



About Satyam

Satyam (NYSE: SAY), a leading global business and information technology services company, delivers consulting, systems integration, and outsourcing solutions to clients in numerous industries across the globe. Satyam leverages deep industry and functional expertise, leading technology practices, and an advanced, global delivery model to help clients transform their highest-value business processes and improve their business performance. The company's professionals excel in engineering and product development, supply chain management, client relationship management, business process quality, business intelligence, Product and Application testing, enterprise integration and infrastructure management, among other key capabilities.

Satyam's independent product and application testing practice features experience and expertise in handling testing engagements across industries and domain areas.

Satyam's Testing practice has evolved into a practice that not only provides testing facilities to customers but is also a valued consulting organization, where experienced consultants provide consulting services ranging from test business investment to setting up of Testing CoE.

Satyam development and delivery centers in the US, Canada, Brazil, the UK, Hungary, Egypt, UAE, India, China, Malaysia, Singapore, and Australia serve numerous clients, including many Fortune 500 organizations. For more information, see www.satyam.com.



Suresh Jetty

Author's Profile

Suresh Jetty is associated with Satyam Computer Services since 2007. As a Quality test engineer at Satyam's Testing practice, his areas of focus include Data Management and testing. Suresh holds a certification in GT-Data Maker tool and is also an HP accredited Integration Specialist. He has graduated in Electronics and Communication from VR Siddhartha Engineering College, Vijayawada.

Disclaimer: Any views or opinions presented below are solely those of the author and do not necessarily represent those of the company.

About GT Datamaker tool

Satyam's initiative on test data management led me to explore TDM (Test Data Management) tools that can be used to perform key activities like test data generation, data masking, database subsetting and off course secure data management. The Datamaker tool from Grid-tools is a one-stop solution for all the TDM activities. There are other contemporary TDM tools, but none of them are sufficient when it comes to the execution of the combination of TDM activities at a single place.

As a part of my research on different tools for TDM, I have evaluated tools on data masking, generation, data management and subsetting. This evaluation leads me to believe that the GT Datamaker tool is the most efficient and user-friendly.

The Datamaker tool can be used to perform test data generation, masking, subsetting and extraction by means of different Datamaker inbuilt techniques and customizable functions as per the requirement.

Right from the starting of the development (white box testing might be performed here which includes unit testing, function coverage) until maintenance for all types of testing datamaker can provide quality test data.

