Dynamic Diagrams Tool

*Draft User Manual*

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Draft User Manual

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# Introduction

## Project Description

Dynamic Diagrams Tool (DDT) is a powerful CASE tool that will significantly reduce the time spent on creating, modifying or deleting the various software engineering graphical representation models that are required during the procedure of designing a software product. Users can create or manipulate various types of objects and diagrams easily via a very user friendly interface. DDT also facilitates two types of automatic diagram conversion.

## Features

### Diagrams

Users are able to work on 5 types of diagram using DDT, including Control Flow Diagram (CFD), Data Flow Diagram (DFD), Data Model Diagram, Entity Relationship Diagram (ERD) and ClassHierarchy Diagram.

### Objects

Three types of Object are supported, including Concrete Object, Abstract Data Object and State Machine Object.

### Diagram Conversion

Two types of Diagram Conversion are available.

1. Convert a DFD to an Architectural Chart

2. Convert a CFD to an State Transition Table (STT)

## Minimum Hardware and Software Requirement

Processor: 600 MHz processor

Memory: 100 MB

Hard Disk: 100 MB available space

Input Device: Keyboard, Mouse

Operating System: Windows XP/ Windows Vista/Windows 7

# Getting Started

**Welcome to the world of Dynamic Diagrams Tool**



figure 2-1 Welcome Page

## Start Page

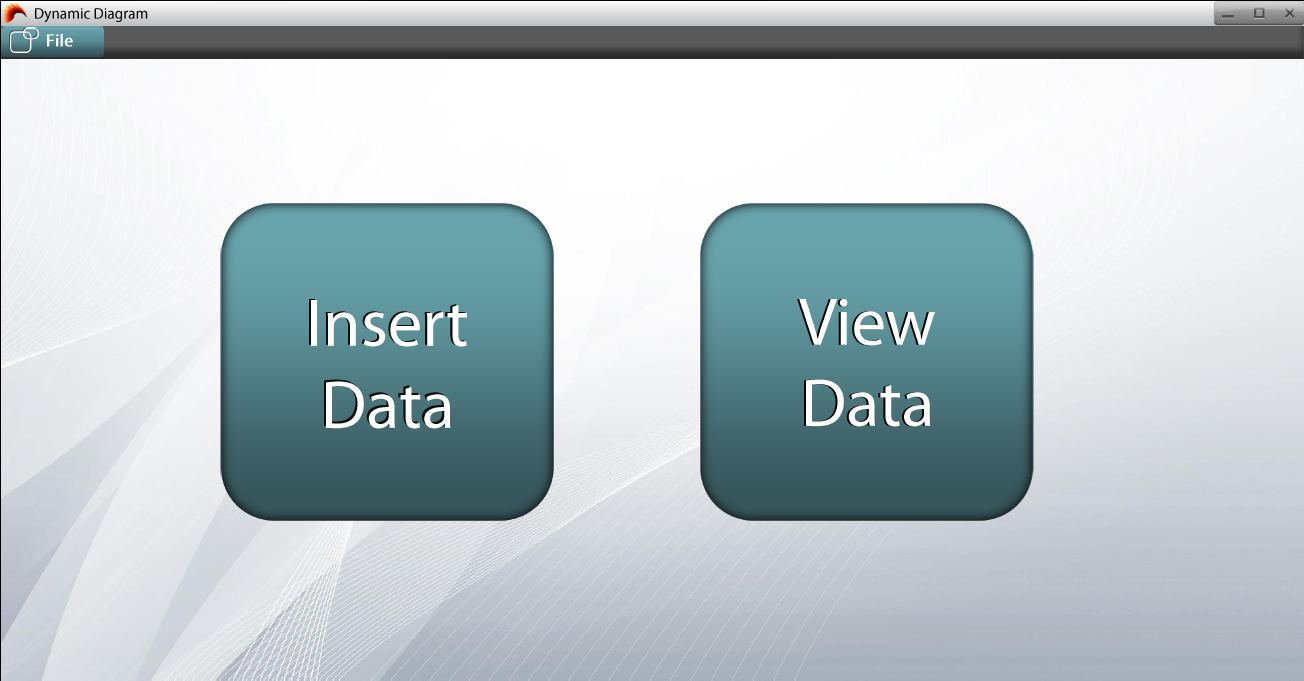


figure 2-2 Main Page

## Project

#### Create Project

From the ***Start Page***,

***File => New Project***

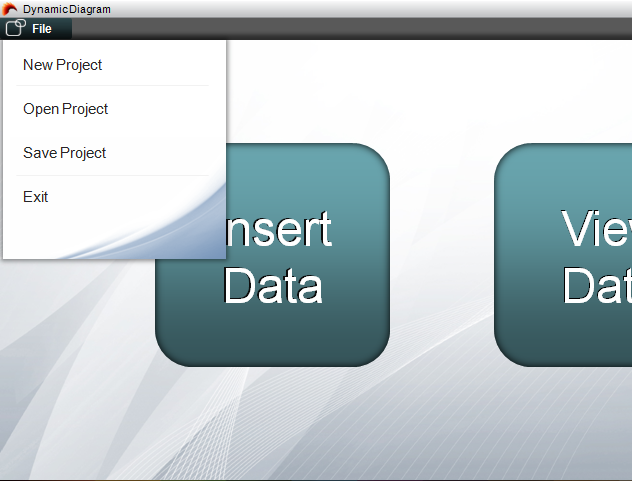


figure 2-3 Create project

Enter Project Name.

Click **Finish**.

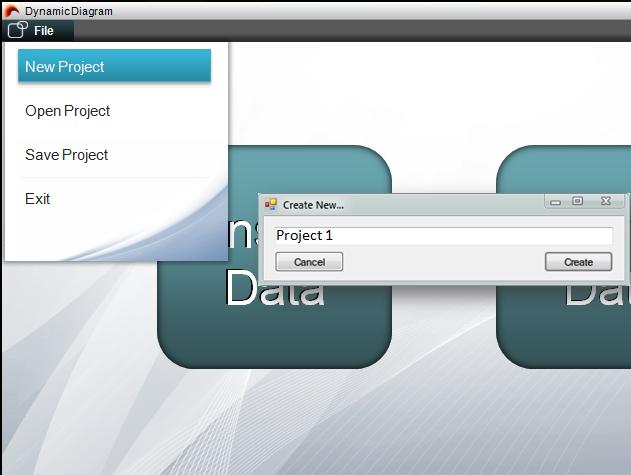


figure 2-4 Enter project name

Then you will be lead to the Data input page.

