

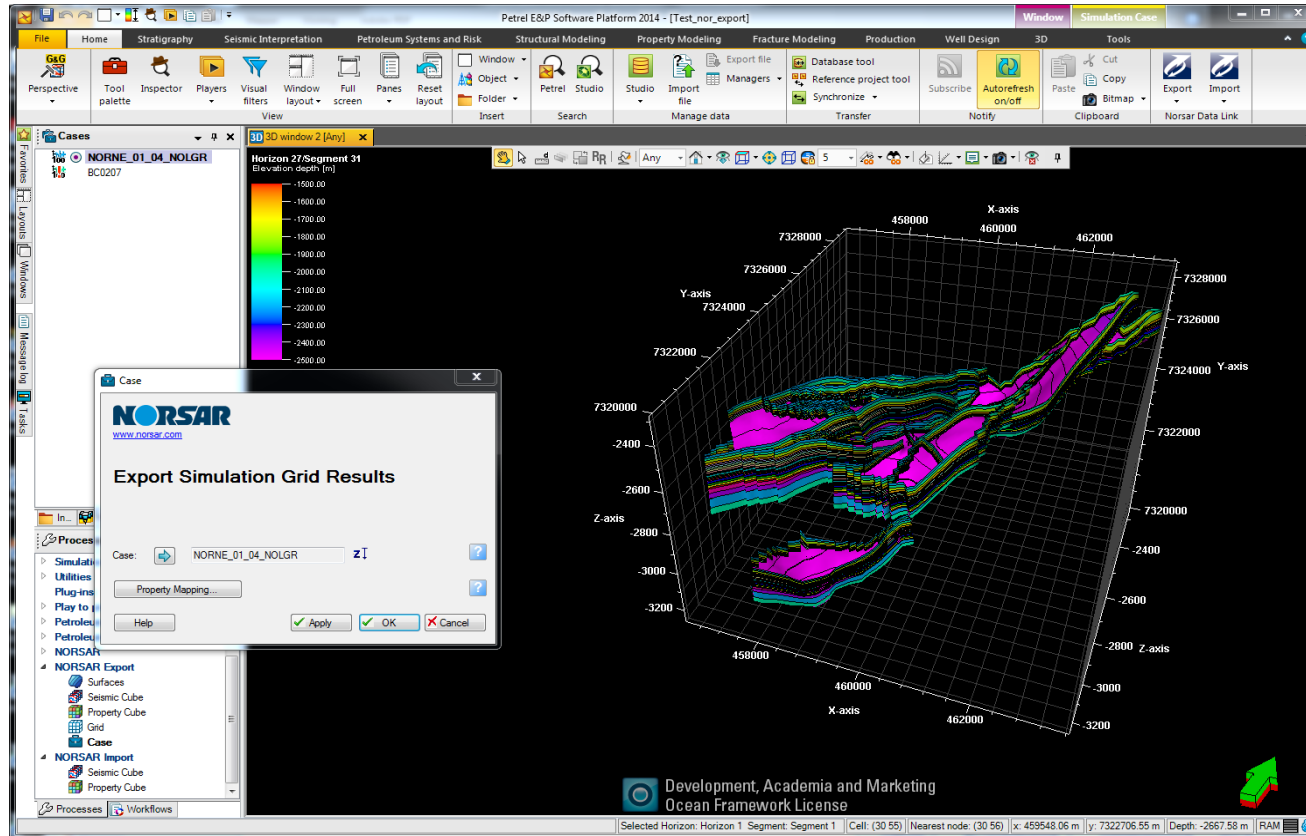
Comfyguration

Schlumberger

“What function(s) can be added to Configuration Designer to improve its usability?”

