

PICSIM

INSTALLATION & USER MANUAL

2007

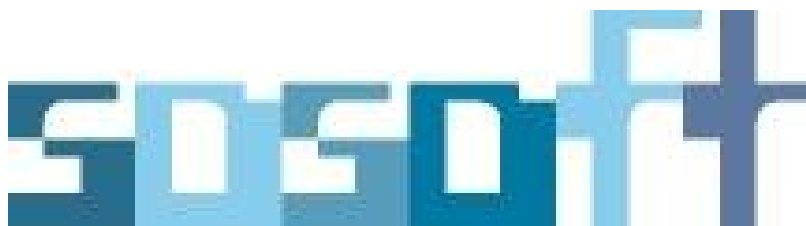


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INSTALLATION MANUAL FOR PICSIM

1. DEPENDENCIES:

Before installing PicSim, you need to check that if you have the following dependencies:

flex

bison

kdelibs-devel-3.5x

htmlinfo

2. INSTALLING DEPENDENCIES:

If you have all installed on your computer, you can jump to step 3.

Flex

Untar flex.2.5.33.tar.gz

Install flex executing the following command:

```
rpm -i flex.2.5.33
```

Bison

```
rpm -i bison-1.875-10tr.i586.rpm
```

Htmlinfo

```
rpm -i htmlinfo-0.1.5-16tr.i586.rpm
```

Kdelibs

```
rpm -i kdelibs-devel-3.5.6-4.el4.x86_64.rpm
```

3. INSTALLING SDCC

INSTALLING SDCC FROM SOURCE

Move into the directory where sdcc source codes are placed.

Execute the following commands:

```
./configure  
make  
make install
```

After this step you will not need flex and bison.

You can uninstall them executing:

```
rpm -e flex.2.5.33  
rpm -e bison-1.875-10tr.i586.rpm
```

INSTALLING SDCC FROM RPM PACKAGE

Execute the following command:

```
rpm -i sdcc-2.6.0-1mdk.i586.rpm
```

4. ODYSSEY

Now unpack odyssey-0.5.tar.gz

Install odyssey executing the following commands:

```
cd odyssey  
./configure  
make  
make install
```

You will not need htmlinfo after this step. So you can uninstall it from your computer executing the command:

```
rpm -e htmlinfo-0.1.5-16tr.i586.rpm
```