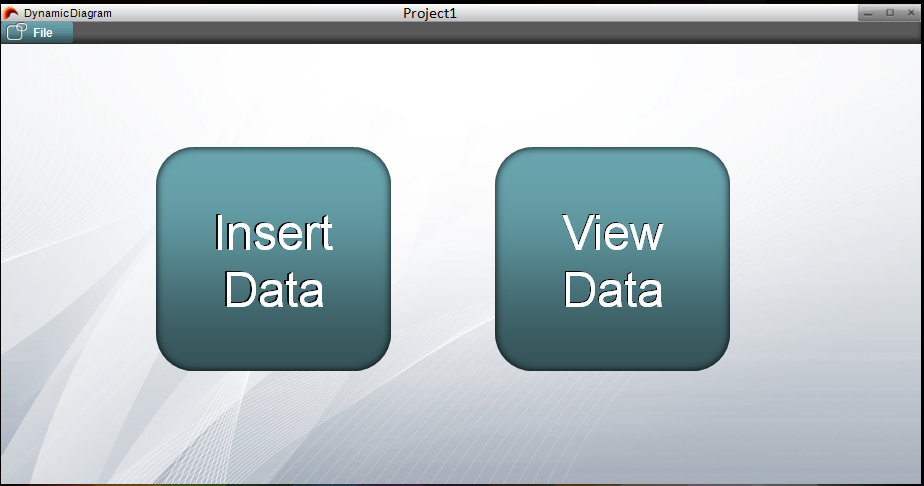


figure 2-5 Create project finished

#### Open a existing Project

From the ***Start Page,***

***File => Open Project***

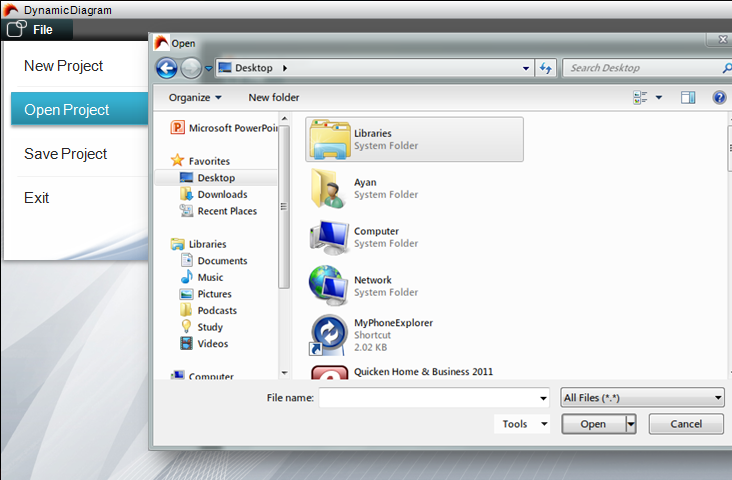
******

figure 2-6 Open project

Select a saved Project file and Click ***OK***

You will be lead to the Main Page

#### Save Project

From the ***Start Page,***

***File*** => ***Save Project***

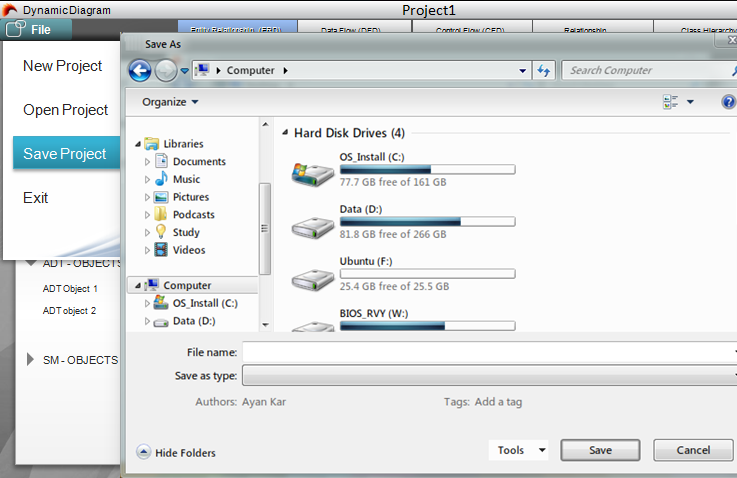


figure 2-7 Save project

Choose Directory and Click OK

#### Exit Project

From the ***Start Page***,

***File*** => ***Exit***

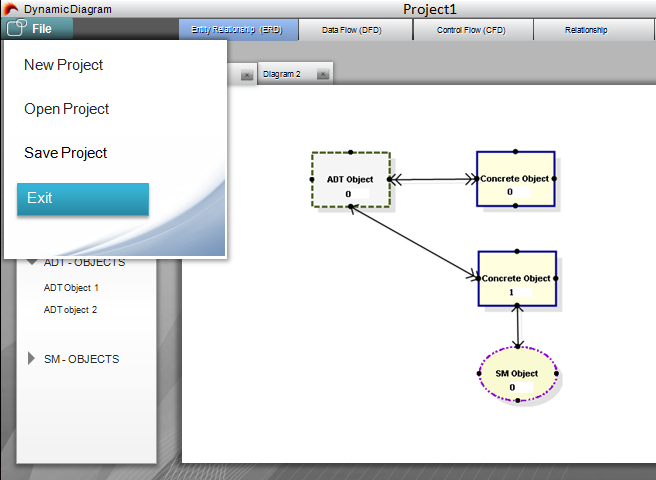


figure 2-8 Exit project

## Objects

#### Object Explorer View

From the **S*tart Page***

