22 Years of LiveCode and Counting...

The Coders' Swiss-Army-Knife
(it's got lots of widgets, cuts any project down to size and stays sharp for years!)

Peter Reid

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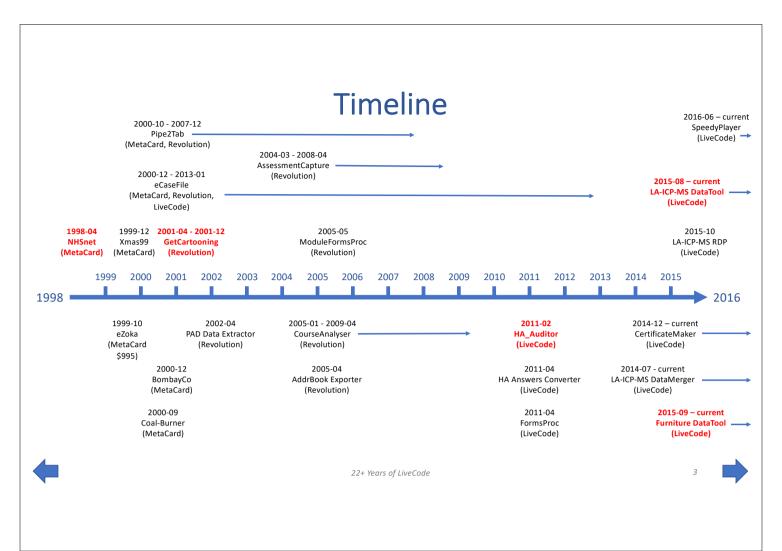
Types of Applications

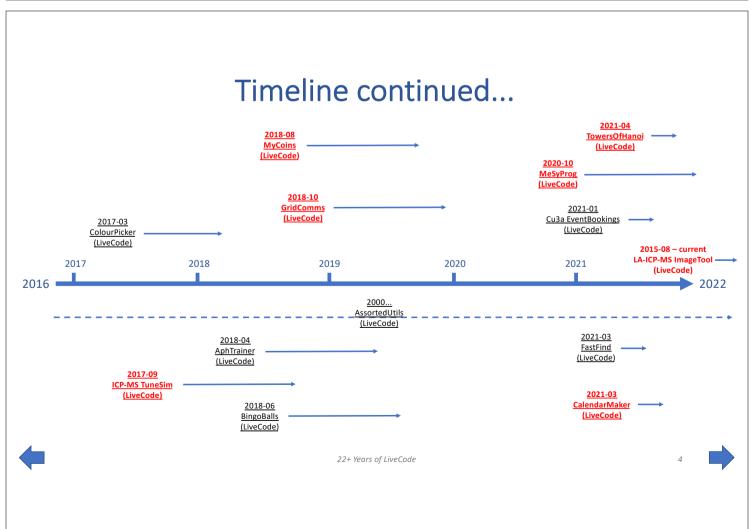
- Demonstrators
- Simulations:
 - prototypes
 - interactive mock-ups
- Document generation
- Training Courses
- Games
- Ad hoc tools

- Data:
 - capture
 - conversion
 - analysis
 - manipulation
 - aggregation
 - display

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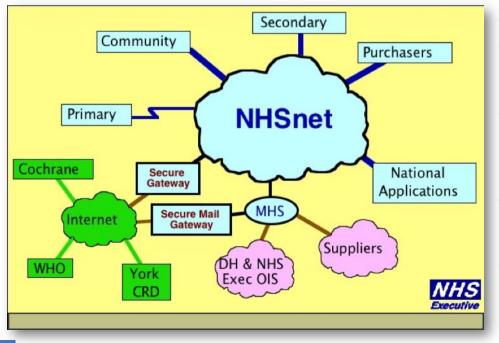
2





LiveCode Project Summaries 2001 2007 2011 2015 2019 1998 Timeline 1998 - 2016 2017 - 2022 COMMON COMMON

NHSnet (MetaCard, 1998)



- · Toe in the water
- Coming from SuperCard
 - Mac-only
 - Uncertain future
- Partial build in MetaCard
 - incomplete but...
 - ...proof of concept
- Had to await Mac support
 - Mac support Oct 1998
- and the funds for a MetaCard licence
 - \$995 + \$300pa!

