

# Creating Daily Schedule Reports using SharpShooter Reports (Part III)

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## Introduction:

In the first two parts of the articles series devoted to the creation of various daily schedules we start from building a simple Windows Forms application and created two schedules:

1. A simple schedule of appointments for every department ([Part 1](#))
2. A schedule of appointments grouped by date and displayed in parallel for every department ([Part II](#)).

But there is always room for perfection – now let’s create a really professional schedule where the appointments are grouped by time and departments and displayed in one field if department and time coincide.

## Prerequisites:

- .NET Framework 2.0, 3.5 or 4.0
- Visual Studio 2005/2008/2010
- SharpShooter Reports 6.3 or higher

## Schedule №3

Let’s build an advanced schedule where all appointments for the same date, time and department will be displayed in one field.

25.09.2012			
Time	Department A	Department B	Department C
9:00	Feed cat	-	Sleep / Snort
10:00	-	Feed dog	-
12:00	-	Feed canary	Wash hands

26.09.2012			
Time	Department A	Department B	Department C
9:00	Feed cat	-	-
10:00	-	Feed dog	-
12:00	Sleep / Snort	Feed canary	Wash hands

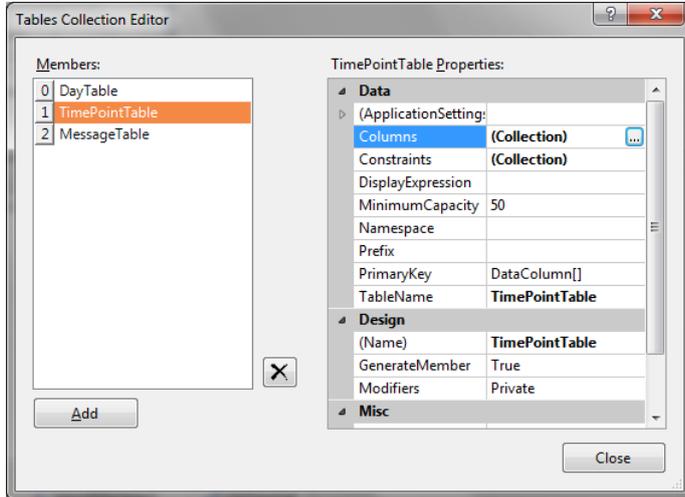
27.09.2012			
Time	Department A	Department B	Department C
9:00	Feed cat	-	-
10:00	-	Feed dog	-
12:00	-	Feed canary	Wash hands

Let’s formalize the task:

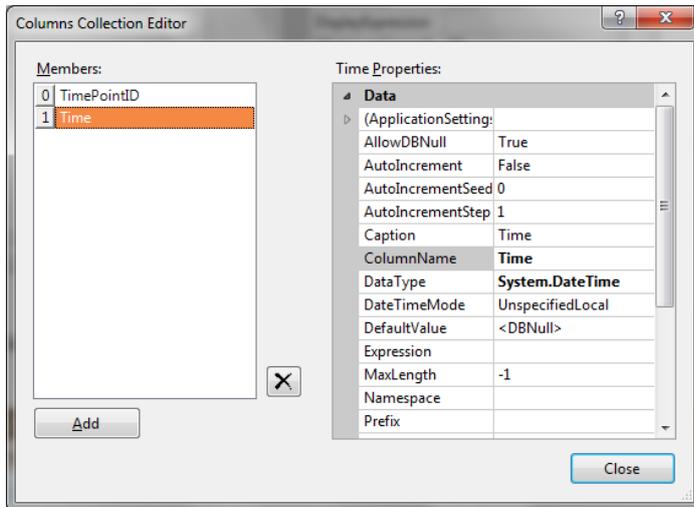
1. We need to display all days within some period.
2. For every day we need to display the date and:

- a. «Time» title and a column with time sorted in ascending order.
  - b. Titles with names for every department and appointments assigned to them by time.
3. Appointments text is displayed in line for every unique time record.
  4. Appointments with the same time and department are displayed in one field.

