Docuware

Business Intelligence Dashboard

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Outline

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DocuWare

- What do they do?
  - Electronic Content Management (ECM)

- Gives companies efficient and easy document storage

Objectives

- Main:
  - Connect to DocuWare’s system
  - Create a graphical dashboard
  - Make it web-based and small-scale device friendly

- Secondary:
  - Create and save multiple dashboards with one or more graphs

Tools Used

Applications:

- GitHub
- myBalsamiq
- Visual Studio Community 2015

Languages:

- C#
- HTML5
- CSS3
- Javascript
- Bootstrap v. 3.3.6

Use Cases

There are three use case scenarios:

1. Login State
    1.1. The user types in their company, username, and password to gain access.

2. Generate Graphical Dashboard
    2.1. User filters data and creates a graphical representation of the data on the dashboard.

3. Printing Graphical Dashboard
    3.1. User has the choice of either printing to PDF or selecting a printer.

Use Case 1: Login

Main Flow:

1. User enters all credentials correctly.
2. The system verifies that all credentials are valid.
3. The system grants access to the user to enter the web-interface.
4. Main flow ends.

Use Case 1: Login

Alternative Flow (1 of 5):

1. User enters some or all credentials incorrectly.
2. The system notifies the user that the wrong credentials were entered.
3. User attempts to login again and enters credentials correctly.
4. Alternative flow ends.

Use Case 1: Login

Exception Flow:

1. User enters the credentials incorrectly multiple times.
2. System locks out the user from trying again.
3. System notifies DocuWare and company owner.
4. Use case fails.

Use Case 2: Generating Graphical Dashboard

Main Flow:

1. User selects the type of graph they want to generate.
2. User selects the date range and other options and presses create.
3. The graph is created.
4. Main flow ends.

Use Case 2: Generating Graphical Dashboard

Alternative Flow:

1. User enters an invalid date range.

2. System notifies user the date is invalid and is asked to try again.

3. Alternative flow ends.

Use Case 3: Printing Graphical Dashboard

Main Flow:

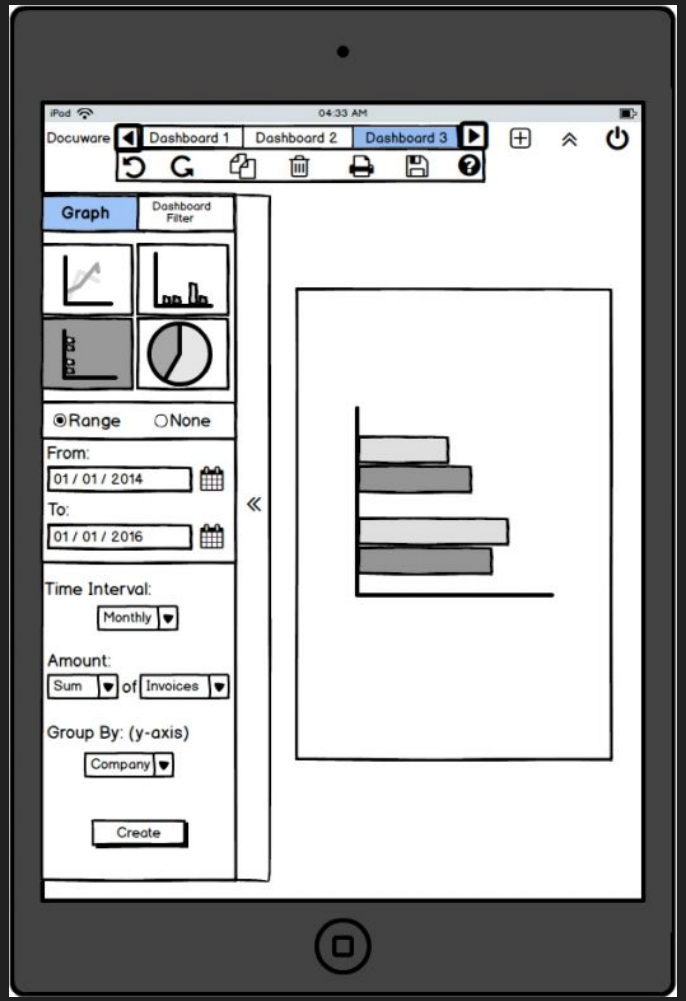
1. User presses the print button on toolbar.
2. System brings out the print menu.
3. User prints to PDF and the dashboard is saved on the device.
4. Main flow ends.

