

CSCI-6262
Class Project
User's Guide for Project Phase 1

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1. User's Guide Overview

This User's Guide for the for Project Phase 1 consists of four main parts:

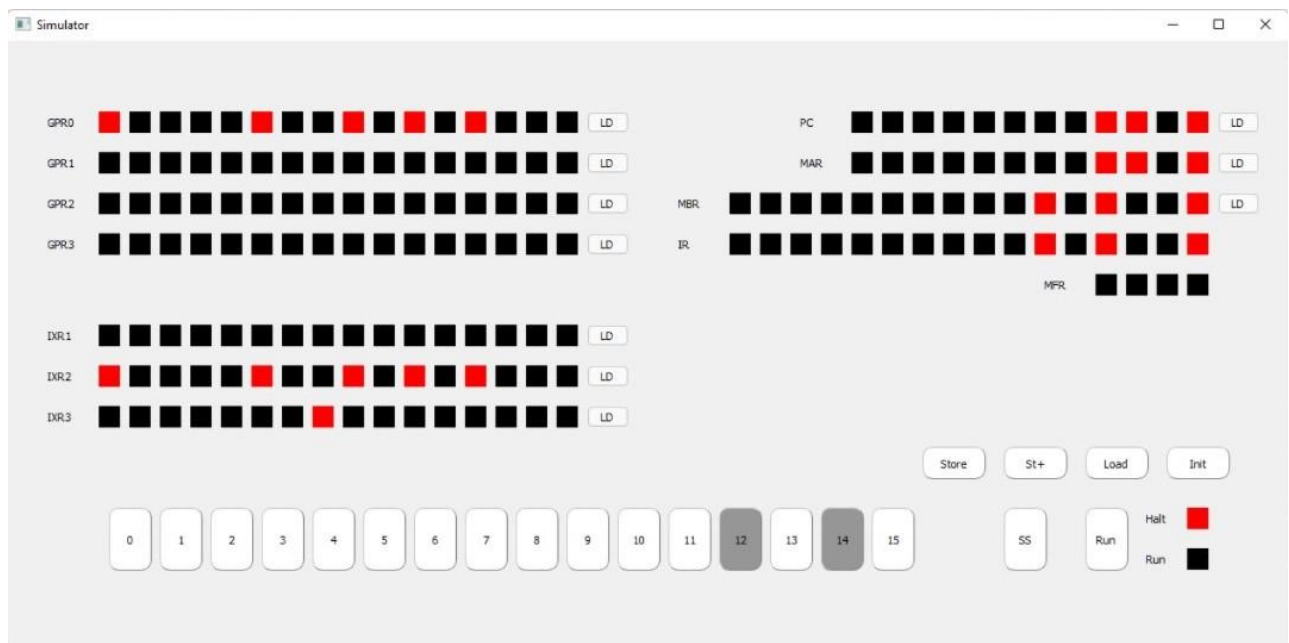
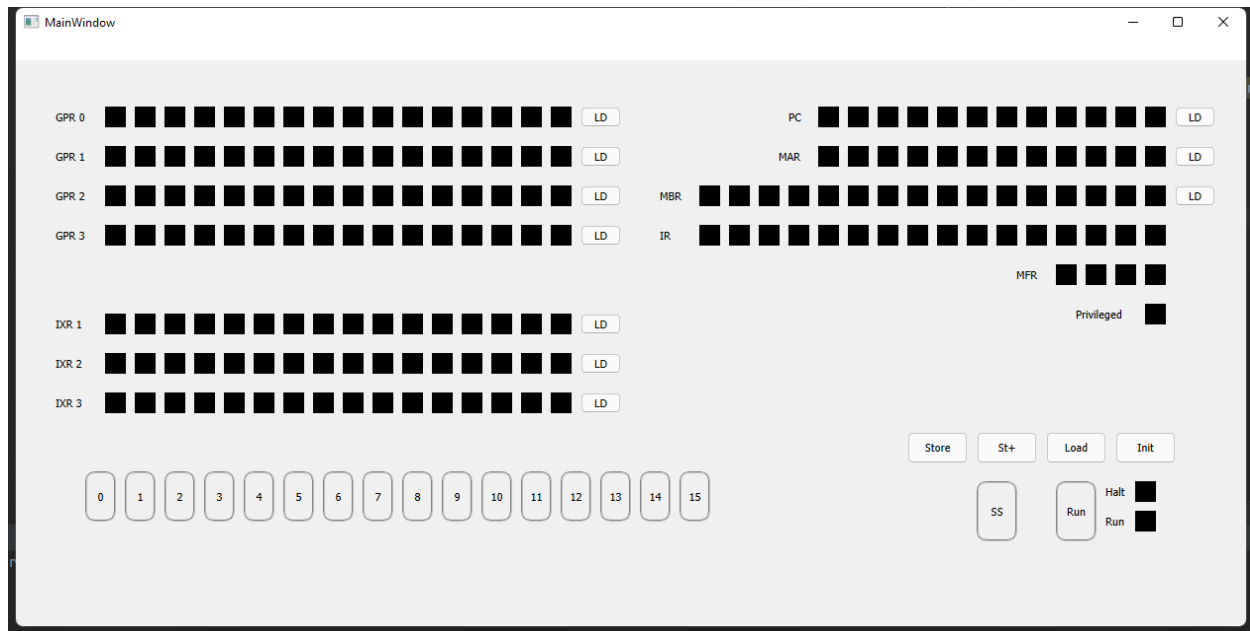
- User's Guide Overview
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- Buttons
- Indicators

2. Main GUI

How to open the main GUI?