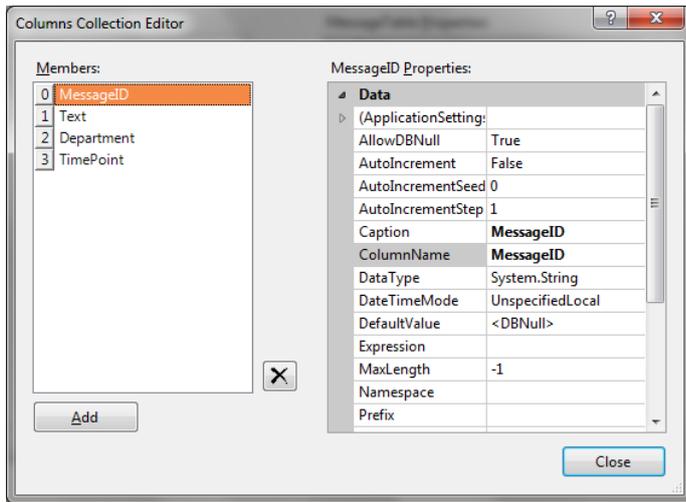
To solve this task the existing data sources are not enough, at least as they are. We won't change database structure, but will add some tables into the supplementary DataSet instead.



TimePointTable - will include unique values of appointments time.

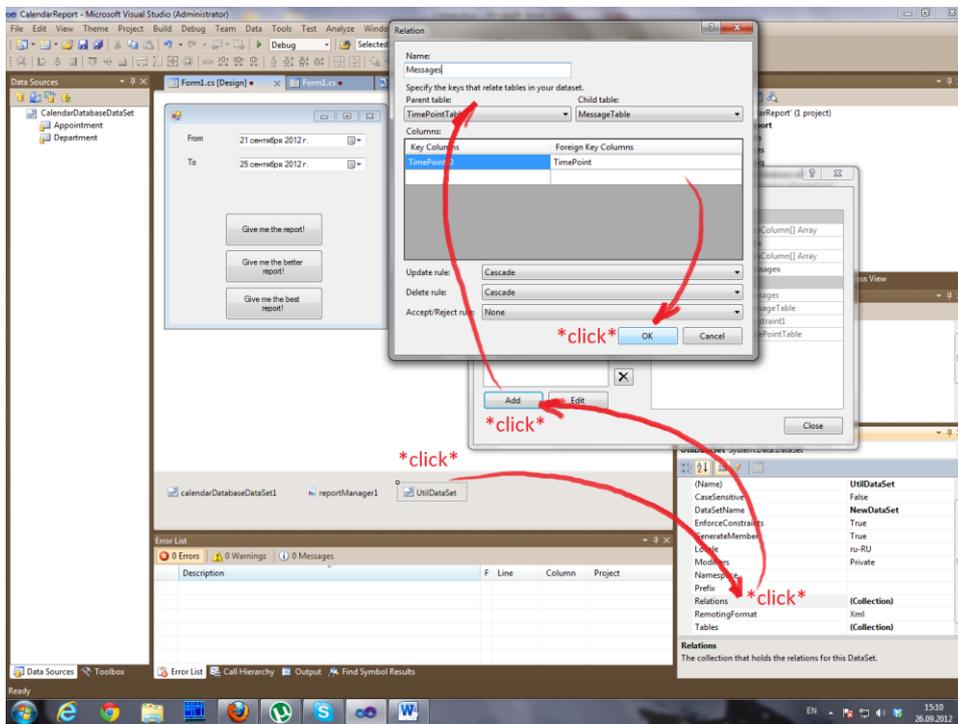


MessageTable – will include field values for every department and unique time value.



Don't forget to set the AutoIncrement property for the primary keys!

The relation of the Message to TimePoint will also be useful. Let's create it and call the Messages.



