Training: Graphical User Interface[1] (G U I)

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Automatic Control and System Design Engineering

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[1] Visit: `http://www.mathworks.com/help/matlab/ref/guide.html`

Preface

The Url shown in footnotes are indicatives. They have been visited in 2014. We do not guarantee their validities and we are not responsible on updates mis-leaded by some websites.

Purposes

- Create a Graphical User Interface to acquire video streaming.
- Deploy the project to get an application running on windows machine.

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Outlines

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Taken from another university

(THE UNIVERSITY of NORTH CAROLINA at CHAPEL HILL: Department of Physics and Astronomy[a])

[a] See: http://physics.unc.edu/undergraduate-program/labs/general-info/

During this course, you will be working with one or more partners with whom you may discuss any points concerning laboratory work. However, you must write your lab report, in your own words.
Lab reports that contain identical language are not acceptable, so do not copy your lab partner's writing.
If there is a problem with your data, include an explanation in your report. Recognition of a mistake and a well-reasoned explanation is more important than having high-quality data, and will be rewarded accordingly by your instructor. A lab report containing data that is inconsistent with the original data sheet will be considered a violation of the Honor Code.

Falsification of data or plagiarism of a report will result in prosecution of the offender(s) under the University Honor Code.
On your first lab report you must write out the entire honor pledge:

"The work presented in this report is my own, and the data was obtained by my lab partner and me during the lab period."

On future reports, you may simply write *"Laboratory Honor Pledge"* and sign your name.

Outlines

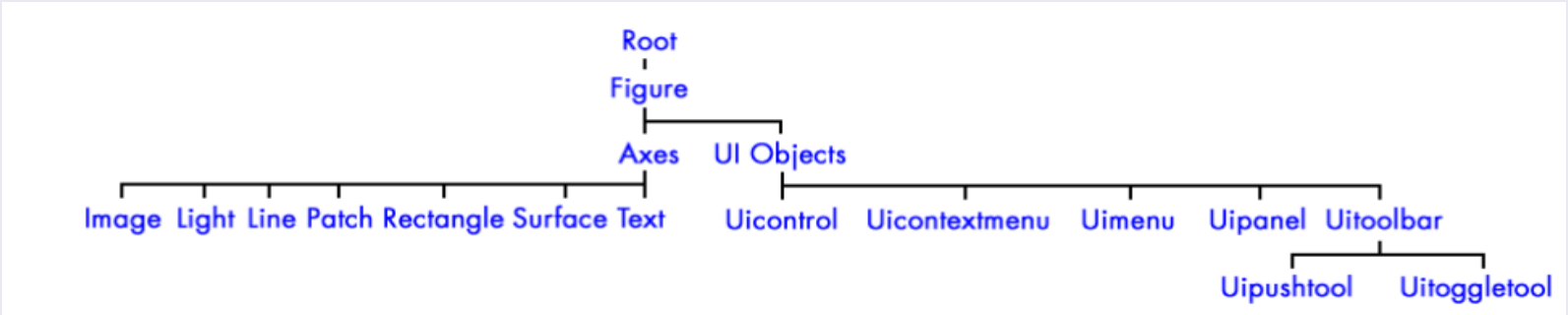
Definition[a]

[a]What Is a GUI? - MATLAB & Simulink
http://www.mathworks.com/help/matlab/creating_guis/what-is-a-gui.html

