



Text-base User Interface

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Contents

- ✓ Introduction
- ✓ Short comparison
- ✓ Guidelines of command-line interfaces
- ✓ Comparing TUI and GUI (Novice and Expert Users)
 - **Conclusions**

Introduction

- ✓ Terminal User Interface
- ✓ Textual User Interface
- ✓ Text User Interface
- ✓ Text-base User Interface

TUI

Simple Differences

- ✓ Use the entire screen area
- ✓ Does not necessarily provide line-by-line output
- ✓ ONLY USE:
 - Symbols
 - Text
 - Colors



TUI under MS-DOS and Microsoft Windows

- ✓ On IBM PCs and compatibles, the BIOS and MS-DOS system calls provide a way of writing text on the screen.
- ✓ Later, the interface became deeply influenced by GUIs.
 - pull-down menus
 - overlapping windows
 - dialog boxes
 - ...

TUI under Unix-like systems

- ✓ Using a simple line interface?
 - Text editors
 - web browsers
 - ...
- ✓ In embedded systems.



Command-line interfaces (Advantages)

- ✓ Why use command-line interfaces in the 21st century? Graphical user interfaces were invented decades ago!
- ✓ Ease of automation
- ✓ Fast startup times
- ✓ Easier to use remotely
- ✓ Lower system requirements
- ✓ Higher efficiency
- ✓ Keyboard friendly



Command-line interfaces (Disadvantages)

- ✓ Learning curve is steeper
- ✓ Presenting and editing information that is by nature graphical !!!!!!!!!!!!!
- ✓ Are you sure ?! ;)



The Most Important Guidelines

✓ Try to avoid interactivity

- **Interactive interfaces are harder to automate than non-interactive user interfaces.**
- **mv**

✓ Naming

- **A bad name is easy to forget**
- **Short**
- **Easy to remember**
- **I-live-linux-and-free-softwares**
- **ytzxzy**

Guidelines (continue...)

✓ Arguments

- **Single-letter: a hyphen, multiple: follow directly (e.g. -la is the same as -l -a).**
- **Multi-letter: two hyphens, each argument must be separated with spaces.**
- **Continuing on the theme of standard practice, if a similar tool to yours.**
- **Options should be optional.**
- **Don't use many flags whose only difference is the case.**
- **Provide a long form of short arguments.**



Guidelines (continue...)

- ✓ Provide `--version` and `--help`
- ✓ Reading the input
 - Read input from pipes & through file redirection.
- ✓ Silence trumps noise
 - Be quiet.
 - Break the silence, When?
 - Sending through a pipe.
 - Don't tell user what the output is.
 - `-v` (verbose) & `-q` (quiet)

Guidelines (continue...)

- ✓ Tell user what kind of input you want, and how you want it.
 - **How to ask users for a yes or a no?**
 - Are you sure?
 - **Mmmm, not very!**
 - Are you sure (y/n) ?
 - **y (Enter!)**
 - **Ask for a date!**
 - **And ...**