To fill these tables I created the following function:

```

private void GenerateTimePoints()
{
    //Group all tasks by time
    var TimeGroups = from app in calendarDatabaseDataSet1.Appointment
                    group app by app.Time;

    foreach (var TimeGroup in TimeGroups)
    {
        //Create the TimePoint for every group
        DataRow tp_row = TimePointTable.NewRow(); //New record
        tp_row["Time"] = TimeGroup.Key;           //Unique time - grouping criterion
        TimePointTable.Rows.Add(tp_row);         //Adding to a table

        //Group appointments by departments
        var DepGroups = from app in TimeGroup
                       group app by app.Department;

        //Go through all existing departments
        for (int i = 0; i < calendarDatabaseDataSet1.Department.Count; i++)
        {
            int DepartmentID = calendarDatabaseDataSet1.Department[i].DepartmentID; //Primary key of the current
department

            //Create the Message record for every department
            DataRow msg_row = MessageTable.NewRow();
            msg_row["Department"] = DepartmentID; //Current department
            msg_row["TimePoint"] = tp_row["TimePointID"]; //Current unique time

            //Check if there is an appointment for current department at current unique time
            if (DepGroups.Any(p => p.Key == DepartmentID))
            {
                //There is!
                //Take a group of appointments
                var DepGroup = DepGroups.First(p => p.Key == DepartmentID);
                //Unite all appointment descriptions into one field
                DepGroup.ToList().ForEach(p => msg_row["Text"] += p.Text + ". ");
            }
            else
            {
                //No.
                //Keep the dash
                msg_row["Text"] = "-";
            }

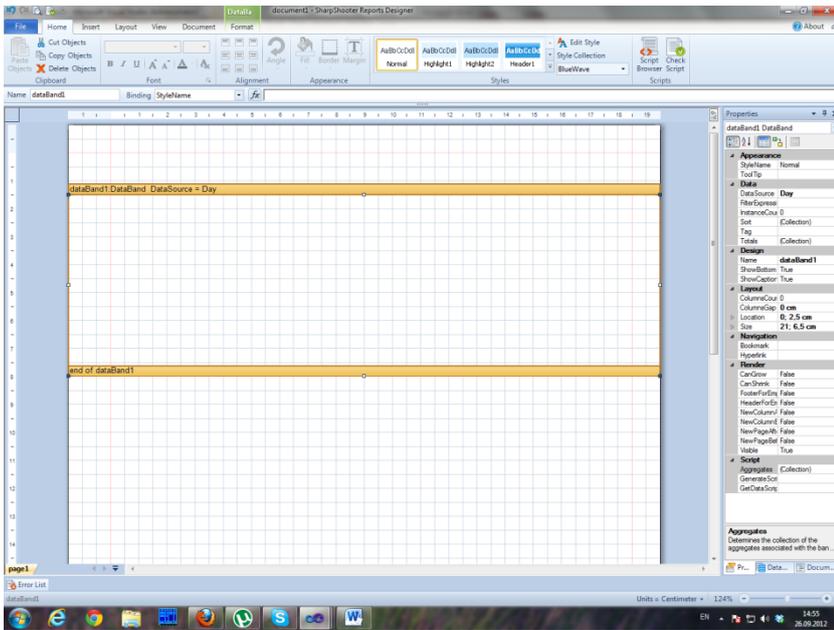
            //Add the resulting Message record to a table
            MessageTable.Rows.Add(msg_row);
        }
    }
}

