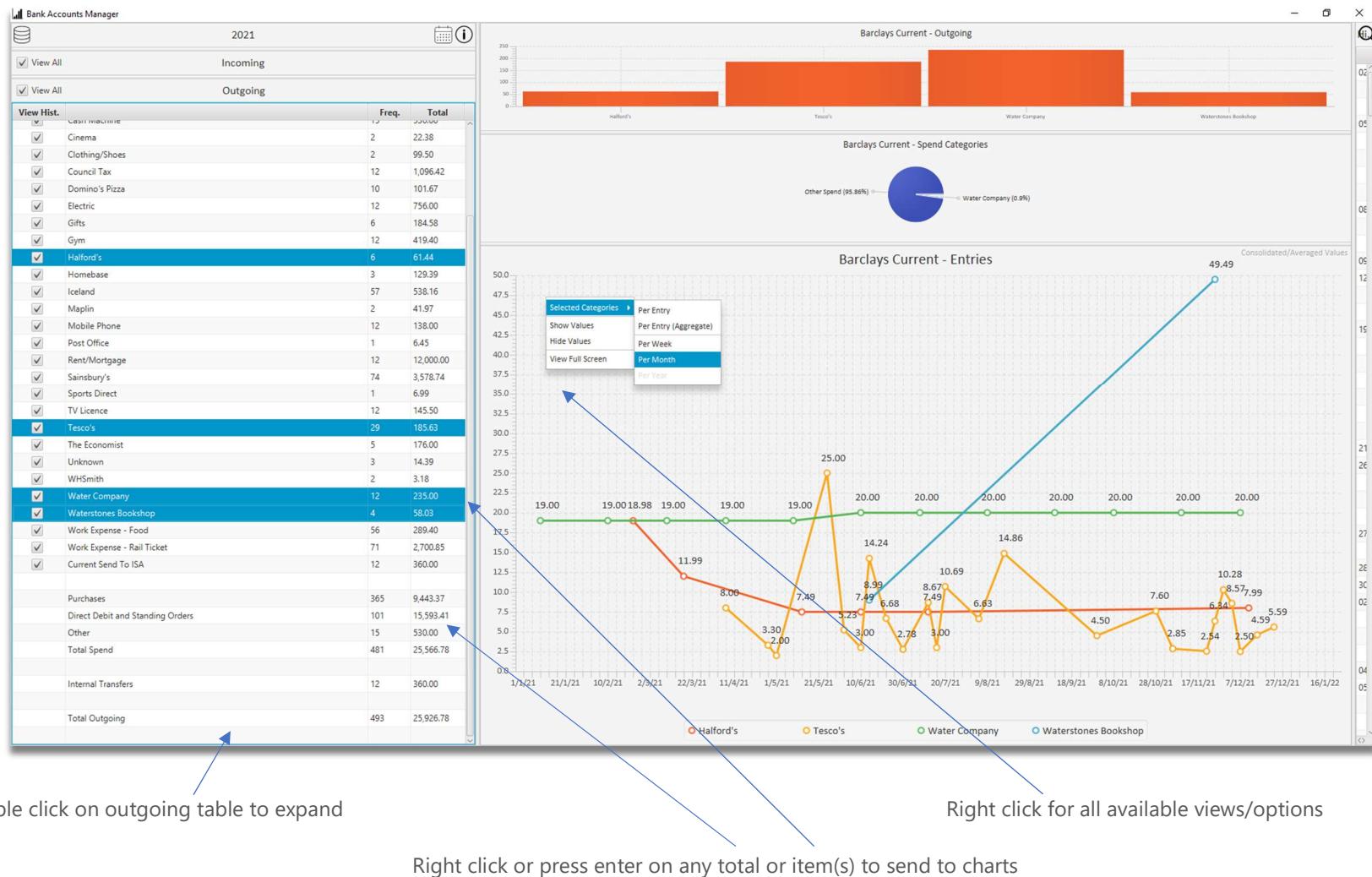
Right click for all available views/options



Double click on pie chart to expand

Right click for all available views/options





**Bank Accounts Manager**

### Barclays Current - Spend - Per Category

Category	Amount
Boots	52.87
BT Broadband	627.90
Car MOT	504.80
Car Parking	5.50
Car Petrol	858.17
Cash Machine	530.00
Cinema	22.38
Clothing/Shoes	99.50
Council Tax	1,096.42
Dominos Pizza	101.67
Electric	756.00
Gifts	184.58
Gym	419.40
Homebase	61.44
Iceland	538.16
Ireland	41.97
Mobile Phone	138.00
Post Office	6.45
Rent/Mortgage	12,000.00 <sup>A</sup>
Sainsbury's	2,700.85
Sports Direct	6.99
Tesco's	185.63
The Economist	145.50
TV Licence	14.39
Unknown	235.00
Waterstones Bookshop	58.30
WHSmith	289.39
Work Expenses - Food	
Work Expenses - Rail Ticket	

### Barclays Current - Total Incoming / Total Outgoing

Category	Value
Total Outgoing	100%
Total Incoming (281.00%)	281.00%

### Barclays Current - Purchases - Per Month

Month	Purchases
Jan 21	~500
Feb 21	~500
Mar 21	~900
Apr 21	~500
May 21	~1,000
Jun 21	~1,100
Jul 21	~500
Aug 21	~800
Sep 21	~800
Oct 21	~1,000
Nov 21	~800
Dec 21	~1,000

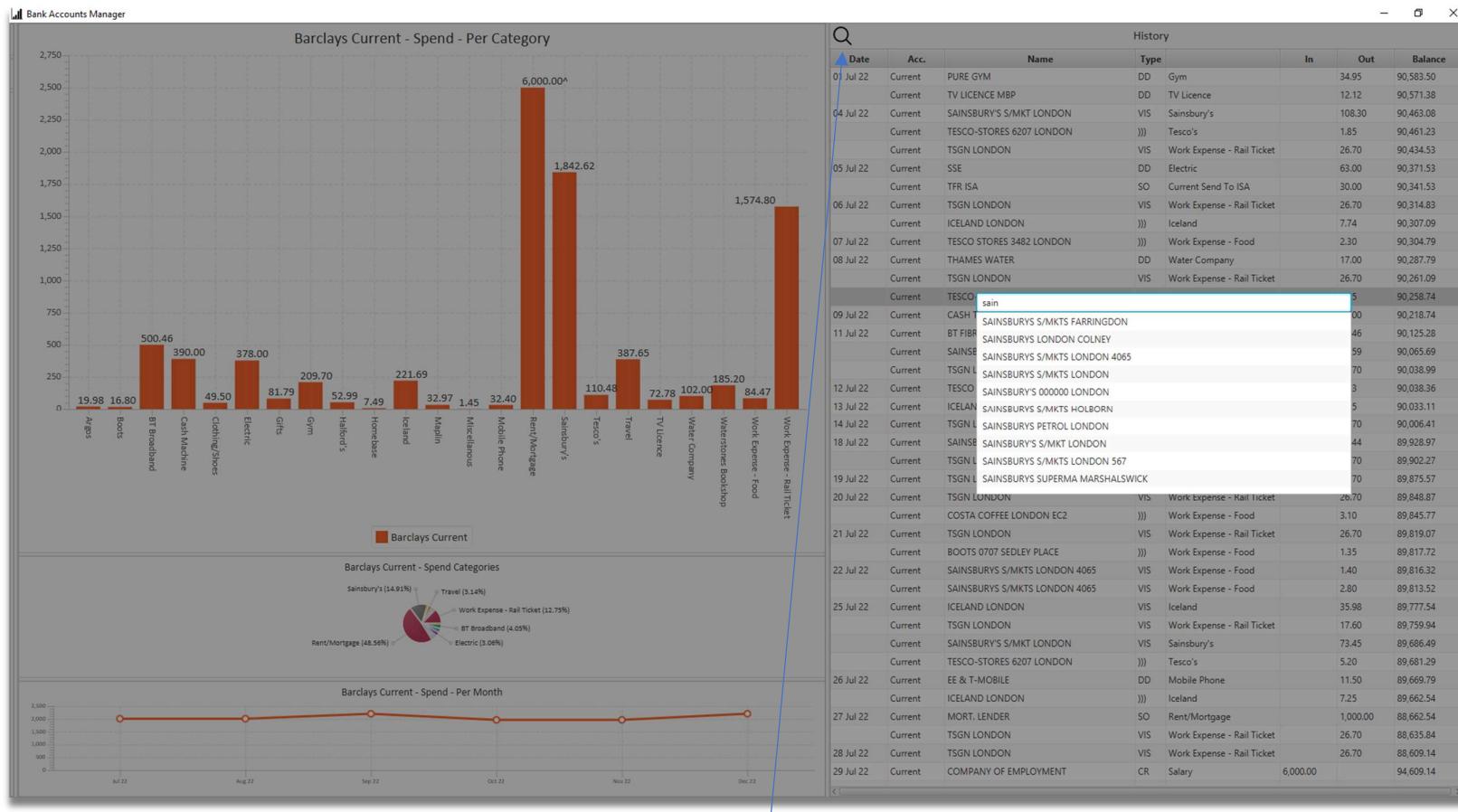
Q History

Date	Acc.	Name	Type	In	Out	Balance
02 Jan 21	Current	PURE GYM	DD	Gym	34.95	20,163.48
	Current	TV LICENCE MBP	DD	TV Licence	12.12	20,151.36
	Current	DISTRICT COUNCIL	DD	Council Tax	90.00	20,061.36
05 Jan 21	Current	SSE	DD	Electric	63.00	19,998.36
	Current	TFR ISA	SO	Current Send To ISA	30.00	19,968.36
	Current	SAINSBURY'S PETROL LONDON	VIS	Car - Petrol	62.39	19,905.97
	Current	SAINSBURY'S S/MKT LONDON	VIS	Sainsbury's	40.97	19,865.00
	ISA	CURRENT TRANSFER	CR	ISA Receive From Current	30.00	1,297.38
08 Jan 21	Current	THAMES WATER	DD	Water Company	19.00	19,846.00
	Current	ICELAND LONDON	VIS	Iceland	33.75	19,812.25
	Current	ICELAND LONDON	VIS	Iceland	3.95	19,808.30
09 Jan 21	Cu	Set Category				
12 Jan 21	Cu	Set Internal Transfer				
	Cu	Filter				
		Instances				
19 Jan 21	Cu	View Entry				
		Incoming > IEY				
		Outgoing > Purchases				
		Internal Transfers				
		All Spend				
21 Jan 21	Save	GROSS INTEREST TO 20JAN21	CR	All Outgoing		
26 Jan 21	Current	EE & T-MOBILE	DD	Mobile Phone	11.50	19,585.80
	Current	DOMINO'S ST. ALBANS	VIS	Domino's Pizza	10.58	19,575.22
	Current	SAINSBURY'S S/MKT LONDON	VIS	Sainsbury's	83.18	19,492.04
	Current	ICELAND LONDON	VIS	Iceland	1.00	19,491.04
27 Jan 21	Current	MORT. LENDER	SO	Rent/Mortgage	1,000.00	18,491.04
	ISA	GROSS INTEREST TO 26JAN2021	CR	Interest	0.27	1,297.65
28 Jan 21	Current	ICELAND LONDON	VIS	Iceland	22.00	18,469.04
30 Jan 21	Current	COMPANY OF EMPLOYMENT	CR	Salary	6,000.00	24,469.04
02 Feb 21	Current	PURE GYM	DD	TV Licence	12.12	24,421.97
	Current	TV LICENCE MBP	DD	Council Tax	90.00	24,331.97
	Current	DISTRICT COUNCIL	DD	Electric	63.00	24,260.38
04 Feb 21	Current	SAINSBURY'S S/MKT LONDON	VIS	Sainsbury's	71.59	24,257.38
05 Feb 21	Current	SSE	DD	Electric	3.00	24,194.38
	Current	TFR ISA	SO	Current Send To ISA	30.00	24,164.38
	Current	COMPANY OF EMPLOYMENT	CR	Salary	6,000.00	30,164.38
	ISA	CURRENT TRANSFER	CR	ISA Receive From Current	30.00	1,327.65

Double click on any combination of chart and history to expand

Right click on history to set the category, view or filter entries

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The screenshot shows a dashboard titled "Bank Accounts Manager" for "Barclays Current". The interface includes a top navigation bar with date pickers for "01/01/2022" and "31/12/2022", and buttons for "Month/Year", "Most Recent", and "All". A "Set" button is also present.