This is Petrel

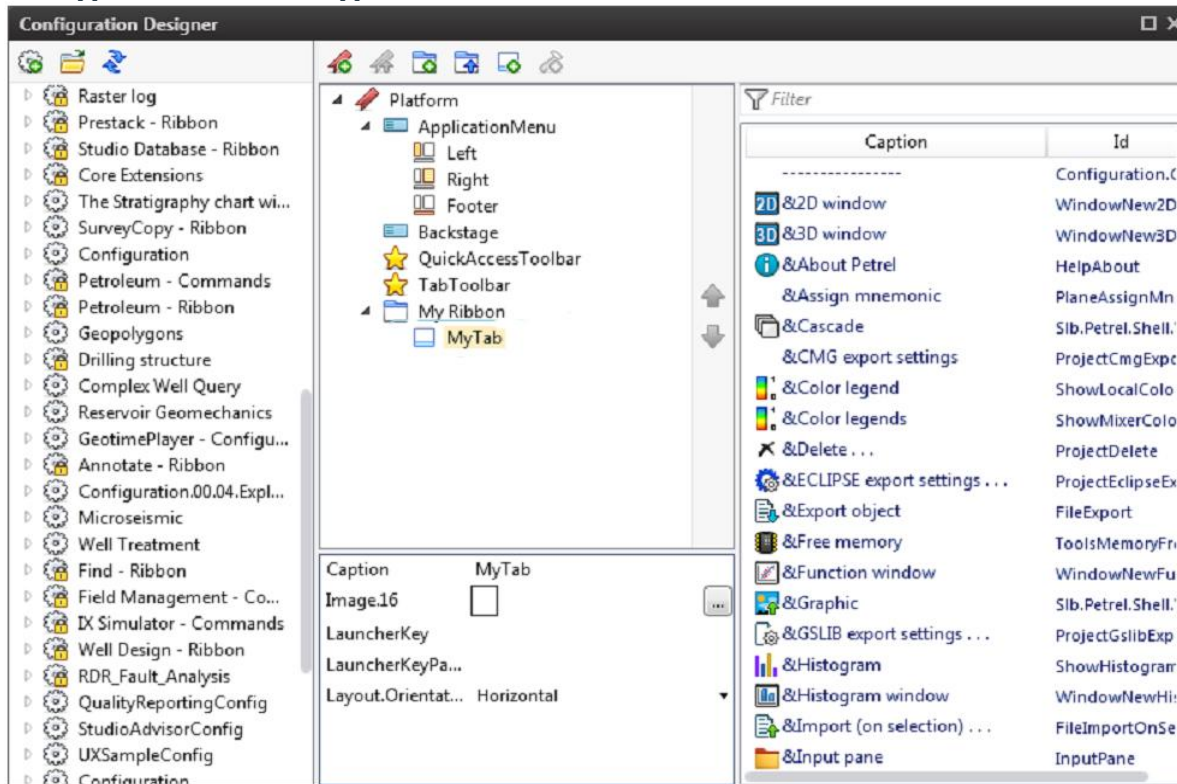
-Employees that work in the upstream sector at Schlumberger use a program called 'Petrel'



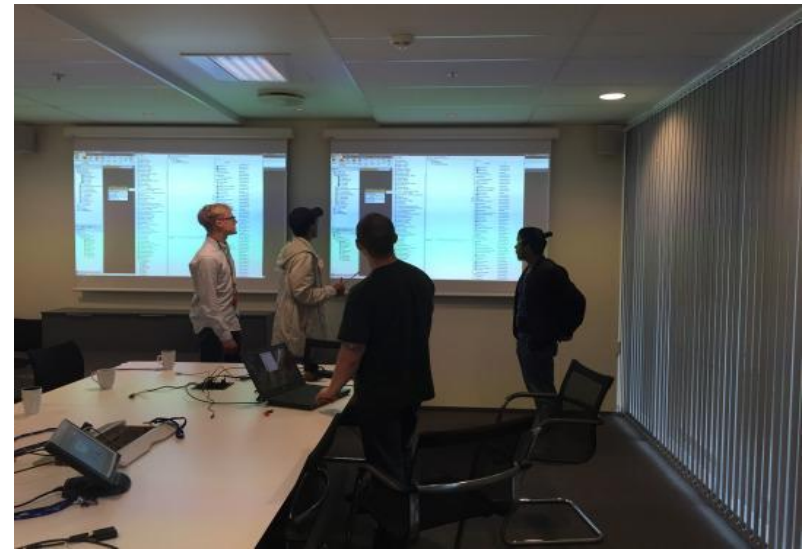
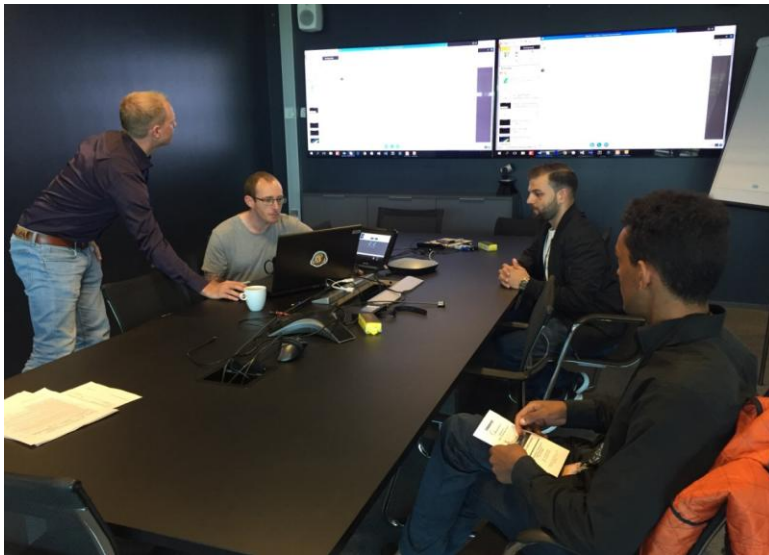
-Petrel offers different tools for different tasks in the upstream sector
For example oil well simulations, seismic data interpretation etc