Click ***Insert Data***



figure 2-9 Insert Data

It will lead you to the ***Object Explorer***

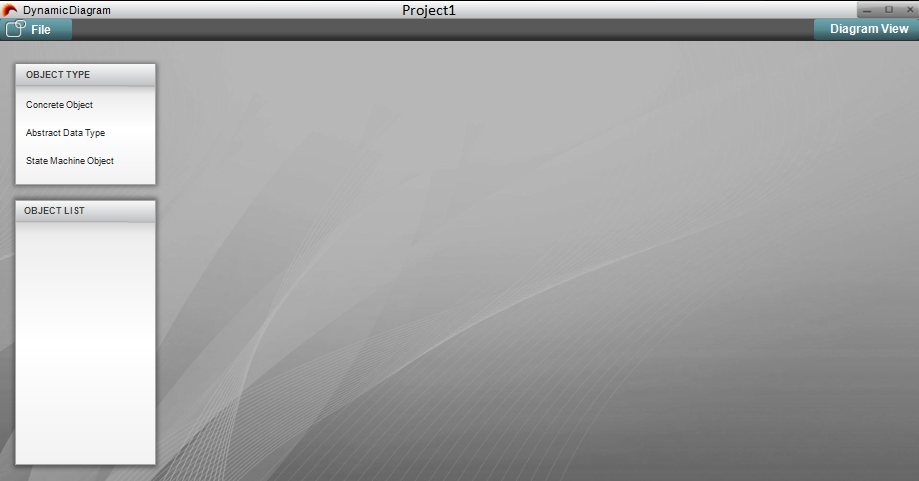


figure 2-10 Object Explorer

Click ***Diagram View*** to browse to ***Diagram (View Data) Mode***

#### Create an Object

##### Create a Abstract Data Object

##### Create a Concrete Object

***Object Explorer*=> *OBJECT TYPE*=>**Right Click ***Concrete Object =>NEW***

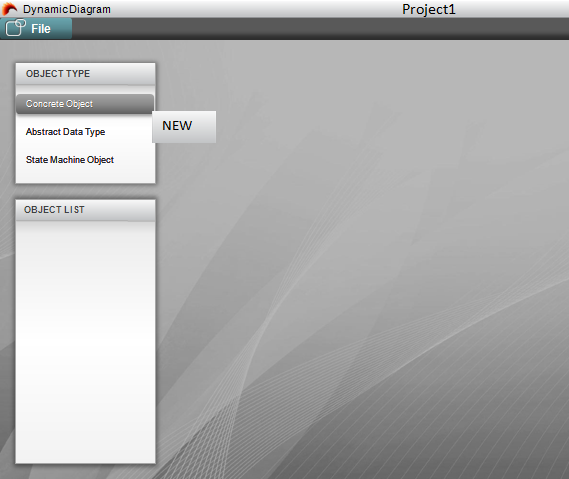
****

figure 2-11 Create Concrete Object

Then you will have to edit the object

Fill in the text boxes, and click ***Save*** to finish.

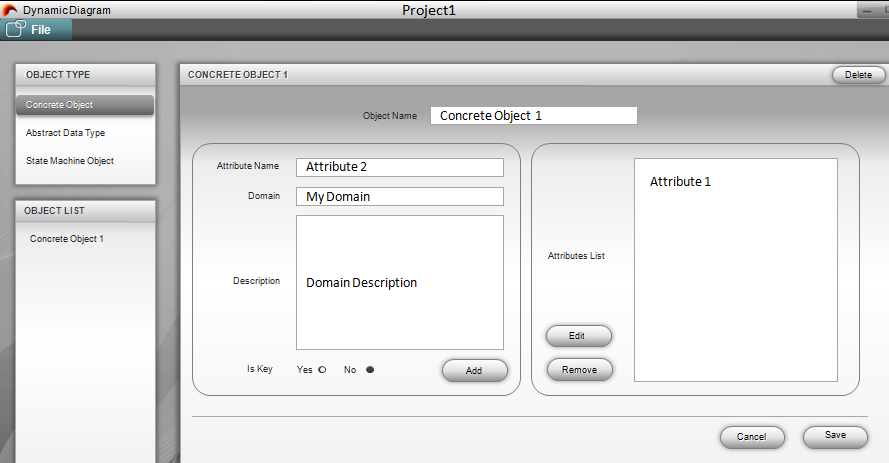


figure 2-12 Edit the Created Object

Object successfully created.