**Incoming Transactions:**

	Freq.	Total
Refunds	6	191.12
Salary	12	72,000.00
Income	18	72,191.12
Internal Transfers	0	0.00
<b>Total Incoming</b>	<b>18</b>	<b>72,191.12</b>

**Outgoing Transactions:**

	Freq.	Total
WHSmith	1	0.99
Work Expense - Food	54	175.21
Work Expense - Rail Ticket	97	2,755.70
Current Send To ISA	12	360.00
Purchases	378	9,102.59
Direct Debit and Standing Orders	90	15,231.75
Other	7	510.00
<b>Total Spend</b>	<b>475</b>	<b>24,844.34</b>
Internal Transfers	12	360.00
<b>Total Outgoing</b>	<b>487</b>	<b>25,204.34</b>

**Charts:**

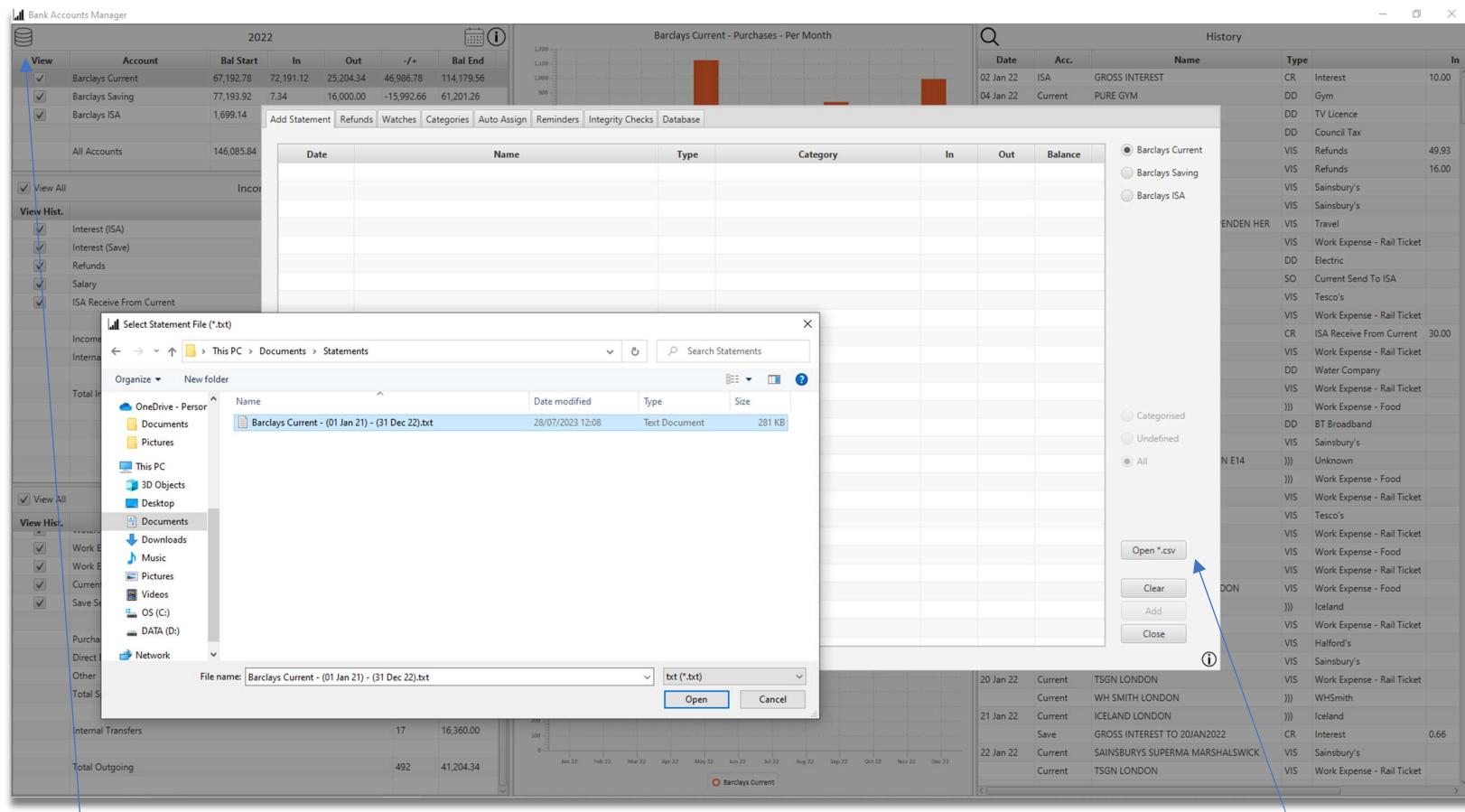
- Barclays Current - Purchases - Per Month:** Bar chart showing purchases per month from January 2021 to December 2022. The highest value is in February 2022 at approximately 1,000.
- Barclays Current - Income / Spend:** Pie chart showing the breakdown of income and spending. Income (290.09%) is the largest segment.
- Barclays Current - Spend - Per Month:** Line chart showing monthly spend from January 2021 to December 2022. The highest point is in February 2022 at approximately 2,300.

**History Table:**

Date	Acc.	Name	Type	In	Out	Balance
04 Jan 22	Current	PURE GYM	DD	Gym	34.95	67,157.83
	Current	TV LICENCE MBP	DD	TV Licence	12.12	67,145.71
	Current	DISTRICT COUNCIL	DD	Council Tax	92.00	67,053.71
	Current	HOMEBASE LTD LONDON	VIS	Refunds	49.93	67,103.64
	Current	SAINSBURY'S S/MKT LONDON	VIS	Refunds	16.00	67,119.64
	Current	SAINSBURY'S S/MKTS LONDON	VIS	Sainsbury's	1.81	67,117.83
	Current	BP TOWNSEND CONNEC HARPENDEN HER	VIS	Sainsbury's	77.99	67,039.84
	Current	TSGN LONDON	VIS	Travel	56.72	66,983.12
	Current	SSE	DD	Electric	63.00	66,893.42
	Current	TFR ISA	SO	Current Send To ISA	30.00	66,863.42
	Current	TESCO-STORES 6207 LONDON	VIS	Tesco's	4.00	66,859.42
	Current	TSGN LONDON	VIS	Work Expense - Rail Ticket	26.70	66,832.72
07 Jan 22	Current	TSGN LONDON	VIS	Work Expense - Rail Ticket	26.70	66,806.02
08 Jan 22	Current	THAMES WATER	DD	Water Company	20.00	66,786.02
	Current	TSGN LONDON	VIS	Work Expense - Rail Ticket	26.70	66,759.32
	Current	COSTA COFFEE LONDON E14	)))	Work Expense - Food	1.65	66,757.67
11 Jan 22	Current	BT FIBRE	DD	BT Broadband	62.74	66,694.93
	Current	SAINSBURY'S S/MKT LONDON	VIS	Sainsbury's	60.81	66,634.12
	Current	NEWS ON THE WHARF LONDON E14	)))	Unknown	10.00	66,624.12
	Current	EAT CANARY WHARF	)))	Work Expense - Food	4.54	66,619.58
	Current	TSGN LONDON	VIS	Work Expense - Rail Ticket	26.70	66,592.88
12 Jan 22	Current	TESCO STORES 6545 LONDON	VIS	Tesco's	4.04	66,588.84
	Current	TSGN LONDON	VIS	Work Expense - Rail Ticket	26.70	66,562.14
13 Jan 22	Current	BOOTS 0707 SEDLEY PLACE	VIS	Work Expense - Food	3.79	66,558.35
	Current	TSGN LONDON	VIS	Work Expense - Rail Ticket	26.70	66,531.65
14 Jan 22	Current	SAINSBURY'S S/MKTS FARRINGDON	VIS	Work Expense - Food	3.85	66,527.80
	Current	ICELAND LONDON	)))	Iceland	4.50	66,523.30
15 Jan 22	Current	TSGN LONDON	VIS	Work Expense - Rail Ticket	26.70	66,496.60
18 Jan 22	Current	HALFORDS 0726 LONDON	VIS	Halford's	85.00	66,411.60
	Current	SAINSBURY'S 000000 LONDON	VIS	Sainsbury's	66.80	66,344.80
20 Jan 22	Current	TSGN LONDON	VIS	Work Expense - Rail Ticket	26.70	66,318.10
	Current	WH SMITH LONDON	)))	WHSmith	0.99	66,317.11
21 Jan 22	Current	ICELAND LONDON	)))	Iceland	3.50	66,313.61
22 Jan 22	Current	SAINSBURY'S SUPERMA MARSHALSWICK	VIS	Sainsbury's	7.65	66,305.96
	Current	TSGN LONDON	VIS	Work Expense - Rail Ticket	26.70	66,279.26
25 Jan 22	Current	SAINSBURY'S S/MKT LONDON	VIS	Sainsbury's	54.08	66,225.18
	Current	TSGN LONDON	VIS	Work Expense - Rail Ticket	26.70	66,198.48
26 Jan 22	Current	BOOTS 0707 SEDLEY PLACE	VIS	Work Expense - Food	3.84	66,194.64
	Current	WASABI FINSBURY PA LONDON	)))	Work Expense - Food	7.10	66,187.54

Click on date or calendar icon to set range being observed

Use the left/right cursor keys to jump between month/year automatically refreshing the dashboard



Open setup via database icon

Import statements into local embedded database

The screenshot shows the Bank Accounts Manager interface with several windows open. On the left, there's a summary of accounts and a history of transactions. In the center, a chart titled 'Barclays Current - Purchases - Per Month' displays spending over time. A modal dialog box is open in the middle-right, titled 'Lookup Keywords', which allows users to search for specific merchant names or keywords. An arrow points from the text below to this dialog. On the far right, a detailed history of transactions is listed.

Date	Acc.	Name	Type	In
05 Jan 21	ISA	CURRENT TRANSFER	CR	ISA Receive From Current 30.00
21 Jan 21	Save	GROSS INTEREST TO 20JAN2021	CR	Interest 13.10
			CR	Interest 0.27
			CR	Salary 6,000.00
			CR	Salary 6,000.00
			CR	ISA Receive From Current 30.00
			CR	Interest 13.10
			CR	Interest 0.28
			CR	ISA Receive From Current 30.00
			CR	Interest 12.26
			CR	Interest 0.26
			CR	Salary 6,000.00
			CR	ISA Receive From Current 30.00
			CR	Interest 13.11
			CR	Interest 0.29
			CR	Salary 6,000.00
			CR	ISA Receive From Current 30.00
			CR	Interest 12.68
			CR	Interest 0.29
			CR	Salary 6,000.00
			CR	Refunds 14.46
			CR	ISA Receive From Current 30.00
			CR	Interest 11.50
			CR	Interest 0.31
			CR	Salary 6,000.00
			CR	ISA Receive From Current 30.00
			VIS	Refunds 26.50
			CR	Interest 0.63
			CR	Refunds 880.17
			CR	Interest 0.71
			CR	Salary 6,000.00
			CR	ISA Receive From Current 30.00
			CR	Interest 0.66
			CR	Interest 10.00
			CR	Interest 1.80
			CR	Salary 6,000.00
			CR	ISA Receive From Current 30.00
			CR	Interest 10.00
			CR	Interest 0.66

Create a refund reminder to continually lookout for incoming entries with matching keywords to ensure that the refund is received from merchant

The screenshot shows a software application titled "Bank Accounts Manager" with a dark-themed interface. The main window displays financial data for three accounts: Barclays Current, Barclays Saving, and Barclays ISA. The "Barclays Current" account is selected, showing a balance start of 20,198.43, and a balance end of 114,179.56. A chart titled "Barclays Current - Purchases - Per Month" is visible below the account summary.

A central search bar labeled "Barclays Current - Purchases - Per Month" is present. Below it, a table lists a single potential refund entry: "01 Jun 22 SSE - Electricity Rebate sse rebate elec 25.00 1 potential refund since date".

An overlaid modal dialog box is centered over the table, titled "Confirm Refund". It contains the text "Refunds" and a blue arrow pointing from the "Type" column of the table above to the "Type" field in the dialog. The dialog has a "Close" button at the bottom right.