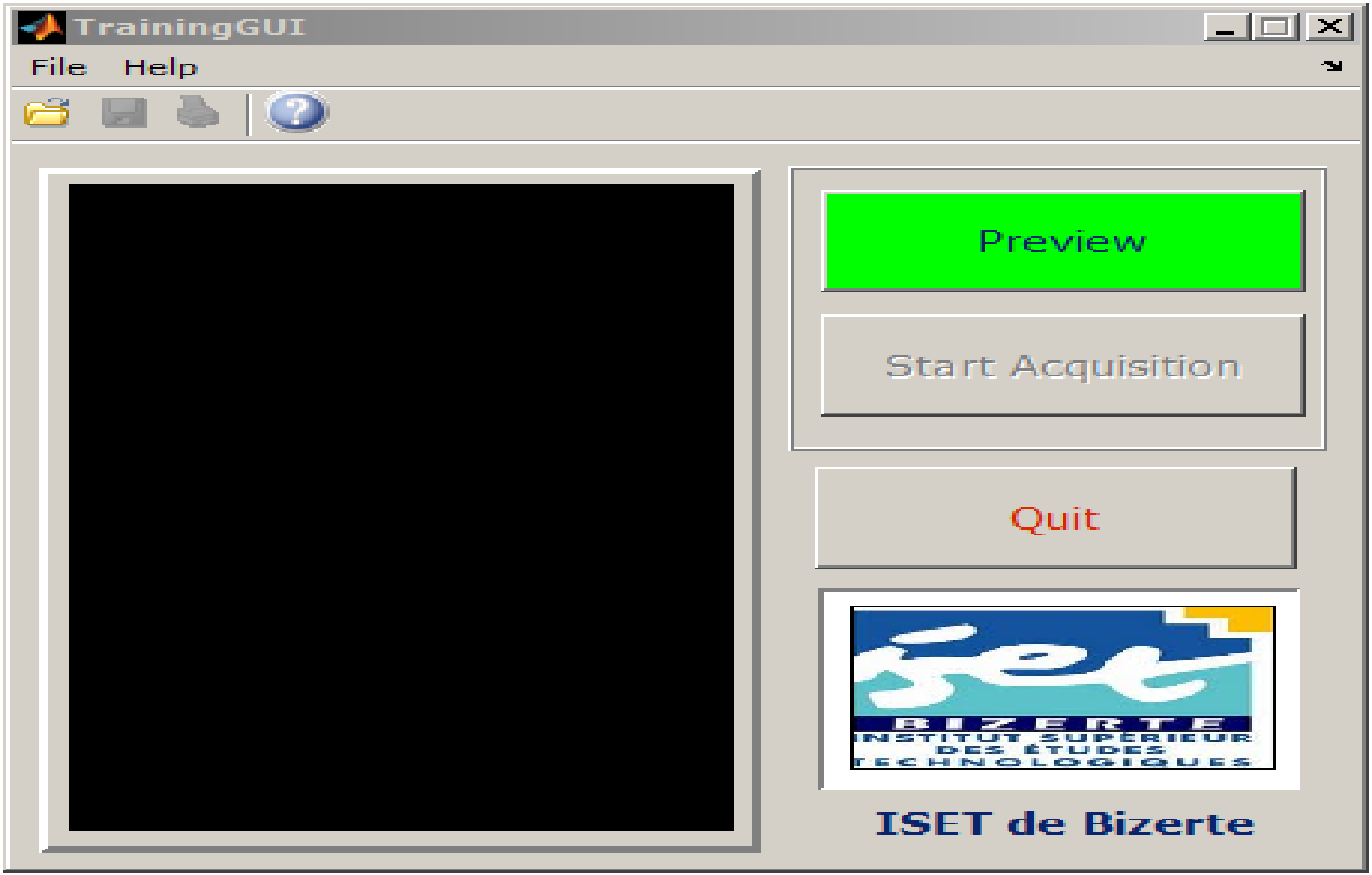
- A Graphical User Interface (*GUI*) is a graphical display containing components that enable a user to perform interactive tasks.
- GUI components can include menus, toolbars, push buttons, radio buttons, list boxes, and sliders, etc.
- GUIs created using MATLAB® tools can also perform any type of computation, read and write data files, communicate with other GUIs, and display data as tables or as plots.

Click here to subscribe on YouTube for further tutorials.