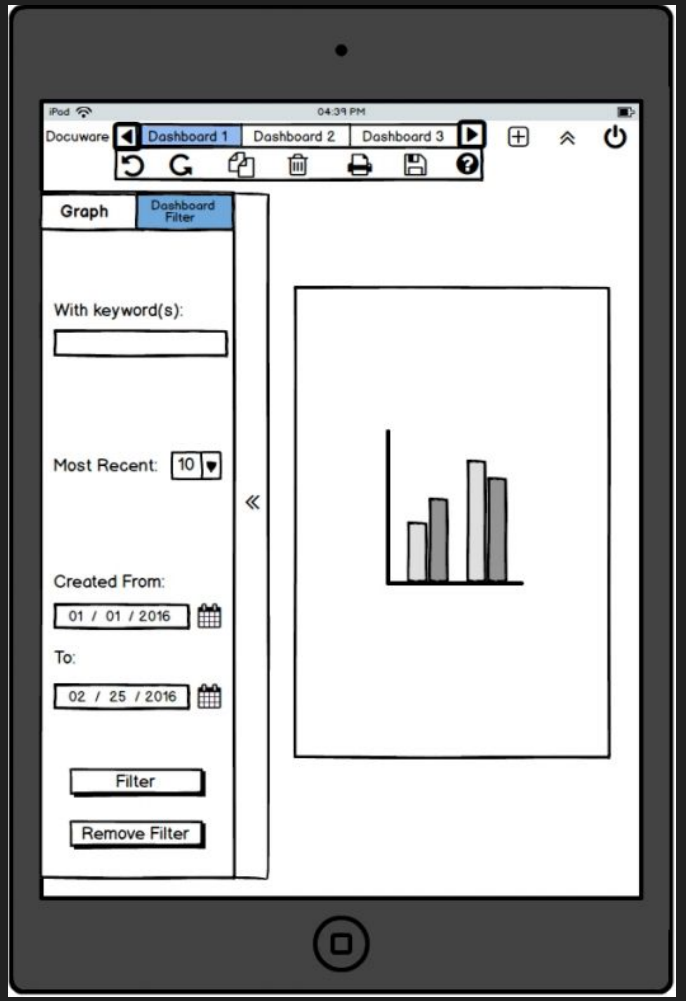
Use Case 3: Printing Graphical Dashboard

Alternative Flow:

1. User presses the print button on toolbar.
2. System brings out the print menu.
3. User selects a printer and the dashboard is printed.
4. Alternative flow ends.

Mockups


iPod
04:33 AM
Docuware
Dashboard 1
Dashboard 2
Dashboard 3
Graph
Dashboard Filter
Range
None
From:
01 / 01 / 2014
To:
01 / 01 / 2016
Time Interval:
Monthly
Amount:
Sum
of
Invoices
Group By: (y-axis)
Company
Create


iPod
04:39 PM
Docuware
Dashboard 1
Dashboard 2
Dashboard 3
Graph
Dashboard Filter
With keyword(s):
Most Recent:
10
Created From:
01 / 01 / 2016
To:
02 / 25 / 2016
Filter
Remove Filter

Demo

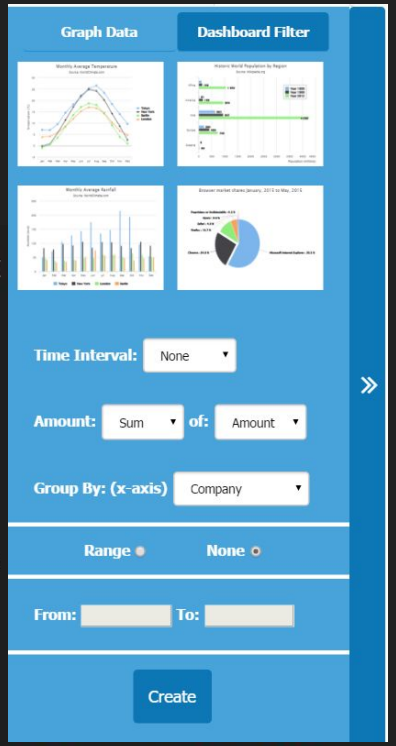
Adding Graphs to the Page

```
@using (Html.BeginForm())
{
    @Html.AntiForgeryToken()
    @Html.ValidationSummary(true, "", new { @class = "text-danger" })
    <div class="tab-content">
        <!-- Graph Data Menu -->
        <div class="tab-pane fade in active" id="menu1">
            <label class="gpic">
                @Html.RadioButtonFor(Model => Model.gtype, 0)
                <img src="~/Content/Images/line.png" />
            </label>
            <label class="gpic">
                @Html.RadioButtonFor(Model => Model.gtype, 5)
                <img src=" ~/Content/Images/hbar.png" />
            </label>
            <label class="gpic">
                @Html.RadioButtonFor(Model => Model.gtype, 4)
                <img src="~/Content/Images/vbar.png" />
            </label>
            <label class="gpic">
                @Html.RadioButtonFor(Model => Model.gtype, 6)
                <img src="~/Content/Images/pie.png" />
            </label>

            <br/>
            <br/>
            <div class="divider1"> </div>
            <div class="form-group form-inline" id="timeInterval">
```

```
    <label for="timeint">Time Interval:</label>
    @Html.DropDownListFor(model => model.timeInt, new SelectList(
            new List<Object>{
                        new { value = 0 , text = "None" },
                        new { value = 1 , text = "Monthly" },
                        new { value = 2 , text = "Yearly"}
                    },
            "value",
            "text"
            ), new { @class = "form-control" })

</div>
<div class="form-group form-inline">
    <label for="amount">Amount:</label>
    @Html.DropDownListFor(model => model.amount, new SelectList(
            new List<Object>{
                        new { value = 1 , text = "Sum" },
                        new { value = 2 , text = "Count" }
                    },
            "value",
            "text"
            ), new { @class = "form-control" })
    <label for="of">of:</label>
    @Html.DropDownListFor(Model => Model.sfieldIndex, new SelectList(ViewBag.SDDF, "Value", "Text"),
                        new { @class = "form-control" })
    @Html.DropDownListFor(Model => Model.cfieldIndex, new SelectList(ViewBag.CDDF, "Value", "Text"),
                        new { @class = "form-control" })
</div>
<div class="form-group form-inline">
    <label  id="groupby" for="groupby">Group By: (x-axis)</label>
    @Html.DropDownListFor(Model => Model.gbIndex, new SelectList(ViewBag.GBDDF, "Value", "Text"),
            new { @class = "form-control" })
</div>
```