This is Configuration Designer

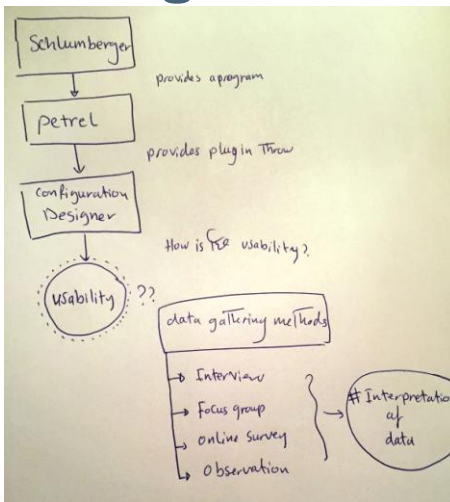
-Users of Petrel can use a plug-in tool called Configuration Designer to configure the GUI of Petrel



- By assigning commands (codes) to buttons (16x16 or 32x32 icons) , and arranging the buttons
- Not very advanced
- Used by developers and non-developers

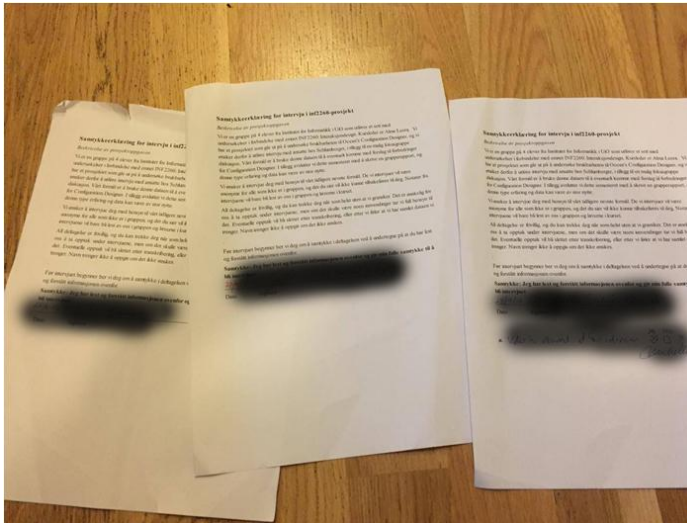


What function(s) can be added to Configuration Designer to improve its usability?



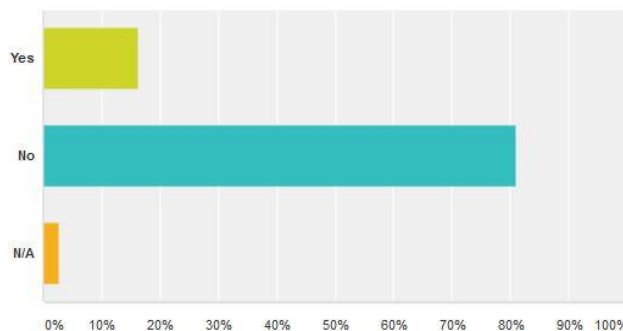
What function(s) can be added to Configuration Designer to improve its usability?

Gathering Data



Did you get any formal training in the use of Configuration Designer?

