

- Automated Refactoring – A case study at Asolvi Software
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# What is refactoring?

- › Is a process of changing a software system in a way that does not alter the *\*external\** behavior yet improves its *\*internal\** structure.
- › It consists of small, incremental changes that leaves the code in a better state than when it was found. We expect cleaner code when done.

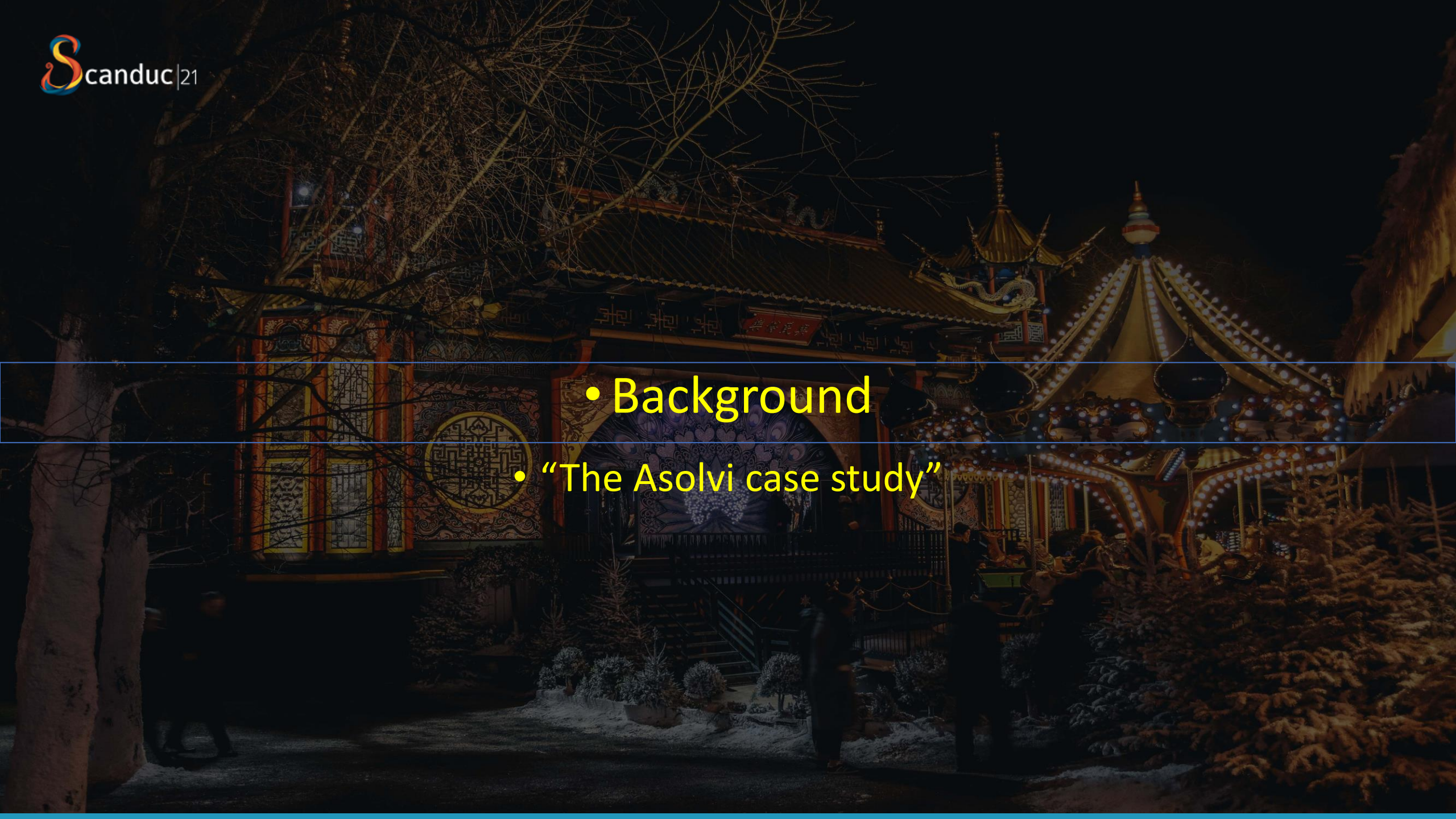
# What are the benefits?

- › Maintainability. It will be easier to fix bugs because the code is easier to read and the intent of the author is easy to grasp.
- › Extensibility. It is easier to extend the capabilities of the application if it uses recognizable design patterns, and it provides some flexibility where none existed before.

# Why automated refactoring?

- › Manual refactoring, while giving the optimal refactoring freedom, can be tedious and error prone.
- › With automated refactoring, you use a specified set of refactoring routines that has been intensively tested and proven to work.

- Background
- “The Asolvi case study”



# About Asolvi

- › Asolvi is an international software company with expanding footprint across Europe
- › For more than 30 years has developed software to 'Simplify Service Management'
- › Offices in Norway, UK, Sweden, Germany, Holland and France with 120+ employees
- › Has grown organically and through acquisitions to reach 1 600+ customers in over 30 countries.
- › Product portfolio; WinServ, Evatic, Alarm Master, Vantage Online, My Sales Drive, TesserAct and TivApp

# The Asolvi case study

- › WinServ consists of approximately 27 workspaces or git repositories
- › Has been developed over the last 25 years
- › More than 1 400 000 lines of code
- › A mix of DataFlex desktop, WebApp, and C# code
- › A new release is available to customer every two weeks
- › Microsoft Azure DevOps “pipelines” is heavily used to create both beta and release versions
- › Nils Svedmyr, Klaus Berthelsen and Martin Arvidsson started in June 2021 to work for Asolvi as independent consultants and took over all development of the WinServ product

Let's make a quick trip down memory lane...





# An Industry Comparison

- **DataAccess WorldWide**

- › DataFlex first released in 1977
- › Code written in the beginning of the 80's still compiles and runs today!
- › Relaxed compiler
- › Exceptional and unrivalled backward compatibility!

- **Other software vendors**

- › Very few existed in 1976 that are still active today
- › Backward compatibility is extremely rare
- › Much stricter compilers
- › Frustrated developers have been forced to more than once rewrite the whole – or larger part of – their code base
- › Most of the time developers are forced to make rather comprehensive changes after a new release

- Code that started some 25 years ago may not be the prettiest...

```
[not Seqeof] Repeat  
    Do something...
```

```
[not Seqeof] Loop
```

```
// Old depreciated commands used instead of modern functions  
Insert " " In UTPRIS At 1..  
ZeroString iLength to sResult  
Pos ", " In Utpris to P  
Replace "A" In sName With "B"
```

- Code that started some 25 years ago may not be the prettiest...

```
If mod2 Ne "" Begin
    [select] Indicate select as Maskinty.artnr    LE MOD2
End
[Select] Indicate select as Maskinty.pkod    GE TYP1
If typ2 Ne "" Begin
    [select] Indicate select as Maskinty.pkod    LE TYP2
End
[Select] Indicate select as Maskinty.SEGMENT GE SEG1
If seg2 Ne "" Begin
    [select] Indicate select as Maskinty.SEGMENT LE SEG2
End
```

Enough said, Show time!



**Thank you!**  
**Are there any questions?**