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eZoka (MetaCard, 1999)

- 1st MetaCard licence
 - \$995, 27 Oct 1998
- Demo of B2B service
- Used to gain funding
- Demo still runs today!



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Xmas99 (MetaCard, 1999)



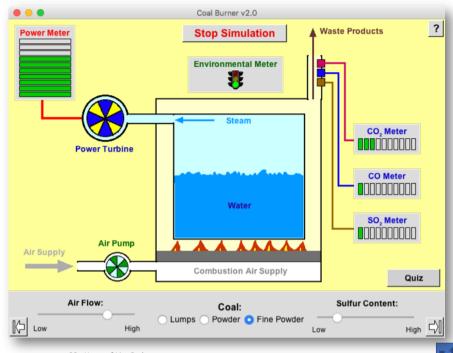
- Family eXmas Card
- Experiment with media

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Coal-Burner (MetaCard, 2000)

- Simulation of Coal Power Station
 - for son's school project
- Adjustable animation
- Quiz
- Parameter-driven



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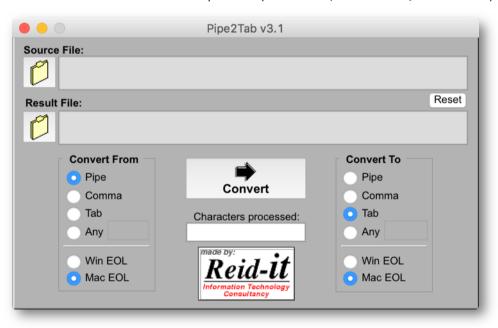
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Pipe2Tab (MetaCard, Revolution, 2000-2007)



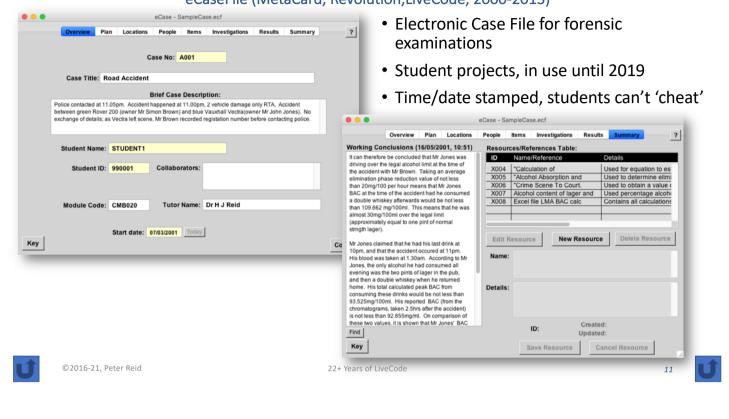
- Conversion of separators in exported text files
- Used to transfer data between different databases etc.



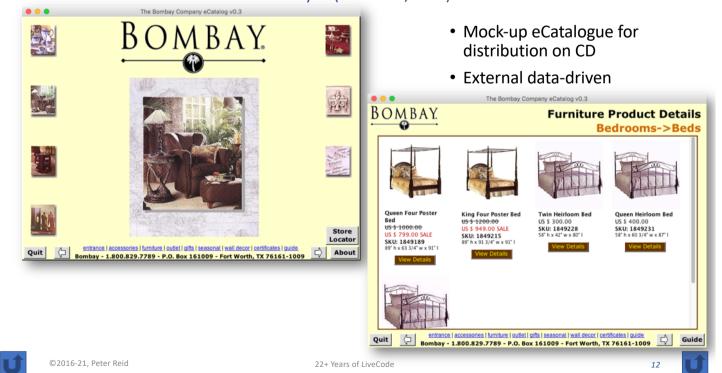
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eCaseFile (MetaCard, Revolution, LiveCode, 2000-2013)









GetCartooning (Revolution, 2001)





• CD training course from top UK professional cartoonists (based on successful correspondence course)

