

0.0.1 VIZ Version History

Last Few Updates of this Document

- 06 Sep 2006, 3.47pm
- 14 Aug 2006, 8.15pm
- 23 Jun 2006, 2.33pm
- 29 May 2006, 5.57pm
- 07 Apr 2006, 3.20pm

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The History — in reverse chronological order

- 6 September 2006 — See Figure 1

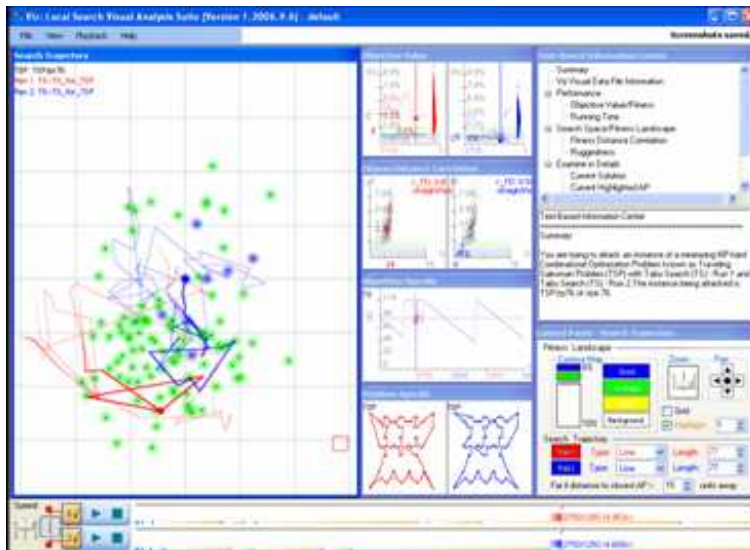


Figure 1: v1.2006.9.6

1. The development of VIZ version 1 for this year is paused. All ideas are kept for future version 2. We are now stabilizing this tool by releasing the VIZ Release Candidate 1 (RC1) :). Please report any bugs that you found to stevenhalim@gmail.com. Thanks.
2. Updates to visualization codes
 - (a) All visualization codes are improved to be slightly faster, ensure all runs in constant time. Avoid updating while doing multiple updates by having a 'Block' and 'Unblock' method, like a semaphore in Operating System.

- (b) ST visualization: circles are smaller to avoid confusion, the circle does not represent an area. it is just a highlight. Avoid drawing trajectory line if it is far from closest AP (fix this problem, I guess there is a bug here.). Support mouse tracking for quick analysis of points... Draw X to indicate initial solution (fix this, I guess there is a bug again).
- (c) OV: contour map is added here. fluctuations, best found line,
- (d) FDC: contour map is added here too, now there are many points again
- 3. Conversion wizard is updated, user's task per page is simplified a lot, RunLog2 can be turned off.
- 4. Update to VIZ visual data file
 - (a) Settings are now merged into VIZ visual data file, so now we can exchange a single VIZ visual data file only, other people can see 'exactly' what we see. :) User can save his/her settings directly to VIZ file.
 - (b) Current solution data are compressed... this trick saves space quite a lot... even though not perfect...
 - (c) More computation data are embedded into VIZ visual data file by the conversion wizard. VIZ visual data file format are improved.
- 5. Text-based Information Center is now become MDI child, and beautifies with color emphasis.
- 6. MANY small UI bugs are fixed. Certain things are adjusted to be better, for example:
 - (a) Contour Map: Now I use splitter instead of three sliders.
 - (b) Color scheme: instead of using new panel, I embed the button to change color in the ST control panel.
 - (c) Control panel groupings: now I use indentation to help grouping checkboxes/UI elements together.
 - (d) I can now hide a MDI child window without crashing :)
- 7. Logos and artworks are updated...
- 8. VIZ menu structure is reorganized/revamped. Now the menu is more useful.
 - (a) Several basic window layouts and view modes are added to VIZ menu.
 - (b) VIZ now supports user's input from keyboard as well from mouse because a lot mouse-input functionalities are now duplicated in menu structure and given keyboard shortcuts.
- 9. Help system is improved :)
 - (a) Help files are now in PDF format, like the one that you see now. The newest help files will be posted to VIZ web site for public usage if there are any updates :)
 - (b) For most UI controls in VIZ, set focus to it and press F1 to get context sensitive help or mouse hover it to get tooltip...
 - (c) Link to wikipedia for explanation of TS, ILS, SA, TSP, QAP :)