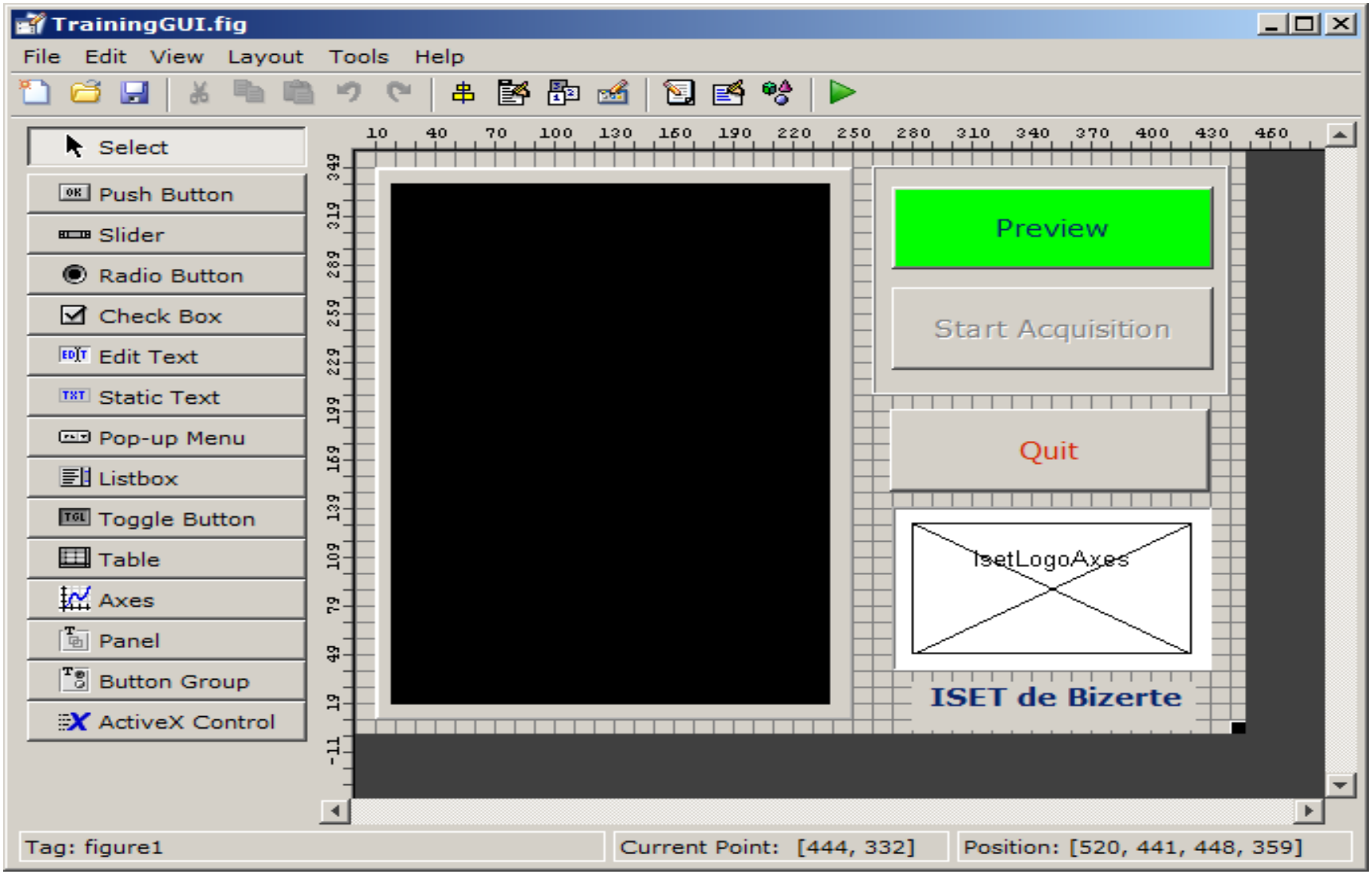
Hierarchy



GUI Sketch


TrainingGUI
File
Help
Preview