In order to access the main GUI, please open [**simulator_GUI.exe**]  **simulator_GUI.exe** in the folder [simulator_GUI].

The main GUI consists of two parts, the simulator interface and the debug console.



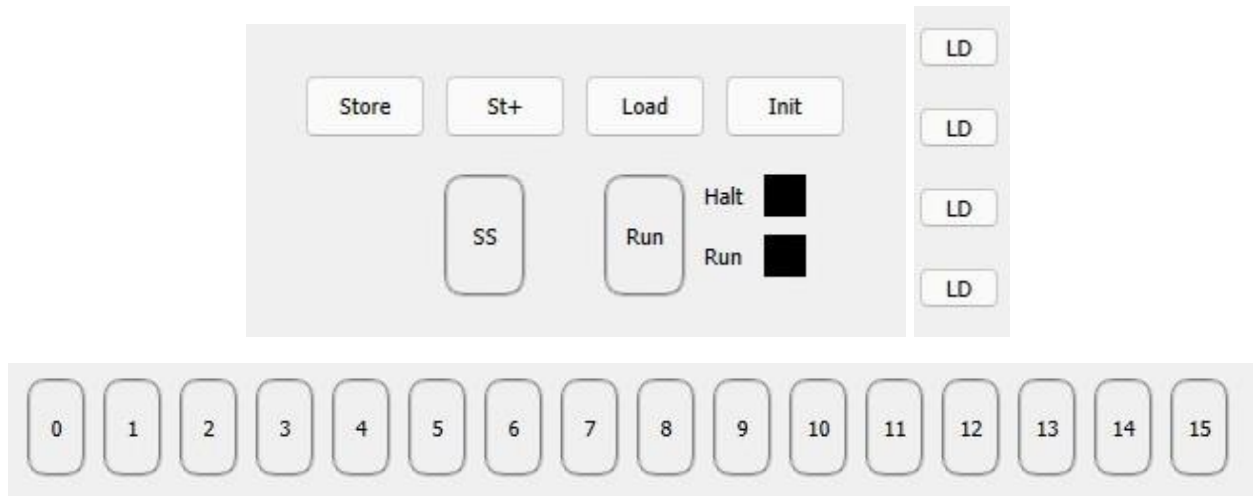
A screenshot of a Python terminal window titled 'python'. The window contains a series of debug and info messages. The messages are as follows:
[INFO:2022-02-06 17:27:48,483 - memory.py:67:init_program() -] - Program loaded with start at 8
[DEBUG:2022-02-06 17:28:00,011 - cpu.py:178: _ldx() -] -
[DEBUG:2022-02-06 17:28:00,011 - cpu.py:130: _get_effective_address() -] -paring effective address, ix 10, i 1, addr 01000
[DEBUG:2022-02-06 17:28:00,012 - cpu.py:184: _ldx() -] - ldx 10,01000[1] effective::10
[DEBUG:2022-02-06 17:28:00,012 - cpu.py:178: _ldx() -] -
[DEBUG:2022-02-06 17:28:00,012 - cpu.py:130: _get_effective_address() -] -paring effective address, ix 11, i 0, addr 01001
[DEBUG:2022-02-06 17:28:00,012 - cpu.py:184: _ldx() -] - ldx 11,01001[0] effective::9
[DEBUG:2022-02-06 17:28:00,012 - cpu.py:151: _ldr() -] -
[DEBUG:2022-02-06 17:28:00,012 - cpu.py:130: _get_effective_address() -] -paring effective address, ix 00, i 1, addr 01000
[DEBUG:2022-02-06 17:28:00,013 - cpu.py:155: _ldr() -] - ldr 00,00,01000[1] effective::10
[DEBUG:2022-02-06 17:28:00,013 - cpu.py:145: _hlt() -] -

This is what the main GUI looks like. We use Pyqt5 library in Python as the course recommended to construct the whole user's interface.

As we can see, the user interface of our emulator is functionally consistent with the requirements. Also, there is a debug console for the output. For those buttons and indicators, this user's guide will cover below.

3. Buttons

Our emulator has few major control buttons and ,few LD buttons for each registers and few number buttons to store numbers as shown below:



These buttons above are used to control the emulator.

For the detail functions of major control buttons:

[Store]:

This button stores the content of the MBR register to memory at the address specified by the content of the MAR register.

[St+]:

This button does what the “Store” button does and increments the MAR register by one.

[Load]:

This button loads the memory content at the address specified by the content of the MAR register to the MBR register.

[Init]:

This button clears the contents of all registers.

[SS]:

This button runs a single stage (fetch / decode / execute).

4. Indicator



[Halt]:

When this indicator is checked, the emulator is in halt.

[Run]:

When this indicator is checked, the emulator is in running.



Indicators like this show the memory address of each certain register.