Answered: 37 Skipped: 0



-3 Interviews

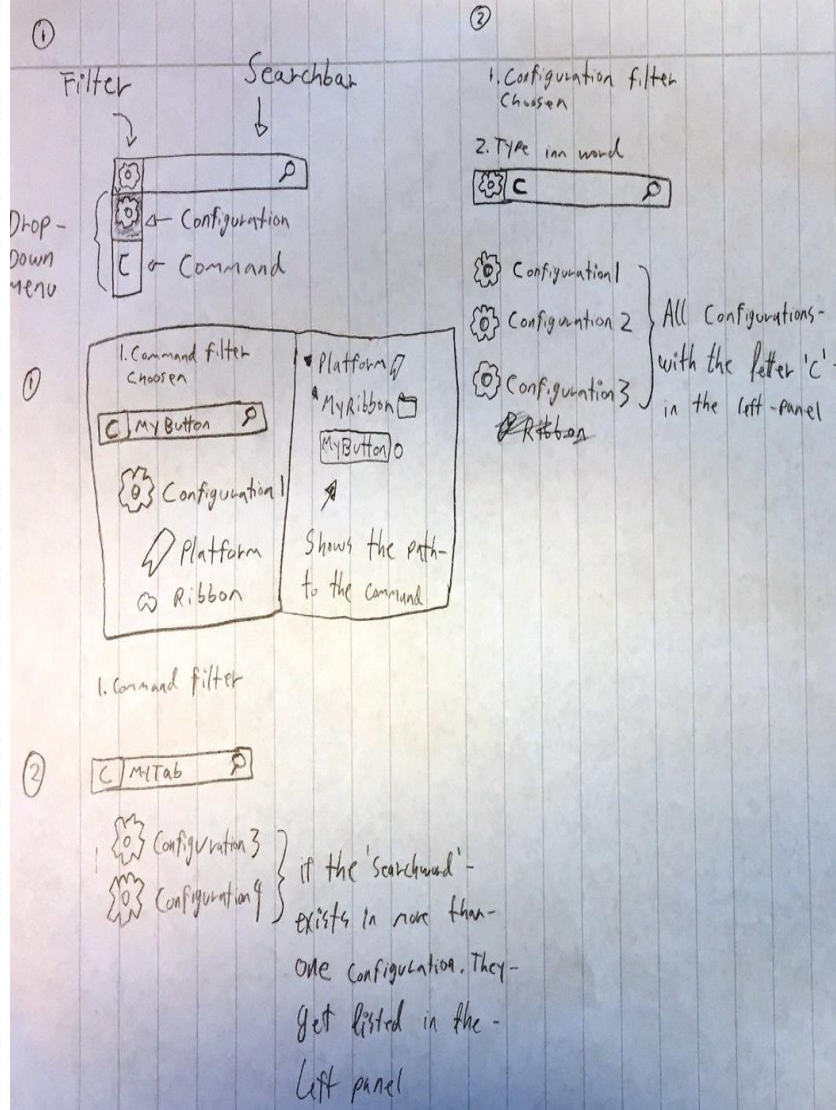
- System architect
- Experienced user
- Intermediate user

-1 Focus group

- Product analyst
- Quality Assurance tester
- 2 system engineers

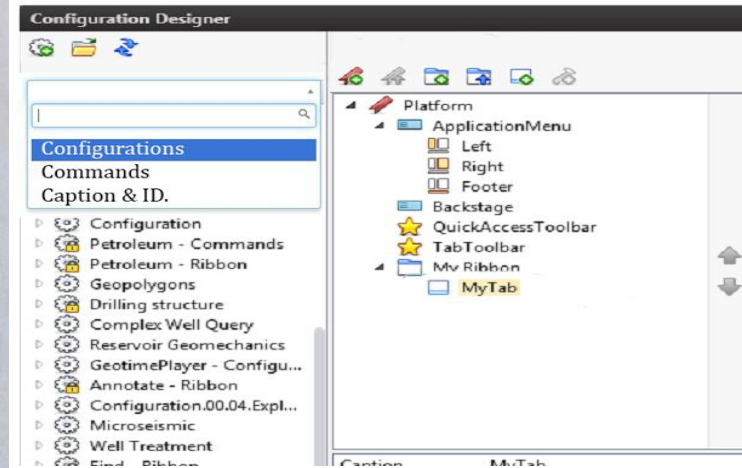
- Online survey

What function(s) can be added to Configuration Designer to improve its usability?