```

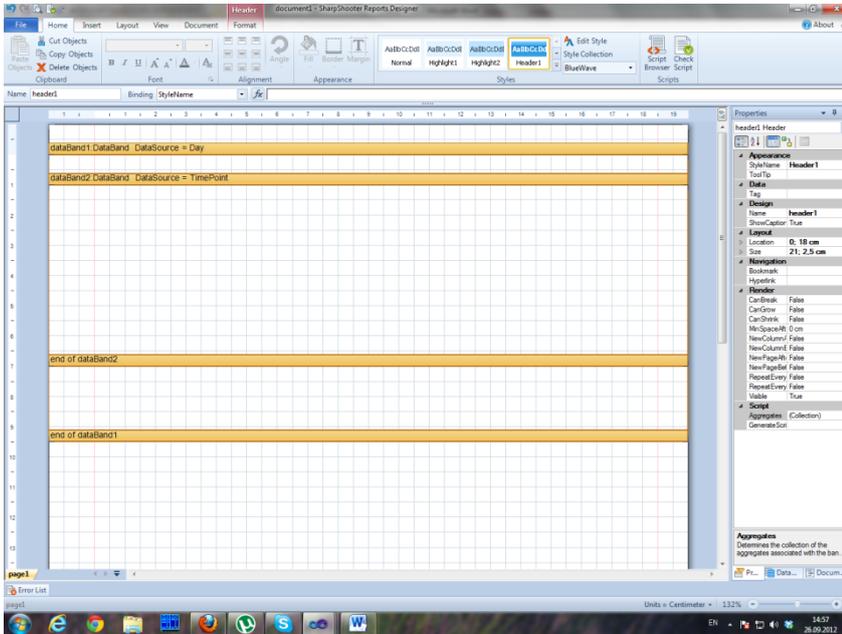
So, now we just need to invoke this function before report generation and new data sources will be built.

Add them to the report.

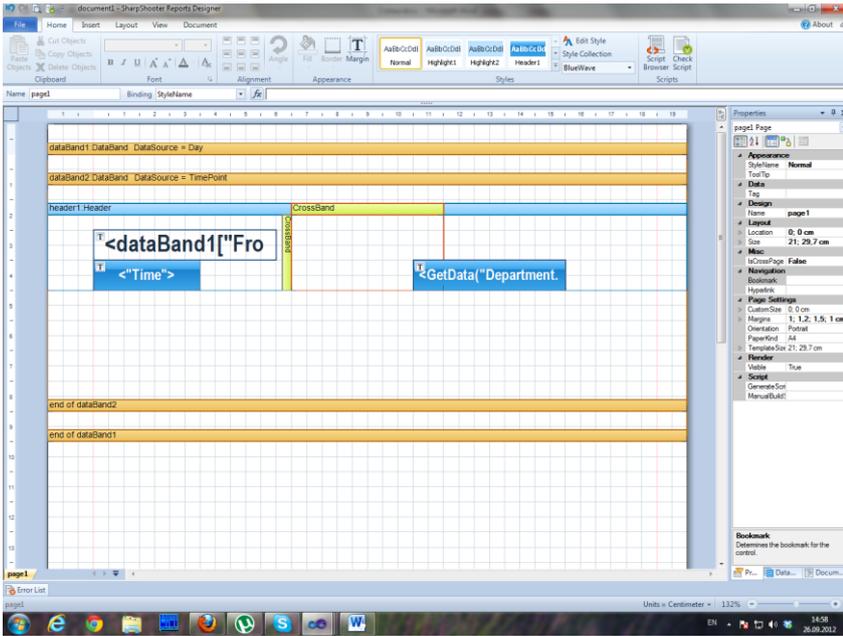
Now, let's move to a report template:



The first DataBand(dataBand1) goes through Days values.

