# USER'S MANUAL

*FSM-Extractor*

January, 2019

## Revision Sheet

| Release No. | Date | Revision Description | Writer |
|---|---|---|---|
| Rev. 0 | 05/01/19 | User's Manual Created | Ercüment TÜRK |
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# USER'S MANUAL

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1.0    GENERAL INFORMATION

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## 1.1  System Overview

The "FSM-Extractor" is designed to generate and show the all Mealy FSM transactions, input and output alphabet, state list . It accept the system code which is written in Verilog as an input. After program starts, "PQ-FSM.fsm" is created and stored.

## 1.2  Acronyms and Abbreviations

FSM - Finite State Machine

## 2.0   SYSTEM SUMMARY

## 2.0    PROGRAM SUMMARY

## 2.1    Program Summary

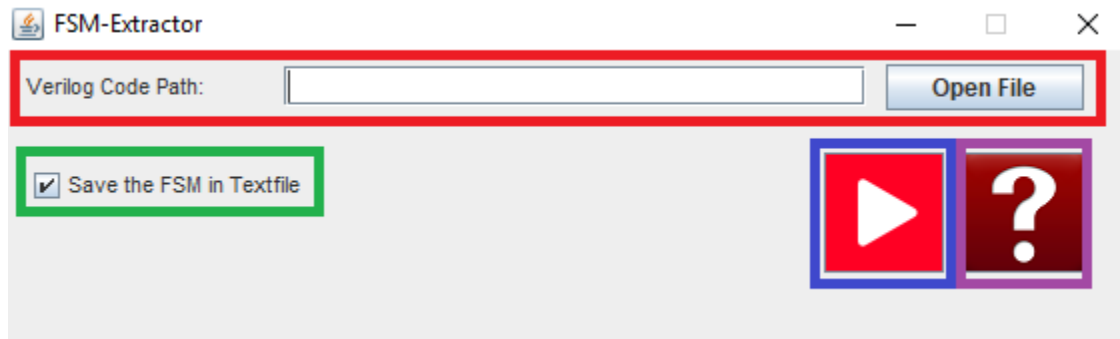To keep everything simple, the main GUI consists of 4 main parts; which are enumerated below:



*Figure 1*

1. **Red** ➡ Verilog source code path
2. **Green** ➡ Save results of FSM-Extractor into PQ-FSM.fsm file
3. **Blue** ➡ Start the program
4. **Purple** ➡ Help

**3.0    GETTING STARTED**

## 3.0   GETTING STARTED

## 3.1   Launch the Program

We first start by running "VtoFSM.jar". This will begin the "VtoFSM".
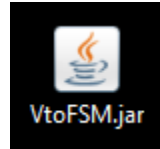


*Figure 2*

When the program is opened, a screen like Figure 3 welcomes us,
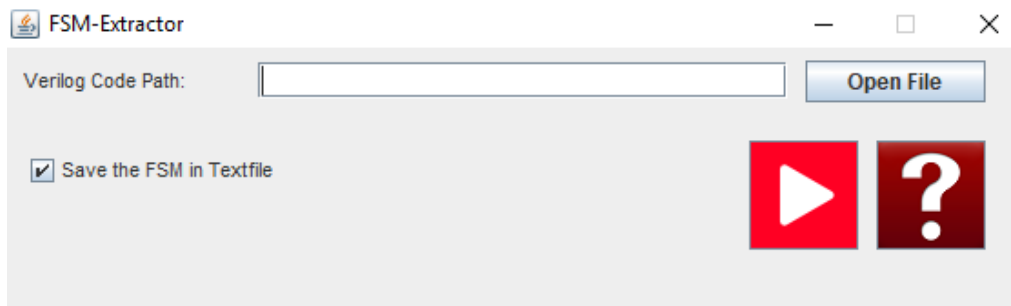-Click "Open File" > on the program to load "Verilog code"



*Figure 3*

- The Verilog file is selected from the file dialog screen. As seen in Figure 4
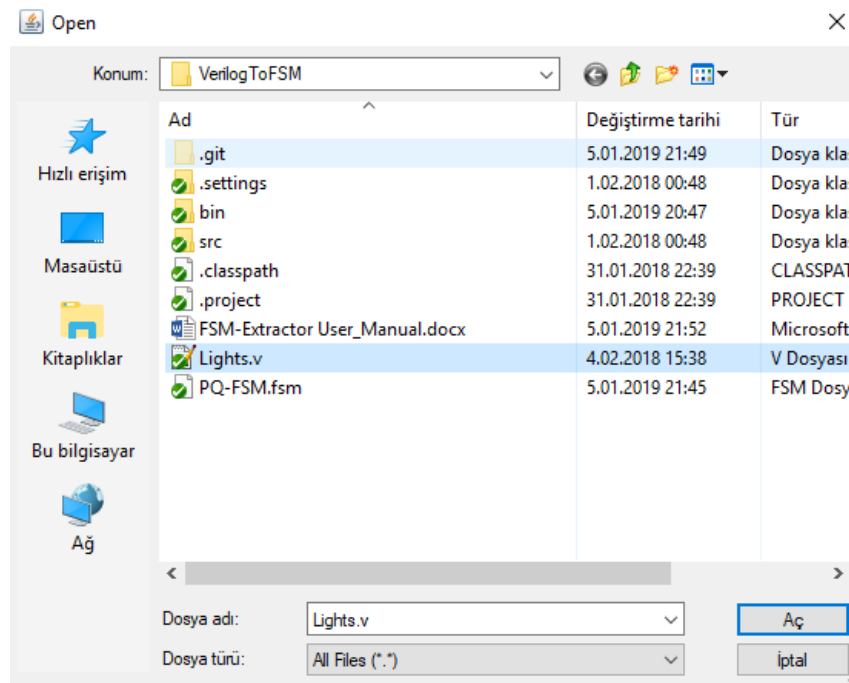