Start Acquisition
Quit
ISET de Bizerte

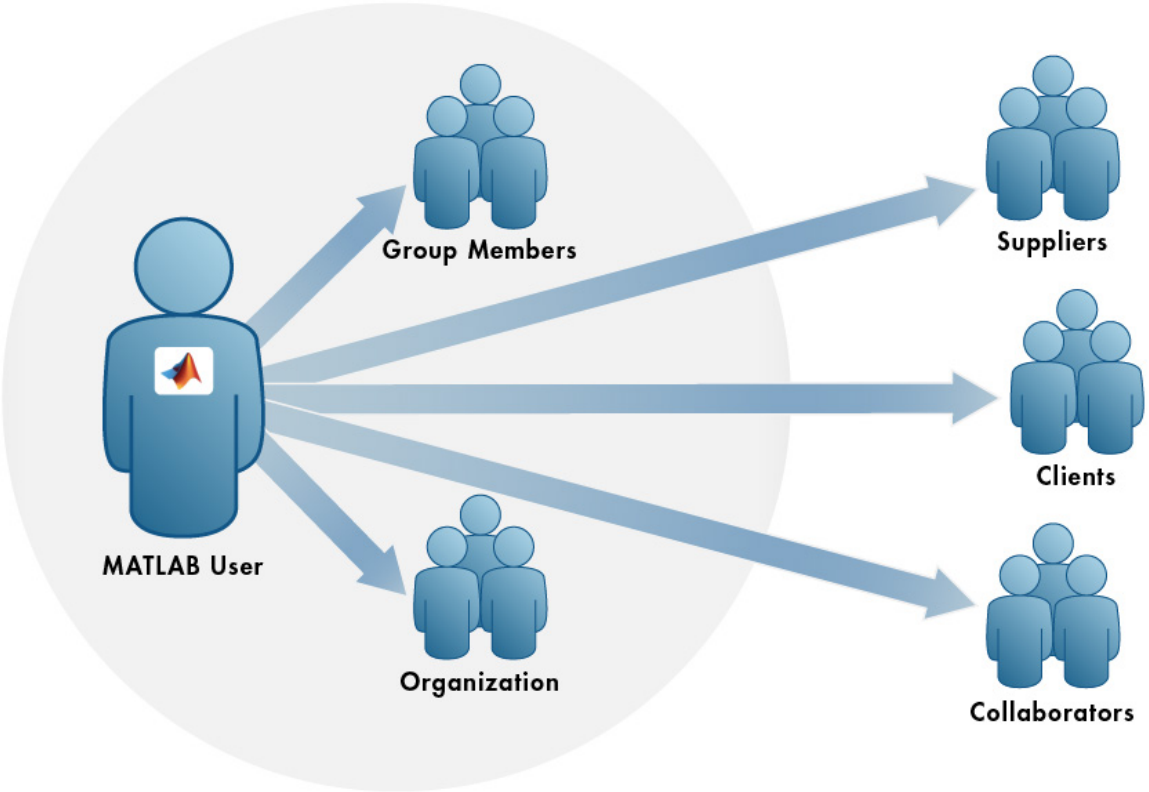
Lab. (Matlab R2011a)