5. INSTALLING PICSIM

INSTALLING PICSIM FROM SOURCE

Now you have installed all the dependencies you need are ready to install PicSim

For installing PicSim from the source files:

```
cd picsim
```

```
make
```

INSTALLING PICSIM FROM RPM PACKAGE

Execute the following command:

```
rpm -i picsim-1-1.src.rpm
```

USER MANUAL FOR PICSIM

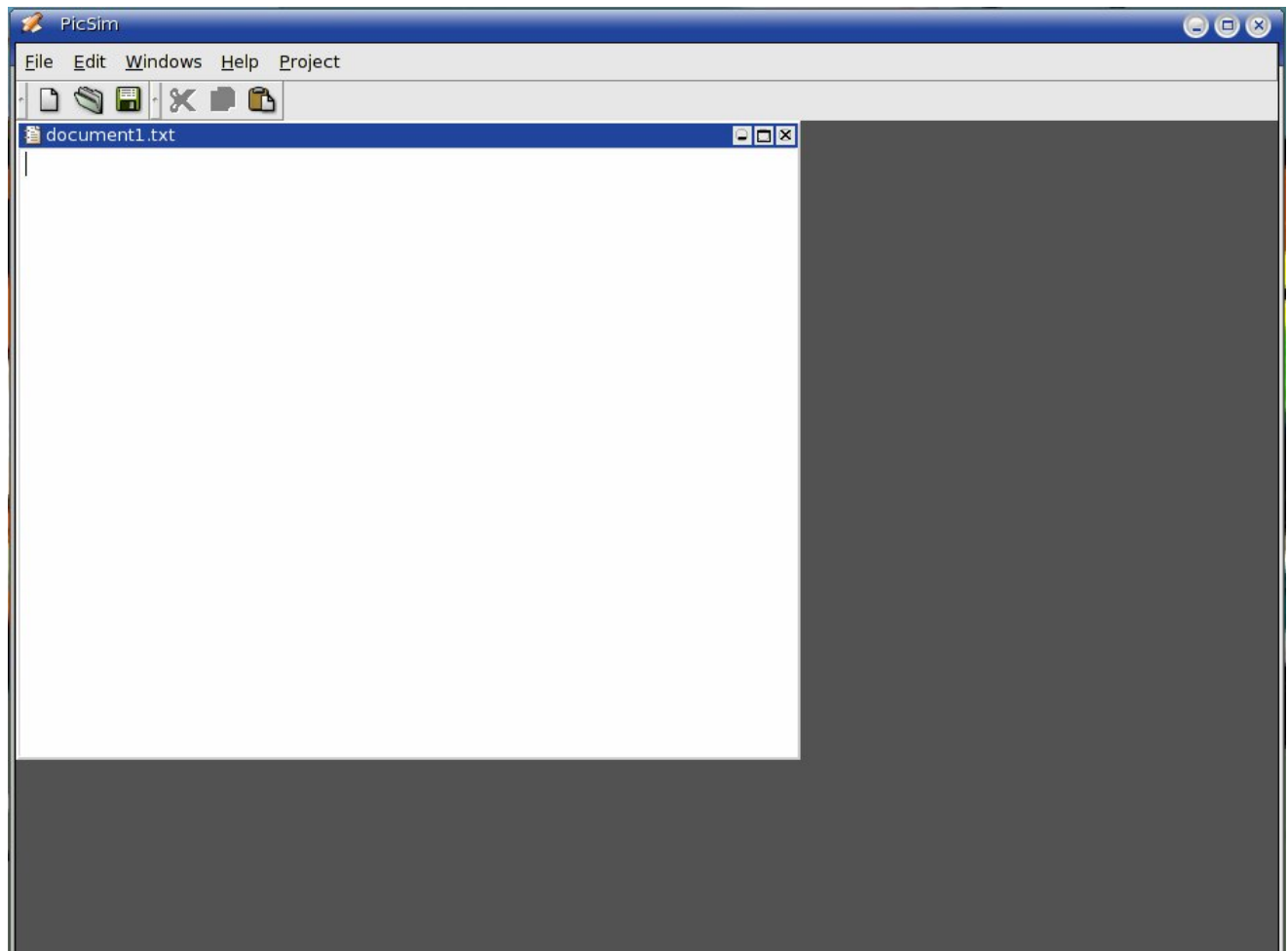
1. INTRODUCTION

The purpose of this document is to give you a brief information about the purpose of PicSim and how it is used. This tutorial aims to make you use the PicSim effectively.

2. WHAT IS PICSIM?

PicSim is an Emulator and Development Environment for Pic Demo Board. On this board, there are two PIC processors, LCD, Parallel Port, Serial Port, and USB Port, Smart Card reader, LED's and some other tools. PicSim is developed for PIC16F877 Microchip microcontroller.

PicSim provides an environment for users to design a system for Pic16F877 microcontroller and contains all the components needed to design and simulate the Pic Demo Board applications.