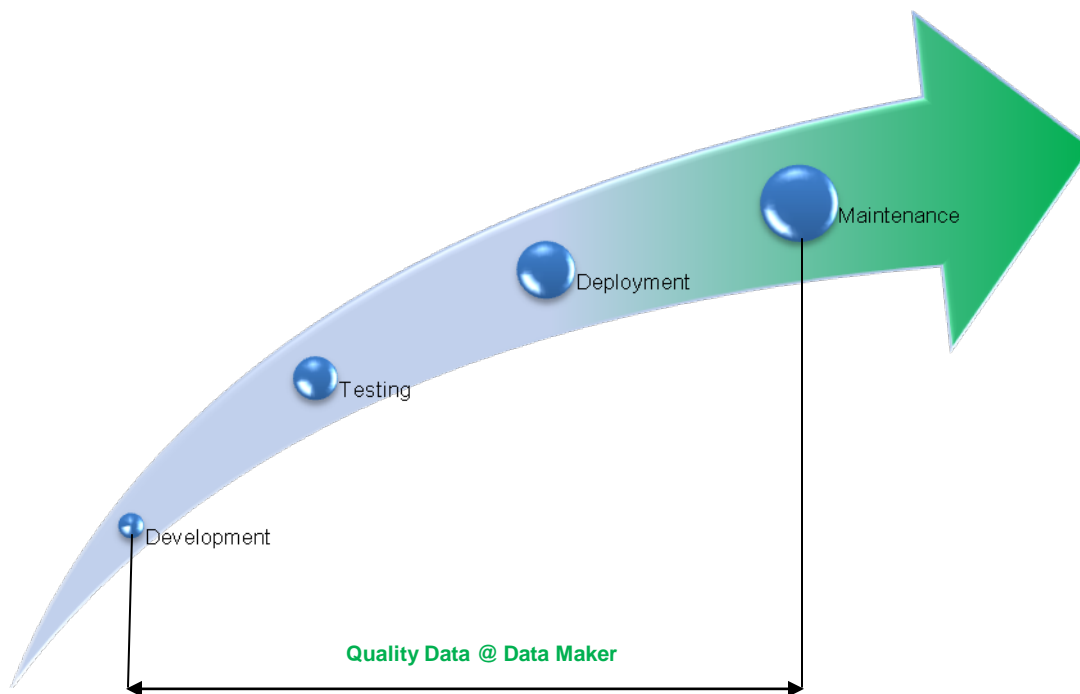


FIG1: Usage of Data Maker for quality data in different phases of software

Salient Features of Data Maker

- Inheritance of test cases that have been designed enables reflection of changes made in the parent test case to the rest of the test cases
- Easy database sub setting

- Easy and powerful data masking techniques
- Database code coverage will be assured with the “All Pairs Testing”
- Quick creation of accurate and high volume of data
- Powerful version control and security
- Supports large number of databases like Oracle, DB2, MS-SQL, MySQL, Sybase etc.
- Can be integrated with test automation tools like QTP, Quality Center, Load Runner Forecast and Soap UI.

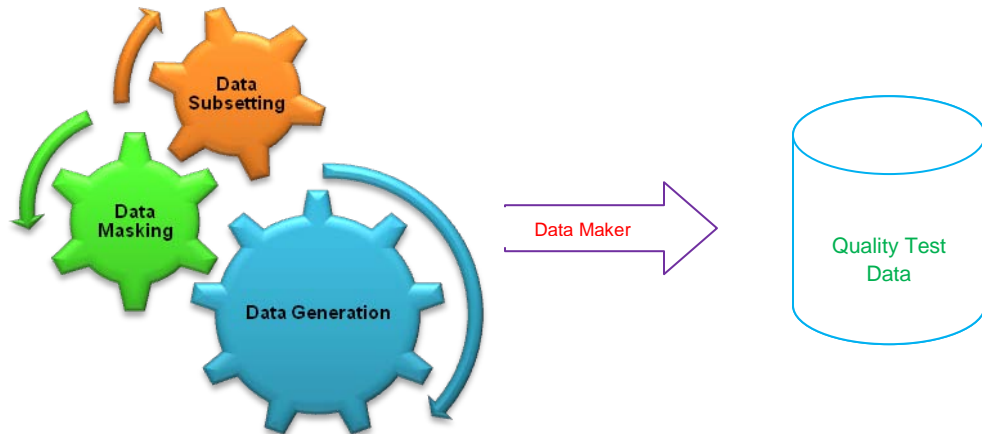


FIG2: Basic Test Data Management activities using Data Maker

Data Generation

There are various inbuilt techniques used in Data Maker for test data generation.

- Data Maker provides simple right-click functions to populate data into the required number of fields in a given table
- Data can be taken directly from source database which can be easily altered if required
- All pairs test data generation will help in quick data generation and ensures the maximum database code coverage
- Inheritance is a key feature of data maker reducing the risk of generating the data multiple times

Data Masking

Data Maker basically uses three modes to mask the data.

- Using variables
- Using customizable functions where it can support a variety of functions

E.g.: Using predefined functions like hash keys, credit cards masking functions, etc which can be selected from a simple drop down box

- Right-click and select the options like randomize range, incremental values, fixed value replacement, referring to seed tables data etc.

Data Sub setting

This involves separation of test data from the original data source.

Some of the advantages of Data Sub setting are:

- Avoiding risk based database cloning methods for the creation of database for testing environment
- Making data available at module level, thus avoiding the risk of interacting with unnecessary data during testing

At a granular level, the project hierarchy in Data Maker can be represented as shown below.