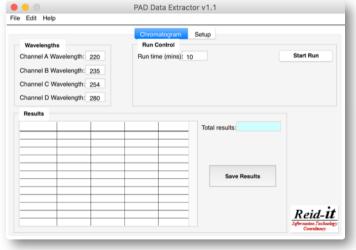
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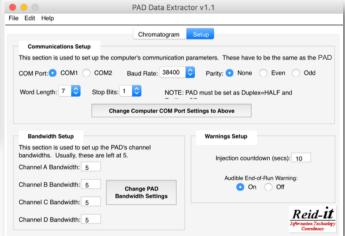




PAD Data Extractor (Revolution, 2002)



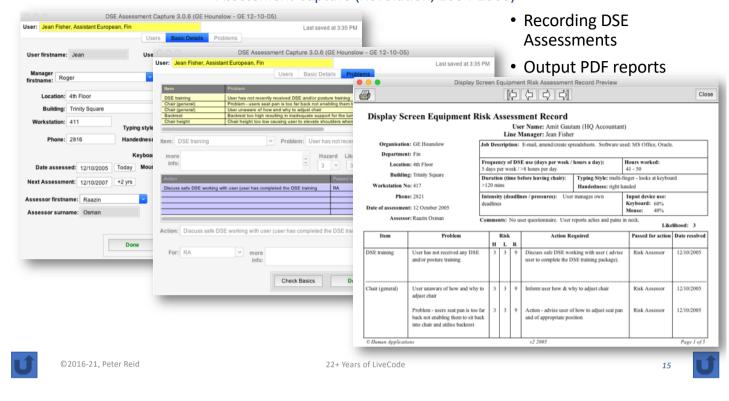
- Data capture from chemical instrument
 gift from industry, but no control software
- Export as Excel-compatible tab-delimited text



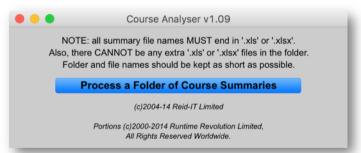


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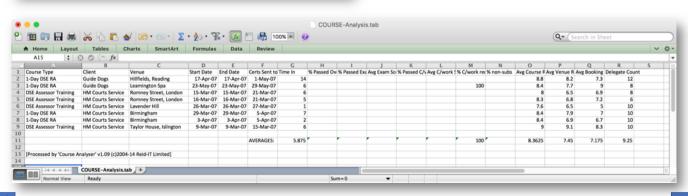
Assessment Capture (Revolution, 2004-2008)



Course Analyser (Revolution, 2005-2009)



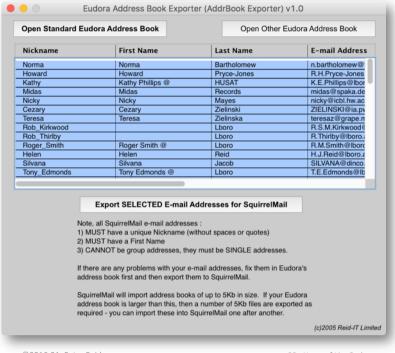
- Many 100s courses to analyse per year:
 - required as part of ISO 9000
 - each course detailed in an Excel spreadsheet
- Groups of courses are analysed & summarised in Excel spreadsheets



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Address Book Exporter (Revolution, 2005)



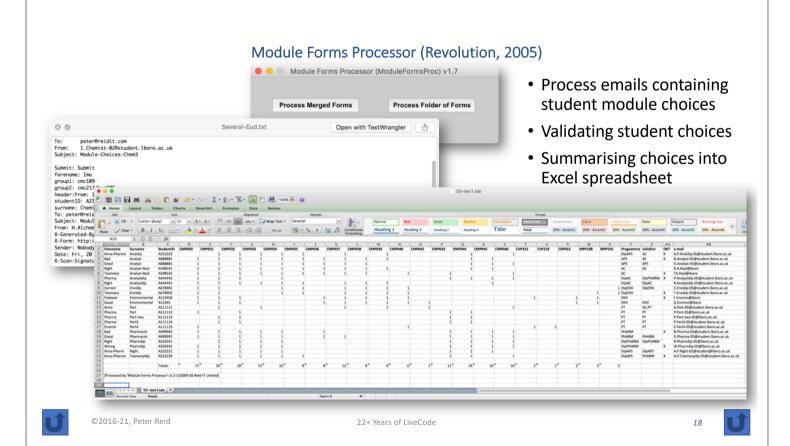
- Conversion tool for transfer of email accounts from Eudora to SquirrelMail
- Enabled preservation of email address books