*Figure 4*

-Click "Play Button >" on the program to generate the all FSM information for PQ-Analysis. (Figure 5)
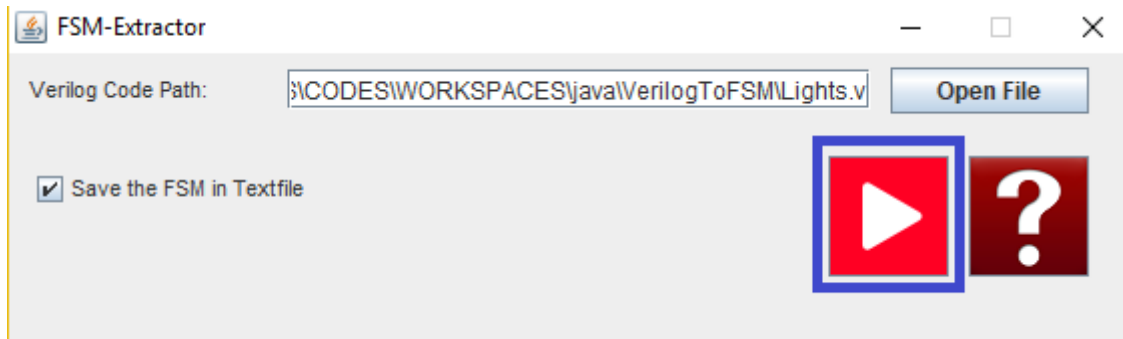


*Figure 5*

Note: "Save the FSM Textfile" selection must be enabled to store results.

After generate procedure finishes, PQ-FSM.fsm file is created in same file with the program. (Figure 6)



*Figure 6*

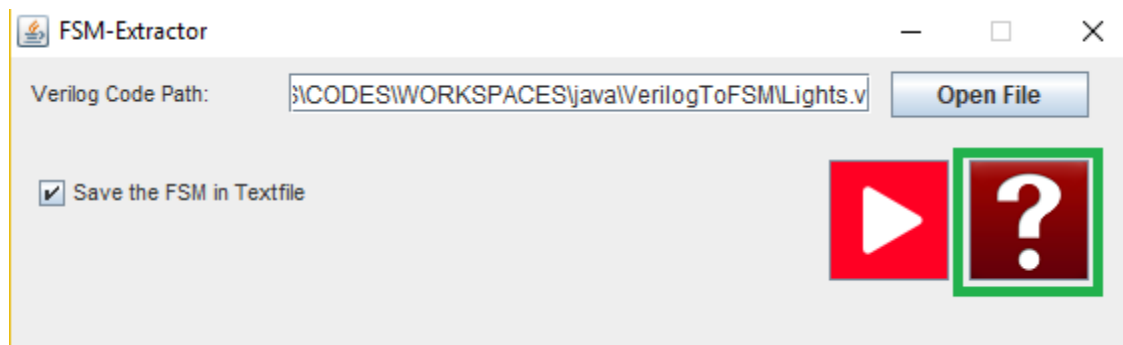-Click "Help Button >" to see this manual. (Figure 7)



*Figure 7*

**4.0    USING THE RESULTS**

## 4.0    USING THE RESULTS

## 4.1    Results

The result is stored in PQ-FSM.fsm. (Figure 8). This file is used by another tool which name is PQ-Analysis. All input and output alphabet and transition list are absence in this result. Actually this file is a abstraction of a FSM.

```
MealyFSM
Input Alphabet:
i_4442 i_0 i_XXXX i_2444 i_4144 i_4244 i_4414 i_4424 i_4441i_1444
Output Alphabet:O_1444 O_4444 O_4144 O_4244 O_4414 O_4424 O_4441 O_4442 O_2444
State List:
M_0000
M_0001
M_0010
M_0011
M_0100
M_0101
M_0110
M_0111
M_1000
Start State:
M_0000
Transition List:
M_0000 --i_4442/O_1444--> M_1000
M_0000 --i_0/O_4444--> M_0000
M_0000 --i_XXXX/O_4444--> M_0000
M_0001 --i_2444/O_4144--> M_0010
M_0001 --i_0/O_4444--> M_0000
M_0001 --i_XXXX/O_4444--> M_0000
M_0010 --i_4144/O_4244--> M_0011
M_0010 --i_0/O_4444--> M_0000
M_0010 --i_XXXX/O_4444--> M_0000
M_0011 --i_4244/O_4414--> M_0100
M_0011 --i_0/O_4444--> M_0000
M_0011 --i_XXXX/O_4444--> M_0000
M_0100 --i_4414/O_4424--> M_0101
M_0100 --i_0/O_4444--> M_0000
M_0100 --i_XXXX/O_4444--> M_0000
M_0101 --i_4424/O_4441--> M_0110
M_0101 --i_0/O_4444--> M_0000
M_0101 --i_XXXX/O_4444--> M_0000
M_0110 --i_4441/O_4442--> M_0111
M_0110 --i_0/O_4444--> M_0000
```

*Figure 8*