To the right of the main window, a "History" panel displays a list of transactions. The first few entries are:

Date	Acc.	Name	Type	In
05 Jan 21	ISA	CURRENT TRANSFER	CR	ISA Receive From Current 30.00
21 Jan 21	Save	GROSS INTEREST TO 20JAN2021	CR	Interest 13.10
			CR	Interest 0.27
			CR	Salary 6,000.00
			CR	Salary 6,000.00
			CR	ISA Receive From Current 30.00
			CR	Interest 13.10
			CR	Interest 0.28
			CR	ISA Receive From Current 30.00
			CR	Interest 12.26
			CR	Interest 0.26
			CR	Salary 6,000.00
			CR	ISA Receive From Current 30.00
			CR	Interest 13.11
			CR	Interest 0.29
			CR	Salary 6,000.00
			CR	ISA Receive From Current 30.00
			CR	Interest 12.68
			CR	Interest 0.29
			CR	Salary 6,000.00
			CR	Refunds 14.46
			CR	ISA Receive From Current 30.00
			CR	Interest 11.50
			CR	Interest 0.31
			CR	Salary 6,000.00
			CR	ISA Receive From Current 30.00
			VIS	Refunds 26.50
			CR	Interest 0.63
			CR	Refunds 880.17
			CR	Interest 0.71
			CR	Salary 6,000.00
			CR	ISA Receive From Current 30.00
			CR	Interest 0.66
			CR	Interest 10.00
			CR	Interest 1.80
			CR	Salary 6,000.00
			CR	ISA Receive From Current 30.00
			CR	Interest 10.00
			CR	Interest 0.66

Potential refunds are searched within incoming entries since refund date, once found confirm it as being received

**Bank Accounts Manager**

2022

Bardays Current - Purchases - Per Month

History

Date	Acc.	Name	Type	In	
02 Jan 22	ISA	GROSS INTEREST	CR	Interest	10.00
04 Jan 22	Current	PURE GYM	DD	Gym	
			DD	TV Licence	
			DD	Council Tax	
			VIS	Refunds	49.93
			VIS	Refunds	16.00
			VIS	Sainsbury's	
			VIS	Sainsbury's	
			ENDEN HER	Travel	
			VIS	Work Expense - Rail Ticket	
			DD	Electric	
			SO	Current Send To ISA	
			VIS	Tesco's	
			VIS	Work Expense - Rail Ticket	
			CR	ISA Receive From Current	30.00
			VIS	Work Expense - Rail Ticket	
			DD	Water Company	
			VIS	Work Expense - Rail Ticket	
			)))	Work Expense - Food	
			DD	BT Broadband	
			VIS	Sainsbury's	
			)))	Unknown	
			VIS	Work Expense - Food	
			VIS	Work Expense - Rail Ticket	
			VIS	Tesco's	
			VIS	Work Expense - Rail Ticket	
			VIS	Work Expense - Food	
			VIS	Work Expense - Rail Ticket	
			VIS	Work Expense - Rail Ticket	
			DON	Work Expense - Food	
			VIS	Iceland	
			VIS	Work Expense - Rail Ticket	
			VIS	Halford's	
			VIS	Sainsbury's	
			VIS	Work Expense - Rail Ticket	
			VIS	WH SMITH	
			)))	WHSmith	
			)))	Iceland	
			CR	Interest	0.66
			VIS	Sainsbury's	
			VIS	Work Expense - Rail Ticket	

Add Statement Refunds Watches Categories Auto Assign Reminders Integrity Checks Database

View Hist. View All Income Total Incoming View All Outgoings View Hist. Work Expense - Food Work Expense - Rail Ticket Current Send To ISA Save Send To Current Purchases Direct Debit and Standing Orders Other Total Spend Internal Transfers Total Outgoing

Category Name Direction Frequency First Entry Last Entry Total

Category Name	Direction	Frequency	First Entry	Last Entry	Total
Refunds	In	9	04 Jun 21	19 Dec 22	1,112.25
Salary	In	24	30 Jan 21	30 Dec 22	144,000.00
Undefined	In	0	-	-	0.00
Argos	Out	1	13 Dec 22	13 Dec 22	19.99
B&Q	Out	2	20 May 22	20 Jun 22	55.00
BT Broadband	Out	24	12 Jan 21	12 Dec 22	1,554.58
Boots	Out	10	07 May 21	21 Nov 22	73.46
Cash Machine	Out	23	02 Mar 21	15 Oct 22	1,192.14
Cinema	Out	2	08 May 21	27 Oct 21	22.38
Clothing/Shoes	Out	6	01 Jun 21	17 Nov 22	301.05
Council Tax	Out	18	02 Jan 21	01 Jun 22	1,653.38
Domino's Pizza	Out	10	26 Jan 21	05 Oct 21	101.67
Electric	Out	24	05 Jan 21	05 Dec 22	1,512.00
Gifts	Out	12	26 May 21	19 Dec 22	270.37
Gym	Out	24	02 Jan 21	01 Dec 22	838.80
HMV	Out	2	20 May 22	20 May 22	72.01
Halford's	Out	9	23 Feb 21	13 Dec 22	199.43
Homebase	Out	4	23 Feb 21	31 Aug 22	136.88
Iceland	Out	108	08 Jan 21	20 Dec 22	970.86
Maplin	Out	4	14 Sep 21	03 Nov 22	74.95
Miscellaneous	Out	2	10 May 22	26 Sep 22	48.44
Mobile Phone	Out	21	26 Jan 21	26 Sep 22	239.40
Post Office	Out	1	26 Jun 21	26 Jun 21	6.45
Rent/Mortgage	Out	24	27 Jan 21	28 Dec 22	24,000.00

Create Rename Delete Close

Review and manage all user defined categories

Right click to create, rename, delete user defined categories

**Bank Accounts Manager**

2022

View	Account	Bal Start	In	Out	-/+	Bal End
<input checked="" type="checkbox"/>	Barclays Current	67,192.78	72,191.12	25,204.34	46,986.78	114,179.56
<input checked="" type="checkbox"/>	Barclays Saving	77,193.92	7.34	16,000.00	-15,992.66	61,201.26
<input checked="" type="checkbox"/>	Barclays ISA	1,699.14				
All Accounts 146,085.84						

**View Hist.**

- View All
- Income
- View Hist.

  - Interest (ISA)
  - Interest (Save)
  - Refunds
  - Salary
  - ISA Receive From Current

- Income
- Internal Transfers
- Total Incoming
- View All
- Outgoing
- View Hist.

  - Waterbilled Bookshop
  - Work Expense - Food
  - Work Expense - Rail Ticket
  - Current Send To ISA
  - Save Send To Current

- Purchases
- Direct Debit and Standing Orders
- Other
- Total Spend
- Internal Transfers
- Total Outgoing

**Barclays Current - Purchases - Per Month**

**History**

Date	Acc.	Name	Type	In
02 Jan 22	ISA	GROSS INTEREST	CR	Interest 10.00
04 Jan 22	Current	PURE GYM	DD	Gym
			DD	TV Licence
			DD	Council Tax
			VIS	Refunds 49.93
			VIS	Refunds 16.00
			VIS	Sainsbury's
			VIS	Sainsbury's
			ENDEN HER	Travel
			VIS	Work Expense - Rail Ticket
			DD	Electric
			SO	Current Send To ISA
			VIS	Tesco's
			VIS	Work Expense - Rail Ticket
			CR	ISA Receive From Current 30.00
			VIS	Work Expense - Rail Ticket
			DD	Water Company
			VIS	Work Expense - Rail Ticket
			)))	Work Expense - Food
			DD	BT Broadband
			VIS	Sainsbury's
			)))	Unknown
			)))	Work Expense - Food
			VIS	Work Expense - Rail Ticket
			VIS	Tesco's
			VIS	Work Expense - Rail Ticket
			VIS	Work Expense - Food
			VIS	Work Expense - Rail Ticket
			DON	Work Expense - Food
			)))	Iceland
			VIS	Work Expense - Rail Ticket
			VIS	Halford's
			VIS	Sainsbury's
			VIS	Work Expense - Rail Ticket
			VIS	WhSmith
			)))	Iceland
			VIS	Work Expense - Rail Ticket
			VIS	Work Expense - Rail Ticket
			VIS	Sainsbury's
			VIS	Work Expense - Rail Ticket
			20 Jan 22	Current TSGN LONDON
			21 Jan 22	Current WH SMITH LONDON
			22 Jan 22	Current SAINSBURYS SUPERMA MARSHALSWICK

**Check**

Barclays Current Number of entries (1013)  
Balance inconsistencies 0  
Double charging within purchases 8  
Double charging within SO/DD 0  
Internal Transfers 1  
Outstanding refunds 1

**Errors**

No.	Error	Details
1	Double charge on 19 Jan 21	WASABI CANARY WHAR LONDON (£4.95)
2	Double charge on 19 Jan 21	COSTA COFFEE LONDON E14 (£2.75)
3	Double charge on 14 Aug 21	TSGN LONDON (£26.50)
4	Double charge on 19 Nov 21	TSGN LONDON (£26.50)
5	Double charge on 31 May 22	TSGN LONDON (£26.70)
6	Double charge on 12 Aug 22	TSGN LONDON (£26.70)
7	Double charge on 02 Nov 22	TSGN LONDON (£26.70)
8	Double charge on 22 Dec 22	TSGN LONDON (£26.70)

**Details**

Date	Acc.	Name	Type	Category	In	Out	Balance
19 Jan 21	Current	SAINSBURYS LONDON COLNEY	VIS	Sainsbury's	57.85	19,629.29	
19 Jan 21	Current	ICELAND LONDON	)))	Iceland	8.95	19,620.34	
19 Jan 21	Current	ICELAND LONDON	)))	Iceland	7.64	19,612.70	
19 Jan 21	Current	WASABI CANARY WHAR LONDON	)))	Work Expense - Food	4.95	19,607.75	
19 Jan 21	Current	COSTA COFFEE LONDON E14	)))	Work Expense - Food	2.75	19,605.00	
19 Jan 21	Current	WASABI CANARY WHAR LONDON	)))	Work Expense - Food	4.95	19,600.05	
19 Jan 21	Current	COSTA COFFEE LONDON E14	)))	Work Expense - Food	2.75	19,597.30	

Run checks on account history

Potential suspicious entries are highlighted enabling further investigation

Double click on any window/table to expand

**Bank Accounts Manager**

Sat 02 Jan 2021 - Fri 27 Jan 2023

View	Account	Bal Start	In	Out	-/+	Bal End
<input checked="" type="checkbox"/>	Barclays Current	20,198.43	151,112.25	51,999.78	99,112.47	119,310.90
<input checked="" type="checkbox"/>	Barclays Saving	77,114.30	86.96	16,000.00	-15,913.04	61,201.26
<input checked="" type="checkbox"/>	Barclays ISA	1,267.38				
All Accounts 98,580.11						

**View Hist.**

- Interest (ISA)
- Interest (Save)
- Refunds
- Salary
- Undefined
- ISA Receive From Current

**Income**

**Internal Transfers**

**Total Incoming**

**View Hist.**

- Work Expense - Food
- Work Expense - Rail Ticket
- Current Send To ISA
- Save Send To Current

**Purchases**

**Direct Debit and Standing Orders**

Records: 1024

22 1,040.00  
966 51,279.78  
29 16,720.00  
995 67,999.78

**Current, Save and ISA - DD/SO - Per Month**

**History**

Date	Acc.	Name	Type	In
02 Jan 21	Current	PURE GYM	DD	Gym
Current		TV LICENCE MBP	DD	TV Licence
		Council Tax	DD	Council Tax
		Electric	DD	Electric
		Current Send To ISA	SO	Current Send To ISA
		Travel	VIS	Travel
		Sainsbury's	VIS	Sainsbury's
		ISA Receive From Current	CR	ISA Receive From Current 30.00
		Water Company	DD	Water Company
		Iceland	VIS	Iceland
		)))) Iceland	VIS	)))) Iceland
		ALSWICK	VIS	ALSWICK Sainsbury's
		BT Broadband	DD	BT Broadband
		Sainsbury's	VIS	Sainsbury's
		)))) Iceland	VIS	)))) Iceland
		Work Expense - Food	DD	Work Expense - Food
		Work Expense - Food	VIS	Work Expense - Food
		Work Expense - Food	DD	Work Expense - Food
		Work Expense - Food	VIS	Work Expense - Food
		Interest	CR	Interest 13.10
		Mobile Phone	DD	Mobile Phone
		Domino's Pizza	VIS	Domino's Pizza
		Sainsbury's	VIS	Sainsbury's
		)))) Iceland	VIS	)))) Iceland
		Rent/Mortgage	SO	Rent/Mortgage
		Interest	CR	Interest 0.27
		Iceland	VIS	Iceland
		Salary	CR	Salary 6,000.00
		Gym	DD	Gym
		TV Licence	DD	TV Licence
		Council Tax	DD	Council Tax
		Electric	DD	Electric
		Current Send To ISA	SO	Current Send To ISA
		Salary	CR	Salary 6,000.00

