Flightdeck-UI
A Cockpit for Your Desktop

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Project homepage: http://www.openlight.com/fdui/

- We need new ideas in user interface design (e.g. see Jef Raskin's The Humane Interface)

- Interdisciplinary approaches are a great source of new ideas. The "Newtonian Synthesis" is an excellent example of this.

- The design of aircraft instruments and controls is a valuable area to search for user interface concepts.
  - Aircraft operation is a very demanding activity (fatigue, illusions, etc.)
  - Pilots do the right thing when flying (most of the time).
  - Accidents are thoroughly studied, producing a wealth of data.

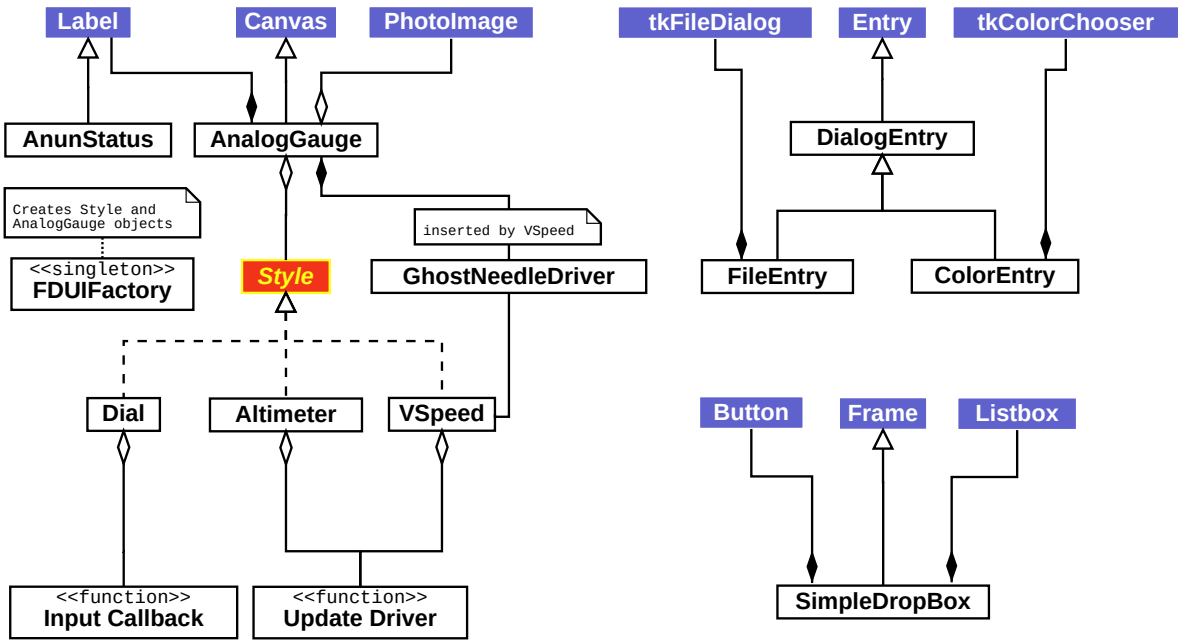
Flightdeck-UI Concepts

- Basic Flight Instruments
  - Many people still prefer analog speedometers and clocks.
  - Digital outputs are great for detailed measurements, but require a conscious effort to read.
  - A good analog instrument can be read at a glance.
- Electronic Instruments
  - The Head-UP Display (HUD).
  - The Primary Flight Display (PFD).
- Flattening of Hierarchies
  - Tree structures are easy for computers, but hard for people.
  - There is too much nesting in today's interfaces.
  - See Donald A. Norman's classic The Design of Everyday Things.

Flightdeck-UI Architecture

- Written in Python, with Tkinter.
- Includes a library and the MVM application (which incorporates a graphical editor with theme support).
- Is Open Source Software.

