TransLumen Technologies, LLC

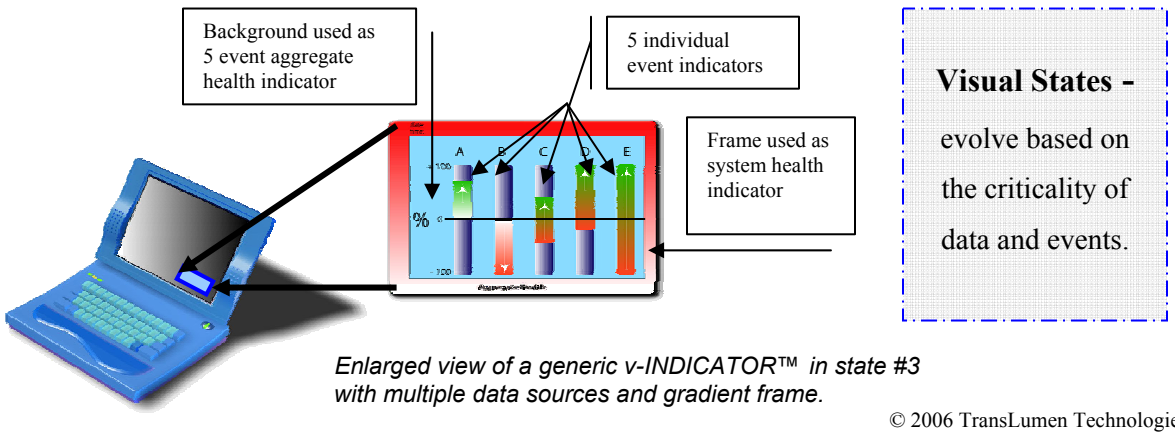
v-INDICATOR™

"the (r)evolution continues"

TransLumen is currently the only provider of Situation Awareness, Risk Management, Business Intelligence and Threat Assessment tools that present modifiable indicators and alarms to the user in a seamless manner [20, 22] and with appropriate levels of disruption [1,2]. The range of disruption varies from absolute non-disruption [1, 2, 14], through unobtrusive subthreshold extreme gradual change (TransLumenized [6, 8, 20, 22]), to total disruption [2, 5, 13, 15, 23]. The level of disruption is the degree to which an indicator prompts or demands a user's attention. The user centric optimization of disruption and the implementation of an Extremely Low Attention Demand Information System (ELADIS) facilitates more effective reactions to changes in a situation, which may involve large quantities of disparate data. Simultaneously user stress and fatigue [9, 10] is reduced by the decrease in visual noise or screen clutter. The resulting fast awareness, fast response and lower fatigue levels can help save lives at risk and help protect and conserve capital assets.

TransLumen's v-INDICATOR™ is a unique aggregating focal [7, 11, 16] or peripheral awareness (2) notifier and alarm software application that greatly enhances and expands the fidelity of a user's situation awareness. This is accomplished by combining the best practices of current awareness systems with TransLumen's patented algorithms including its Visual Cue Feedback Indicator (VCFI) and Visual Trend Object (VTO) technologies [20, 22]. The v-INDICATOR™ is a visual indicator or gauge that graphically, through color, luminance, texture, shape, position and size among other attributes, depicts the current status, alarm state and trend of the user's data. This data may consist of important, but secondary, information that needs to be monitored due to potential status changes. These changes could promote the secondary information to primary importance if not investigated in the user selected order as dictated by the hierarchy or relative value in the cue.

The v-INDICATOR™ is ideal for monitoring both local and remote data. Local data examples include such resources as system health, disk usage, CPU load and network usage. Remote data examples include command and control information such as security, environmental conditions, opponent strength within an area and first responder resource availability. Other remote or external data sources may include the stock market, sports statistics and e-mail. Any or all of the previously mentioned data could be simultaneously monitored by just one v-INDICATOR™ because of its capacity to handle large volumes of disparate data. If desired by the user, multiple v-INDICATORs™ may also be deployed on a single desktop to allow the nesting or categorization of like data.



Visual States - evolve based on the criticality of data and events.

Enlarged view of a generic v-INDICATOR™ in state #3 with multiple data sources and gradient frame.

The v-INDICATOR™ consists of four primary states with configurable preferences such as min/max limits, rate of change, visual and other characteristics. These preferences may be defined by the system administrator, end user and through various levels of autonomy.

The v-INDICATOR's™ four primary visual states may be defined as;

1. invisible (totally transparent) – indicates no pertinent change in data
2. informational (semi-opaque) – indicates and shows a developing trend
3. actionable (opaque) – indicates and shows a significant predictive trend
4. critical alarm (opaque plus rapid change) – actively notifies the user of a significant threshold violation

The transition between the primary states is accomplished below the short term cognition level of the user by employing TransLumen's algorithms to slow the rate of change in the graphic (subthreshold extreme gradual change). This imperceptible change to the graphic looks static when in fact the graphic is dynamic and constantly changing. The violation or crossing of an alarm threshold triggers a transition into a real-time animation or a full alarm state of the graphic. The alarm may include active screen flashing and multi-modal cues such as an audio beep [17, 18, 19] if required. The v-INDICATOR™ is unobtrusive, informative and predictive prior to an alarm threshold being crossed, reducing reaction times and lessening user fatigue. The inclusion of imperceptible change to accomplish this is unique to TransLumen [22].

The v-INDICATOR™ is a highly flexible tool from a hardware, software and user perspective. It is cross platform compatible, capable of running on UNIX, Linux, Windows and embedded operating systems among others. It has low CPU and bandwidth usage requirements and will run on thick or thin clients. This situation awareness tool will integrate with existing applications and use all major graphic, text and numeric formats. It is scalable and portable, able to run on mobile phones, PDAs [21], desktop computers, and command & control installations; *v-INDICATOR™ can follow you anywhere*. It features full real-time drill down potential along with application launching. The v-INDICATOR™ is a collaborative environment [3, 4] capable tool that can handle large volumes of disparate data provided by both local and remote applications including web services. It can be augmented with neurophysiologic monitoring and feedback and may also be combined with other technologies including subthreshold priming if relevant. All of this can be accomplished on your existing screen without compromising the current view [2].

Training is minimal based on the graphic design, which may include custom imagery, and the degree of autonomy desired. The indicators may be an avatar, chart, button, gauge or virtually any other graphic design that best portrays the information to be conveyed. The v-INDICATOR™ can be implemented as a skin, widget, gadget, applet, ticket or panel, and may be freely positioned on the desktop or presented through AJAX, Java, Microsoft's Vista Sideshow, Apple's Dashboard, Yahoo!'s Widget Engine, Google's Desktop Sidebar and other environments. Full custom[12] implementations allow virtually any desktop or screen object such as a background, scrollbar, taskbar, frame, button, image or icon to be used as a v-INDICATOR™.

v-IN·DI·CA·TOR, *n*: visual indicator that presents current state, trend and alarm status of events or data by utilizing subthreshold extreme gradual change.

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