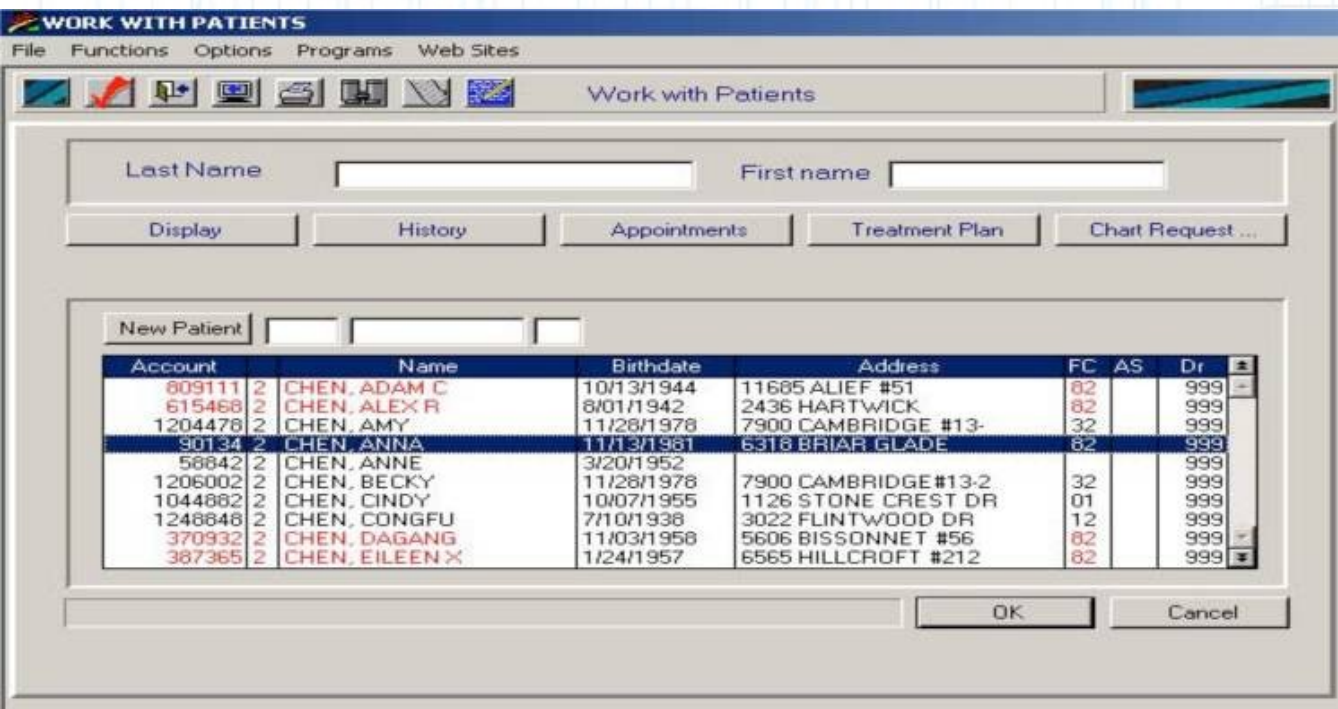


Comparing TUI and GUI (Novice and Expert Users)

- ✓ Many studies that show the advantages of GUI
 - Somebody (Rauterberg) evaluated menu selection using a TUI and a GUI. Experts needed 51% less time.
 - Users of three different systems-command, menu, and iconic (GUI) systems.

Description

- ✓ 8 expert users: 4 used TUI & 4 used GUI
- ✓ 10 novice: each novice uses both the text and the graphic interfaces.
- ✓ Electronic Dental Record (EDR)
- ✓ An expert user was defined as one who had used this EDR system daily for more than 5 years.
- ✓ The novice user was defined as one who had never used this system.



Statistical Result

- ✓ Comparison of average time (seconds) and steps(number of steps) utilized by experts, novices.

	Expert	Novice
GUI time (sec)	52.5	137.5
TUI time (sec)	36.5	311.3
GUI step	12.8	19.2
TUI step	10.8	30.9

Statistical Result (continue...)

- ✓ Comparison of average time (seconds) and steps(number of steps) utilized by novices using GUI or TUI first in performing the task.

	TUI time (sec)	GUI time (sec)	TUI step	GUI step
TUI first	438.8	81.2	38.6	12.6
GUI first	183.8	193.8	23.2	25.8
Overall	311.3	137.5	30.9	19.2

Conclusions

- ✓ GUI requires significantly less time and fewer steps than TUI when used by a novice.
- ✓ For a novice, use of TUI or GUI as the first experience makes a difference for subsequent use of interfaces
- ✓ GUI does not reduce cognitive load for either the expert or the novice.

References

- [1] http://en.wikipedia.org/wiki/Text-based_user_interface
- [2] <http://www.antoarts.com/designing-command-line-interfaces/>
- [3] <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2655855/>

Question

به پایان آمد این دفتر ...

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Thanks
for your attention