**Buttons:**

- Barclays Current
- Barclays Saving
- Barclays ISA
- Entries
- Categories
- Auto Assigns
- Watches
- Refunds

**Actions:**

- View From
- View All
- Overview
- Import
- Export
- Reset Acc.
- Reset All
- Close

**Graphs:**

All Entries

04 Feb 21 05 Feb 21

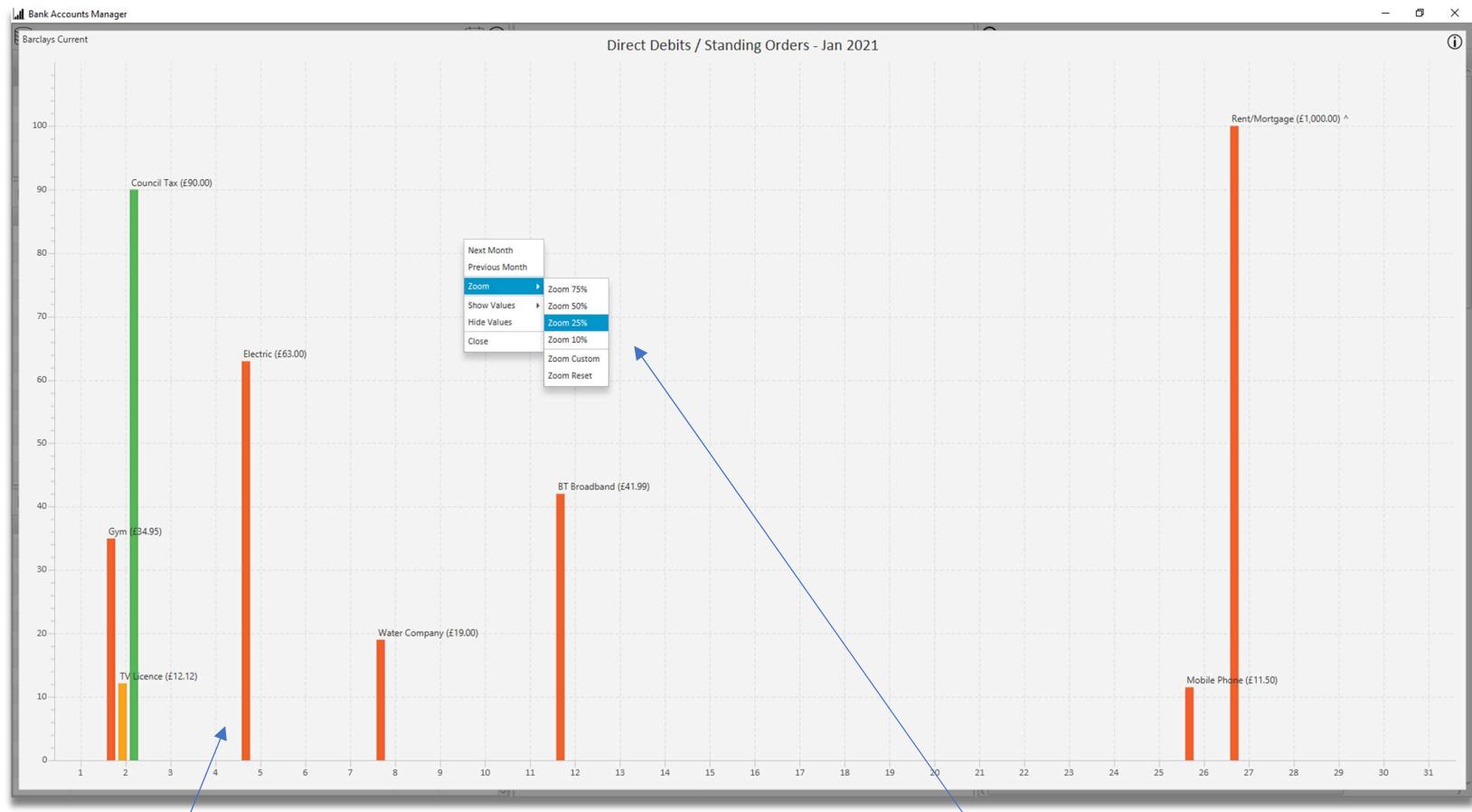
Current DISTRICT COUNCIL  
Current SAINSBURY'S S/MKT LONDON  
Current ICELAND LONDON  
Current SSE  
Current TFR ISA  
Current COMPANY OF EMPLOYMENT

**Text Labels:**

Manual review of all tables for all accounts in database

Import and export account data for backup

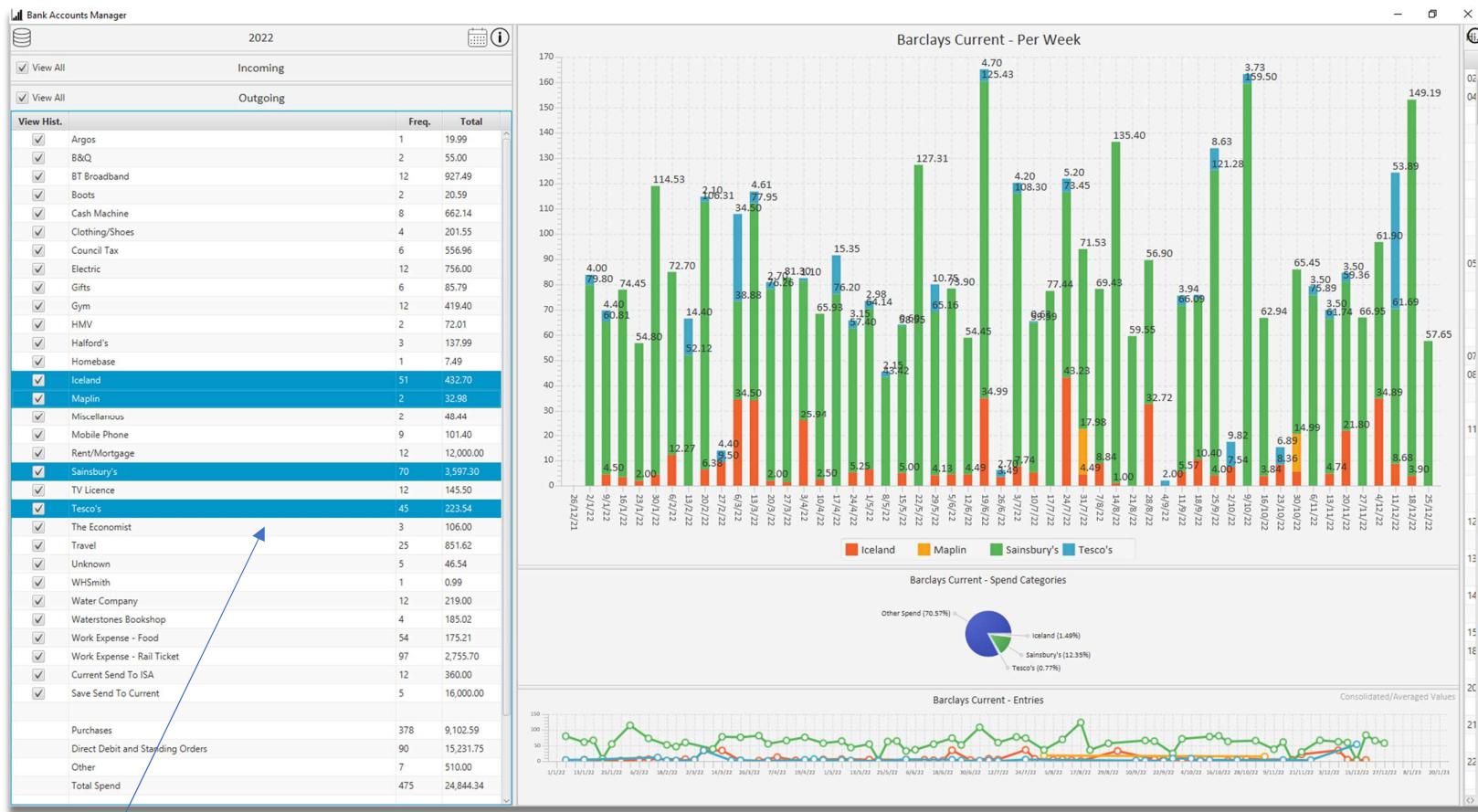
Clear and reset all account data



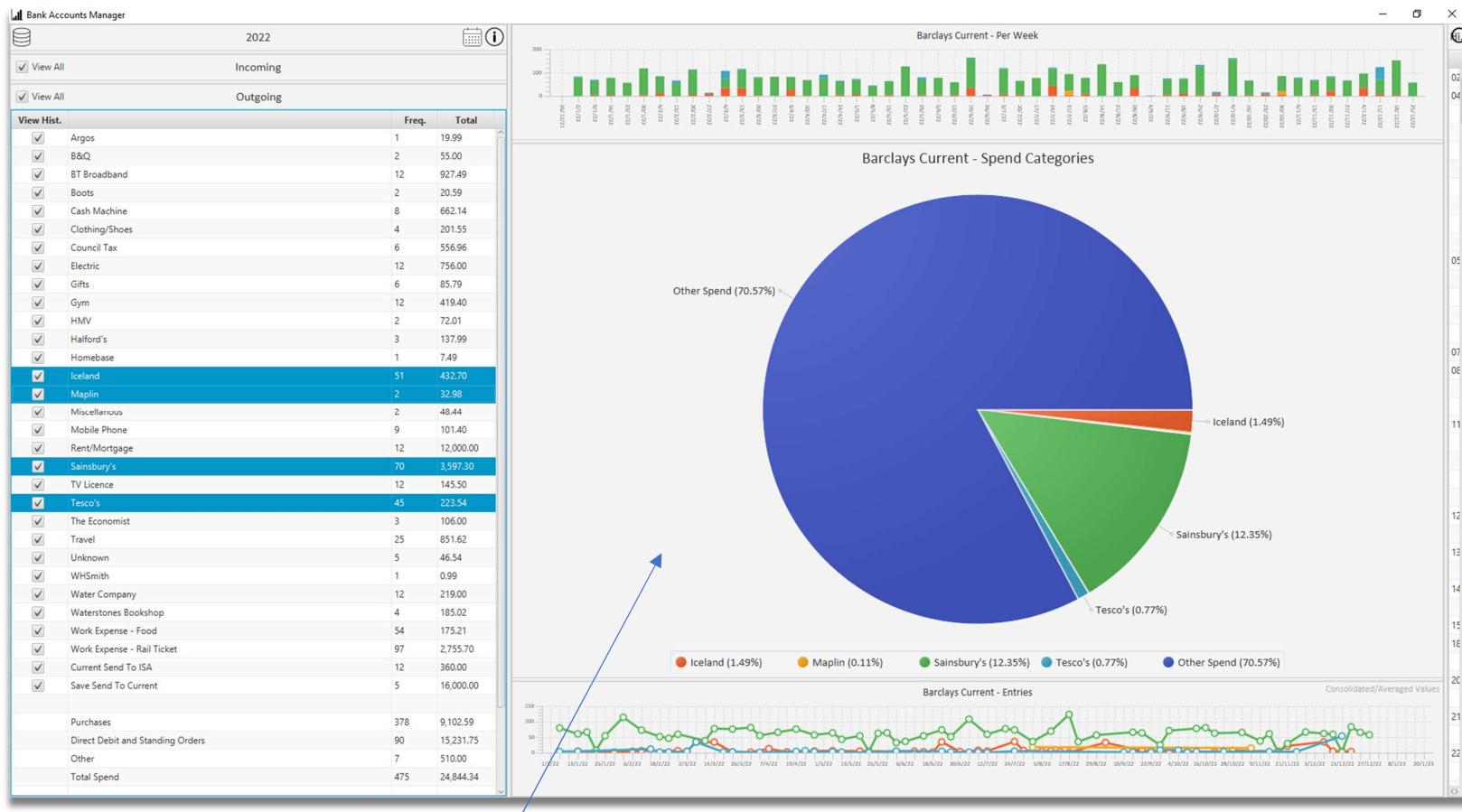
Review monthly direct debits and standing orders