3. USING PICSIM

3.1 FILE MENU

Creating a New File

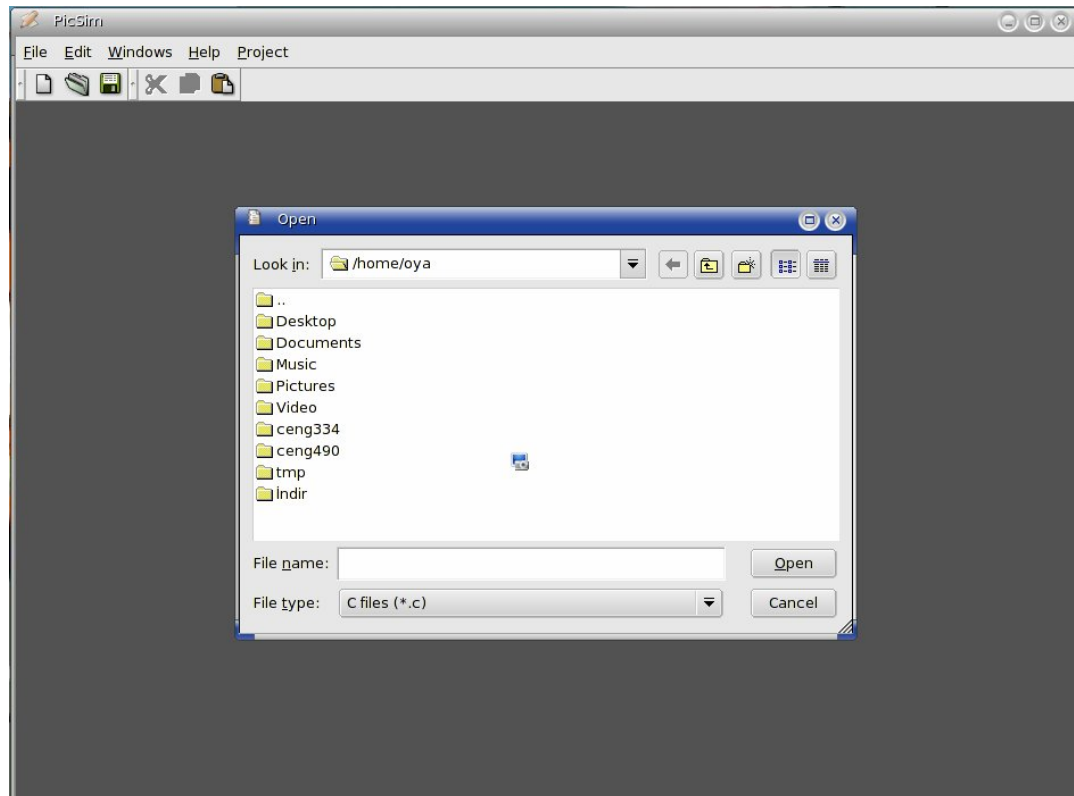
To create a new file:

1. Click the New File icon, select New from the File menu or press <CTRL> + <N>.
2. A new window will open named "Document1.c". This is your new file. To give it the name you want it to have, select *File>Save As*.

Opening Files

To open an existing file:

1. Click the Open File icon, select Open from the File menu or press <CTRL> + <O>. The Open File dialog opens. In the dialog, browse to the location of the file you want to open and select it. Click the Open button.
2. The selected file is displayed in its own editor window. If the selected file is already open, its current editor window will become the active window.



Saving Files

To save a file:

1. Make sure the window that contains the file you want to save is the active window.
2. Click the Save icon, select Save from the File menu or press <CTRL> + <S>. The file is saved with the name on its window.

To save a file with a different name:

1. Make sure the window that contains the file you want to save is the active window.
2. From the File menu, select Save As. The New File Name dialog displays.

3. In the dialog, browse to the folder where you want to save the file.
4. In the File Name field, modify the name of the file if you want to save the file with a different name.
5. Click Save.

Exiting PicSim

To exit the PicSim program:

- From the File Menu, select Close or press <ALT> + <F4>.

3.2 EDIT MENU

Cutting/Deleting Text

To cut text:

1. Select the text to cut.
2. Click the Cut icon, select Cut from the Edit menu, press <CTRL> + <X>.

The selected text is deleted from the source document but moved to the clipboard so that it may be pasted elsewhere.

To delete text:

1. Select the text to delete.
2. Select Delete from the Edit menu or press <Delete>.

The selected text is deleted from the source document. If you deleted in error, immediately perform an Undo.

To remove single characters:

1. To remove the character to the left of the caret, press <Backspace>.
2. To delete the character under the caret, press <Delete>.

Copying Text

To copy text:

1. Select the text you want to copy.
2. Click the Copy icon, select Copy from the Edit menu, press <CTRL> + <C>.

The selected text is copied to the clipboard so it can be pasted elsewhere.

Pasting Text

You can paste any text contained in the clipboard into a file in the PicSim Editor. You can paste text that you have copied from the same file or from another application.

To paste text from the clipboard:

1. Move the caret to the point where you want to insert the text.
2. Click the Paste icon, select Paste from the Edit menu, press <CTRL> + <V>

Undoing Editor Actions

If you have just made a change to a file, you can reverse the effect of the last change you just made.

- Press <CTRL> + <Z>.

