# Table: Systems

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| **Schema:** | SystemSchematicBuilder |
| **Responsible:** | Kurt A Vedros |

Table holds the information on the entire System.

System – the entire entity of the schematic builder program.

Mutex – Created to let the software know if a client is already trying to add data to the database. This blocks multiple inputs at a given time. 0 for not in use, 1 for in use.

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| **Column Name** | **Data type** | **Description** |
| SystemID | Int | Primary Key to System Table. |
| Name | String | Name given by the user (cannot be left blank). |
| Mutex | bit | Mutex for multiclient function. |

**Procedures (Database Functions)**

* sprocGetSystems
  + Returns a list of System objects that are currently stored in the database.
* sprocGetSystem
  + Returns a System object that is currently stored in the database that has the given System ID number.
* sproc\_SystemAdd
  + Stores the given System object into the database and returns its assigned System ID number. Returns -1 if error occurred, otherwise returns null.
* sproc\_SystemUpdate
  + Changes a System object that is currently stored in the database with the given System’s System.ID with the System’s information.
* sproc\_SystemRemove
  + Removes the System object stored in the database with the given System ID number. Returns -1 if error occurred, otherwise returns null.

**Additional Procedures (Database Functions)**

* sprocGetSystemMutex
  + Returns the systems current mutex.
* sproc\_SystemMutexUpdate
  + Changes the systems mutex with the given mutex.
* Sproc\_GetAllClientsBySystem
  + Returns all the Client ID numbers of the clients that are associated with a given system ID number.

**DAL (Software Functions.)**

* SystemsGetAll()
  + Returns a list of System objects that are currently stored in the database.
* SystemGet(int ID)
  + Returns a System object that is currently stored in the database that has the given System ID number.
* SystemUpdate(CoreSystem system)
  + Stores the given System object into the database and returns its assigned System ID number. Returns -1 if error occurred, otherwise returns null.
* SystemAdd(CoreSystem system)
  + Changes a System object that is currently stored in the database with the given System’s System.ID with the System’s information.
* SystemRemove(int ID)
  + Removes the System object stored in the database with the given System ID number. Returns -1 if error occurred, otherwise returns null.

**Additional DAL (Software Functions.)**

* GetSystemMutexByID(int ID)
  + Returns a Boolean that indicates the current mutex status of the system.
* GetAllClientsBySystem(int systemID)
  + Returns all Client ID numbers that are associated with a given system ID.