

変化している世界を変化しよう

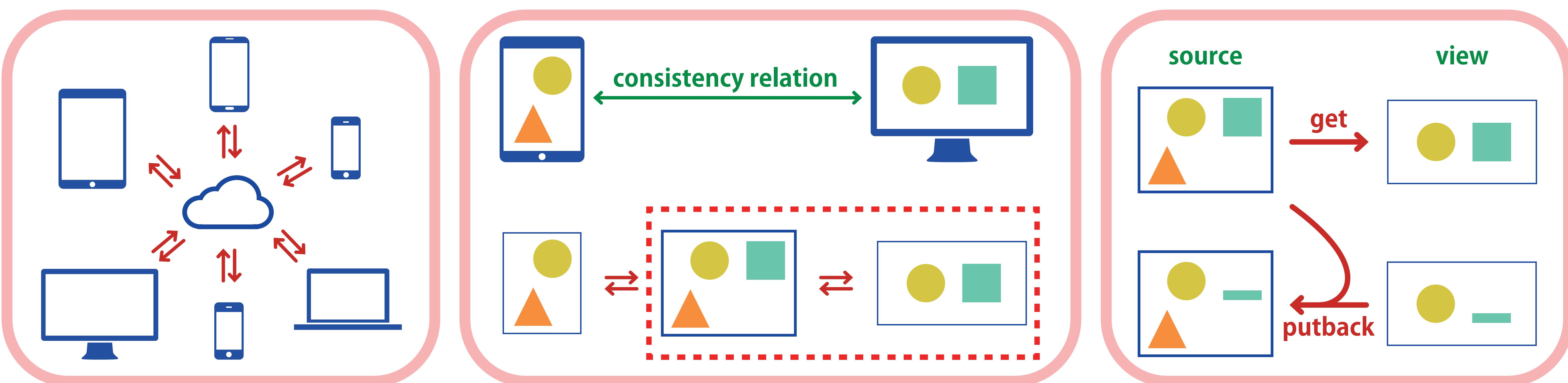
# 双向向プログラミングの理論と実践

Theory and Practice of Bidirectional Programming

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The world needs reliable ways of **synchronisation**.

We can focus on the problem of synchronising two pieces of data, where one side contains more information.

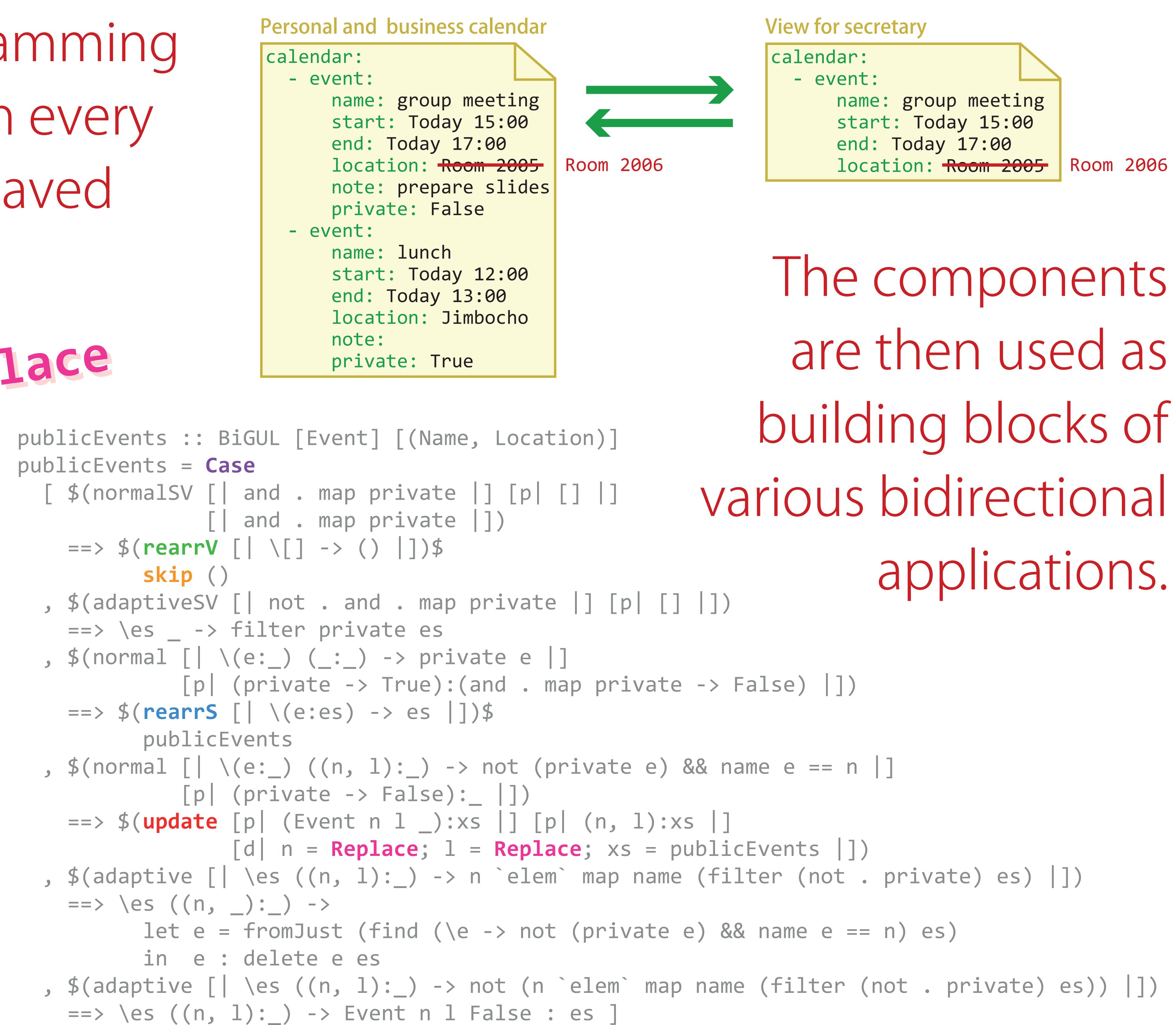
This is studied by the theory of **bidirectional transformations**.

## Programming Bidirectional Transformations

We have developed a programming language **BiGUL** 🐶, in which every program denotes a well-behaved bidirectional transformation.

case skip Fail Replace  
Compose update rearrv  
rearrs Dep Prod

BiGUL consists of a set of small, carefully designed bidirectional components, whose well-behavedness has been **formally verified**, achieving high reliability.



The components are then used as building blocks of various bidirectional applications.