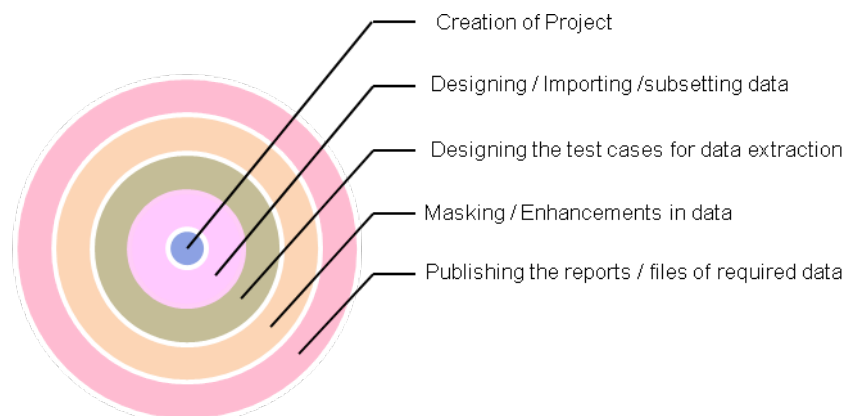


FIG3: Brief hierarchy of project in Data Maker

Q&A with Grid-Tools

1. What value do you feel Data Maker would bring to a company?

Quality of a system/software directly depends on quality of test data that is used for testing.

Data Maker will help in:

- Delivering quality data enhancing the quality of testing

This can be ensured by covering database code by “**All pairs testing**” technique, Quality Data Masking techniques using “**Customizable functions**” to meet business requirements and other quantifying features which are mentioned in the advantages section of this document.

- Reduction in testing cycle time

This can be explained with the following example which I have faced in one of my projects.

Requirement: Creation of data for load testing. As part of load testing on a desktop application, I was asked to insert data in three tables with 100, 1000 and 10, 000 rows.

Conventional way: We have used simple spreadsheet to populate the data by referring to the schema of the database objects; we have populated data in the spread sheet.

It took effort of two resources for 1.5 days.

Data Maker: This can be done in few minutes by using data maker.

2. What do you feel are the differentiating benefits of Data Maker over other tools in the marketplace?

Most tools get crippled when it comes to TDM as they are designed for a unique purpose like credit card numbers generation, exclusive Data Masking or data generation based tools. Other challenges include poor version controlling, lack of support to major databases, etc.

Also it makes a poor business case to go for individual tool licenses for each of the TDM activities to be performed.

I feel Data Maker is the unique solution for the above pit falls of various TDM tools.

3. How easy is the data generation function and would you recommend this function as a viable alternative to other methods?

While working on other TDM tools, I faced problems in test data generation while referring to source database, during extraction and population of values from a particular data source (testing database, flat files. etc)

Data Maker has a versatile answer to all these ambiguities.

As a simple solution, GT-Data Maker has right-click options (Copy Down Row Data, Copy Down with increment, Randomize range, list of values and seed values, Sequential list of values, range and seed values) to populate data into the required columns of a table.

Apart from these, Data Maker has following powerful features:

- Connecting to Data Maker repository to reuse the data that is already populated in the existing Data Maker test cases
- Connecting to any source database and extract similar kind of data into the desired table
- Inherit the data

4. What are the benefits of using Data Maker?

- Easy database sub setting avoiding risky and expensive cloning techniques
- Easy to use and powerful data masking techniques
- Database code coverage will be assured with the "All Pairs Testing"
- Quick creation of accurate and high volume of data with an easy to use GUI

- Powerful version control and security
- Supports large number of databases like Oracle, DB2, MS-SQL, MySQL, Sybase etc.
- Can be integrated with test automation tools like QTP, Quality Center and Soap UI.
- Inheritance of test cases that have been designed, this enables reflection of changes made in the parent test case to rest of the test cases.

5. In what instances do you feel that Data Maker would be most useful?

- In tight schedules of projects where testing team has very less time for test execution (especially Agile Testing)
- Banking/Insurance domains especially finds a significant usage of Data Maker
- In projects which has a good number testing types like Functional, Database, Automation, Performance, Network (seldom usage) etc., one can make use of most of the Data Maker features

6. What do you feel are the most innovative/best features of the tool?

- Data Inheritance
- Database code coverage
- Powerful security for users at each module level
- Availability of generation, masking and sub setting under one roof
- Simple and easy to use GUI

7. What features about the tool do you feel can be improved?

- I have faced couple of situations where Data Maker got closed abruptly while performing some activities (even the activities are not valid, relevant messages should be displayed to user)
- Establishing relationships between data while working with flat files using Data Maker

I have not found any major drawbacks with Data Maker.