Right click for all available views/options

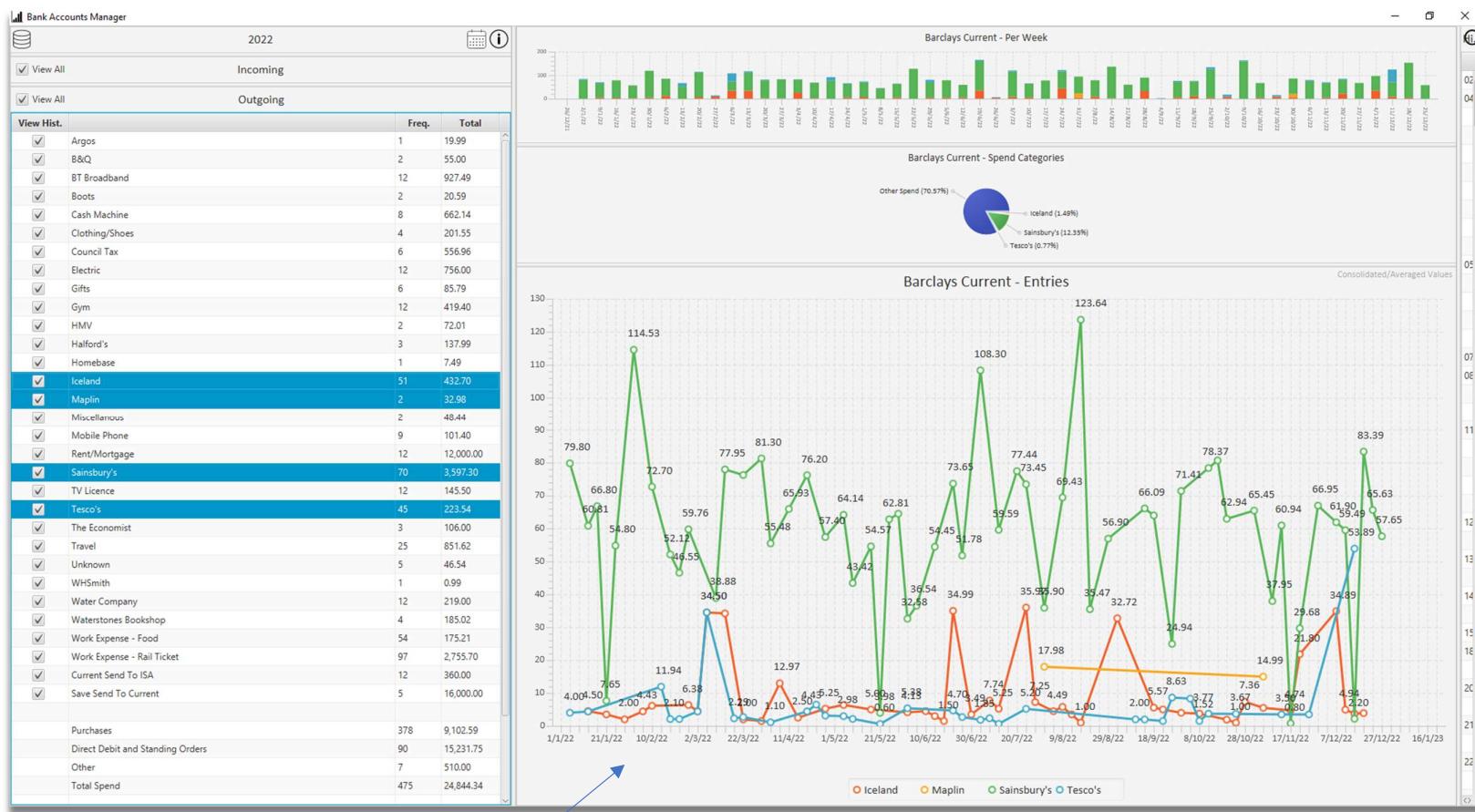
Press left/right cursor keys to jump back/forward between months

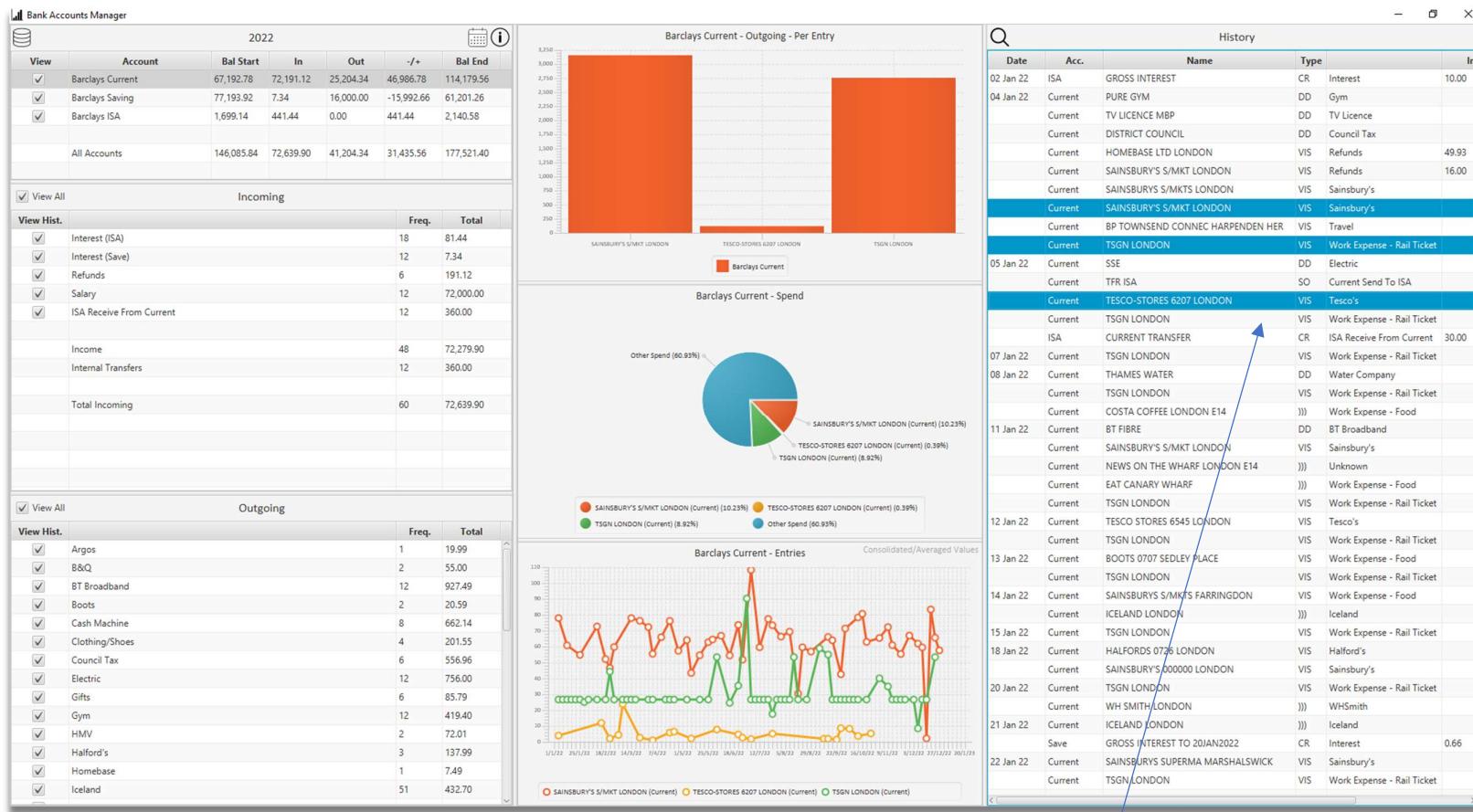


Select multiple categories and press enter to view/compare simultaneously



Review the spend of individual categories compared to overall spending





Review and compare the spending pattern of individual entries

**Bank Accounts Manager**

2022

View	Account	Bal Start	In	Out	-/+	Bal End
<input checked="" type="checkbox"/>	Tools and administration	67,192.78	72,194.17	46,886.78	-15,992.66	61,201.66
<input checked="" type="checkbox"/>	Barclays ISA	1,699.14	441.44	0.00	441.44	
All Accounts		41,204.34	31,435.56			

Use Ctrl/Shift to select multiple accounts  
Press enter or right click to send to charts

**View Hist.**

- Interest (ISA)
- Interest (Save)
- Refunds
- Salary
- ISA Receive From Current

Use Ctrl/Shift to select multiple categories/internal transfers  
Press enter or right click on any item to send to charts

**View All** Incoming

Freq.	Total
18	Interest (ISA)
12	Interest (Save)
6	Refunds
12	Salary
12	ISA Receive From Current
48	Income
12	Internal Transfers
Total Incoming	60 72,639.90

**View All** Outgoing

Freq.	Total
1	Argos
2	B&Q
12	BT Broadband
2	Boots
8	Cash Machine
4	Clothing/Shoes
6	Council Tax
12	Electric
6	Gifts
12	Gym
2	HMV
3	Halford's
1	Homebase
51	Iceland
51	432.70

Barclays Current - Outgoing - Per Entry

All entries are grouped as follows:

**Incoming:**

- Income
- Internal Transfers
- Categories
- Total

**Outgoing:**

- Spend
- Purchases
- DD/SO
- Other
- Internal Transfers
- Categories
- Total

Right click charts to select views, context menus will dynamically change to contain views available

Double click any table or chart to expand

Barclays Current - Entries

Consolidated/Averaged Values

Use Ctrl/Shift to select multiple entries  
Press enter or right click to send to charts

Right click to set category, auto category, internal transfer or view/filter entries