##### Create a State Machine Object

#### Edit an Object

##### Select an Object to Edit

Select an Object => Right Click => ***EDIT***

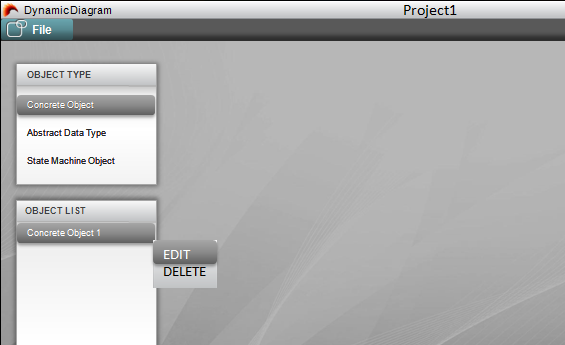


figure 2-13 Select an Object to Edit

##### Edit a Abstract Data Object

##### Edit a Concrete Object

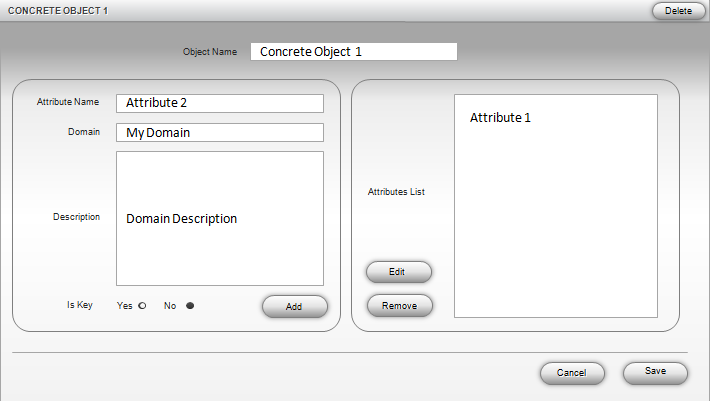


figure 2-14 The Object Editing menu for Concrete Object

##### Edit a State Machine Object

#### Delete an Object

##### Select an Object => Right Click => *DELETE*

#### 

figure 2-15 Delete an Object

## Diagrams

#### Sample Diagrams

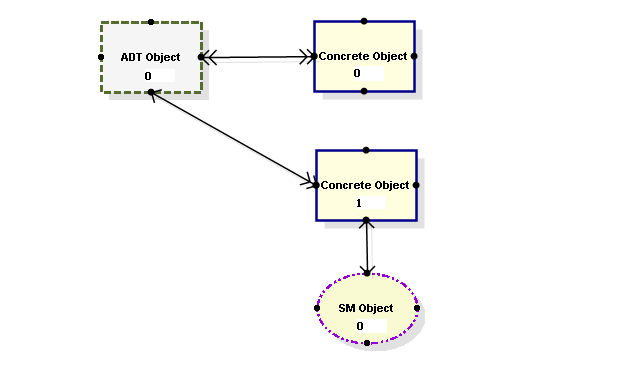


figure 2-16 Sample ERD

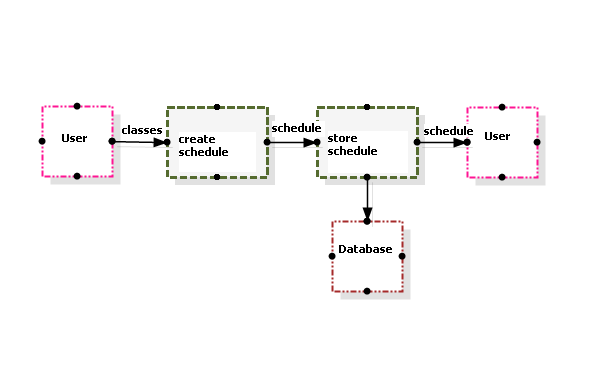


figure 2-17 Sample DFD

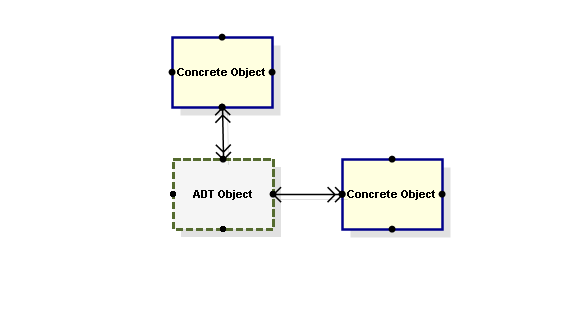


figure 2-18 Sample ORV

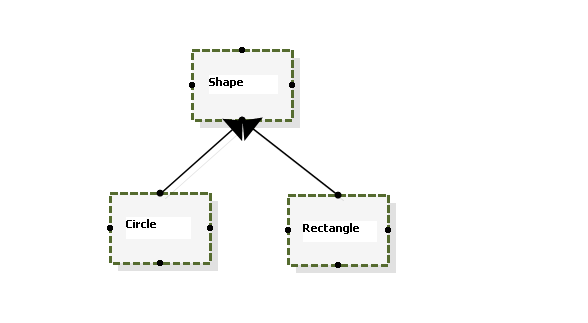


figure 2-16 Sample Class Diagram

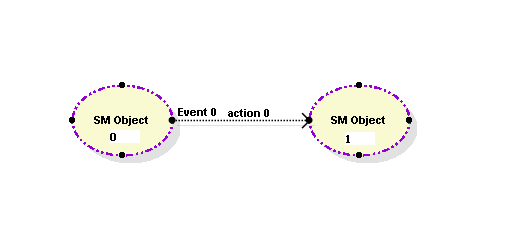


figure 2-16 Sample CFD

#### Diagram View

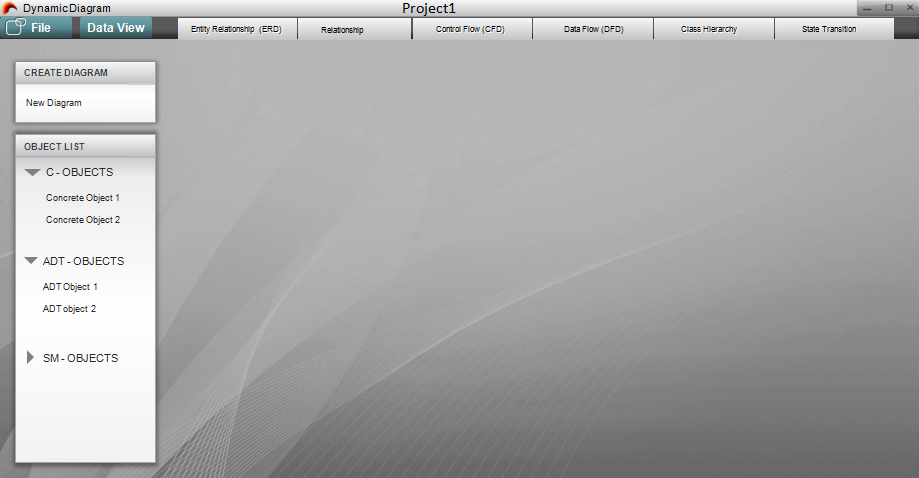


figure 2-17 Diagram View

Click ***Data View*** to browse to the ***Object*** (***Insert Data) Mode***

#### Create a Diagram

##### Create a Entity Relationship Diagram

From the Diagram View

Select ***ERD*** from the ***Diagram Type Bar***

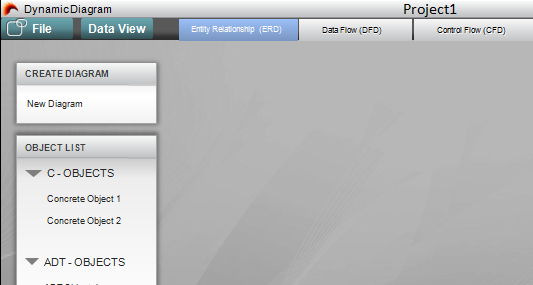


figure 2-18 Select diagram type

***CREATE DIAGRAM*** => Click ***New Diagram***

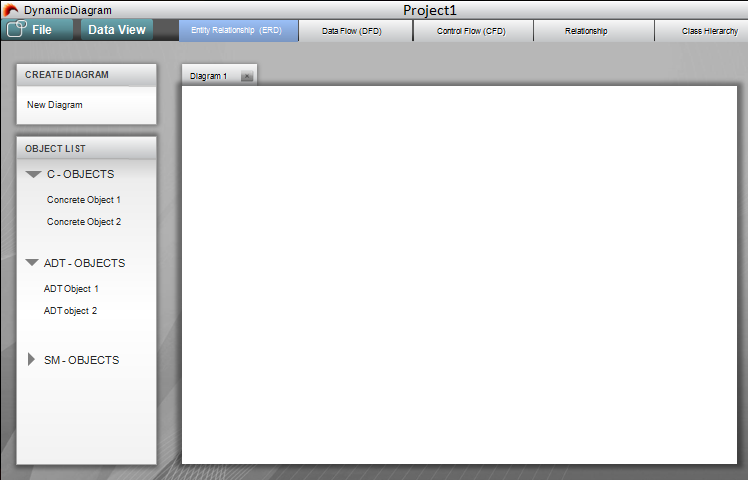


figure 2-19 New ERD

