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| **USE CASE DIAGRAM** |
| DATA GENERATOR v1.0 |
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| *It contains functional details of project “Data Generator” done by project group SKNCOE-2.* |
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| ***SKNCOE-2 Group*** |
| **11/10/2011** |
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DATA GENEATOR

1.0

REVISION HISTORY

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| --- | --- | --- | --- | --- |
| # | Name | Date | Version | Remarks |
| 1 | SKNCOE2 | 10-Nov-2011 | 1.0 | Draft |
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DESCRIPTION OF USE CASES

# USE CASE driven by USER

**Id**: 001

**Description**:

**Enter the input:** A user is an agent, either a human agent (end user) or software agent, who uses a computer services. Users can widely characterize as the class of people that use a system without complete technical expertise required to understand the system fully. The user will act as a primary actor who will initiate the task to enter the input to the database. The user will give input through xml file through which gives details of data type and format for each column. For each table there will be another metadata xml file which has details of data type and format for each column. The tool will parse the xml and start to generate the records.

# USE CASES driven by datagenerator or system

**Id**: 002

**Description**:

Datagenerator is the secondary actor whose work is initiated by the user after giving the input file. The first step it performs

1. **Parse input file:** Parsing of the xml file where the system takes its interest in certain events, such as rows and columns, which are triggered during the parsing of an XML. System does the parsing of XML file so as to get the details of the table (table name, column name, data type and format).System will analyze the text made of the sequence of tokens to determine its structure with respect to the input of the XML. The parser then builds a data structure based on the tokens. This data structure can then be used by system to generate the data from databases.
2. **Generate Data:** The next step after parsing the input is to generate the data. The data to be generated may be to test the input file i.e. used to check the correctness of the code by generating the data for random values.

The data will be generated for the real databases where the system maps the various data types such as strings, character array, numbers and float with the column data types and generates the real data from the databases that will be loaded into the tables.

1. **Store generated data into maps and vector:**  The generated data is of no use if it does not have a space for storage. They work as a container that implement storage of data elements and share a common property that they can access the data sequentially. The data is therefore stored into map, vector, array all support fast random access to the elements whereas vector can support fast element insertion or removal at the end. Also, if the allocated storage in the vector is too small to insert elements, new array is allocated and all elements copied.

**4. Load generated data into csv:** In these phase system will drive through XML file that user has given and converts each line into CSV format.It does this by examine each attribute at each level and then calling itself with the next child node but when there isn’t another child node level the code outputs the attributes and then returns to the previous iteration to precede to the next node/attribute until there are no more levels or nodes left.

**Primary Actor:** User

**Supporting Actors:** System

**Pre-Conditions:**

The entered data should be valid and there should be a working database and we will need an ODBC driver to connect to a database.

**Success end condition:**

The Xml file gets correctly parsed and the values corresponding to the tables are retrieved according to the mapping of the data types available in the table.

**Failure end condition:**

Data is not generated may be due to the hardware problem or lack of user knowledge about the input to the system.  
With improper maintenance of foreign key relationship the data may deviate from the expected output.

**Minimal Guarantee**:

No guarantee**.**

**Trigger:**

User’s intent specified by just entering the input file on the appropriate module on screen.

## Main Success Scenarios:

1. Foreign key relationship is maintained.
2. Output is generated and loaded into .csv format.

**Assumptions:**

1. There is a working database for output generation.

2. User has knowledge about the input to be given to system.