• **14 August 2006 — See Figure 2**

- 1. VIZ Raw-to-Visual Data Conversion Wizard is revamped...
 - (a) AP Selection Strategy from multiple RunLogs are added...
 - (b) Users are not required to create APLog by themselves (this is potentially confusing for novice)... "
 - (c) Wizard like UI, with back/next buttons...
- 2. Splash Screen is added, no more flickers during loading/unloading VIZ :) "
- 3. WinXPVisualStyle in .NET Framework is activated... transforming VIZ UI to be a lot nicer... :) (except the trackbar issue)
- 4. Options in Control Panel undergo major update...
 - (a) Look at the ST, OV, FDC, EB, Playback options, we have so many customizable items now :) An important feature!

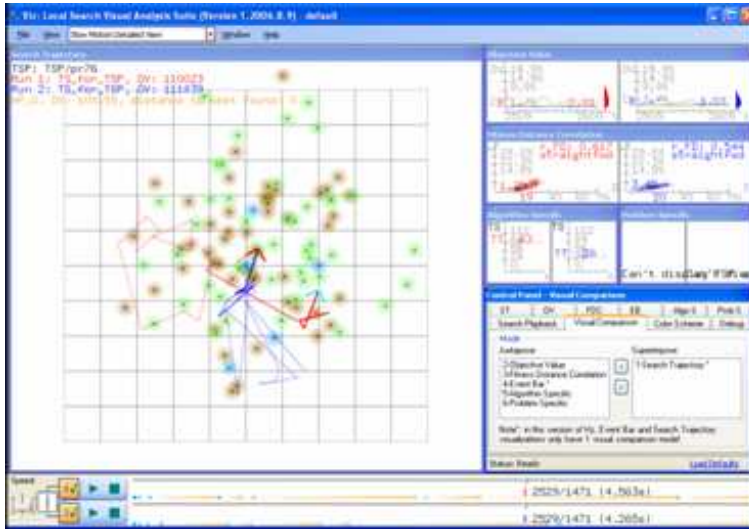


Figure 2: v1.2006.8.9

- (b) ST: Trail Type/Length for RunLog1/2 are splitted, Contour Map is updated
 - (c) OV: We can use percentage-off instead of absolute values, ability to scale x and y axis, show/hide fluctuations and best found line...
 - (d) FDC: Percentage-off and the points for FDC computation & scatter plot are updated to resemble true FDC calculation!
 - (e) Playback: Options to advance playback by iteration (step increment is adjustable) or by actual search time (time increment is adjustable too)!
 - (f) Visual Comparison: A two column mode is presented.
 - (g) Color Scheme added: 2 default scheme: on printed paper and on screen mode...
5. Expert System (BETA) is started... Its effectiveness is still as objective reporter only... No great analysis done yet...
 6. Help files are updated... We are using RTF, we can add formatting to the help files now... :)
 7. Many (I repeat, many) small bugs/improper small UI behavior errors are fixed and/or updated...
 8. Some screenshots are edited to become logos in our Visualization windows... I'll improve these logos!!

• 14 July 2006

1. VIZ (final) camera-ready paper submitted to **UIST 2006**...

• 30 June 2006

1. V-MDF and VIZ 'near final' paper submitted to **MIC05 Post-Conference Volume** and **UIST 2006**, respectively...

• 23 June 2006 — See Figure 3

1. Major update after few months
2. 'More user friendly' is the major update theme... :)
3. New Default Windows Layout :)
4. New ControlPanel window: User can customize a lot of stuffs, e.g. color scheme, visual comparison mode, etc We know that not everyone likes our default settings...
5. Standardized log files format (version 1.0), Now everyone can use VIZ by following this log file format...