##### Create a Control Flow Diagram

From the Diagram View

Select ***CFD*** from the ***Diagram Type Bar***

***CREATE DIAGRAM*** => Click ***New Diagram***

##### Create a Data Flow Diagram

From the Diagram View

Select ***CFD*** from the ***Diagram Type Bar***

***CREATE DIAGRAM*** => Click ***New Diagram***

##### Create a Data Model Diagram

From the Diagram View

Select ***CFD*** from the ***Diagram Type Bar***

***CREATE DIAGRAM*** => Click ***New Diagram***

##### Create a Class Hierarchy Diagram

From the Diagram View

Select ***CFD*** from the ***Diagram Type Bar***

***CREATE DIAGRAM*** => Click ***New Diagram***

#### Rename a Diagram

#### Open a Diagram

Click the ***Tab*** of the ***selected Diagram***.

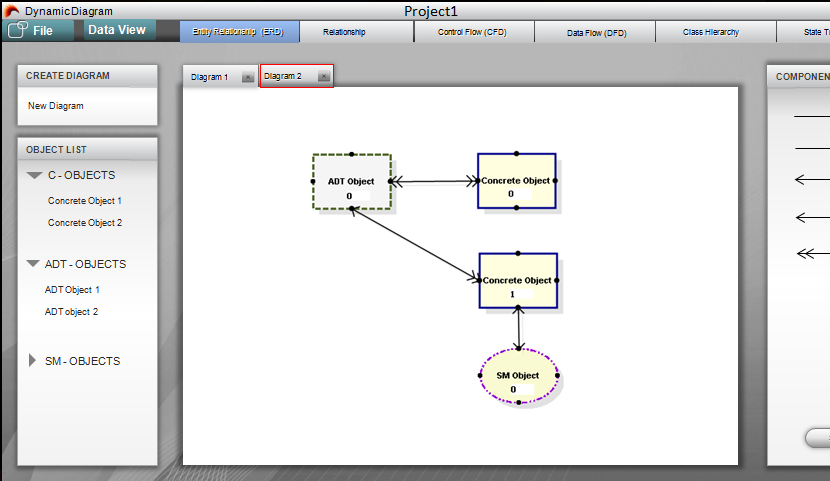


figure 2-20 Open a Diagram

#### Remove a Diagram

Click the ***Close Button*** of the ***selected Diagram***

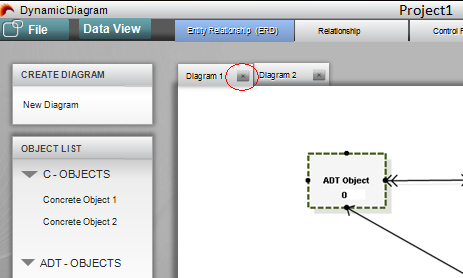
****

figure 2-21 Delete a Diagram

Then you will have to confirm to delete.

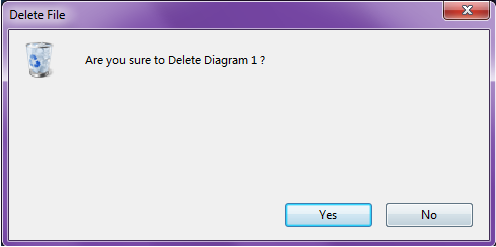


figure 2-22 Confirm to Delete

#### Manipulating Objects

##### Add an Object to the canvas

Press the ***Left Button*** of your mouse on the ***selected Object***,

Hold the ***Left Button***.

Drag the chosen Object to the ***Canvas***

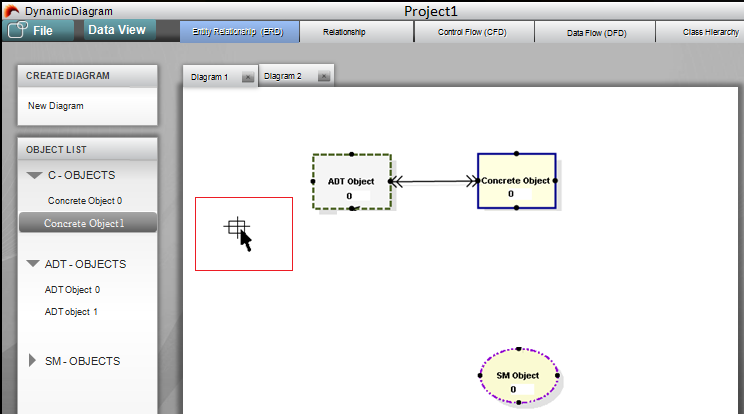


figure 2-22 Drag Concrete Object 1 to Diagram1(Step1)

Release the ***Left Button***.

