COMPREHENSIVE SEARCH ON I-SERIES MACHINE THROUGH EGL

Background

Prior to EGL, IBM modernization tools were not efficient to support a wide level comprehensive search on a database.

EGL not only overcomes these issues but comes with a wide array of built-in functionalities bundled with modern technologies like Web 2.0 and SOA.

Using EGL, we gracefully achieved our objective in a short span of time and rendered outputs in a robust grid-based paginated table.

Challenges

To create a comprehensive search, we had to face the below obstacles:

- Web 2.0 component based web-page
- Performance
- Lose Coupling & Code Abstraction
- SOA based solution

Solution

EGL is based on 3-tier architecture; we designed our application according to the same:

- UI layer
- Business logic layer
- Data access layer

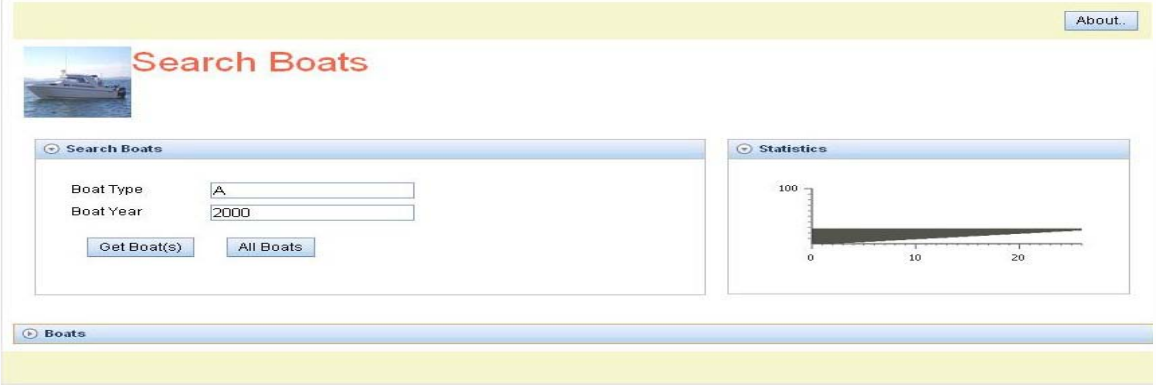
UI layer

Rich User Interface (**RUI**) provides a visual interface to design web pages visually through custom RUI widgets. We designed the interface using some of these widgets. Plus, we used a well-known JavaScript framework named DOJO to enrich interface.

Various search criteria based fields like boat type, feet & year fields are provided to retrieve relevant data.

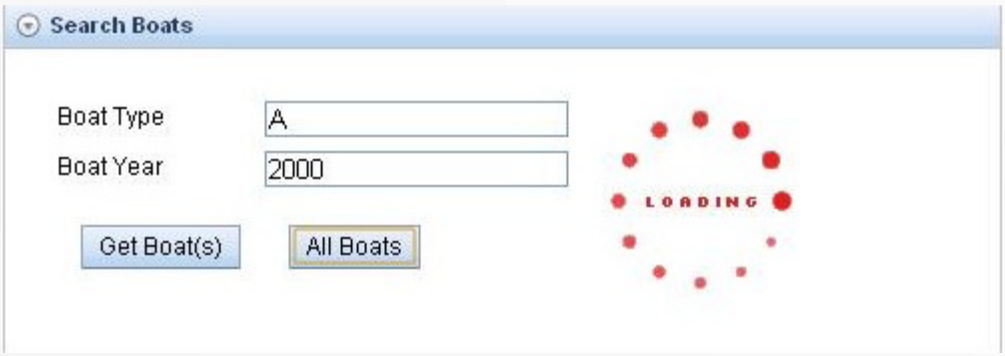
The results are displayed in a pagination enabled grid inside flexible panel layouts.

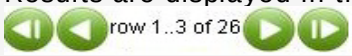
A snapshot is given below



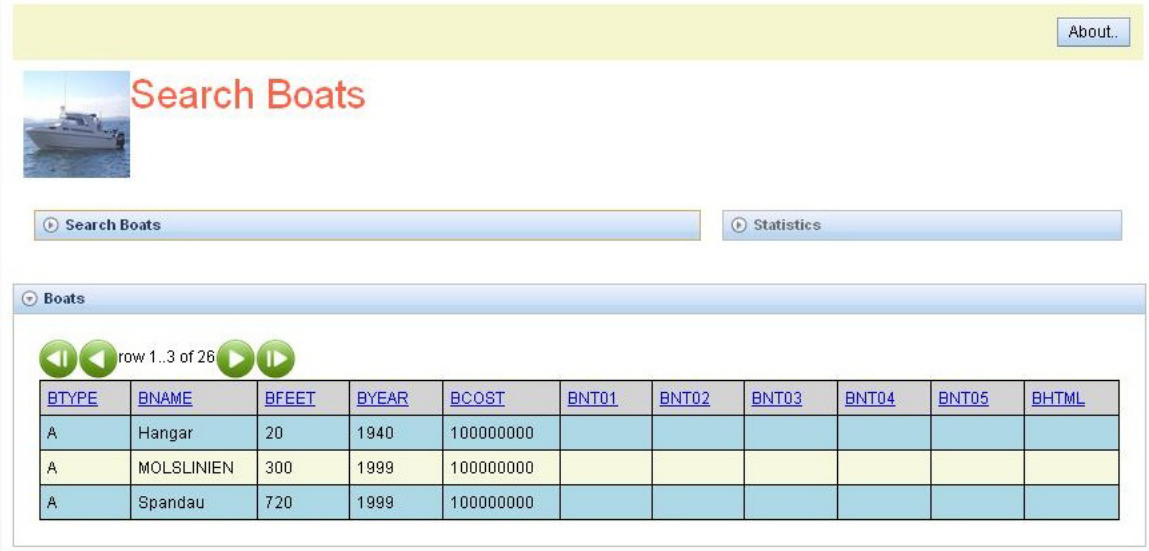
The pictured panel based layouts enable users to easily open or close them on will. One panel provides search functionality, where other is showing the result's statistics.