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HA Auditor (LiveCode, 2011)

- Small and Flexible Format Audit

 Small and Flexible Format Audit
- Capture on-site Health & Safety audits, 1/2 day each
 - developed for iPad 2 & later, internal use only
 - · validated all inputs, checking for omissions
 - included look-up of location maps
- Enabled 3 years of audits, 350 audits per year
 - cost was a total of 15 days development effort!
- 2014: replaced by 3rd party commercial app with on-going support





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HA Answers Converter (LiveCode, 2011)



- Converts Health & Safety data from iPad app
- Outputs structured Word DOCX files
- Support app for HA_Auditor
- Used for 1,000+ audits over 3 years

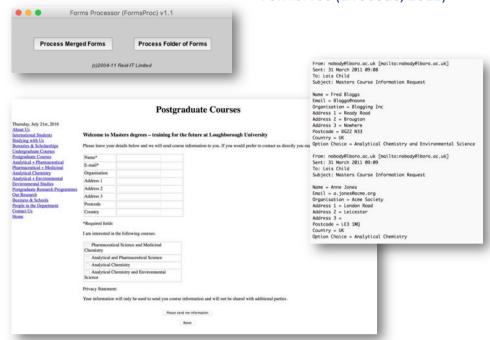
	Yes, No or N/A	Comments		
Did any main maintenance area appear adequately controlled? Access, guarding, housekeeping?	Yes	Maintenance q1		
Had maintenance Partners received ACM awareness training within last 18 months?	Yes	Maintenance q2		
Did maintenance Partners demonstrate knowledge of the Safety Code of Practice handbook?	No	Maintenance q3		
Was there evidence that any docs and certs asked for could be obtained from the system?	NA	Maintenance q4		
Fire		95 m		
	Yes, No or N/A	Comments		
Was the fire risk assessment current?	Yes	Fire q1		
Sample 5 extinguisher for condition and test date.	No	Fire q2		
Were there any notable fire contraventions?	NA	Fire q3		
4. Were selected Partners able to explain their understanding of fire fighting measures?	No	Fire q4		
Notices and signage				
	Yes, No or N/A	Comments		
Was the 2011/12 Safety Policy statement on display?	Yes	Signs q1		
Did the duty manager display knowledge of the safety homepage?	No	Signs q2		
Were there any homemade safety signs that needed replacing?	NA	Signs q3		
Department specific issu	ies			
	Yes, No or N/A	Comments		
 Were finger trap guards fitted to any doors from Nursery, Children's shoes and Toys? Not inc fire escapes, main dept doors into stairwells. 	Yes	Departments q1		
Were signs in place advising that lamps on Lighting may be hot - do not touch?	No	Departments q2		
External Areas and vehic				
	Yes, No or N/A	Comments		
Did the WTS assessment appear to be 'in use' and current?	Yes	External q1		
2. Are walkways clearly marked?	No	External q2		
3. Is signage appropriate?	NA.	External q3		
4. Does there appear to be conflict between vehicles and pedestrians that could be better managed?	No	External q4		



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FormsProc (LiveCode, 2011)

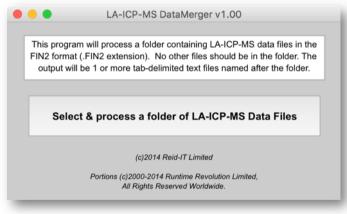


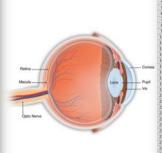
- · Process emails containing student module choices
- Validating student choices
- Summarising choices into **Excel spreadsheet**
- Based on ModuleFormsProc

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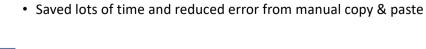
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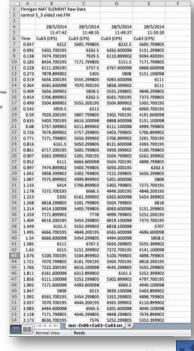
LA-ICP-MS DataMerger (LiveCode, 2014-current)





- Retinal tissue samples looking for Zinc & Copper related to AMD (Age-related Macular Degeneration) eye condition
- Merges many columns (500 rows each) into a matrix to be imaged separately