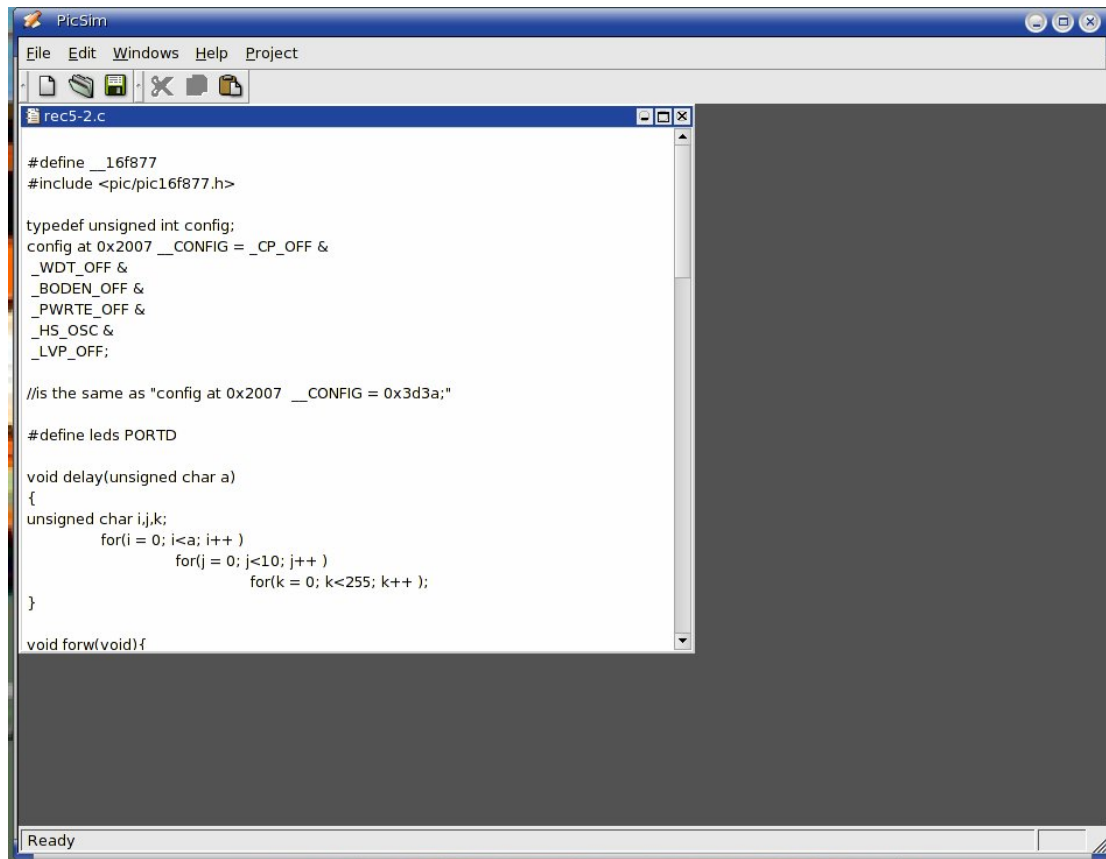
You can repeat the Undo action multiple times in succession. Each will undo the action prior to the last undo.

Redoing Editor Actions

If you have just reversed a change with the Undo function, you can redo the change.

- Press <CTRL> + <SHIFT> + <Z>.

You can repeat the Redo action multiple times in succession.



3.3 WINDOWS MENU

Closing Files

There are several ways of closing a file, as shown below:

- From the Window Menu:
 - Make sure the window containing the file you want to close is the active window.
 - From the Window menu, select Exit. If the file has changed since it was saved last, you will be prompted to save your changes.
- Type <CTRL> + <F4> when the file you want to close is the active window.
- To close all windows that is open, select Close All from the Windows Menu.

Tiling/Cascading Windows

To tile windows, select Tile from Windows Menu.

To cascade windows, select Cascade from Windows Menu.