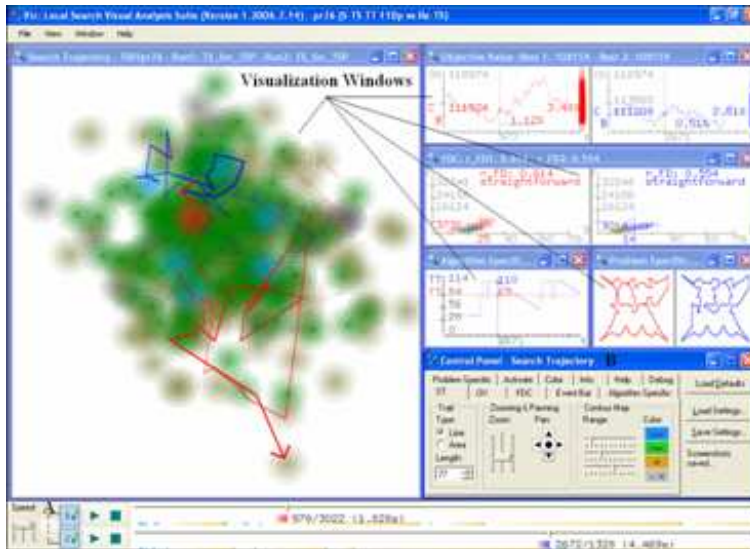


Figure 3: v1.2006.7.14

6. New Raw Log files - VIZ Visual Data files conversion wizard is created This is to simplify the user's task :) Thus, VIZ is just to display the visualization... VIZ can't be used to modify visual data files..., it was done by the wizard...
7. Two search playback controller... the playback can be done independently now...
8. Help files enhanced so that new users can get to know how to use VIZ easily...

- **24 May 2006**

1. VIZ paper review from **UIST 2006** is received. The referee reports are encouraging. A milestone for us.

- **13 May 2006**

1. Book chapter version of our past visualization ideas (V-MDF) is accepted for publication in **MIC 2005 Post-Conference Volume...**

- **10 May 2006**

1. Camera-Ready version of VIZ poster paper for **ECAI 2006** is submitted...

- **10 April 2006**

1. VIZ paper is accepted as poster paper in **ECAI 2006** conference.

- **5 April 2006**

1. Another paper, now written from UI perspective, is submitted to **User Interface Software and Technology (UIST 2006)**. This symposium is a premiere forum for new UI tools. Getting accepted for this conference means that other people regards our tool as promising.

- **30 March 2006 — See Figure 4**

1. Built-in visualizations available:
 - (a) Search Trajectory (Updated with contour map — black/white grid, smooth animation, arrows to indicate direction)
 - (b) Objective Value (Updated)
 - (c) FDC (Updated and refined)
 - (d) Algorithm Specific (Tabu Tenure) (New, to display Tabu Tenure over time for TS local search)