Certificate Maker (LiveCode, 2014-current)



- Extracts course attendees from spreadsheets and generates certificates in PNG, JPEG or PDF format
 - specific requirement to handle names with accents as courses are delivered across Europe
 - proved to be much faster and less error-prone than previous methods



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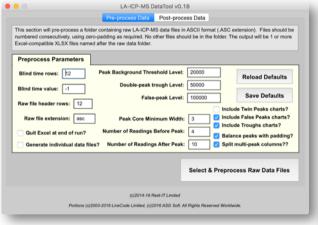
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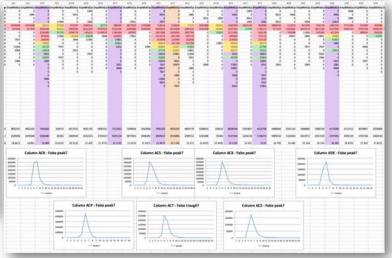
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2



LA-ICP-MS DataTool (LiveCode, 2015-current) 1/2





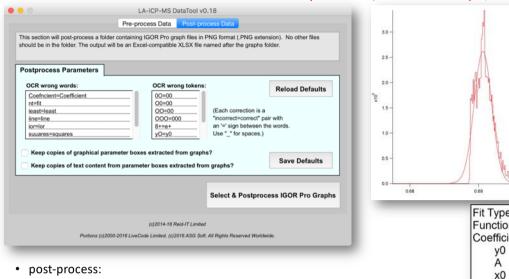
- · Vaporised samples produce vast amount of data:
 - pre-process:
 - each run output 200 rows by 1900 columns
 - multiple runs to be merged & peaks identified and graphed (30 rows of 1100 columns)
 - replaced 6 hours manual processing with 10 mins automated processing



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LA-ICP-MS DataTool (LiveCode, 2015-current) 2/2



0.71 Fit Type: least squares fit Function: gauss Coefficient values ± one standard deviation =9991.2 ± 1.99e+004

width

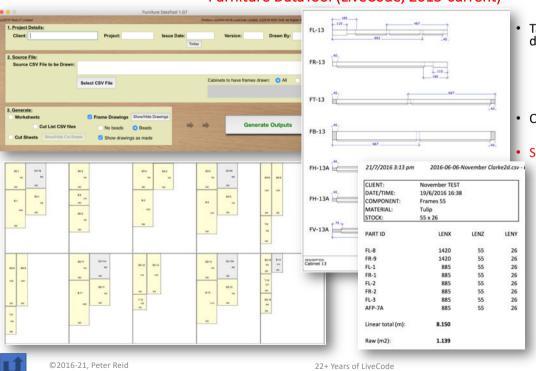
· post-process:

- pre-process output fed into curve-fitting app, which generates graphic output
- used OCR techniques (Open Source Tesseract-OCR) to locate & extract curve metrics
- combined these metrics into spreadsheet with computed products
- · significantly reduced processing time and error rates by comparison to manual processes

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Furniture DataTool (LiveCode, 2015-current)



Takes CSV output from 3D design app & generates:

=2.611e+006 ± 5.66e+004

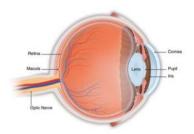
=0.0018058 ± 4.79e-005

=0.69064 ± 3.1e-005

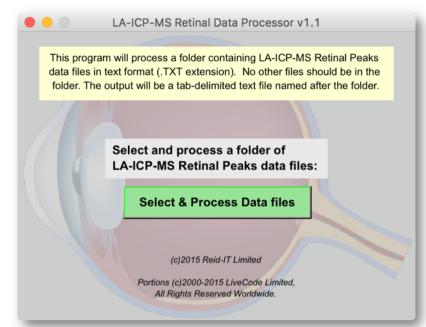
- frame drawings
- sheet-cutting drawings
- component lists
- cut-lists
- Output formats:
 - CSV, XLSX, PDF, SVG
- Significant savings:
 - 1-3 days of manual effort per design reduced to 1-2 hours
 - significantly reduces errors and material wastage



LA-ICP-MS RDP (LiveCode, 2015)



