Lab 11: GUI

Objectives:

At the end of this lab, you should be able to:

1- Determine features of good GUI.
2- Build multiple-GUI application using JMenuBar, JMenu, and JMenuItem

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Developing professional GUI

There are many features of good user interface (UI):

1- Clear:

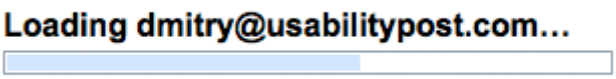
Clarity is the most important element of user interface design. Indeed, the whole purpose of user interface design is to enable people to interact with your system by communicating meaning and function. If people can't figure out how your application works or where to go on your website they'll get confused and frustrated

2- Concise:

Clarity in a user interface is great, however, you should be careful not to fall into the trap of over-clarifying. It is easy to add definitions and explanations, but every time you do that you add mass. Your interface grows. Add too many explanations and your users will have to spend too much time reading through them. Keep things clear but also keep things concise.

3- Responsive:

Responsive means a couple of things. First of all, responsive means fast. The interface, if not the software behind it, should work fast. Waiting for things to load and using slow interfaces is frustrating. Seeing things load quickly, or at the very least, an interface that loads quickly (even if the content is yet to catch up) improves the user experience. Perhaps the button text could change to "Loading…" and it's state disabled. Is the software stuck or is the content loading? Play a spinning wheel or show a progress bar to keep the user in the loop.

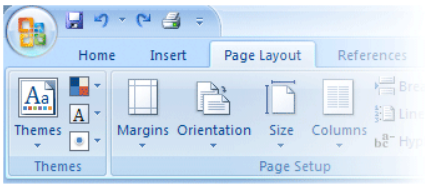


Responsive also means the interface provides some form of feedback. The interface should talk back to the user to inform them about what's happening. For example, display message "A new students is added". In case of errors, your system should display a message that tells user what is exactly the problem, for example when using data of a field is missing, system should display a message to tell which data is exactly missing.

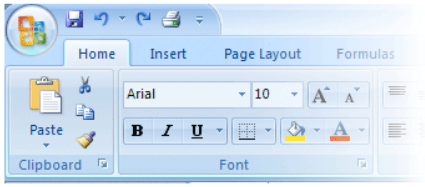
4- consistent

Consistent interfaces allow users to develop usage patterns – they'll learn what the different buttons, tabs, icons and other interface elements look like and will recognize them and realize what they do in different contexts. They'll also learn how certain things work, and will be able to work out how to operate new features quicker, extrapolating from those previous experiences.

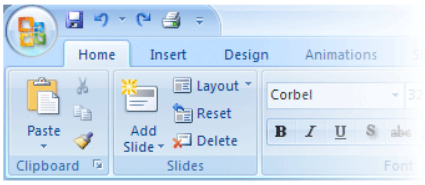
Microsoft Word



Microsoft Excel



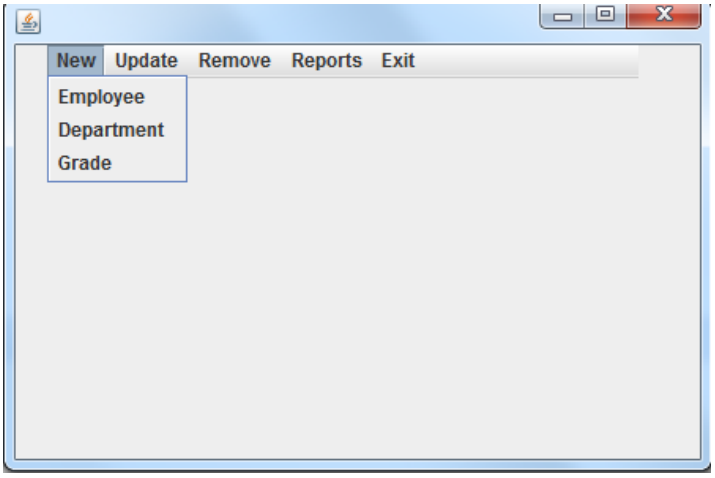
Microsoft Powerpoint



Forms and data entry usability guidelines

1- Fields in data entry screens contain default values when appropriate to save user time. For example, nationality drop list should contain "Qatari" as a default for the systems developed to be used in Qatar.
2- When a task involves source documents (such as a paper form), the interface is compatible with the characteristics of the source document, so user can copy the data easily from the paper form to the GUI form.
3- The site automatically enters field formatting data, for example the date should be formatted according to the common format used in the country like here in Qatar 'dd-mm-yyyy' automatically, user should not have to do that. Another example, the currency should be formatted as two digits fraction.
4- Field labels on forms clearly explain what entries are desired.
5- Forms are validated before the form is submitted.

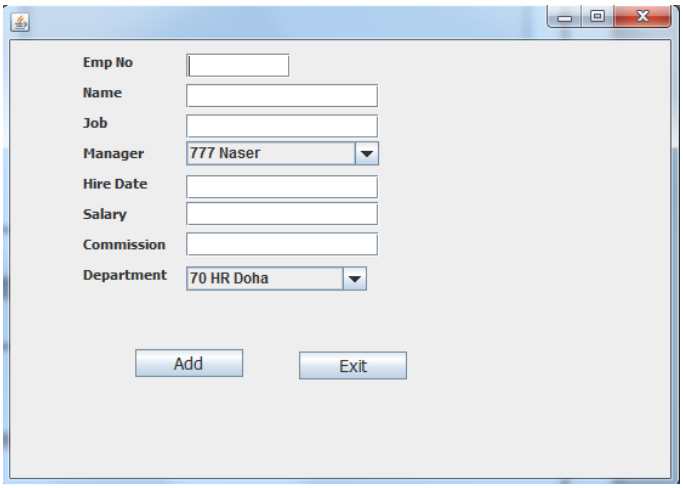
When developing real applications, there will be one main window that help user to move between different functionalities of the system.
One way to categorize the system functionalities is use "Menus" .



Exercise :

Using WindowBuilder, develop main frame like this.

When user select “New→Employee”, a new JFrame should be displayed like the following:



Notice:

- User should not enter Manager number, instead the names of the current employees should be displayed in drop down list (JComboBox) in order to ease selecting the manager.
- To help user selects the department, a drop down list (JComboBox) should be displaced and user selects from them.