

GEOGRAPHICAL INFORMATION SYSTEMS

GIS User Interface

by

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CHAPTER OUTCOMES

- By the end of this chapter, students should be able to:
 - ✓ Have the ideas of the main important interface elements in GIS
 - ✓ Decide on what are the interface (or improvement) needed according to different needs of system

CONTENTS

- Introduction
- Basic GUI elements
- Basic GUI in GIS software
- What to improve?



Introduction

- User Interface (UI) → defines how people (users) interact with the computer (system)
- Good UI lets users control, manipulate and should let the users get maximum benefit of the systems in a friendly way (hassle-free)
- A great system will be considered a failure if the user interface is too complicated or confusing and difficult to navigate.

Characteristics of good user interface

- Clear and simple
- Creative but familiar
- Intuitive and consistent
- Responsive
- Maintainable

Digitera Technologies (2015)

<http://digiteratech.com/blog/2015/08/25/characteristics-of-good-user-interface/>



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Characteristics of good user interface

- Clear and simple
 - ✓ Understandable and not complex
 - ✓ The user must have clear understanding on what is happening behind the scene.

Characteristics of good user interface

- Creative but familiar
 - ✓ User loves creativity but it must come with familiarity
 - ✓ When the user is familiar with the interface components, it becomes easier to understand the how to use the system

Characteristics of good user interface

- Intuitive and consistent
 - ✓ Interface must be intuitive and consistent
 - ✓ It is NOT a good practice to suddenly change the layout to support the changing functionality
 - ✓ Changing can be done gradually so that the user could adapt well

Characteristics of good user interface

- Responsive
 - ✓ Interface must update the user on what is happening. For example, if the data is loading, there must be some indicator telling this to user.
 - ✓ Interface must keep up with the demand from the user (transition from one phase to another must be quick)

Characteristics of good user interface

- Maintainable

- ✓ The interface must have the capacity to adapt with future changes or addition in a way that it takes minimal and doable work.

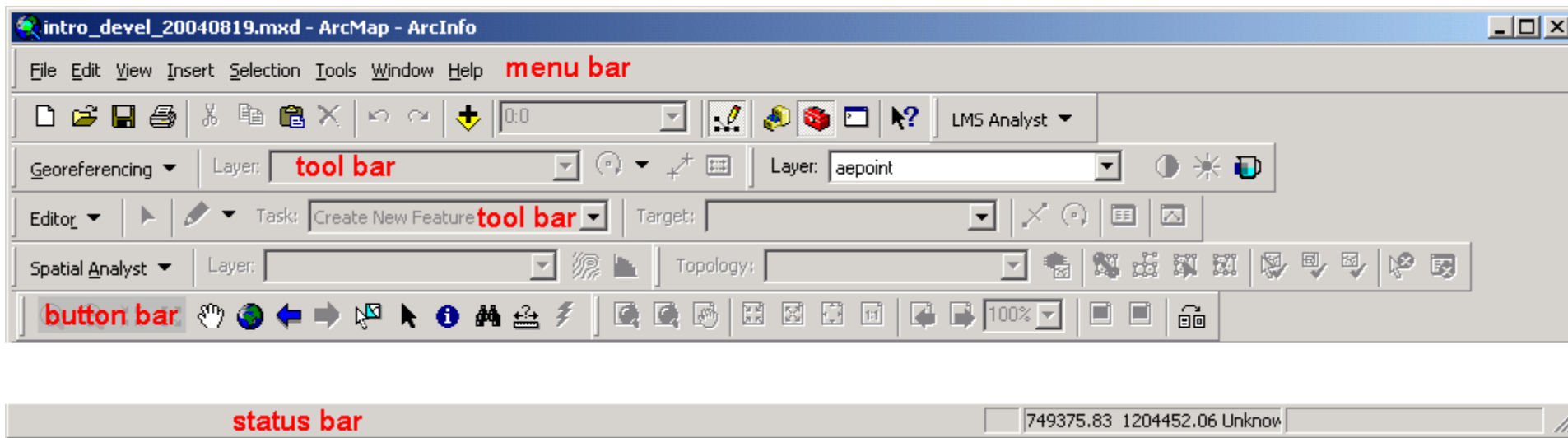
Graphical User Interface (GUI)

What is a GUI?

- A way of communicating with the system via graphics (visual)
- Communication is done through graphical icons or other visual indicators

Basic GUI in GIS Software

- GUI in GIS software depends entirely on the software you are using. In ArcGIS, the basic GUI is shown in the following picture:



Source of picture: https://courses.washington.edu/gis250/lessons/introduction_arcgis/arcgis_gui.html



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Basic GUI in GIS Software

- GUI in ArcGIS can be customized based on your needs.
- A complete guide on how to customize your GUI is provided here:

<http://desktop.arcgis.com/en/arcmap/latest/get-started/customizing-the-ui/about-configuring-the-user-interface.htm>



What to improve?

- It all comes down to the very system you are developing.
- If the system is for **public**, you might want to leave only a few functionalities to **minimize risk**.
- If the system is for **professionals** and the owner of the system, you might want to provide **more** or as much as they need, at the same way maintaining the quality of **good GUI**.

Think GIS way...

If you are preparing a GIS system for both public and professionals, what would you do (in terms of the UI)?

