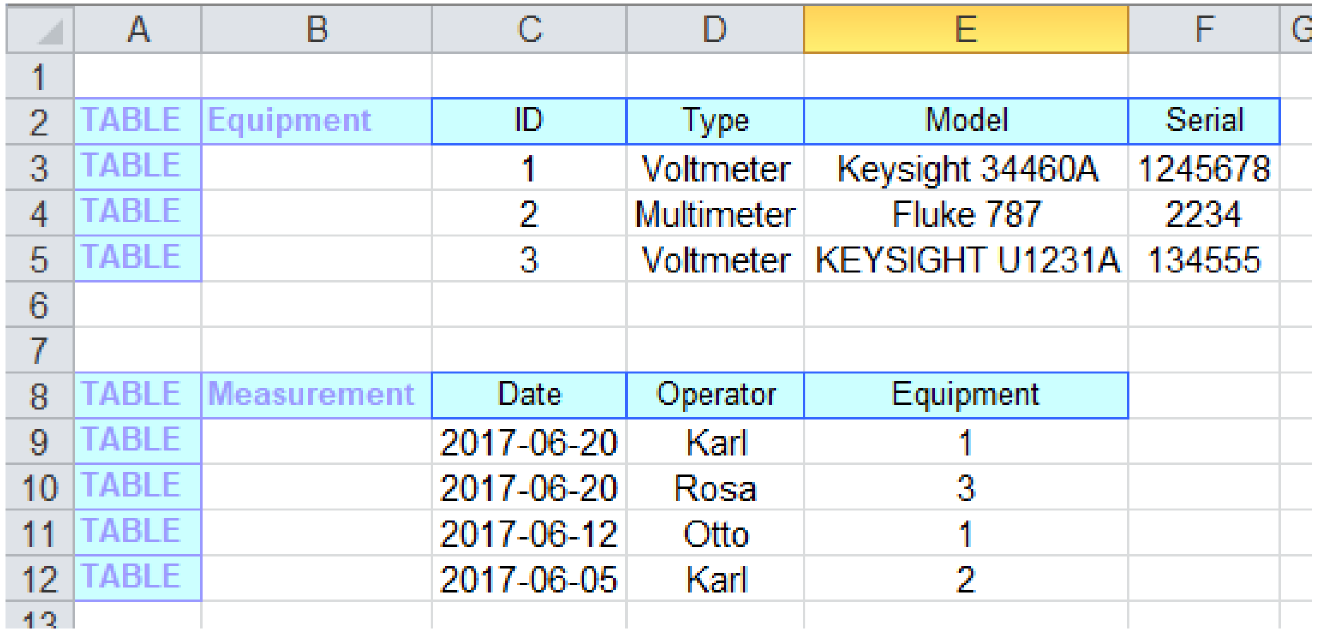
ZuluSpreadSheet - Use Case



	A	B	C	D	E	F
1						
2	TABLE	Equipment	ID	Type	Model	Serial
3	TABLE		1	Voltmeter	Keysight 34460A	1245678
4	TABLE		2	Multimeter	Fluke 787	2234
5	TABLE		3	Voltmeter	KEYSIGHT U1231A	134555
6						
7						
8	TABLE	Measurement	Date	Operator	Equipment	
9	TABLE		2017-06-20	Karl	1	
10	TABLE		2017-06-20	Rosa	3	
11	TABLE		2017-06-12	Otto	1	
12	TABLE		2017-06-05	Karl	2	

Define a class for each table

SPOT - Single Point of Truth: Please note the strong coupling between the table name, the names of the columns and there datatypes. All this coupling is implemented in this class.
No other code has knowledge of the spreadsheet - which is loose coupling.

```
[TableName("Equipment")]
class TableEquipment : ITableRowTyped
{
  public enum EnumType { Voltmeter, Multimeter, Oscilloscope };
  public ITableRow TableRow { get; set; }

  public readonly int ID = 0;
  public readonly EnumType Type = EnumType.Multimeter;
  public readonly string Model = null;
  public readonly string Serial = null;
}

[TableName("Measurement")]
class TableMeasurement : ITableRowTyped
{
  public ITableRow TableRow { get; set; }

  public readonly DateTime Date = DateTime.MinValue;
  public readonly string Operator = null;
  public readonly int Equipment = 0;
}
```

Use `TableEquipement` and `TableMeasurement` in a linq-query

```
ITableCollection tables = TableCollection.factory("zuluspreadsheet_test.xlsx");
var equipment = tables.TypedRows<TableEquipment>();
var measurement = tables.TypedRows<TableMeasurement>();
```

```
// Demonstrate table-access using 'class TableMeasurement' for iteration
foreach (TableMeasurement row in measurement)
{
  Debug.Print(row.Date + " " + row.Operator + " " + row.Equipment);
}
```

```
// Demonstrate table-access using 'class TableMeasurement' and linq
// Return the date when Karl was measuring first
var row_ = measurement.Where(row => row.Operator == "Karl").OrderBy(row => row.Date).First();
// dateTime: 2017-06-05
DateTime dateTime = row_.Date;
// It may be handy to inform the user where this Date is coming from.
// reference: "row 12 in worksheet 'SheetQuery' in file 'zuluspreadsheet_test.xlsx'"
string reference = row_.TableRow.Reference;
```

```
// Demonstrate table-access using 'class TableMeasurement' and linq-join
// When was which equipment used by Karl?
var list = from e in equipment join m in measurement on e.ID equals m.Equipment
         where (m.Operator == "Karl") select new { Measurement = m, Equipment = e };
foreach (var row in list)
{
string msg = $"Date '{row.Measurement.Date:yyyy-MM-dd}': {row.Equipment.Model} (See {row.Measurement.TableR
// msg: "Date '2017-06-20': Keysight 34460A (See row 9 in worksheet 'SheetQuery' in file 'zuluspreadsheet_te
// msg: "Date '2017-06-05': Fluke 787 (See row 12 in worksheet 'SheetQuery' in file 'zuluspreadsheet_test.x
Debug.Print(msg);
}
```