TS

02 Jan 22 Current INTEREST

04 Jan 22 Current PURE GYM

04 Jan 22 Current TV LICENCE MBP

04 Jan 22 Current DISTRICT COUNCIL

04 Jan 22 Current HOMEBASE LTD LONDON

04 Jan 22 Current SAINSBURY'S S/MKT LONDON

04 Jan 22 Current SAINSBURY'S S/MKT LONDON

04 Jan 22 Current SAINSBURY'S S/MKT LONDON

04 Jan 22 Current BP TOWNSEND CONNEC HARPENDEN HER

04 Jan 22 Current TSGN LONDON

04 Jan 22 Current SSE

04 Jan 22 Current TFR ISA

04 Jan 22 Current TESCO-STORES 6207 LONDON

05 Jan 22 Current TFR ISA

05 Jan 22 Current TESCO-STORES 6207 LONDON

05 Jan 22 Current TSGN LONDON

05 Jan 22 Current SSE

05 Jan 22 Current TFR ISA

05 Jan 22 Current TESCO-STORES 6207 LONDON

08 Jan 22 Current THAMES WATER

08 Jan 22 Current TSGN LONDON

08 Jan 22 Current COSTA COFFEE LONDON E14

11 Jan 22 Current BT FIBRE

11 Jan 22 Current SAINSBURY'S S/MKT LONDON

11 Jan 22 Current NEWS ON THE WHARF LONDON E14

11 Jan 22 Current EAT CANARY WHARF

11 Jan 22 Current TSGN LONDON

12 Jan 22 Current TESCO STORES 6545 LONDON

13 Jan 22 Current TSGN LONDON

13 Jan 22 Current BO

13 Jan 22 Current TSGN LONDON

14 Jan 22 Current SAINSBURY'S S/MKT FARRINGDON

14 Jan 22 Current ICELAND LONDON

15 Jan 22 Current TSGN LONDON

18 Jan 22 Current HALFORDS 0726 LONDON

20 Jan 22 Current SAINSBURY'S 000000 LONDON

21 Jan 22 Current TSGN LONDON

21 Jan 22 Current WH SMITH LONDON

21 Jan 22 Current ICELAND LONDON

22 Jan 22 Current SAINSBURY'S SUPERMA MARSHALS WICK

22 Jan 22 Current TSGN LONDON

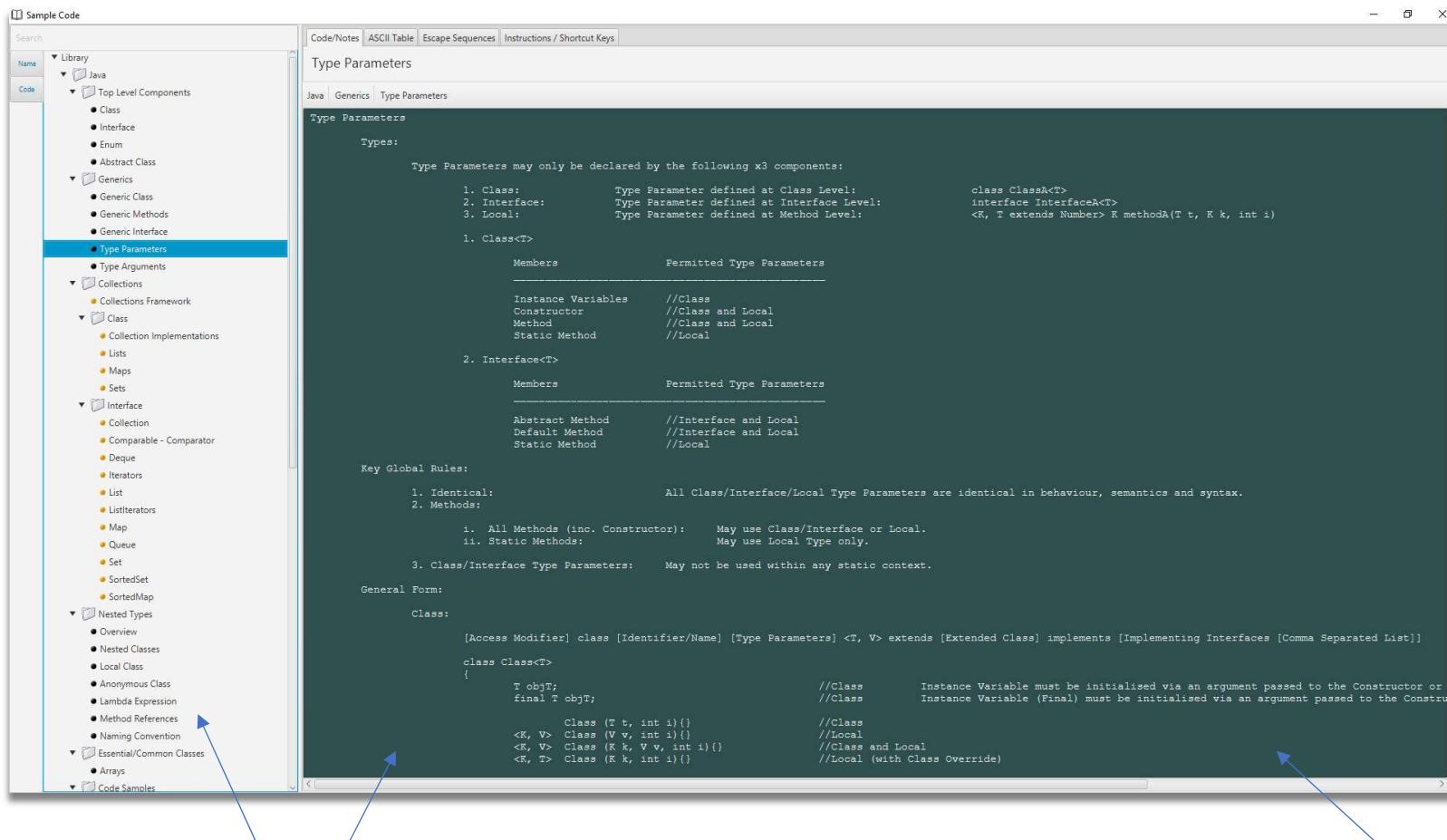
Click on any i icon to display user friendly help information

## 2. Sample Code

### Source Code and Research Repository

- One of the most critical and useful tools for a programmer is the ability to have quick, efficient and accurate reference material, including:
  - Research: Summaries of a previously researched subjects, topics or concepts.
  - Sample Code: Working examples of source code previously and successfully implemented in the past.
  - Syntax: Quick reminder of a particular construct's syntax.
  - Rules: Summary of the rules, advantages, disadvantages and pitfalls surrounding a particular class, interface or component.
- This simple application aims to provide:
  - Quick and efficient store, edit and retrieval of content via a tree structure backed by embedded JavaDB.
  - Simple and effective.
  - Easy and intuitive.
  - Save time and increase productivity.

## Library and Viewer



Library built by user where each node contains and displays text, notes or code saved in JavaDB

Edit and save any aspect of the node including name, content, icon or position in tree

## Search and Breadcrumb Trail

The screenshot shows a Java documentation interface with the following elements:

- Left Sidebar:** Titled "Sample Code". It has tabs for "Name" and "Code". Under "Code", there is a "Search Results" section and a tree view of Java components:
  - Java** (selected): Contains "Top Level Components" (Class, Interface, Enum), "Generics" (Generic Class, Generic Interface, Type Parameters, Type Arguments), "Collections" (Collections Framework, Class, Collection Implementations, Lists, Maps, Sets), and "Interface" (Collection, Comparable - Comparator, Deque, List, ListIterators, Map, Queue, Set).
  - Generics**: Contains "Type Arguments" (selected).
- Top Bar:** Includes tabs for "Code/Notes", "ASCII Table", "Escape Sequences", and "Instructions / Shortcut Keys".
- Central Content Area:** Titled "Type Arguments". It has tabs for "Java", "Generics", and "Type Arguments" (selected). The content includes:
  - Parameters:**
    - 1. Variability:
      - In accordance with the Compatibility purpose listed above,
      - Method
    - void method(ClassA<?> objClassA)
    - void method(ClassA<? extends Number> objClassA)
    - In accordance wth the Type Specifications listed below.

Annotations with arrows point to specific features:

- An arrow points from the "Type Arguments" tab in the sidebar to the "Type Arguments" tab in the central content area.
- An arrow points from the "Type Arguments" node in the sidebar tree to the "Type Arguments" tab in the central content area.
- An annotation at the bottom left says: "Search for text using | to combine words".
- An annotation at the bottom right says: "Matching words are highlighted, use cursor up/down to jump between locations".
- An annotation at the bottom center says: "Click on breadcrumb trail to automatically jump to node".

## Text Viewer

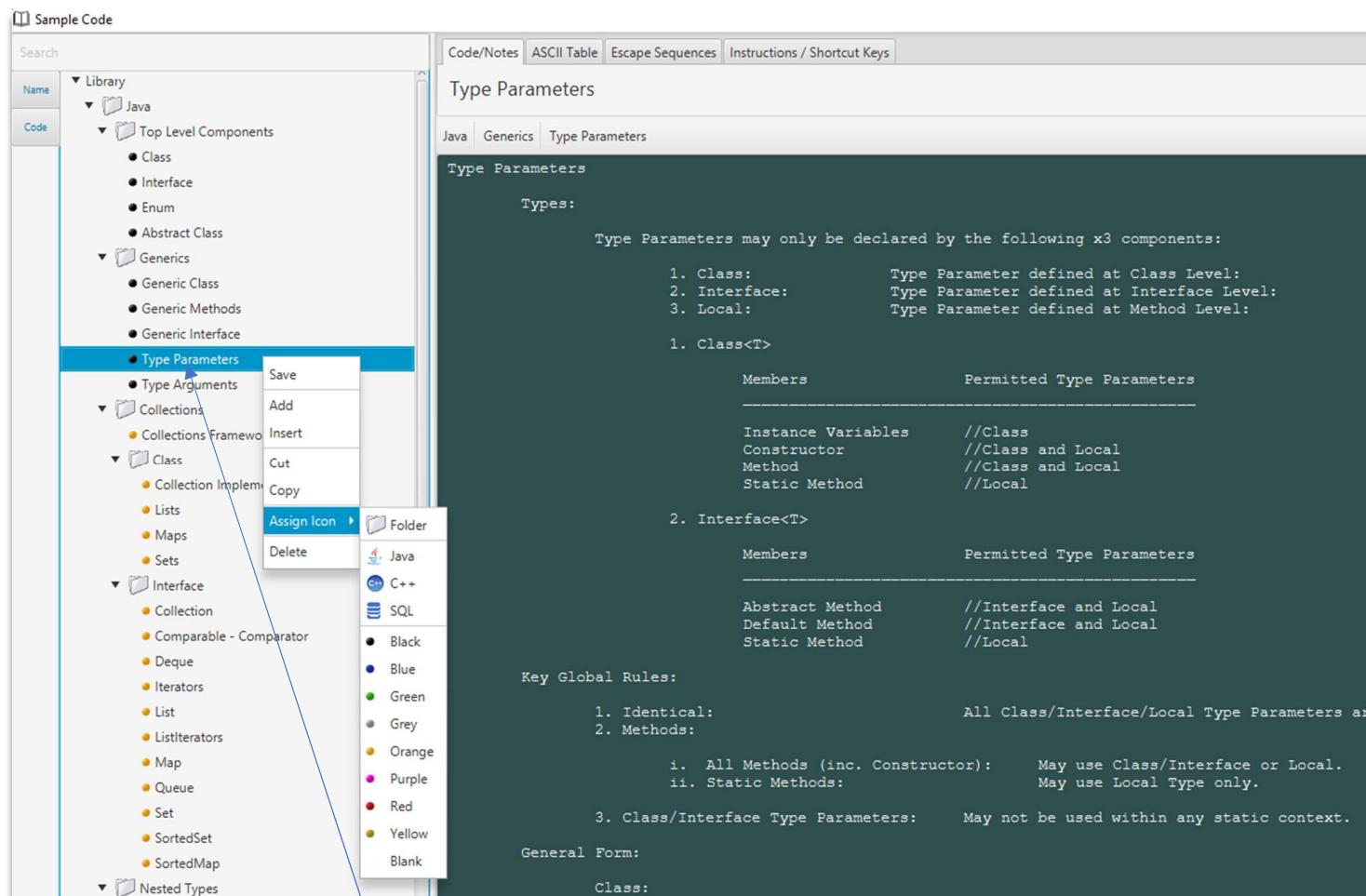
The screenshot shows the 'Sample Code' application interface. On the left, there's a sidebar with a 'Search' bar and two tabs: 'Name' (selected) and 'Code'. Below these are several categories: 'Queue', 'Set', 'SortedSet', 'SortedMap', 'Nested Types' (with sub-options like Overview, Nested Classes, Local Class, Anonymous Class, Lambda Expression, Method References, Naming Convention), 'Essential/Common Classes' (with sub-option Arrays), 'Code Samples' (with sub-options like Reading in a File, Event Listener, Event Handler - Keyboard, Event Handler - Button, Setting Tooltips). The 'Event Handler - Keyboard' code sample is selected in the sidebar. The main panel displays the Java code for an event handler:

```
private void initKeyEventHandlersFullScreen()
{
    final EventHandler<KeyEvent> ehKeyPressed_apFullScreen = (KeyEvent ke) -> {
        if(ke.isControlDown())
        {
            switch(ke.getCode())
            {
                case F:           setFullScreen(false, false);      break;
            }
        }
        else
        {
            switch(ke.getCode())
            {
                case ESCAPE:    setFullScreen(false, false);      break;
            }
        }
    };
    apFullScreen.addEventHandler(KeyEvent.KEY_PRESSED, ehKeyPressed_apFullScreen);
}
```

A blue arrow points from the text below to the opening brace of the innermost block in the code.

Quickly edit text where any changes are automatically saved to the embedded JavaDB

## Node Context Menu



Right click to add/remove nodes in library or alternatively use shortcut keys

## Instructions/Shortcut Keys

The screenshot shows the 'Sample Code' application window. The left sidebar contains a tree view of a library structure under 'Name' and 'Code' tabs. The 'Code' tab is selected, showing categories like Library, Java, Top Level Components, Generics, Collections, Class, Interface, and Nested Types. The 'Instructions / Shortcut Keys' tab is selected in the top navigation bar.

**Overview:**

- Sample Code is intended to be a simple, quick and efficient means of storing, searching and retrieving research notes or useful pieces of working sample code.
- Build up the library by adding nodes.
- Library is stored in a simple Derby/JavaDB database.

**Controls:**

- All controls are contained within x2 locations:
  1. Right click on node to open context menu.
  2. Shortcut Keys.

