# Advanced Database Design System

**[ Database Design with Object Constraint Language ]**

## *User Manual*

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## Software overview

This document aims to provide a general overview of using of advanced database design system.
Advanced database design system is a educational software for student and teacher in database study. The ".txt" type file base on the Textual Conceptual Modeling Language is not easy to show the relationship between the attributes within the class and also not easy to show the relationship between the classes in the database.

This is the program allow you to translate the "txt" file base on the Textual Conceptual Modeling Language (TCML) to the graphical file, "sql" file, "dtd" file or "xsd" file.

## Vision

The goal of advanced database design system is helping database students to get a better understanding the associations among tables in database design and improve efficiency of database teacher in marking assignment. The system will generate relationship tables diagram, XML and DTD document by reading and analyze the source code which has been written by Unnamed Textual Conceptual Modeling Language. As a computer science student we realize that developing software to help people to improve their qualities and efficiencies of studying is very important, so this project is perfect for us.

This system is a independent system, the graphical user interface and command line user interface will be provided to users. It also can be run in Windows operating system. User can select the options by choosing generate XML, DTD, association diagram separately. In order to increase the reusability and portability, we design the output information will be stored in a text file which can be used for further implementation. We believe that the design idea of advanced database design system and the implementation will be successful in the market.

# Software operation

## Software Setup

### Installation

This software not needs any installation. Just copy the folder which includes the whole software and paste the folder into the computer, the location of the folder in the computer is arbitrary.

Double click to open the folder which contains the software on the computer. In the folder will have the subfolder name “file” and the following executable file:

- project.exe
- internalSystem.exe
- compiler.exe
- sqlApp.exe
- xmlApp.exe
- dtdApp.exe
- digApp.exe

All the output file of this software will be locate in the same folder of the above executable file.

**Using Guide**

This software has two user interfaces:

- GUI ------Graph User Interface
- CUI ------Command Line User Interface

Details for the using for the each user interface see the following:

## System Requirements

| Hardware | Requirement |
|---|---|
| CPU | Pentium 1 (GHz) minimum; |
| Memory (RAM) | 512 megabytes (MB) minimum; 1 GB or more recommended |
| Hard disk space | 20 MB |

| Software | Requirement |
|---|---|
| Operating System | Microsoft Windows XP minimum |
| Internet | Internet connection |
| Export file type | |

# Interface

## Command User Interface

| Command | Desciption |
|---|---|
| **-g** | Save as UML diagram model file |
| **-s** | Save as SQL model file |
| **-h** | Display help menu which include the command introduce and the system course . |
| **internalsystem** | The system name. This will be used at the beginning of the command line |
| **-x** | Save as XML model file. |
| **-d** | Save as dtd model file |

For using command line user interface:

Run "internalSystem.exe <inputfile>" with following arguments.

-g: the output fie is UML graph

-x: the output fie is xml

-s: the output fie is sql

-d: the output fie is dtd

internalSystem.exe filename.txt types (such as –g,-s,-d or –x), user can select any different types each time

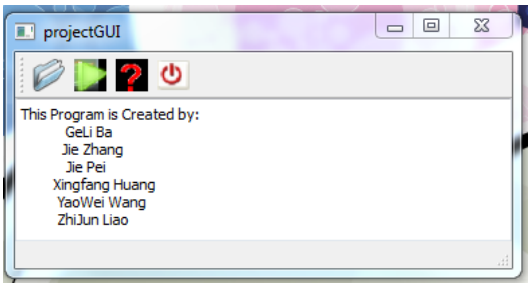
```
E:\demo>internalSystem.exe L.txt -d -x -s
```

# Graphical User Interface

## Getting started

- ### Running environment

The program can run (implement) on Window, double click the “project.exe” to run the program. The follow window will be show:

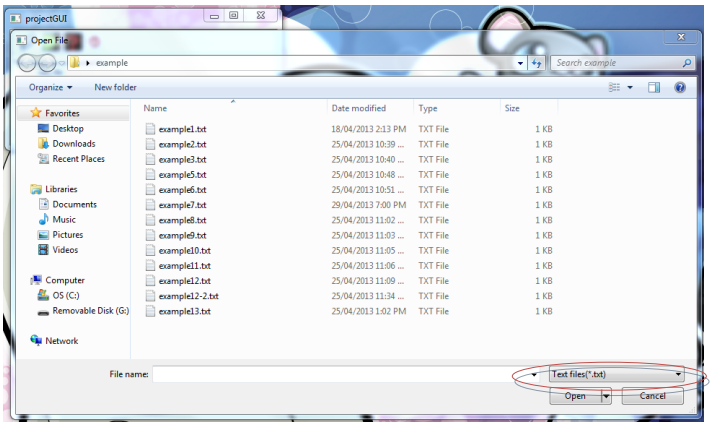



## Menu (GUI)

- ### Import file

Click the click  button in the toolbar of the window, to choose the “txt” file which needs to compile by the program.

Then an open file dialog window similar as the follow will be show:

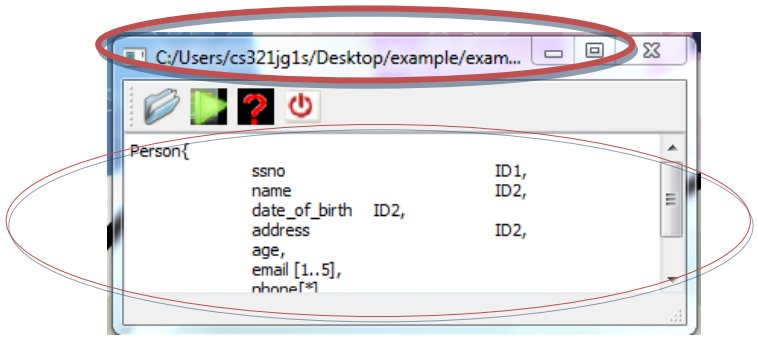



Choose the “txt” file which includes the Textual Conceptual Modeling Language (TCML) that need to be compiling, and then click “Open” button. The file will import into the program.

Or, click “Cancel” to cancel import the text file.

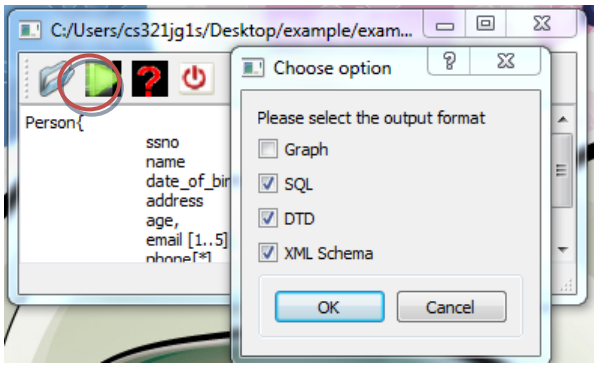
*REMEMBER: The file that you choose could be only in “txt” file type. Otherwise, the system will not accept it.

After successful import the “txt” file, the file detail will be show in the main window. And also the file’s path will show on the window title.




- Compile file

Click  button in the toolbar of the window to compile the file. The following dialog will be show:



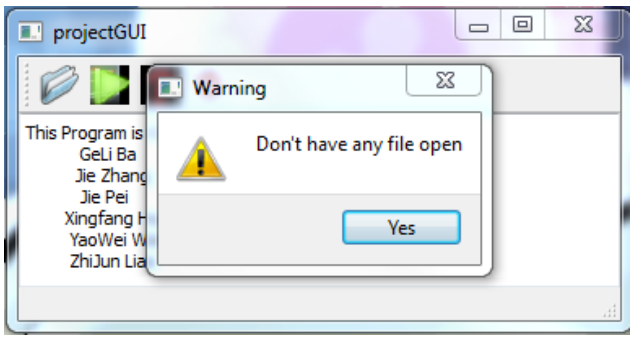

In this dialog, user can select more than one output file type, which include:

1) Graph
2) SQL
3) DTD
4) XML Schema.