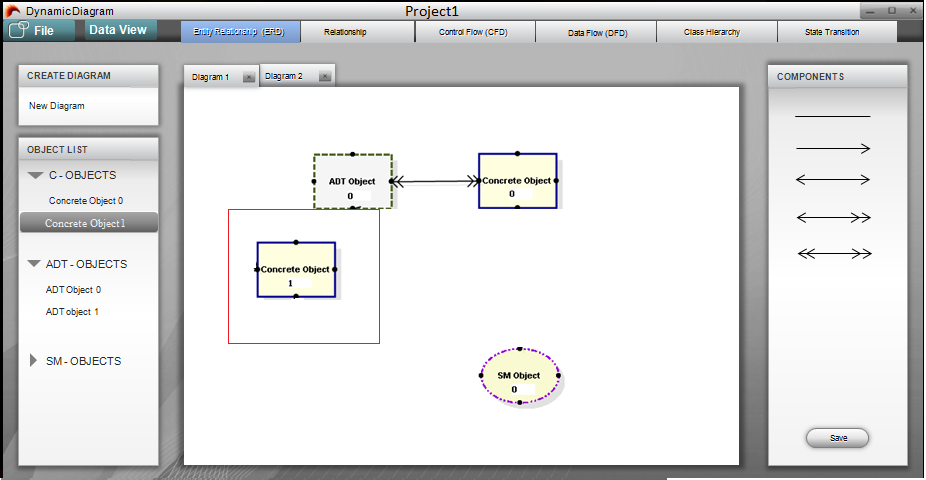


figure 2-23 Drag Concrete Object 1 to Diagram1 (Step2)

##### Drag an Object

Press the ***Left Button*** of your mouse on the ***selected Object***,

Hold the ***Left Button***.

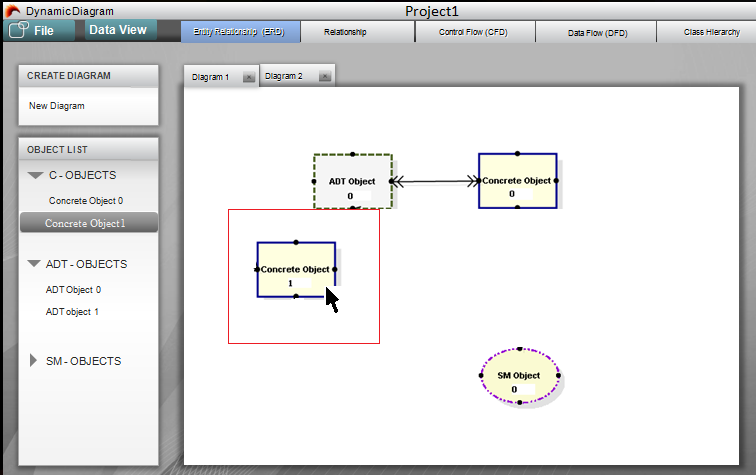


figure 2-24 Drag Concrete Object 1 on Diagram1 (Step1)

move your cursor to the position you want, and release the ***Left Button***.

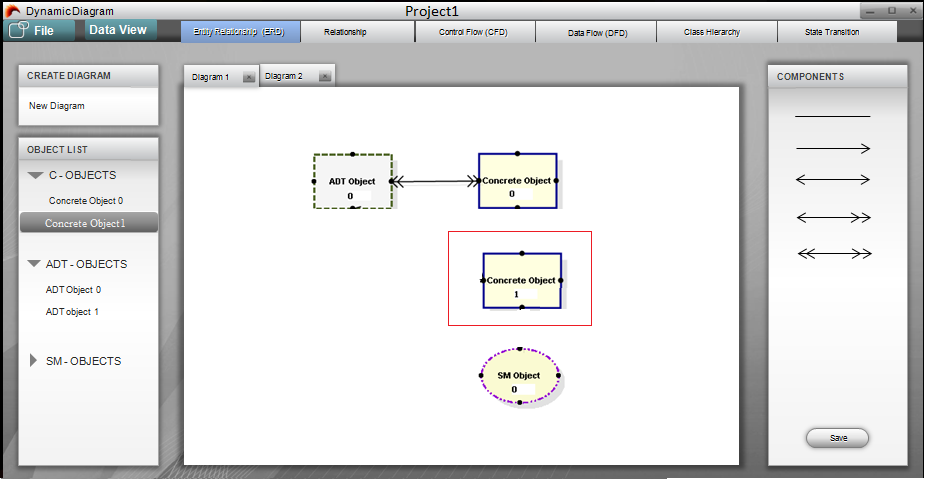


figure 2-25 Drag Concrete Object 1 on Diagram1 (Step2)

##### Connect Objects

Select a ***Connection*** on the right side

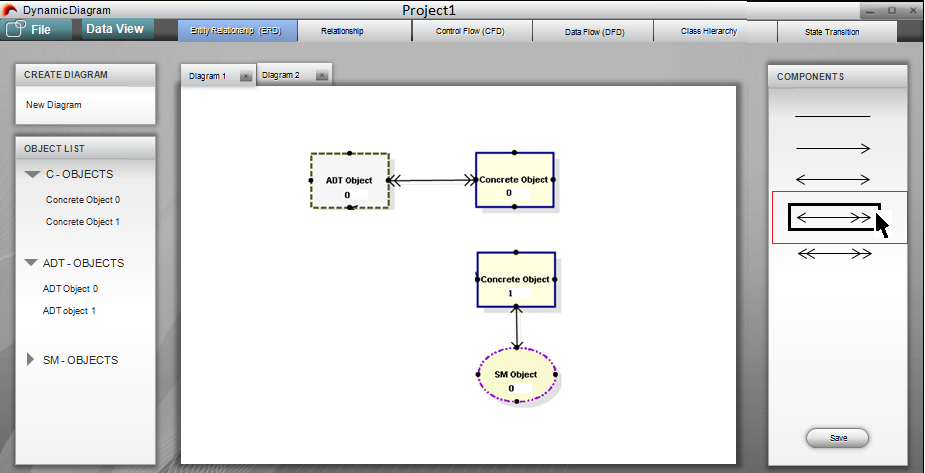


figure 2-26 Connect ADT Object1 and Concrete Object 1 (Step1)

Press the ***Left Button*** on a ***Connection Point*** of ADT Object 1,

hold the ***Left Button***.