Outlines

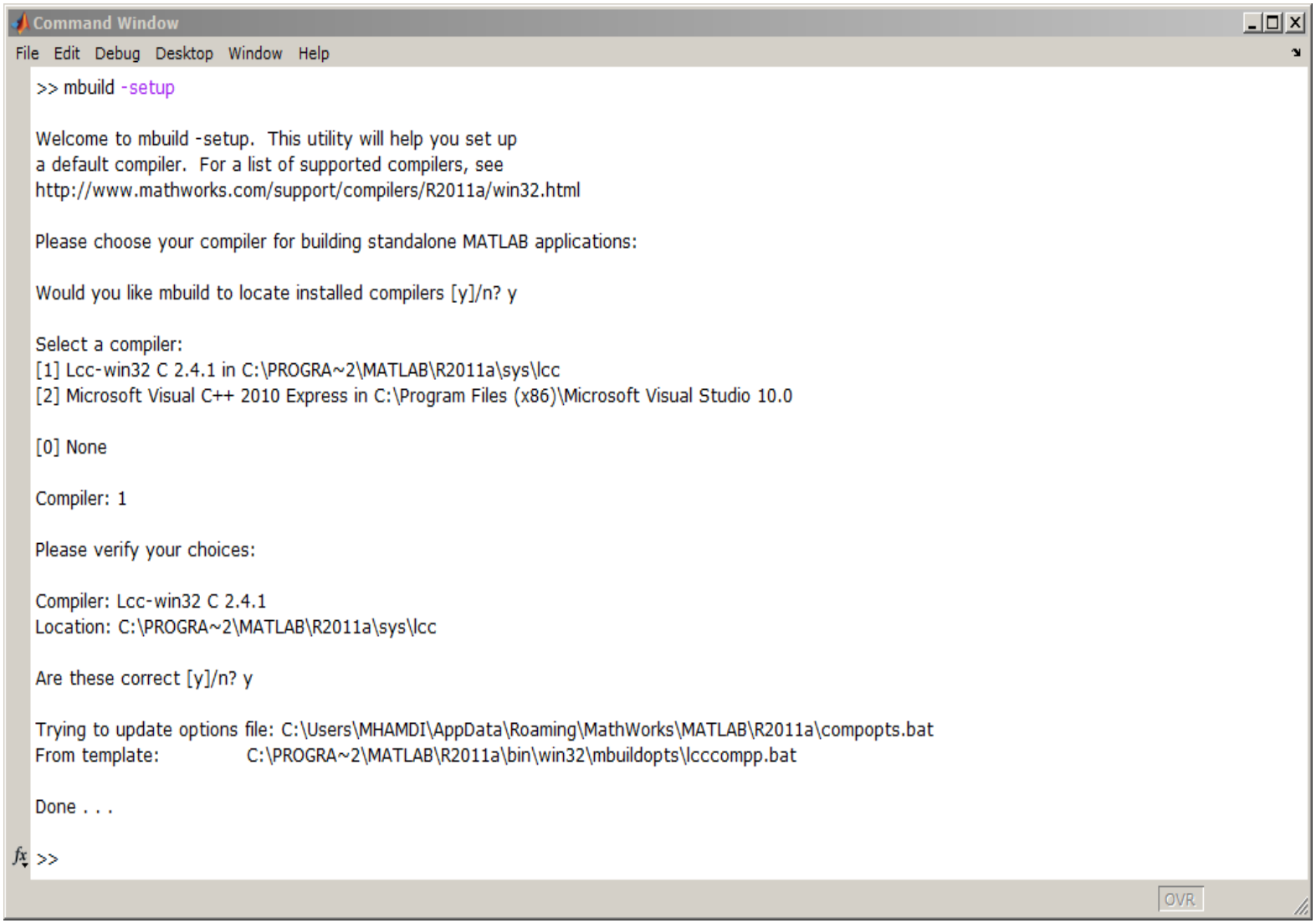
Overview

MATLAB Compiler™ lets you share MATLAB® programs as standalone applications or shared libraries for integration with common programming languages[2].



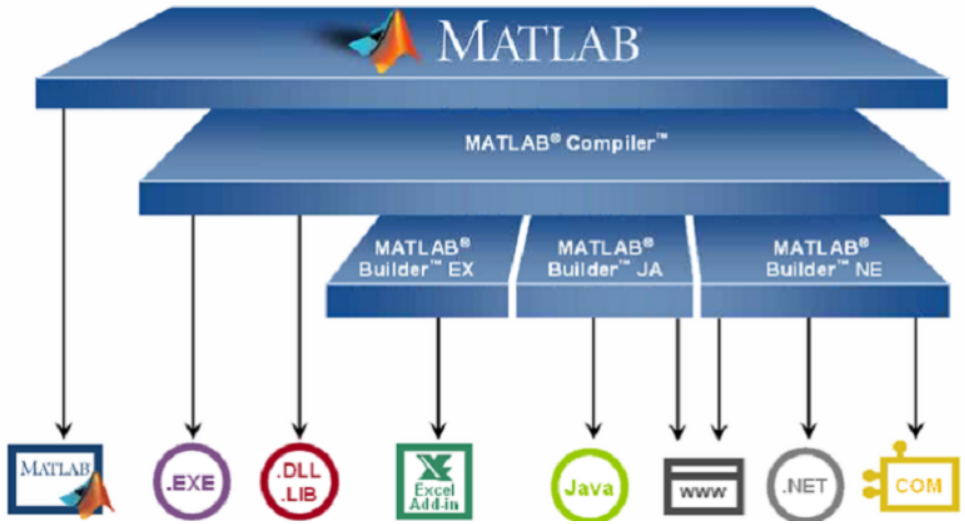
[2] http://www.mathworks.com/products/compiler/

Compiler Specification



Architecture of Compilation under MATLAB

Applications and libraries created with MATLAB Compiler use the MATLAB Compiler Runtime, which enables royalty-free deployment to users who do not have MATLAB[3].



[3] http://www.mathworks.com/products/compiler/

Procedure (1/2)

