18 Years of LiveCode

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

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Types of Applications

• Demonstrators
• Simulations
• Prototypes, mock-ups
• Document generation
• Data capture
• Data conversion
• Data analysis
• Data manipulation
• Data display
• Training Course
• Ad hoc tools
Summary

• LiveCode (Revolution, MetaCard) effective for wide range of uses
• Developing in LiveCode is very quick
• LiveCode is rewarding to use, both in terms of 🤖 and 😃
• 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.................................
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!
• 1st MetaCard licence
  • $995, 27 Oct 1998
• Demo of B2B service
• Used to gain funding
• Demo still runs today!

• Family eXmas Card
• Experiment with media
• Simulation of Coal Power Station
  • for son’s school project
• Adjustable animation
• Quiz
• Parameter-driven

Pipe2Tab (MetaCard, Revolution, 2000-2007)
• Conversion of separators in exported text files
• Used to transfer data between different databases etc.
eCaseFile (MetaCard, Revolution, LiveCode, 2000-2013)

- Electronic Case File for forensic examinations
- Student projects, still in use
- Data time & date stamped, students can’t ‘cheat’

BombayCo (MetaCard, 2000)

- Mock-up eCatalogue for distribution on CD
- External data-driven
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)

- Recording DSE Assessments
- Output PDF reports

Course Analyser (Revolution, 2005-2009)

- Many 100s courses to be analysed per year:
  - required as part of ISO 9000
  - each course detailed in an Excel spreadsheet
- Groups of courses are analysed & summarised in Excel spreadsheets
Address Book Exporter (Revolution, 2005)

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

Module Forms Processor (Revolution, 2005)

- Process emails containing student module choices
- Validating student choices
- Summarising choices into Excel spreadsheet
HA Auditor (LiveCode, 2011)

- Capture on-site Health & Safety audits, ½ 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

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
FormsProc (LiveCode, 2011)

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

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
- Saved lots of time and reduced error from manual copy & paste
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

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

- post-process:
  - pre-process output fed into curve-fitting app, which generates graphic output
  - used OCR techniques (Open Source Tesslar 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

LA-ICP-MS ImageTool (LiveCode, 2017-current)

- Variant of LA-ICP-MS DataTool
- Requirement:
  - 1000 data files per analysis
  - each data file 6000 readings
  - all data merged & peaks to be identified
  - each peak area generates a single pixel
  - peak area pixels combined to create an image
  - images to be displayed using different colour palettes and ranges
- Problem:
  - lack of current data tools from instrument manufacturers
  - manual processing using spreadsheets etc. would take MONTHS!
- Solution:
  - LA-ICP-MS ImageTool developed in LiveCode 8
  - full analysis & image generation takes 10-20 mins
Furniture DataTool (LiveCode, 2015-current)

- Takes CSV output from 3D design app & generates:
  - 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

This program will process a folder containing LA-ICP-MS Retinal Peaks data files in text format (.TXT extension). No other files should be in the folder. The output will be a tab-delimited text file named after the folder.
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