Class Diagram

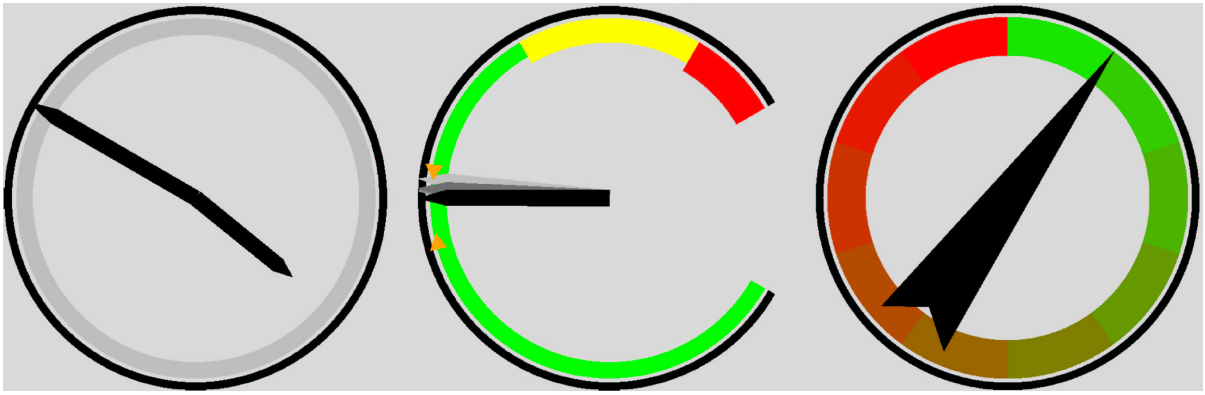


Flightdeck-UI Virtual Instruments

Actual Altimeter, VSI and Airspeed Indicator

Photos courtesy of Curt Olson, FlightGear project.

Flightdeck-UI Altimeter, VSI and Dial Widgets



Flightdeck-UI Quickstart

- Choose items that you want to monitor (amount of mail in your inbox, weather for your area, number of replies to your Slashdot story, etc.)

- Using the Flightdeck-UI MVM graphical editor, create a control file to monitor your chosen data.

- Run Flightdeck-UI in minimized mode, to keep an eye on the data as you go about other work.

Flightdeck-UI Monitoring

- Almost any HTTP, FTP or GOPHER application can be monitored, regardless of the specific server.

- Uses existing server infrastructure with only a low incremental load.

- No additional daemons to manage (administrative burden is light).

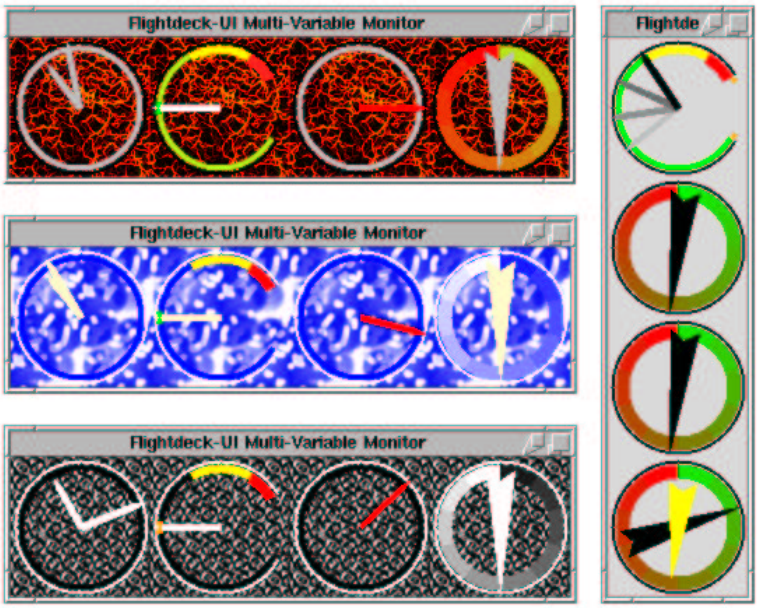
- No extra open ports.

- The monitoring solution can be secured by conventional means.

- Developers may publish their own variables for monitoring.

Flightdeck-UI Demonstration

A demonstration will be given at this point.



Conclusion

- Fresh ideas are needed in computer interface design.

- An interdisciplinary approach is very effective for generating new ways of doing things.

- Aircraft instruments and controls are an excellent source of information for the design of more general user interfaces.

- Flightdeck-UI is a concrete implementation of the above concepts, and can be used for practical applications immediately.