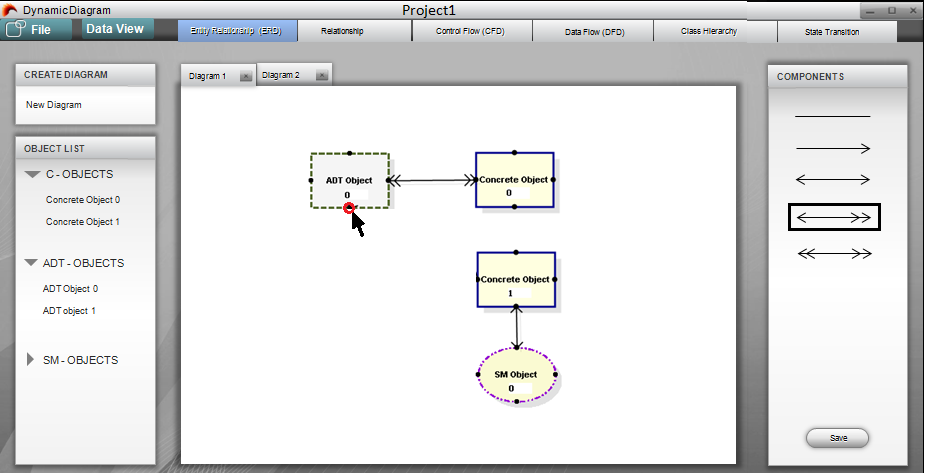


figure 2-27 Connect ADT Object1 and Concrete Object 1 (Step2)

Move the Mouse to ***a Connection Point*** of Concrete Object1

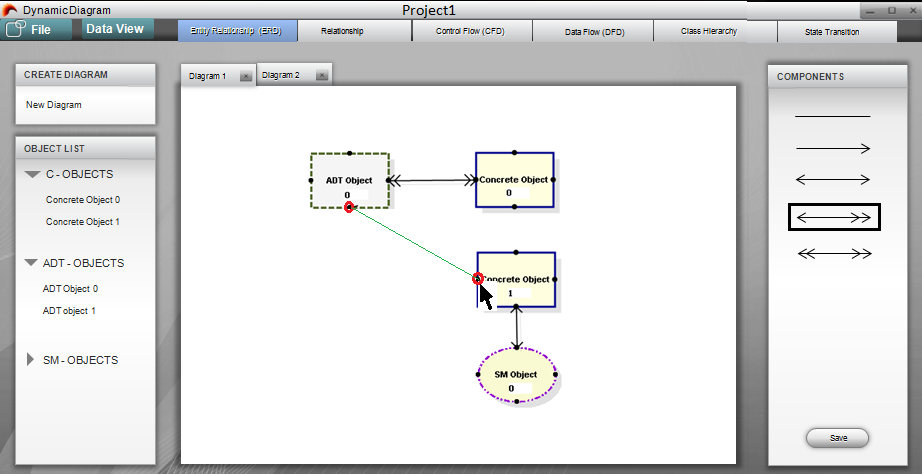


figure 2-28 Connect ADT Object1 and Concrete Object 1 (Step3)

Release the ***Left Button.*** Connection Established***.***

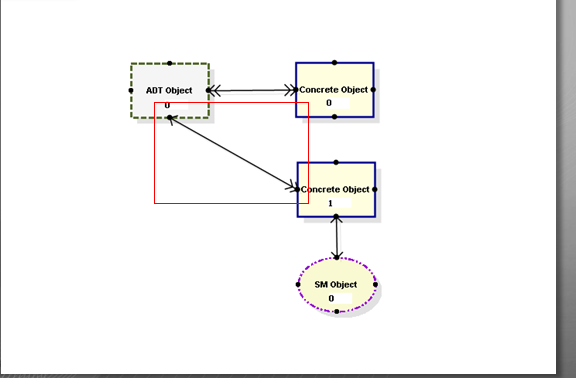


figure 2-29 Connect ADT Object1 and Concrete Object 1 (Step4)

## Generate an ORV

Select ***Relationship*** on the ***Diagram Type Bar***

Right click the chosen ***ERD*** ***Object.***

Select ***ORV***

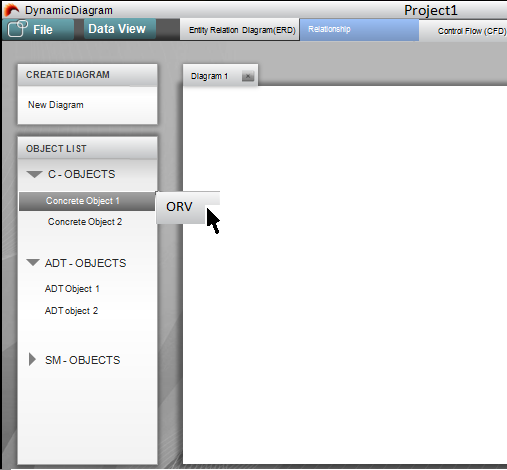
******

figure 2-30 Generate ORV Chart (Step1)

ORV Generated.