Once required values are filled in the given fields a progress bar will appear to show the search status something like 'the results are being fetched, please wait'.



Results are displayed in the below pagination enabled grid, where these icons 

help the user to move forward or backward through the result pages.



BTYPE	BNAME	BFEET	BYEAR	BCOST	BNT01	BNT02	BNT03	BNT04	BNT05	BHTML
A	Hangar	20	1940	100000000						
A	MOLSLINIEN	300	1999	100000000						
A	Spandau	720	1999	100000000						

Business Logic Layer

This layer hold logic to draw/display RUI widgets, settings widget-properties, assigning values to widgets, controlling & managing user actions (events) to page components & so on.

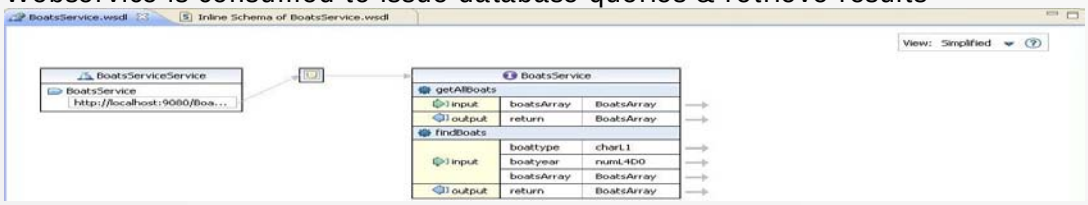
Code creating grid is partially given in the below snapshot.

```
columns = [
        new com.ibm.egl.rui.widgets.GridColumn{name = "BTYPE", displayName = "BTYPE", width=120},
        new com.ibm.egl.rui.widgets.GridColumn{name = "BNAME", displayName = "BNAME", width=120},
        new com.ibm.egl.rui.widgets.GridColumn{name = "BFEET", displayName = "BFEET", width=120},
        new com.ibm.egl.rui.widgets.GridColumn{name = "BYEAR", displayName = "BYEAR", width=120},
        new com.ibm.egl.rui.widgets.GridColumn{name = "BCOST", displayName = "BCOST", width=120},
        new com.ibm.egl.rui.widgets.GridColumn{name = "BNT01", displayName = "BNT01", width=120},
        new com.ibm.egl.rui.widgets.GridColumn{name = "BNT02", displayName = "BNT02", width=120},
        new com.ibm.egl.rui.widgets.GridColumn{name = "BNT03", displayName = "BNT03", width=120},
        new com.ibm.egl.rui.widgets.GridColumn{name = "BNT04", displayName = "BNT04", width=120},
        new com.ibm.egl.rui.widgets.GridColumn{name = "BNT05", displayName = "BNT05", width=120},
        new com.ibm.egl.rui.widgets.GridColumn{name = "BHTML", displayName = "BHTML", width=120}],
    visibleRows = 3,  //How many rows in view at a time
    data = []
    };
```

RUI handler code is pictured in the below snapshot

```
handler BoatsDetails type RUIhandler{initialUI =[  mainBox
            ], onConstructionFunction = initialization, cssFile = "css/BoatsRUI.css"}
    mainBox com.ibm.egl.rui.widgets.Box{padding = 20, children =[ LeftPadBox, CenterContentBox,RightPadBox
            ], columns = 1  };
```

Webservice is consumed to issue database queries & retrieve results



It's very easy to call a webservice in EGL, like we did in the below code

```
call BService.findBoats(btype, byear, allBoats)
    returning to findBoatsResult
    onException showExp;
```

Once the values are retrieved, these will be assigned directly to grid without any type of complexity.

Data access layer

This essential layer holds business logic, it set up database connections, querying database, retrieving results, assigning results to display widgets and so on.

EGL provides very easy way to retrieve database records, snapshot shows below

```
service BoatsService

    // Variable Declarations
    //inputboats Boats;

     function getAllBoats( boatsArray Boats[] in ) returns (Boats[])
            try
                get boatsArray with
                    #sql{

            onException (e  SQLException)
                SysLib.writeStdout( "Error inside Service" + e.message );
            end

            if (size(boatsArray)>0 )
                return (boatsArray);
            else
                return(null);
            end
        end
```

Conclusion

EGL enabled us to create a robust & comprehensive search application for an iSeries machine. It demanded less efforts & time to meet challenges swiftly and helped us to stand in the diversified marketplace.

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