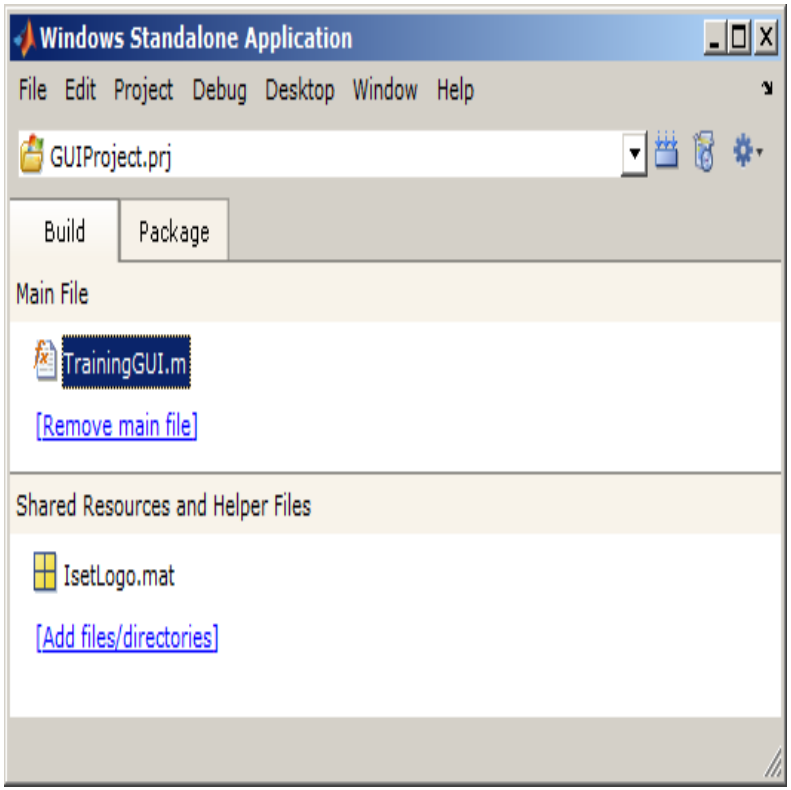


Figure : Adding files

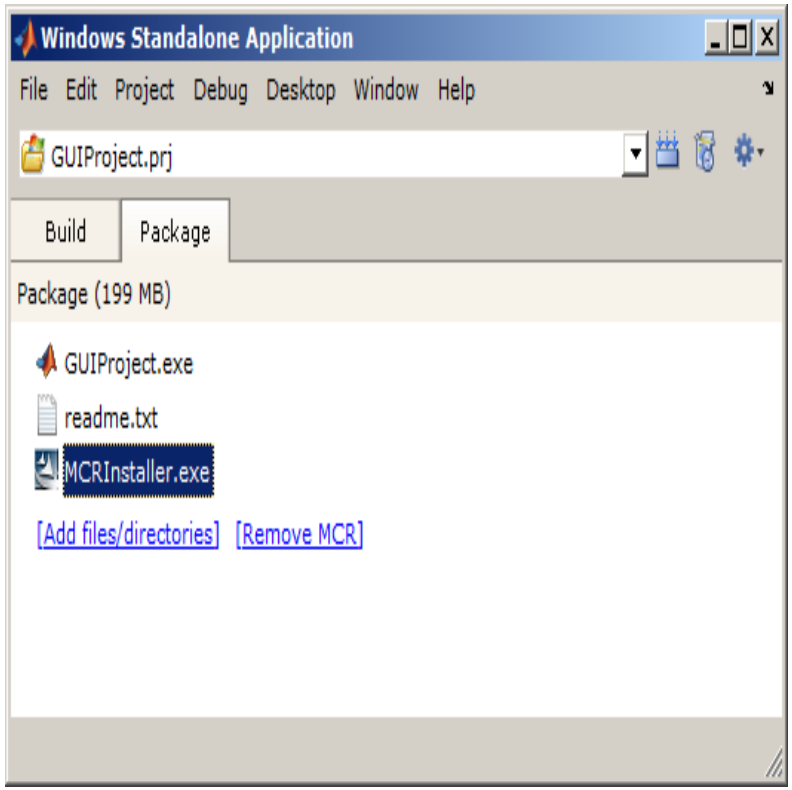


Figure : Packaging of Matlab Component Runtime (MCR)

Procedure (2/2)[a]

[a] http://www.mathworks.com/matlabcentral/answers/101376-how-do-i-associate-a-custom-icon-with-an-exe-compiled-with-the-matlab-compil

This is not possible in releases R2010b-R2013a.

1. Choose an icon  . Rename it as *"MyIcon.ico"*.
2. Create a new text file and write "ConApp ICON *MyIcon.ico*" in it. Rename it as *"MyIconResource.rc"* and save it in your current directory.
3. Compile *"MyIconResource.rc"* and *"MyIcon.ico"* files using the following command at MATLAB prompt:

```
system(['"' matlabroot '\sys\lcc\bin\lrc" /i "' ...
                                    ...pwd '\MyIconResource.rc"']);
```

4. Compile the MATLAB files and the resource file together using the -M option as before:

```
mcc -m TrainingGUI.m -M myiconresource.res -o My GUI -v
```

The End.

Thanks a lot for attending this training.