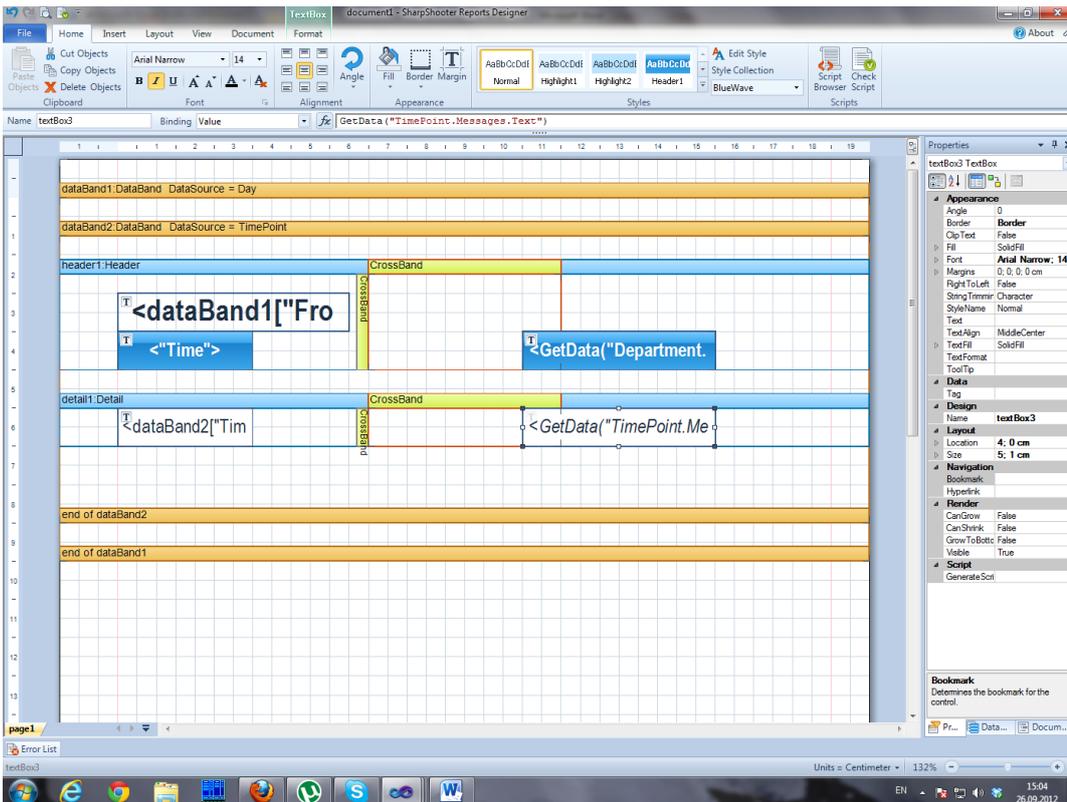


The second DataBand (dataBand2) goes through TimePoint records.



For the dataBand2, let's put a Header with the current date and titles.

The titles are – the "Time" TextBox and the CrossBand that outputs departments names.



And finally the Detail element (detail1).

The detail1 contains:

1. TextBox that is bound to the «dataBand2["Time"]» value
2. CrossBand that includes the TextBox bound to the «GetData("TimePoint.Messages.Text")» value.

TextBox will bring a time value of the current TimePoint, and CrossBand will bring all messages which belong to the current TimePoint.

Ok, now we can run it!

21.09.2012			
Time	Department A	Department B	Department C
15:40	Play golf.	Watch TV. Cook meal.	-

22.09.2012			
Time	Department A	Department B	Department C
15:40	Do nothing.	-	-

24.09.2012			
Time	Department A	Department B	Department C
9:35	Feed hamster.	-	-
10:00	Feed Cat.	-	Feed canary.
11:00	-	Feed Dog.	-
13:00	-	Water flower.	Learn Kung-Fu.
15:40	Iron shirts.	-	-

25.09.2012			
Time	Department A	Department B	Department C
9:00	Feed cat	-	Sleep / Snort
10:00	-	Feed dog	-
12:00	-	Feed canary	Wash hands

26.09.2012			
Time	Department A	Department B	Department C
9:00	Feed cat	-	-
10:00	-	Feed dog	-
12:00	Sleep / Snort	Feed canary	Wash hands

27.09.2012			
Time	Department A	Department B	Department C
9:00	Feed cat	-	-
10:00	-	Feed dog	-
12:00	-	Feed canary	Wash hands

Not bad!

As you can see, all records with the same time are grouped and displayed in one line and even in one field when and if needed!

21.09.2012			
Time	Department A	Department B	Department C
15:40	Play golf.	Watch TV. Cook meal.	-

22.09.2012			
Time	Department A	Department B	Department C
15:40	Do nothing.	-	-

24.09.2012			
Time	Department A	Department B	Department C
9:35	Feed hamster.	-	-
10:00	Feed Cat.	-	Feed canary.
11:00	-	Feed Dog.	-
13:00	-	Water flower.	Learn Kung-Fu.
15:40	Iron shirts.	-	-

This is a really good schedule that we can print and use every day!