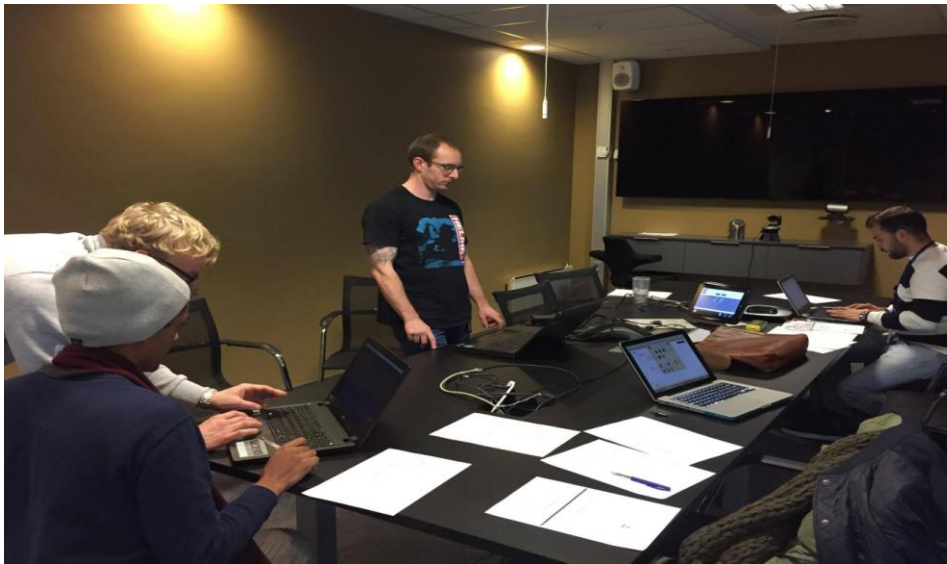
1- Search bar

That allows users to search among commands, configurations and captions



2- Help tab





Search bar.

Help tab was dropped

Schlumberger preferred The search bar .

- Covers more of the issues uncovered
- Practical for the company
- Majority demand

Building prototype !

A program (simulator)

```
    else if {
        document.getElementById("check").classList.remove("showCheckBox");
    }
    if (!fantSok) {
        document.getElementById("configId").innerHTML = "Ingen match";
        document.getElementById("boks0").innerHTML = "";
        document.getElementById("check").classList.remove("showCheckBox");
    }
    fantSok = false;
}
});
function showInfo(t) {
    tall = t[6];
    config = t;
    document.getElementById(t).classList.toggle("show");
    document.getElementById(tall).classList.toggle("highlight");
}

// Close the dropdown if the user clicks outside of it
window.onclick = function(event) {
    if (!event.target.matches('.icon')) {
        var dropdowns = document.getElementsByClassName("dropdown-content");
        var hLl = document.getElementsByClassName("icon");
        for (i = 0; i < dropdowns.length; i++) {
            var oDp = dropdowns[i];
            var highL = hLl[i];
            if (oDp.classList.contains('show')) {
                oDp.classList.remove('show');
                highL.classList.remove('highlight');
            }
        }
    }
}
function fyllBoks(nr, indeks) {
    document.getElementById("configId").innerHTML = config;
}
```

- Based on
- Java scripts
 - Html codes

Configuration Designer now

Configuration Designer

- Configuration.00.00.Platform.Commands
 - Resources
 - Commands
 - Configuration.00.01.Wells.Commands
 - Configuration.00.02.WellSection.Commands
 - Configuration.00.03.Geophysics.Commands
 - Configuration.00.04.StructuralFramework.Commands
 - Configuration.00.05.GeologyModelling.Commands
 - Configuration.00.07.ReservoirEngineering.Commands
 - Platform - Operations
 - Perspectives
 - Platform - Ribbon
 - Platform - Scenes
 - Platform - Shell
 - Resources
 - Features
 - Themes
 - Platform - Shortcuts
 - Well Section - Ribbon
 - Geophysics - Ribbon
 - Structural Geology
 - Commands
 - Ribbons
 - Palette
 - Mini toolbars
 - Resources
 - Rules
 - Features
 - Scenes
 - Exploration Geology - Ribbon
 - PlayAndProspect
 - Geology - Ribbon
 - Modeling - Ribbon
 - Reservoir Engineering - Ribbon
 - Shale - Ribbon
 - DataManagement
 - Studio - Commands
 - Ribbon - Quantitative Interpretation
 - Seismic Well Tie - Palette
 - Seismic Well Tie - Commands and Resources
 - Raster log
 - Prestack - Ribbon
 - RealTime
 - Studio Database - Ribbon
 - ProjectsManager
 - Automarker
 - Core Extensions
 - Slb.Petrel.Core.Serialization.DocDB
 - CRS Consolidation
 - Configuration.00.04.ExplorationGeology.Commands.xml
 - The Stratigraphy chart window
 - SurveyCopy - Ribbon
 - Seismic 2D line geometry reassignment
 - Seismic polygon ghost
 - PPA Configuration
 - License Explorer - Ribbon
 - Petroleum - Commands
 - Petroleum - Ribbon
 - Mesh editing - Ribbon
 - Geopolygons
 - SegyCommandConfiguration

Integrate Commands into Search

Integrate Processes into Search

Integrate Tools into Search

Get Temp Environment Variable

Operations

Scenes on Tool Palette

Saved Sessions

Use the Page Service

User Profiles

New Project on startup

Sort List Items

Integrate Panes into Search

Enables the warm checkout RMB context menu from the Ribbon.

