Milestone 1 of CS2310

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1 Project Description

The IC builder is the tool to construct the formalized Index Cell types with GUI front-end. In IC Builder, the user defines the states space, the transition space, the messages and the actions in an interactive manner. With the all the information to define the Index Cell type, the IC Builder process the captured information and translate them into formalized format: .in file and .dat file, which are used by IC Compiler.

The objective of the project is to run the IC Builder on Windows XP and Windows Vista operating system by modifying the source code. The current IC Builder is designed to run on the Windows 98, which is obsolete nowadays.

2 Requirement Analysis

The IC Builder should perform the follow actions:

Specify Project Files: by invoking Simulaiton → Options, specifying the executable file of the application and the external input message.

Specify IC types: by invoking Simulaiton → Options, add or remove the files for the project.

State related actions: Create, Delete, Move, Change the ID number, by clicking correspond button, the design and the entry of the record are changed.

Translation related actions: Create, Delete, Define (including defining the input and output message for each transition), by clicking the correspond button, the entry of the record are updated.

Processing the input and generating the formalized .in file: by clicking the Export button, invokes the background processing engine to generate the .in and .dat file.

3 Module Analysis

The IC Builder could be partitioned into 2 modules: front-end interactive handling and background processing.

The front-end interactive handling is implemented with the Visual C++ class. It associates the mouse actions with proper function calls. This module would involves OS dependent API, which are to be modified.

The background processing module synchronize the record with the actions in the front-end handling and translate the information into formatted file. This module should be enhanced to check the validation of the IC types.

4 Problems

In this project, the existing problems are:

- How to locate the obsolete API?
- How to substitute the obsolete API with newer API?
- How to separate the OS dependent API from the IC Builder?
- How to validate the constructed Index Cell types?

5 Proposals

To finish the project, the planned procedure is:

- Go through the source code to locate the obsolete API.
- Substitute the obsolete API with available identical API.
- Add validation phase before exporting the file.

6 Current Progress

Run IC Builder successfully on the wine simulator for the Window 98.