Then click “OK” button. The program will compile the Textual Conceptual Modeling Language (TCML) file.

Or click “Cancel” to cancel the chooses. The program will not compile the file.

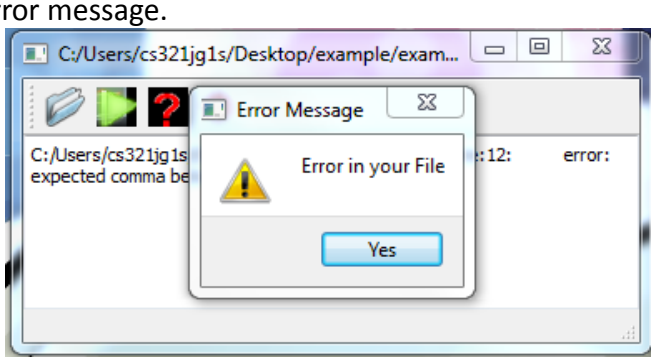
*REMEMBER: Open the “txt” file before click Compile button. Otherwise, may show the following warring:



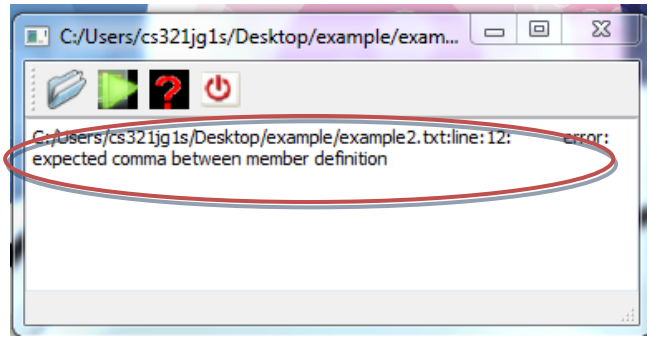
- Output file and the location

After click the “OK” button in the dialog, the program will compile the file.

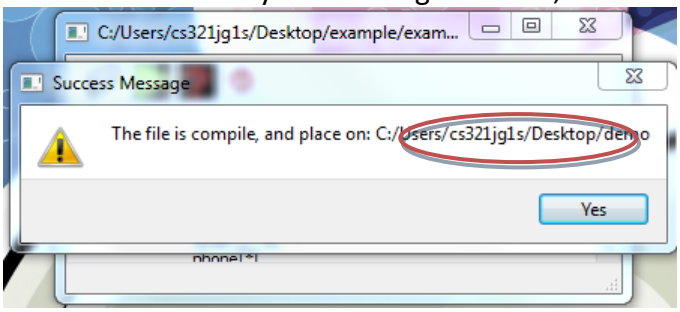
If the file is including error, such as the error relationship between the classes, the program will show an error message.




The detail error information of the file will be show on the main window of the software. As the following:



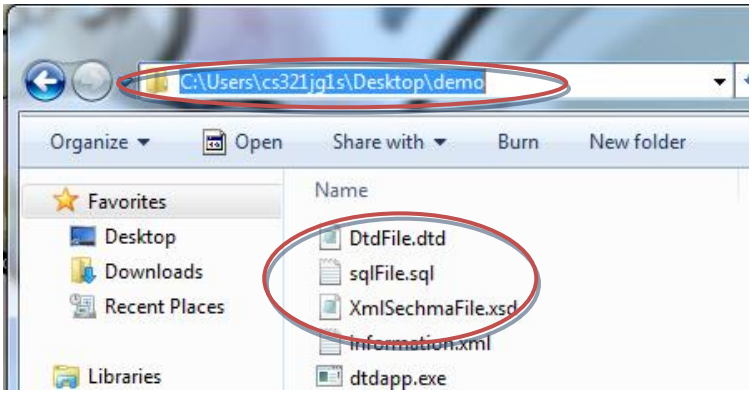

When the import file not includes any error, the program will show the successful message and show the file location detail by the Message window, as the following:




- The name of the output file

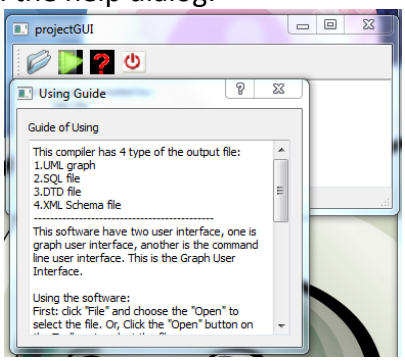
The output name of the each file type except the Graph, there are:

1) SQL: sqlFile.sql
2) DTD: DtdFile.dtd
3) XML Schema: XmlSechmaFile.xsd
4) Graph: graphic.tga




- Help

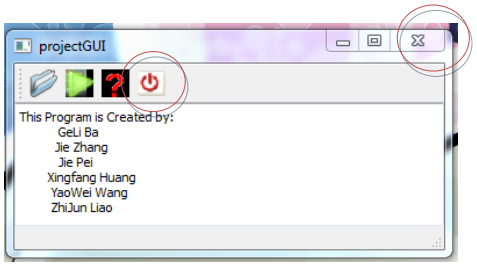
You can have some help in the help menu. Just click  in the toolbar of the window, or using the keybord “F1” to open the help dialog.



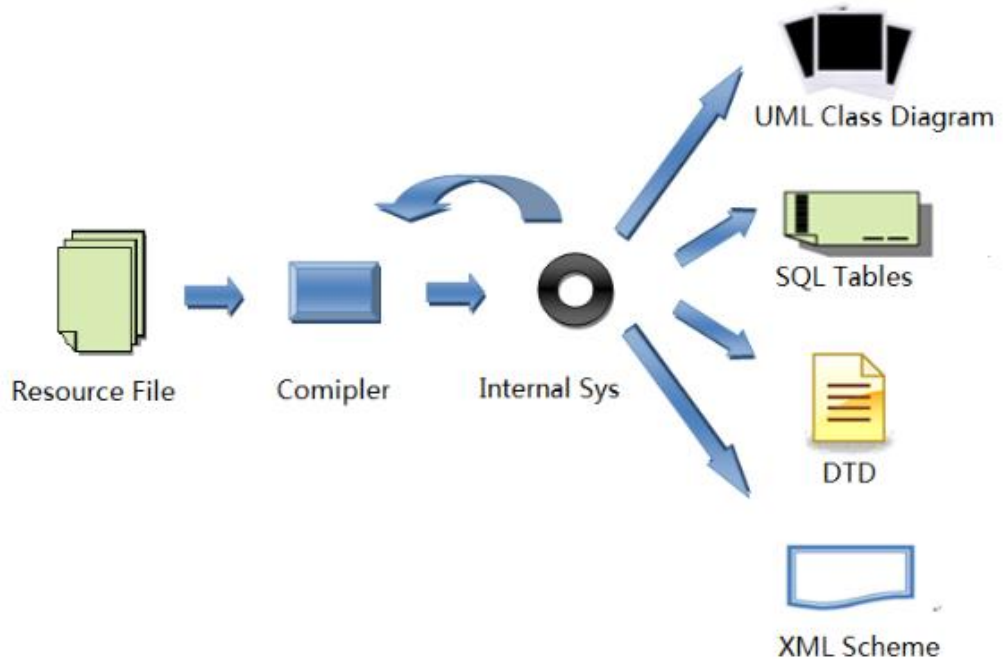

This dialog will show to the user how using the program.

- Exit

Click the  in the toolbar of the window to end of the program. Or, click the “×” to end of the program.



## Working Principle




This software aims to let user transfer Conceptual Modeling Language (TCML) file into Graphs, SQL, DTD or XML Schema file. According the compile of this software, user just needs to input the correct TCML file otherwise software will report error and exit. Then user needs to select which file type to transfer. The graph will save as BMP file. The SQL will save as sql file. The XML schema will save as “xsd” file, DTD will save as “dtd” file.