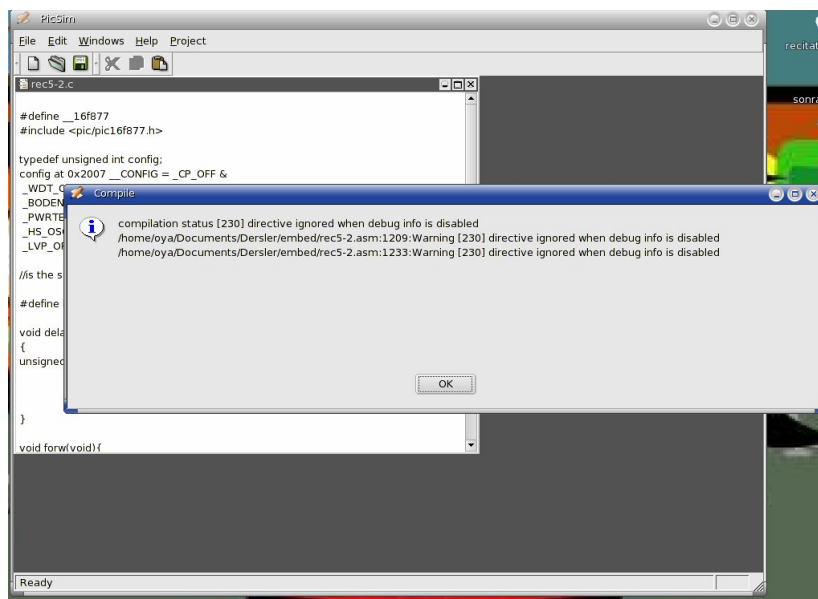
Switching Between Windows

To switch between windows user can select to pass to next or previous window by either selecting Next/Prev from Windows Menu or by pressing <CTRL> + <F6> / <CTRL> + <SHIFT> + <F6>

3.4 PROJECT MENU

Compiling the Source File

To compile the current project user can select Compile from the Project Menu. The message box will inform about the compilation status.



Debugging the Program

To debug the compiled project user can select Debug from the Project Menu. The watch window will be opened where the user can enter the register names or addresses.

PicSim <2>

| | Name | Address | Dec. | Hex. | Bin. |
|----|--------|---------|------|------|----------|
| 1 | PORTD | 08 | 1 | 01 | 00000001 |
| 2 | PORTA | 05 | 4 | 04 | 00000100 |
| 3 | PORTB | 06 | 0 | 00 | 00000000 |
| 4 | select | | | | |
| 5 | select | | | | |
| 6 | select | | | | |
| 7 | select | | | | |
| 8 | select | | | | |
| 9 | select | | | | |
| 10 | select | | | | |
| 11 | select | | | | |
| 12 | select | | | | |
| 13 | select | | | | |
| 14 | select | | | | |
| 15 | select | | | | |
| 16 | select | | | | |
| 17 | select | | | | |
| 18 | select | | | | |
| 19 | select | | | | |

next continue close

77 rec05.c

CP_OFF &

```

_LVP_OFF;
//is the same as "config at 0x2007 __CONFIG = 0x3d3a;"

#define leds PORTD

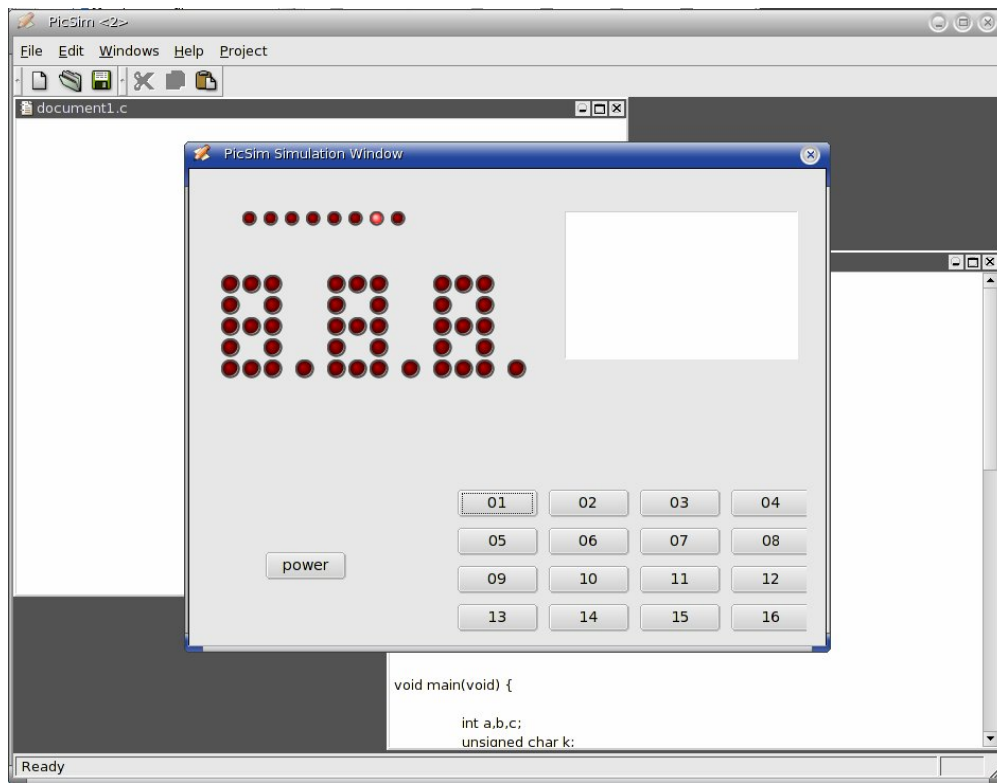
void main(void) {

    int a,b,c;
    unsigned char k;
  