- · Merges a series of text output reports from curve-fitting software into compound spreadsheet
- Involves identifying genuine peaks from false signals
- Data is from retinal tissue samples looking for Zinc & Copper relevant to AMD condition



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SpeedyPlayer (LiveCode, 2016-current)

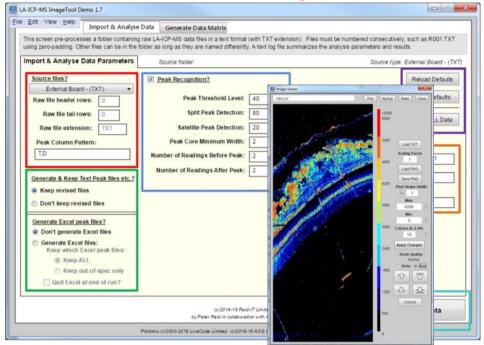


- Video player (Mac & PC)
 - 1st use of non-QT video
- Very high speed playback for rapid reviewing of security camera footage
- Took 30 mins to get first release fully operational





LA-ICP-MS ImageTool (LiveCode, 2016-current)



- Rapidly generates images from LA-ICP-MS data
- Locates peaks in raw data and uses them to segment the data and convert it to a matrix of colour coded pixels
- App processes baseline separated peaks from the latest generation of low-dispersion LA systems, can be applied to rastered imaging with other LA platforms
- Peak recognition can be used in single cell and single particle ICP-MS examples
- App used for imaging of zinc in a stained section of rat retina tissue at lateral resolutions down to 1 mm
- Less than two minutes to convert raw data into a 60,000 pixel image

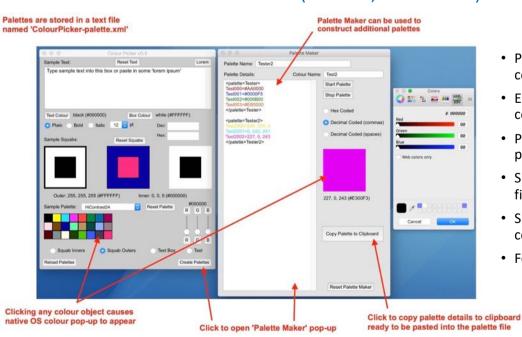
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https://www.reid-it.co.uk/downloads/down_la_icp_ms_it.htm



ColourPicker (LiveCode, 2017-current)



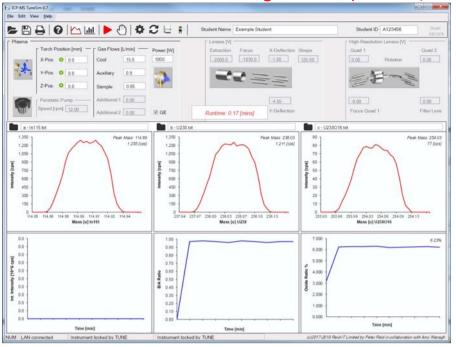
- Provides a standalone colour picker
- Experiment with different colour combinations
- Provides a native colour pop-up
- Simple text-based palette files
- Supports hex and decimal colour codes
- For Macs, PCs and Linux



https://tinyurl.com/y6myhuxc

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ICP-MS Tuning Simulator (LiveCode, 2017-current)



- Simulates tuning of an inductively coupled plasma mass spectrometer (ICP-MS)
- Based on optimization data collected using a sector- field instrument
- Students can adjust parameters, such as the torch position, gas flows, radio-frequency power, and guardelectrode state, while observing the signal for three "measured" variables in real time
- Used by students to supplement theory in an Atomic Spectrometry course
- Students learn about key components of the instrument and how multiple factors may need to be balanced when performing optimization



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https://www.reid-it.co.uk/downloads/down_icp_ms_tunesim.htm

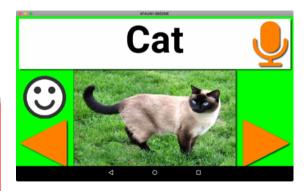


Aphasia Trainer (LiveCode, 2018-current)





- Word recognition and pronunciation training for aphasia sufferers
- Runs on cheap Android tablets and phones such as Amazon Fire 7in tablet