**Commands:**

**Library Parent Node:**

Context Menu	Shortcut	Action
Add	Ctrl + A	Add new node to branch
Add Copied	Ctrl + V	Add copied node to branch
Save	Ctrl + S	Save the current nodes name and code/notes to database
Assign Icon		Assign icon to either: Node only Local branch (All parent or leaf nodes) All branches (All parent or leaf nodes)
Expand:		Expand either the node only or include all decendent parent nodes
Collapse:		Collapse either the node only or include all decendent parent nodes
Delete	Del	Delete node (and all descendants) from library and database
	Ctrl + Up	Move node up
	Ctrl + Down	Move node down

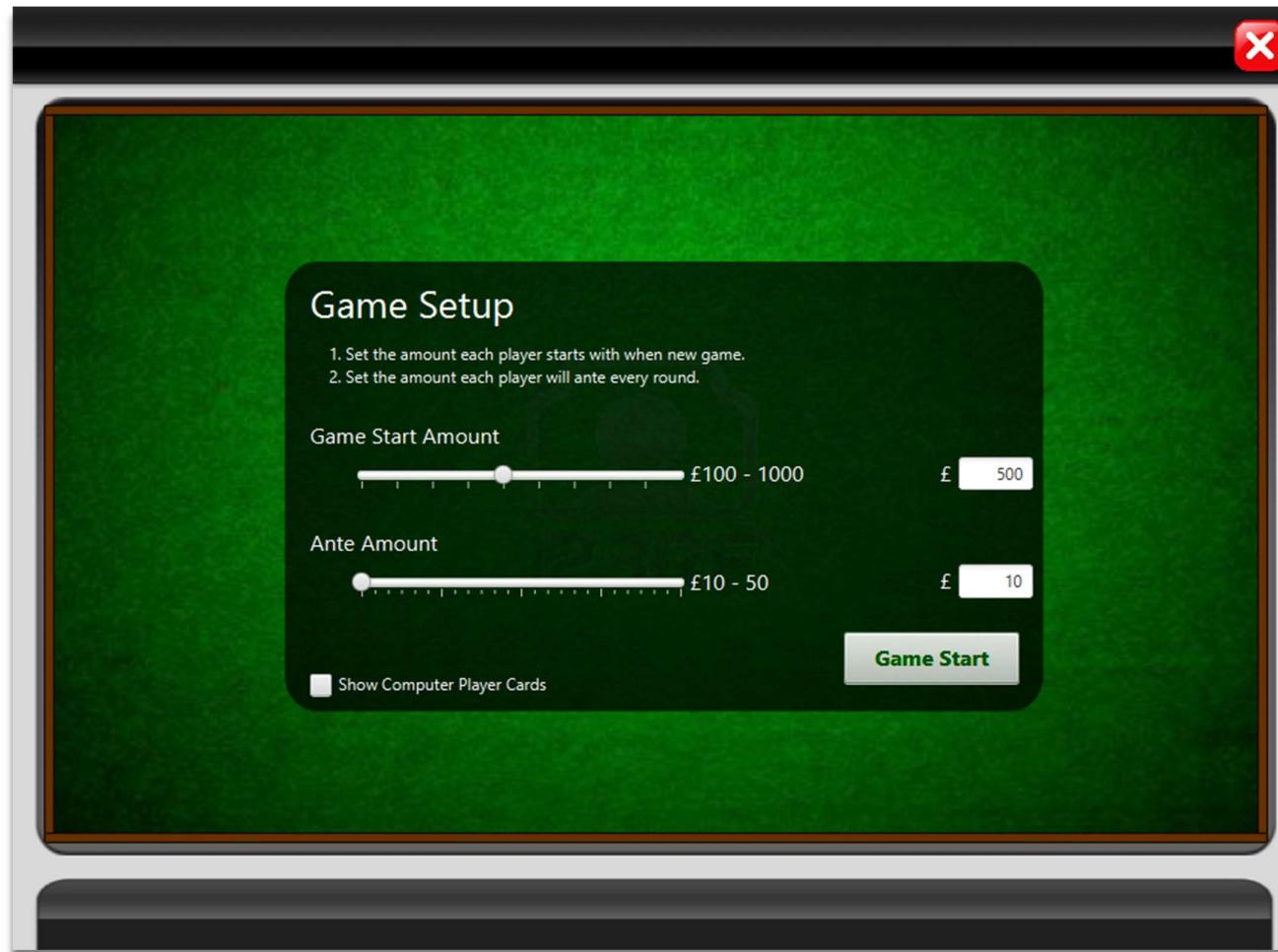
**Library Leaf Node:**

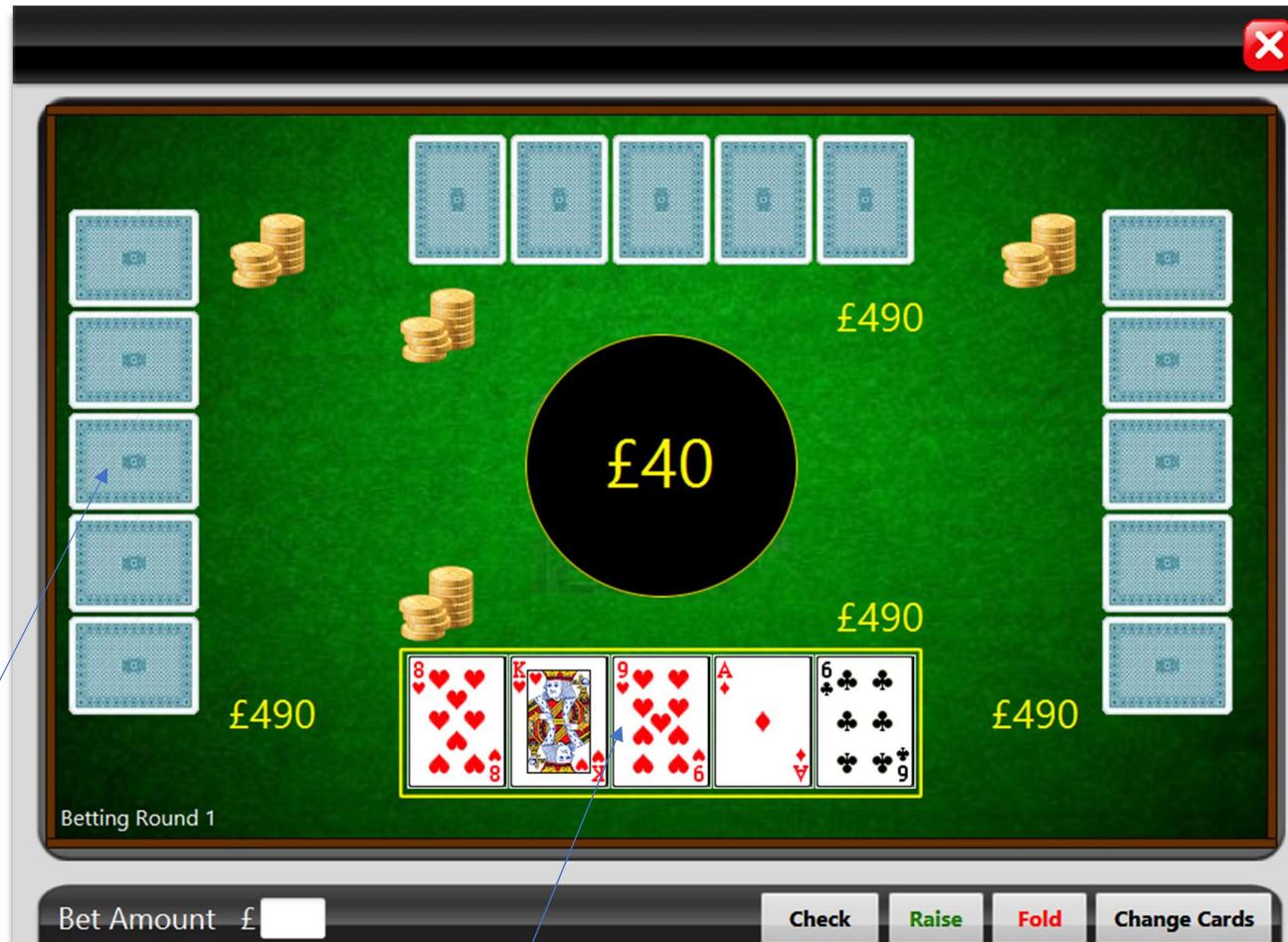
Context Menu	Shortcut	Action
Add	Ctrl + A	Convert node to parent and add new node
Insert	Ctrl + I	Insert new node to branch
Add Copied	Ctrl + V	Convert node to parent and add copied node
Insert Copied	Ctrl + I	Insert copied node to branch
Save	Ctrl + S	Save the current nodes name and code/notes to database
Assign Icon		Assign icon node
Delete	Del	Delete node from library and database

'Instructions/Shortcut Keys' tab contains full listing of available functionality and shortcut keys

### 3. Classic Games - Poker

x5 Card Draw - x1 Human and x3 Computer Players





Play against x3 other computer players

The cards are dealt and betting round 1 begins

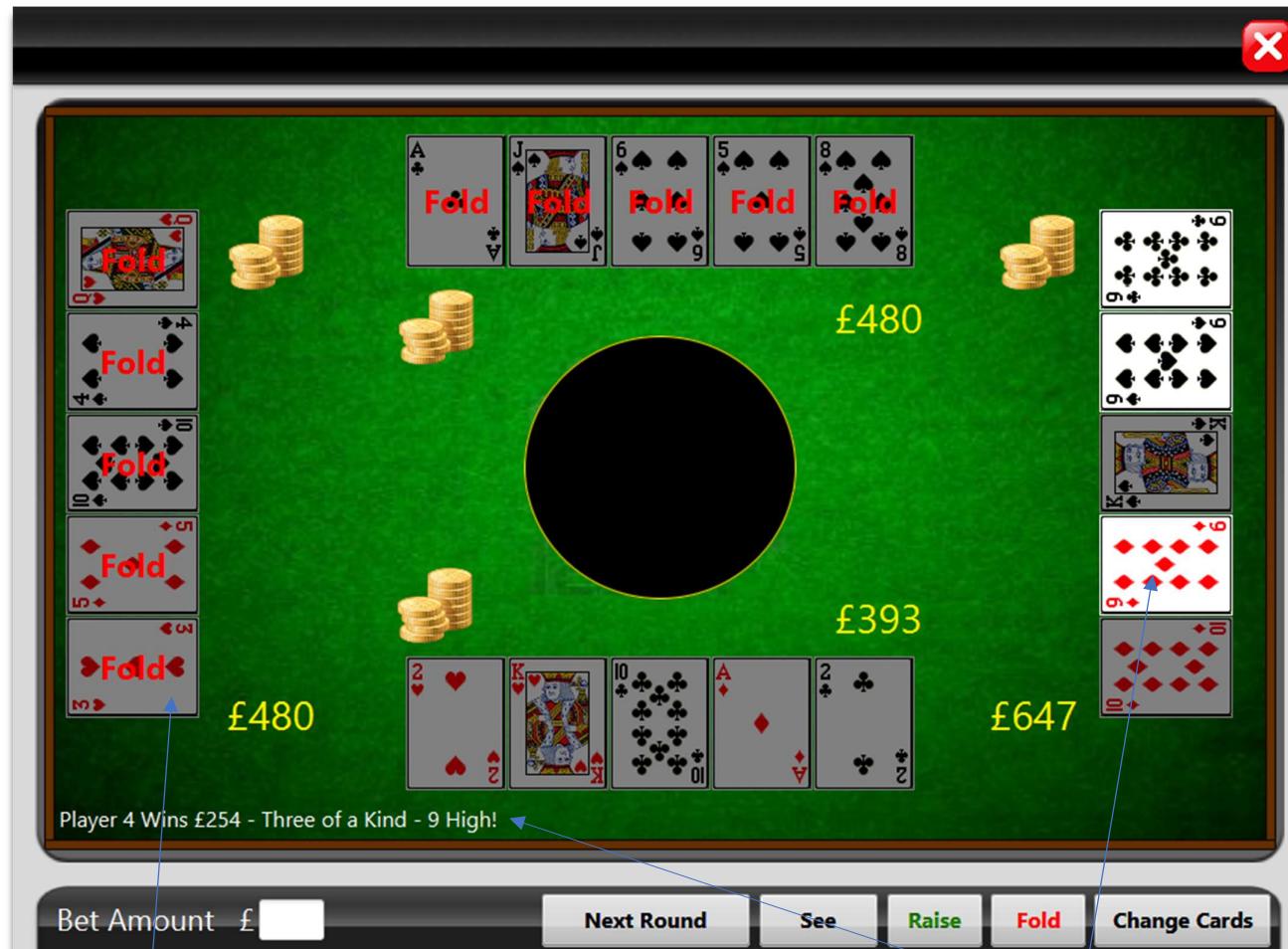
Standard x5 card draw rules



Click on cards to toggle between holding/changing cards



Computer players decide on how much to bet based on a number of factors including their cards, their pot and the amount others players have already bet, to observe the computer players decision making in real time select 'Show Computer Player Cards' on game setup page.