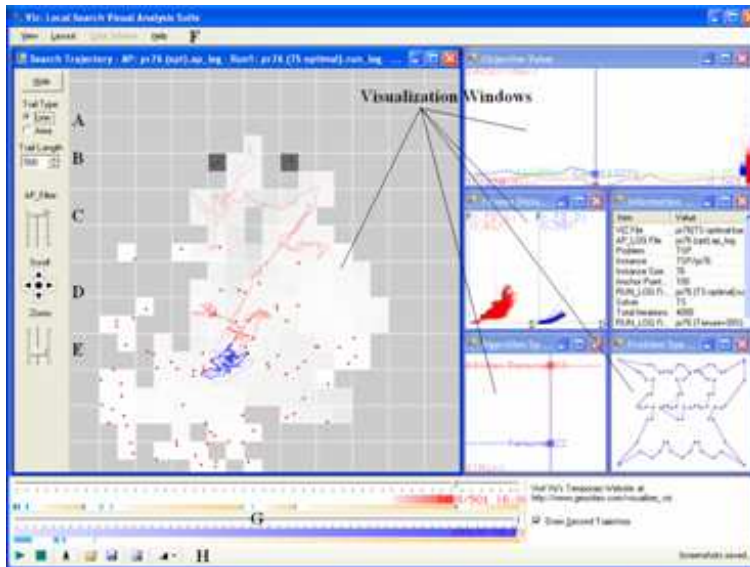


Figure 4: v1.2006.3.30

- (e) Problem Specific (TSP) (Updated, now best and current TSP solution are superimposed)
2. Switch to Multiple Document Interface (MDI) style, and with all window layout capabilities.
3. Use professional-looking menustrip and toolstrip
4. Add feature to do Visual Comparison, almost all visualization windows capable of drawing two trajectories simultaneously!
5. Built-in Screenshots capability
6. Using tool-tips almost everywhere to make the GUI neater
7. Regroup the search trajectory controls to its own window (zoom/scroll/trail, etc)

• 13 March 2006 (Version Alpha)

1. Built-in visualizations are updated:
 - (a) Search Trajectory (Updated)
 - (b) Objective Value (Updated with statistical features)
 - (c) FDC (New, to display FDC scatter plot, static version)
 - (d) Problem Specific (TSP) (New, to display TSP tour over time)
2. Introduce "*.viz" file, a pre-computed visual data file for faster loading time.
3. Presented at **Swedish Constraint Day (SweConsNet 2006)**.

• 10 February 2006 (Version Beta — See Figure 5)

1. VIZ is born!! A tool that utilizes: OpenGL + CsGL + .NET Framework
2. The first built-in visualizations available:
 - (a) Search Trajectory, using greedy layout
 - (b) Objective Value
3. Initial features:
 - (a) Adjust trail length and type (Line/Area).
 - (b) Adjust the speed slider to have faster/slower screen redraw.
 - (c) Adjust the filter slider to decide whether bad Anchor points will be drawn or not.
 - (d) Zoom in/out to get better close up/overview look...
 - (e) Colors, pixel size/line width to indicate information...

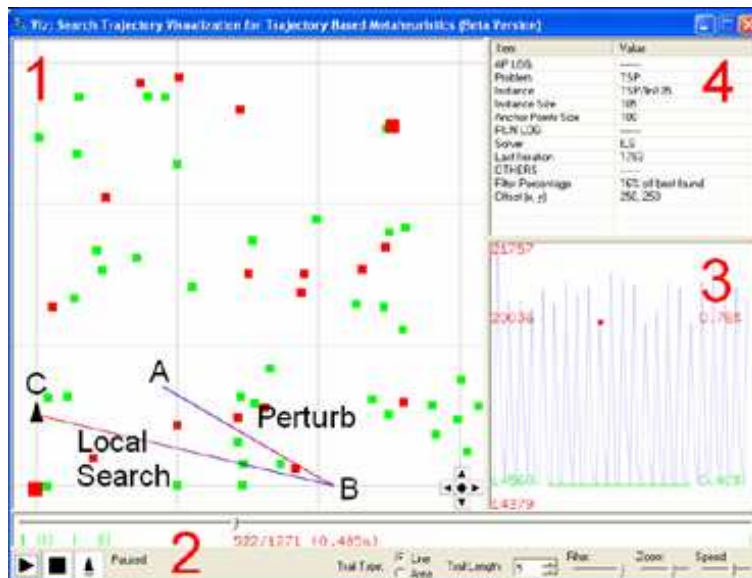


Figure 5: v1.2006.2.10

4. A preliminary paper is submitted to **European Conference on Artificial Intelligence (ECAI 2006)** for review...
- Long time before that (2nd half of 2003-end of 2005)...
 1. The book chapter version related to these ideas was submitted for publication in **MIC 2005 Post-Conference Volume**...
 2. Ideas (anchor points for visualizing search trajectory, plus the tool V-MDF and its Distance Radar) are presented at a **Metaheuristics International Conference (MIC 2005)**, Vienna, Austria. We received positive feedbacks...
 3. Another tool (predecessor of VIZ), V-MDF was built to support the idea...
 4. Anchor Points concept conceived by the first author in early 2005...
 5. Final year projects by the first author on visualization of Search Space (at that time, the visualization was quite 'poor')...