- User sees words with pictures and tries to say them
- App judges whether user has said the right word
- Uses word packs to allow personalised vocabulary
- · Can include videos showing mouth movement



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BingoBalls (LiveCode, 2018-current)



2		21	45	59			90
7		23		52		76	82
9	18	25			66		81

- · Old favourite bingo
- Little tweak to basic rules to play using virtual meetings technology (Zoom, Teams, Skype, etc)
- The "Bingo Balls" app has been developed to be used with normal or virtual groups
- The app can use different computerised voices
- Phrases can be replaced with a list of your own choices to tailor them to the interests of your group of friends or family

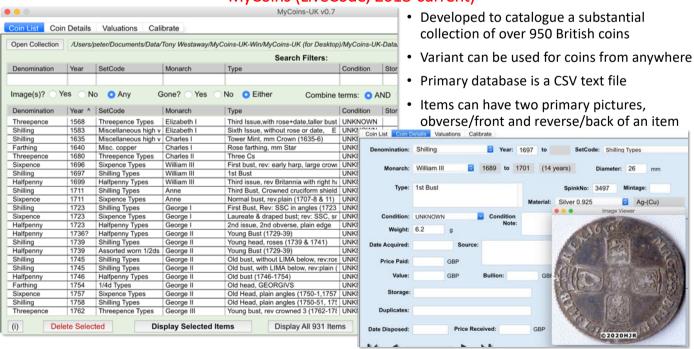


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https://www.reid-it.co.uk/downloads/down bballs.htm

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GridComms (LiveCode, 2018-current)

Overview Henry has speech and possibly vision difficulties. He will use this device to ask for help etc. Please be patient, your understanding is much appreciated.

Thank you.

Speak Text

- Developed to work on cheap Android-based tablets and mobile phones (\$75/£50)
- Typical user likely to be elderly, disabled or both and have limited funds
- Also, these users will need a bespoke solution highly tailored to the particular individual

• Tablet / mobile phones app allows a person with limited or no speech to communicate by playing commonly used short phrases

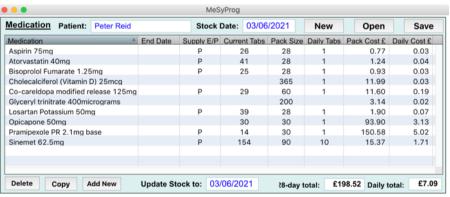
Concept based on solution for Graham who suffered from a massive stroke leaving him almost completely paralysed, unable to speak

6		I'm Hot!	I'm Cold	I'm Thirsty	I'm Hungry
1		Control Music >>	Control TV >>	Control Heating >>	Control Lighting >>
		Control Windows >>	Control Doors >>	Control Furniture >>	Control Bed >>
	General Comfort	Control Noise >>	Adjust Visits >>	Adjust Treatment >>	Adjust Medication >>

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https://www.reid-it.co.uk/downloads/downgc.htm

MeSyProg (LiveCode, 2020-current)



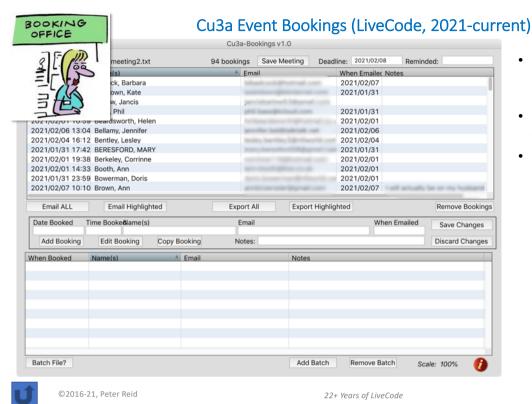
Madiantin	0	Taka Dan	Taka Owan	Darelin Orman	T-1-010	0	Evenes Taba	F.,,,,,,
	Supply Opt	Tabs Req	Tabs Supp	Packs Supp				Excess Cost £
Aspirin 75mg	P	7	28	1	0.03	0.77	21	0.58
Bisoprolol Fumarate 1.25	P	8	28	1	0.03	0.93	20	0.66
Co-careldopa modified re	P	4	60	1	0.19	11.60	56	10.83
Pramipexole PR 2.1mg b	P	19	30	1	5.02	150.58	11	55.21
Sinemet 62.5mg	Р	176	180	2	0.17	30.74	4	0.68