Once game complete all remaining players show cards

The highest hand wins and collects pot

## Space Invaders

Protect x5 cities from alien ships.





Move ship:  
Fire weapon:

[cursor left/right]:  
[space]

Select missiles:  
Select high powered missiles:  
Select nukes:

[m]  
[h]  
[n]

Collect power-ups



Alien ships increase in speed and missile frequency with each level

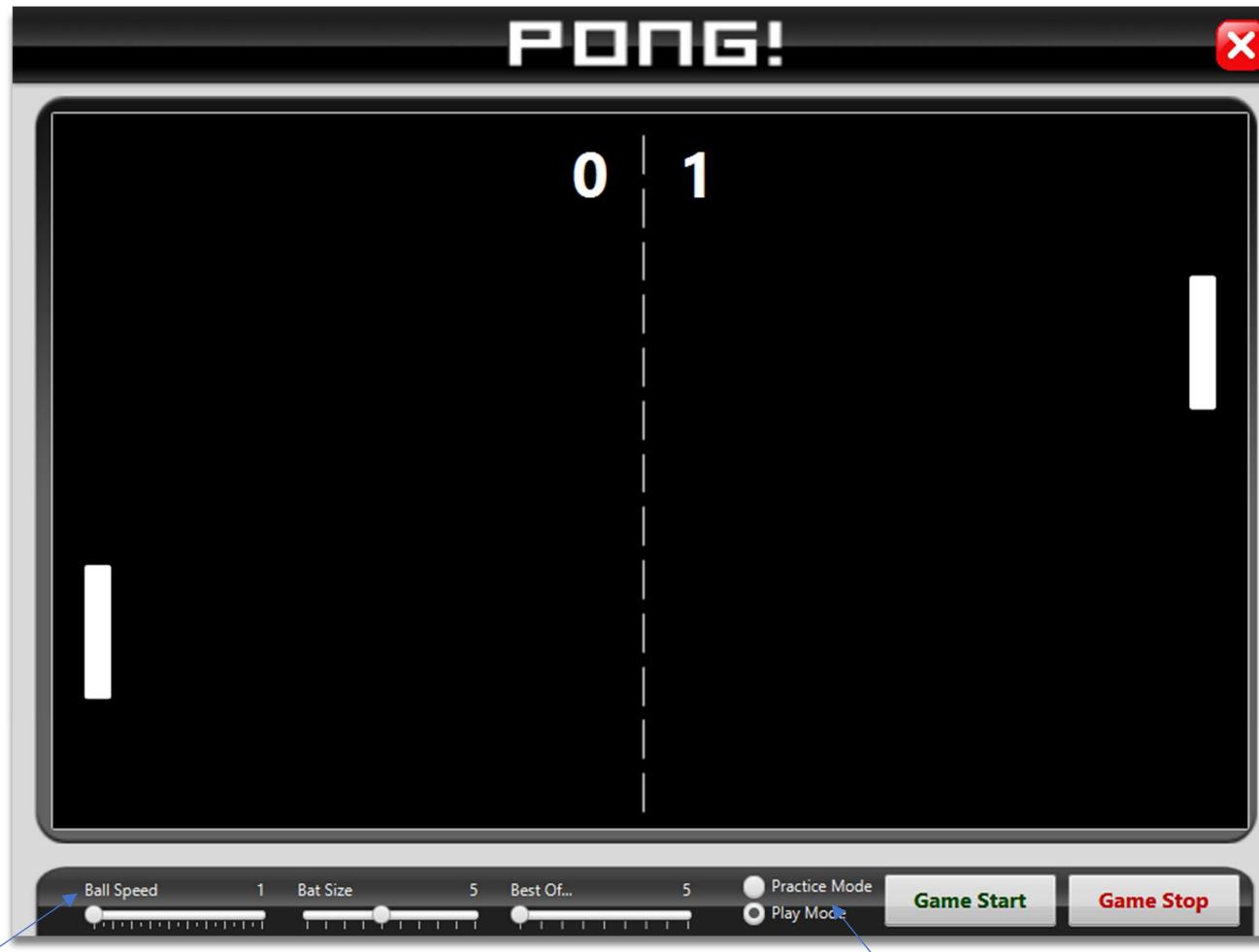
Prevent alien ships from destroying cities

Gain points by destroying alien ships and the number of remaining cities after each round

# Pong

Bat and Ball Game

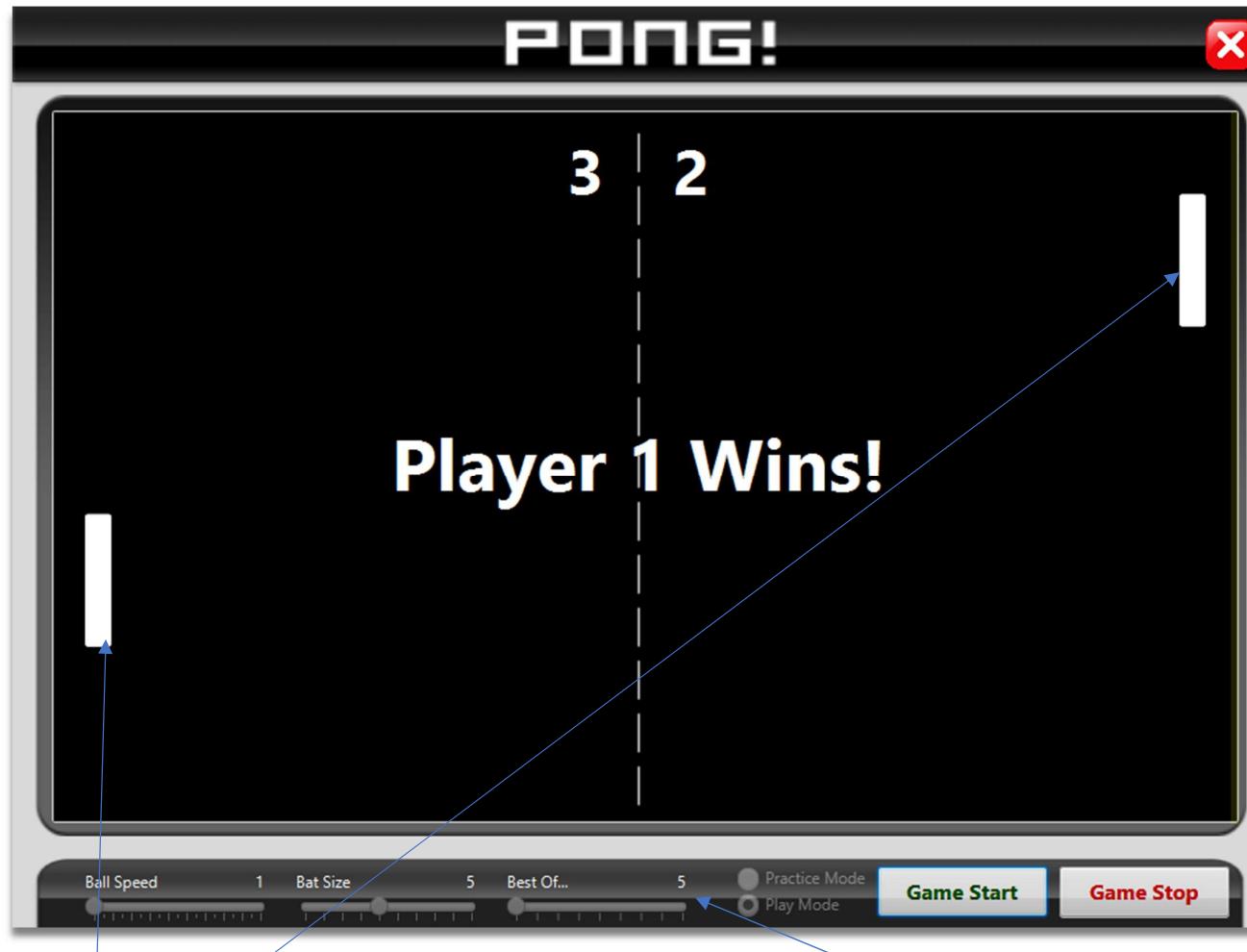




Set game parameters

Practice Mode:  
Play Mode:

Ball rebounds off all 4 boundaries  
Ball touches end boundaries, other player wins a point



Move Bat Up:  
Move Bat Down:

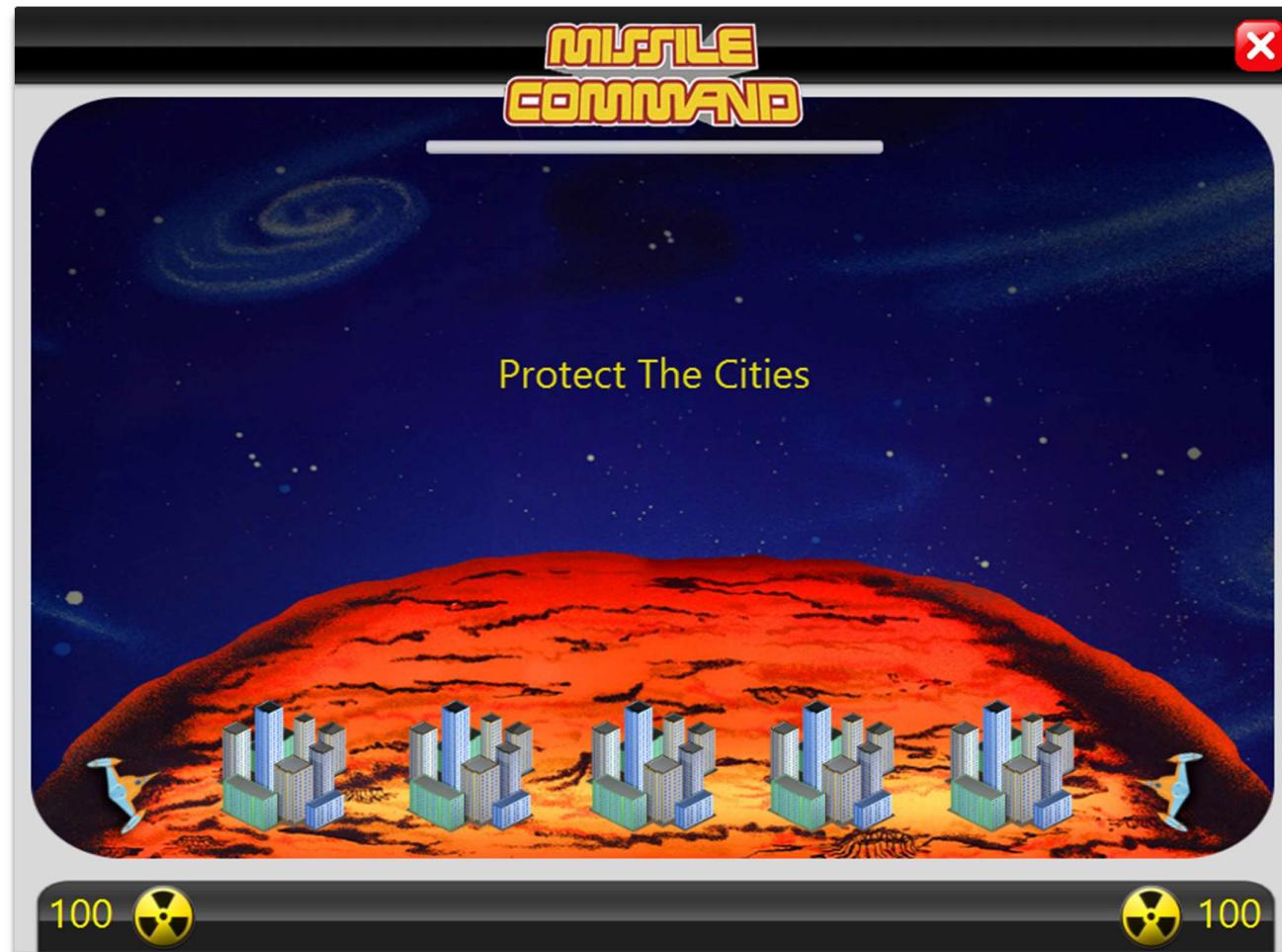
Player 1  
[a]  
[z]

Player 2  
[k]  
[m]

Player wins game if score reaches winning amount

## Missile Command

Protect x5 cities from incoming alien missiles





Protect cities from incoming alien missiles

Use the mouse to launch counter missiles to explode near and consume incoming missiles

Progress bar indicates length of time for each level



At the end of each round the remaining number of ships, ammunition and cities are converted into points