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Title: Portal Monitors Data Handling and Processing

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Portal Monitors

Data Handling and Processing

November Exercise

- UNARM device pressed into service
 - Large storage capacity (SD card), sub-second acquisitions, externally-available status indications
 - Configuration and testing difficult, no real-time monitoring other than single-bit outputs (LEDs)
- Lots of data generated
 - ~ 20 MB/day, much of it uninteresting
- SD card issues
 - Compatibility, reliability
 - Reproduction, authentication

November Exercise (continued)

- Analysis using Radiation Review
 - Additional step to import data
 - No integration with other sensors
- Video data
 - Separate camera system
 - Clocks in cameras and portal monitors not sync'd
 - No easy way to combine video and radiation data
 - Lots of video data, much of it uninteresting

Improvements

- New detector electronics
 - Smaller, lower-power, simpler, much cheaper
- Integrate video and radiation in portal monitor
 - Camera with fisheye lens and distortion-removal software
 - Camera and detector electronics time-sync'd
 - Camera records still images at two rates
 - Does not preclude separate video system

Improvements (continued)

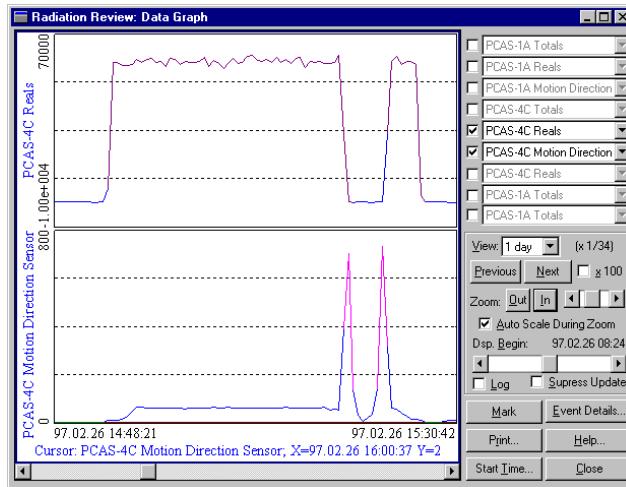
- Integrated tablet
 - Serves as data collector and real-time display device
 - May collect from multiple devices
 - Data stored securely (authentication / encryption?) after collection
 - SD card in device still available as backup if desired
 - Tablet may be undocked for offline review / data sharing
- Review software on tablet
 - Also runs on desktop system
 - Radiation data and video images sync'd based on timestamps
 - Automated discovery of radiation and video events

Improvements (continued)

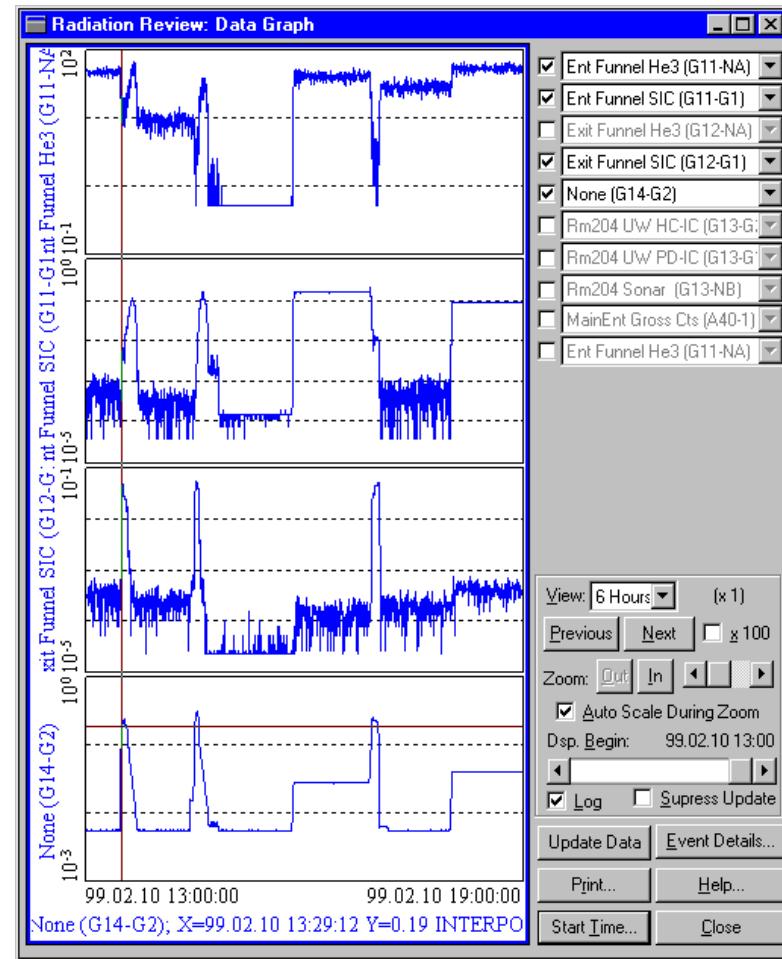
- Issues
 - Wifi on tablet

Radiation Review

- Automated event discovery
 - Radiation Review
 - Visual indication on graph
 - Table of events may be printed or written to file



Integrated Review



Integrated Review (continued)