- Help patients who would like to receive medication once per month
- Helps GP and pharmacy synchronise medications reducing delivery to once per month
- Medication is supplied as whole packs, typically with 28 tablets per pack
- GP and/or the pharmacist has to pay for medication earlier than is desirable, impacting on cash-flows
- · Available for download, free to use.



https://reid-it.co.uk/downloads/down medsync.htm

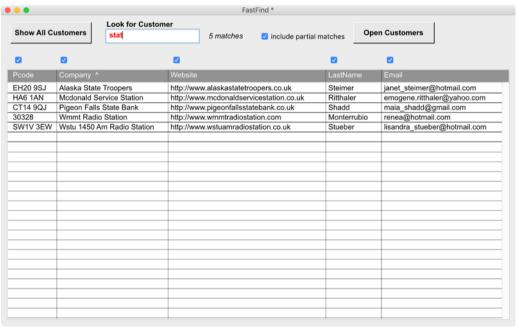




- Helps local special interest groups manage event bookings
- · Helps to manage sporadic email bookings
- Generates multiple email reminders



Fast Find (LiveCode, 2021-current)

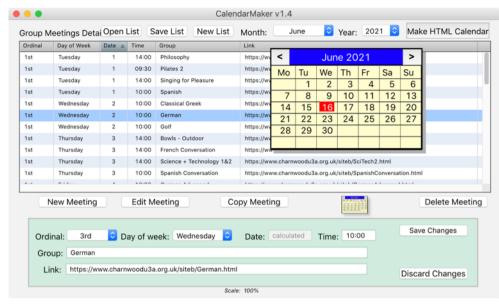


Proof-of-concept use of inverted file index for high speed record look-up

Search results displayed as user types each character of their search pattern

Supports simultaneous multifield search

CalendarMaker (LiveCode, 2021-current)



- Manages calendar events for approx. 90 special interest groups
- Events are specified in the form "2nd Tuesday of the month", "Last Friday of the month", etc.
- Generates weekly and monthly events calendar
- Generated calendars are in HTML format suitable for insertion into web site
- Also generates different format monthly calendar for monthly newsletter
- Available (by request) and free to use.

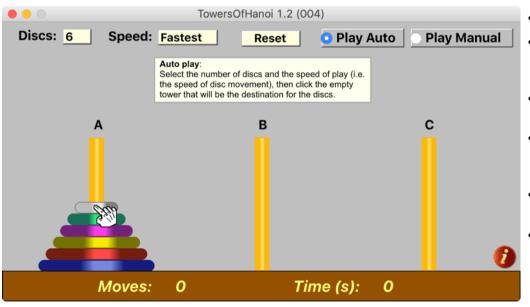


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Towers of Hanoi (LiveCode, 2021-current)



- · Based on classic game
- Commonly used as example of programmed recursion
- In auto mode, computer plays game
- Includes interactive mode so user can play the game separately
- Available for Windows PC, Macintosh & Linux Mint
- Available (by request) and free to use.

Assorted Utilities (LiveCode, 2000-current)

- LiveCode is often used for a variety of small utilities, focussed on some simple requirement that's needed for a brief period and then discarded afterwards:
 - Variety of mini and partial apps, often run within IDE, not made into standalone apps
 - Mainly concerned with data capture, conversion, manipulation, and aggregation
 - Minimal / basic user interfaces
 - Single platform, typically Mac only
 - Almost throw-away
 - Library collections, reusable code fragments



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Slide 42!

LiveCode

the Answer to Life, the Universe and **EVERYTHING***

well maybe not EVERYTHING, but close!

Summary

- LiveCode (Revolution, MetaCard) effective for wide range of uses
- Developing in LiveCode is very quick
- Old code can be reactivated and updated
- LiveCode stands the test of time!
- Is it "perfect"?
 - no, as they say "Pobody's Nerfect!"
 - but it's highly usable & getting better over time!

• 18 years and counting.....

22 years and still counting......

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http://www.reid-it.co.uk/downloads/downlc.htm

http://tinyurl.com/zelqb6j

The End