Prediction window

Search, Show total item count for categories

Search, Filtering based on category

Search, Add filter from query string with 'in:'

Search, Offer autocomplete when using 'in:'

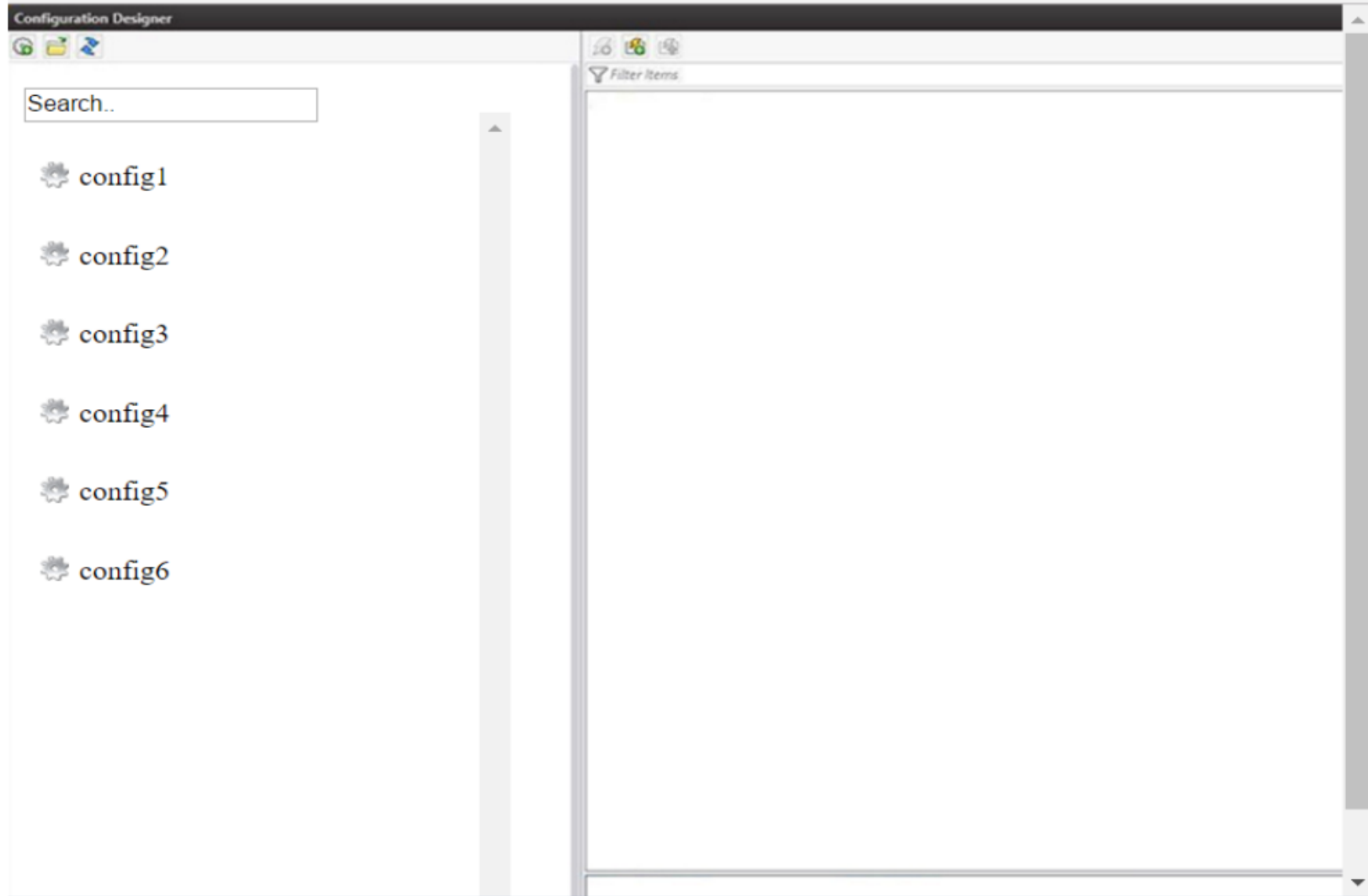
WPF system setting effect page

Appearance.Ca... User Profiles

Slb.Petrel.Featu... Value:\\True

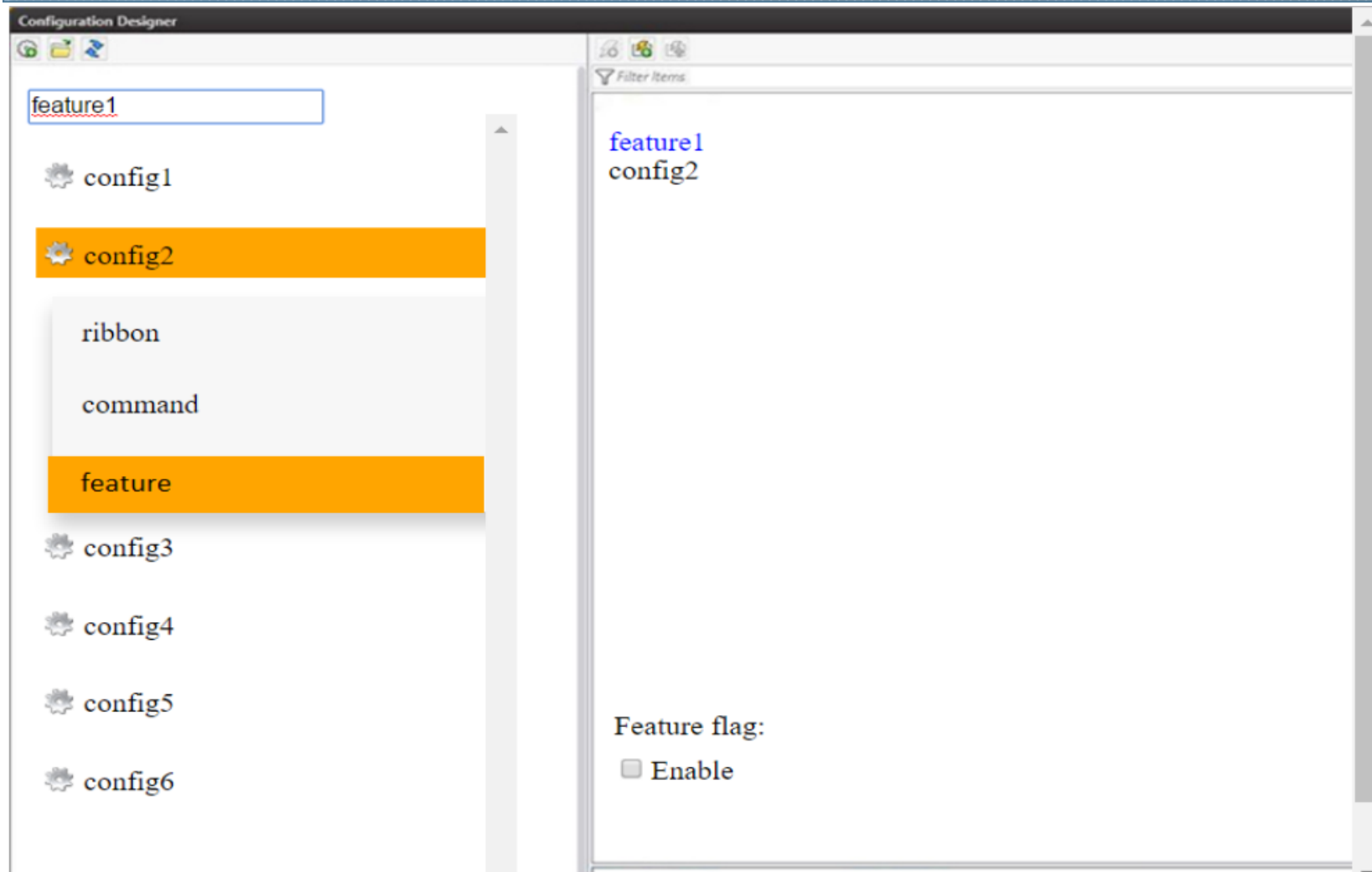
Caption	Id
Slb.Petrel.Platform.Fee	Slb.Petrel.Plattor
Slb.Petrel.Features.Nev	Slb.Petrel.Feature
Slb.Petrel.Features.Nev	Slb.Petrel.Feature
Slb.Petrel.Features.Nev	Slb.Petrel.Feature
Slb.Petrel.Features.Nev	Slb.Petrel.Feature
Slb.Petrel.Features.Wo	Slb.Petrel.Feature
PredictionInSearch	PredictionInSear
Use vector graphic for	Slb.Petrel.Feature
ExplorationDecisionSu	ExplorationDecis
Use new well zone mo	Slb.Petrel.Wells.L
Slb.Petrel.Mod.Feature	Slb.Petrel.Mod.Fi
Orange arrow enablen	Slb.Petrel.Geolog
Slb.Petrel.Mod.Feature	Slb.Petrel.Mod.Fi
Slb.Petrel.Mod.Feature	Slb.Petrel.Mod.Fi
Slb.Petrel.Mod.Feature	Slb.Petrel.Mod.Fi
Slb.Petrel.Mod.Feature	Slb.Petrel.Mod.Fi
Slb.Petrel.Mod.Feature	Slb.Petrel.Mod.Fi
Slb.Petrel.Core.Extensi	Slb.Petrel.Core.E
Slb.Petrel.LicenseExplic	Slb.Petrel.Licens
Enable the cross plot a	Slb.Petrel.Core.D
Show DataAnalysis dia	Slb.Petrel.Core.D
Enable the Grid Proper	Slb.Petrel.Core.D
Enable the Studio Find	Slb.Petrel.Core.D
Use TableAccessor ret	Slb.DataAnalysis
NewAfiEditor	NewAfiEditor
Create Report Save To	Slb.Petrel.Guru.Q