Adding Graphs to the Page

```
Highcharts chart = new Highcharts(string.Format("chart{0}", Graphs.Count.ToString()))
            .SetTitle(new Title
            {
                Text = graphTitle
            })
            .SetSubtitle(new Subtitle
            {
                Text = string.Format("Data From: {0} - {1}", g.startDate.ToShortDateString(), g.endDate.ToShortDateString())
            })
            .SetXAxis(new XAxis
            {
                Categories = GraphDates
            })
            .SetSeries
            (
                chartVals
            );
Graphs.Add(chart);

else if (g.gtype == (int)graph.Pie)
{
    Highcharts chart = new Highcharts(string.Format("chart{0}", Graphs.Count.ToString()))
                .SetTitle(new Title
                {
                    Text = graphTitle
                })
                .SetSubtitle(new Subtitle
                {
                    Text = string.Format("Data From: {0} - {1}", g.startDate.ToShortDateString(), g.endDate.ToShortDateString())
                })
                .SetSeries(new Series
                {
                    Type = ChartTypes.Pie,
                    Name = "Amount",
                    Data = new Data(values.ToArray())
                }
                );
    Graphs.Add(chart);
}
```

Creating Multiple Dashboards

```
// Add a Tab

$('#newDash').click(function () {
    workspaceId++;
    var workspaceName = getWorkspaceName();
    $('#dashTabContainer').append(
        $('<li><a href="#workspace' + workspaceId + '" data-toggle="tab">' +
        workspaceName +
        '<button class="close" type="button" ' +
        'title="Remove this Workspace">X</button>' +
        '</a></li>'));

    $('#workspaceContent').append($('<div class="tab-pane" id="workspace' +
        workspaceId + '">'));

    $('#dashTabContainer li:last-child a').tab('show');
});

//Remove a Tab

$('#dashTabContainer').on('click', ' li a .close', function () {
    var workspaceToDelete = $(this).parents('a').attr('href');
    $(this).parents('li').remove('li');
    $(workspaceToDelete).remove();
    $('#dashTabContainer li:first-child a').tab('show');
});
```

Navigation and Toolbar

```
<div id="wrapper"><!--wrapper for whole page-->
    <div id="navbar-wrapper"><!--Top navbar-->
        <nav class="navbar navbar-default navbar-fixed-top">
            <!--inverse for black color default for black/fixed navbar will stay on top when scrolling-->
            <div class="container-fluid">
                <div class="navbar-header">
                    <img src="~/Content/Images/logo.png" class="navbar-brand img-responsive" alt="Logo">
                </div>
                <div class="nav navbar-nav navbar-right">
                    <div class="btn-group">
                        <button type="button" class="btn btn-primary btn-responsive" id="newDash" role="button">
                            <i class="fa fa-plus fa-2x"></i>
                        </button>
                        <button id="showTop" data-toggle="collapse" data-target="#tools" class="btn btn-primary btn-responsive">
                            <i class="fa fa-angle-double-down fa-2x"></i>
                        </button>
                        <button type="button" class="btn btn-primary btn-responsive" role="button">
                            <i class="fa fa-power-off fa-2x"></i>
                        </button>
                    </div>
                </div>
                <div>
                    <button type="button" class="btn btn-primary btn-responsive navbar-toggle" data-toggle="collapse" data-target="#myNavbar"><i class="fa fa fa-
                </div>
                <div class="collapse navbar-collapse" id="myNavbar">
```

Printing the Dashboards

```
//Print Button Function
$('#printbtn').click(function () {
    //Opens new window with graph for printing.
    var divContents = $('#workspaceContent').html();
    var printWindow = window.open('', '', 'height=400,width=800');
    printWindow.document.write(divContents);
    printWindow.document.close();
    printWindow.print();
    printWindow.close();
});
```

Conclusions

- Successfully connected to DocuWare’s REST API.
- Developed a system that allows the user to select their data and then display it in graph form.
- Create multiple dashboards
- Small-scale device friendly
- Printable dashboards

Working With a Company

- Real world experience
  - Agile methodology
- A part of something
- Communication
  - Face to face meetings
  - E-mails

Future Works

- Minor tweaks to the page
- Dashboards
- Persistence

Any Questions?