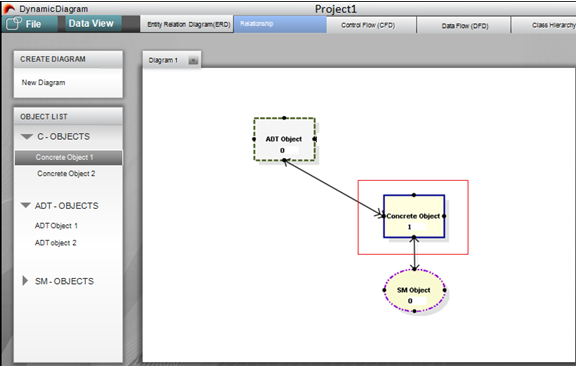


figure 2-31 ORV Generated

## Convert a DFD to an Architecture Chart

Open a ***DFD***

Click the Type of ***Conversion*** you want

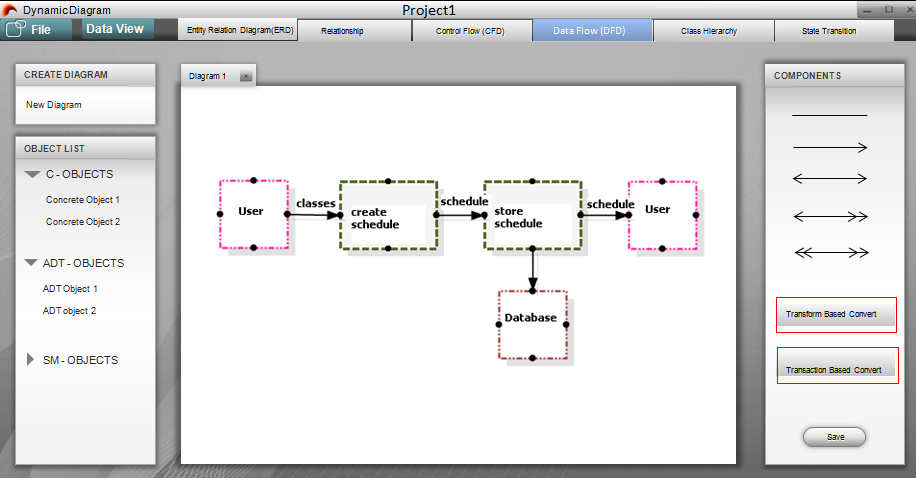


figure 2-32 DFD to Architecture Chart

#### Transform Based Conversion

A popup window to ask which Objects you choose as ***processing Objects.***

figure 2-33 Transform Based Conversion Popup Window

Select Objects and Click Convert

figure 2-34 Generated Architecture Chart

#### Transaction Based Conversion

A popup window to ask which Objects you choose as a ***Dispatcher.***

figure 2-35 Transaction Based Conversion Popup Window

Select Objects and Click Convert

figure 2-36 Generated Architecture Chart

## Convert a CFD to an STT

Select a ***CFD***

Click the ***STT Button*** on the right side.

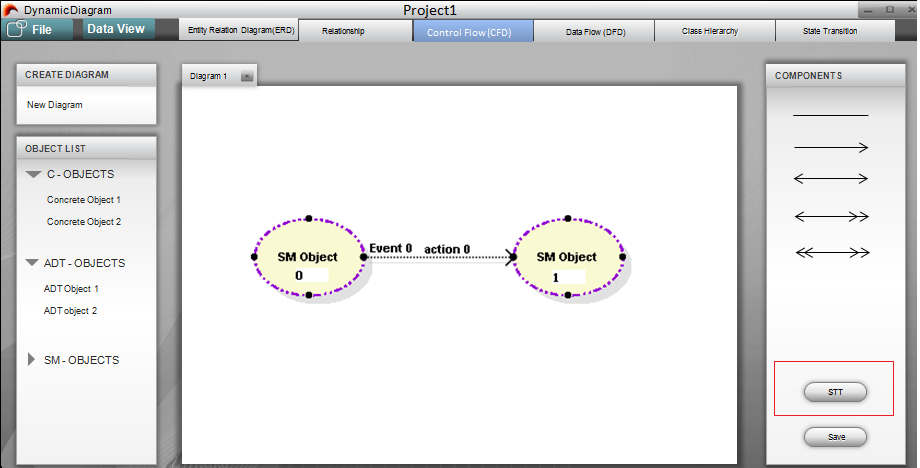
******

figure 2-37 CFD to STT

STT Generated.

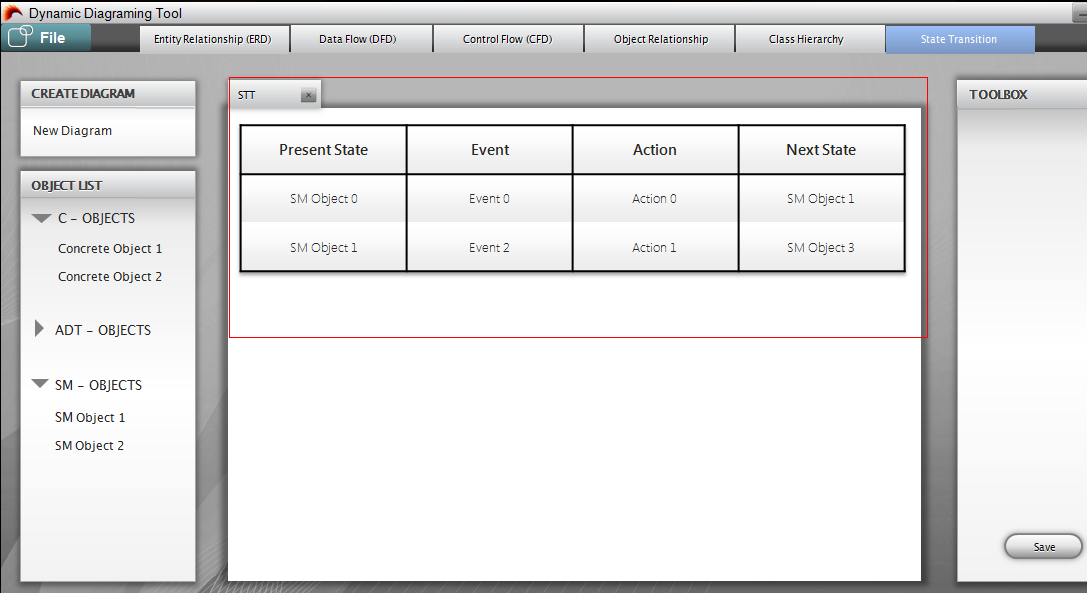


figure 2-38 STT Generated

# Operation Modes

## Project Mode

### New Project

Create a new Project

### Open Project

Open an existing project from a project file

### Save Project

Save the current Project

### Exit Project

Close the project, exit the program

## Object Mode

### Create Object

Create a new Object and enter attributes

### Edit Object

Edit an existing object

### Delete Object

Delete an existing object

## Diagram Mode

### Create Diagram

Create a new empty diagram

### Open Diagram

Open an existing diagram

### Save Diagram

Save an existing diagram

### Close Diagram

Close an existing diagram

### Remove Diagram

Remove an existing diagram

### Rename Diagram

Rename an existing diagram

### Clean Diagram

Clean an existing diagram

## Converting Mode

### Convert from DFD to Architecture Chart

### Convert from CFD to STT

# Advanced Features

#### Status Bar and Process Bar

#### Group and Ungroup objects

#### Undo and Redo

#### Multiple Selectable Tabs

# Command Syntax and System Operations