The highfidelity prototype



GUI of the prototype

The highfidelity prototype



Data presented after a matching search. A feature flag can be enabled or disabled by checking or unchecking the checkbox

Prototype test table



The Test

Task 1: with main program

Can you find the feature flag "use new well zone model" in under six minutes?

Participants	Mission done?	Time/min	comment
1	/	/	Didn't participate
2	N	Max	
3	Y	00:46	
4	Y	02:32	
5	Y	00:44	
6	Y	00:22	
7	Y	00:54	
8	Y	02:31	

Table code : Y=yes ,N=no . Max=6:min

Task 2: with the prototype.

Task duty: Can you find feature5, and feature6 and turn it on in under six minutes?

Participants	Mission done?	Time/min	comment
1	Y	1:59	Just a test round
2	Y	1:21	
3	Y	00:40	
4	Y	00:37	
5	Y	00:29	
6	Y	00:28	
7	Y	00:33	
8	Y	00:36	

Table code : Y=yes ,N=no . Max=6:min

The Time difference

Participants	Time saving /min
1	/
2	4:39
3	00:06
4	01:59
5	00:15
6	-00:06
7	00:21
8	01:55

Task 1: success rate:

6/7 = 87.5 % success

Task 2: success rate:

7/7 = 100% success

8 Participants

2 tasks

Simplicity: 4,1/5

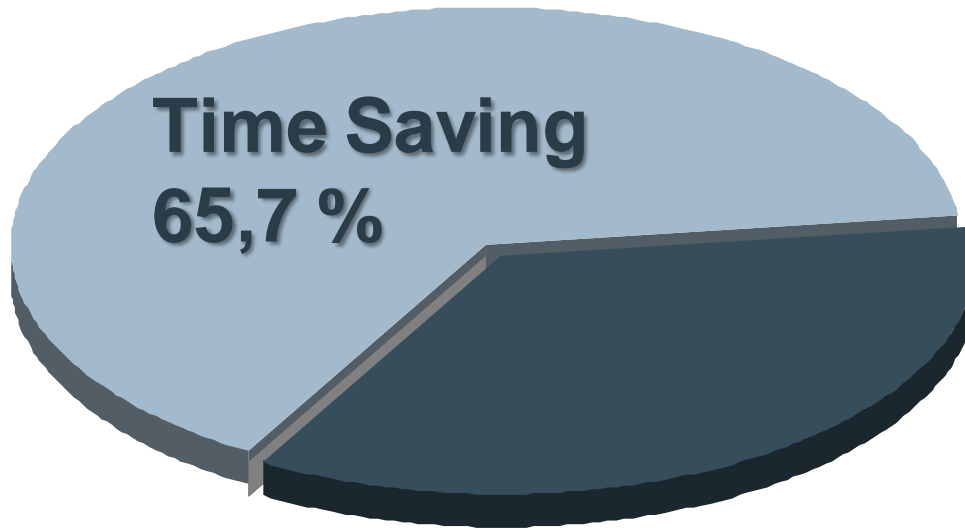
Usefulness: 4,4/5

Time saving: 4,4/5

Satisfaction: 3,8/5



The average score



- Simplicity :4,1/5
- Usefulness :4,4/5
- Satisfaction :3,8/5

How could this help improve usability?

The ISO 9241 definition of *usability*:

*"The extent to which a product can be used by specified users to achieve specified goals with **effectiveness**, **efficiency**, and **satisfaction** in a specified context of use."*

Improvements:

- Efficiency (**67,5%** time saved)
- Effectiveness (**100%** succession rate vs **87,5%**)
- Satisfaction (satisfaction score of **3,8/5**)



Thank you!