```

Ready

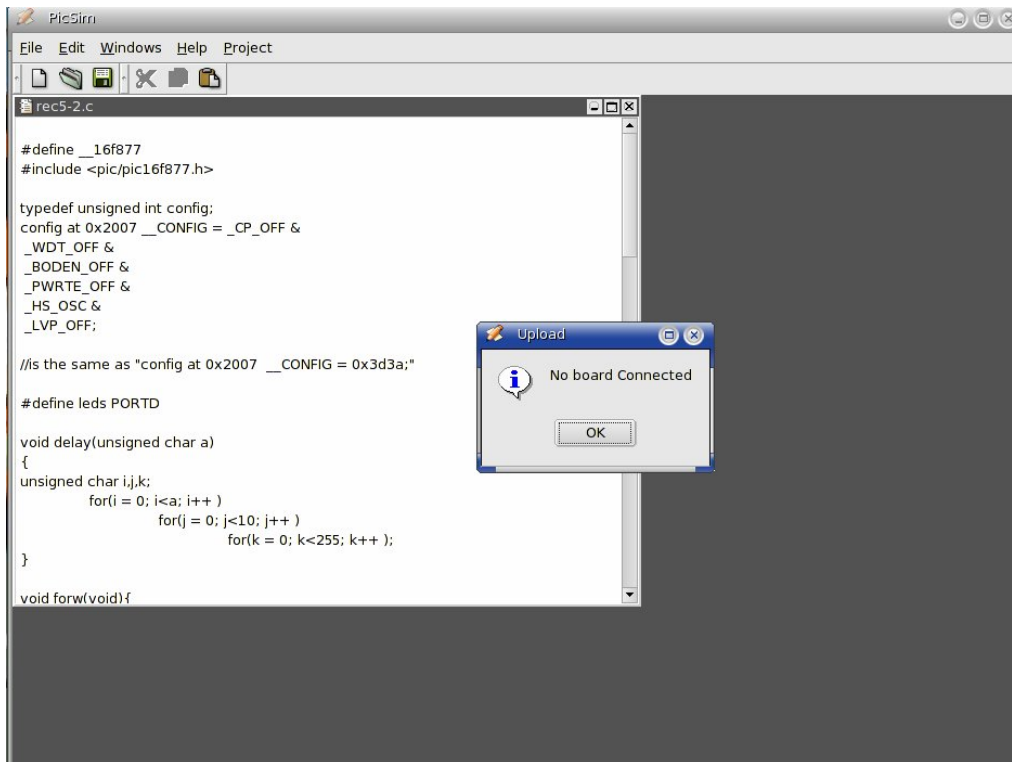
Simulating the Program

To simulate the project user can select Simulate from the Project Menu. The simulation window will be opened where the user can see the simulation of the program as if it can be seen from the Pic Demo Board. User needs to click on the Power Button to start the simulation.



Uploading the Hex File to the Board

To upload the Hex file to the board user can select Upload to the Board from the Project Menu. The message box will be opened to inform the user about the uploading process.



Clearing the Board

To clear the board user can select Clear Board from the Project Menu, so the board will be cleared and be ready to be loaded again.

3.5 HELP MENU

Help About PicSim

User can select About from the Help Menu, to reach information about the PicSim functionalities.

Help About QT

User can select About QT from Help Menu, to reach information about QT.