An Interactive Interface for BoolTool

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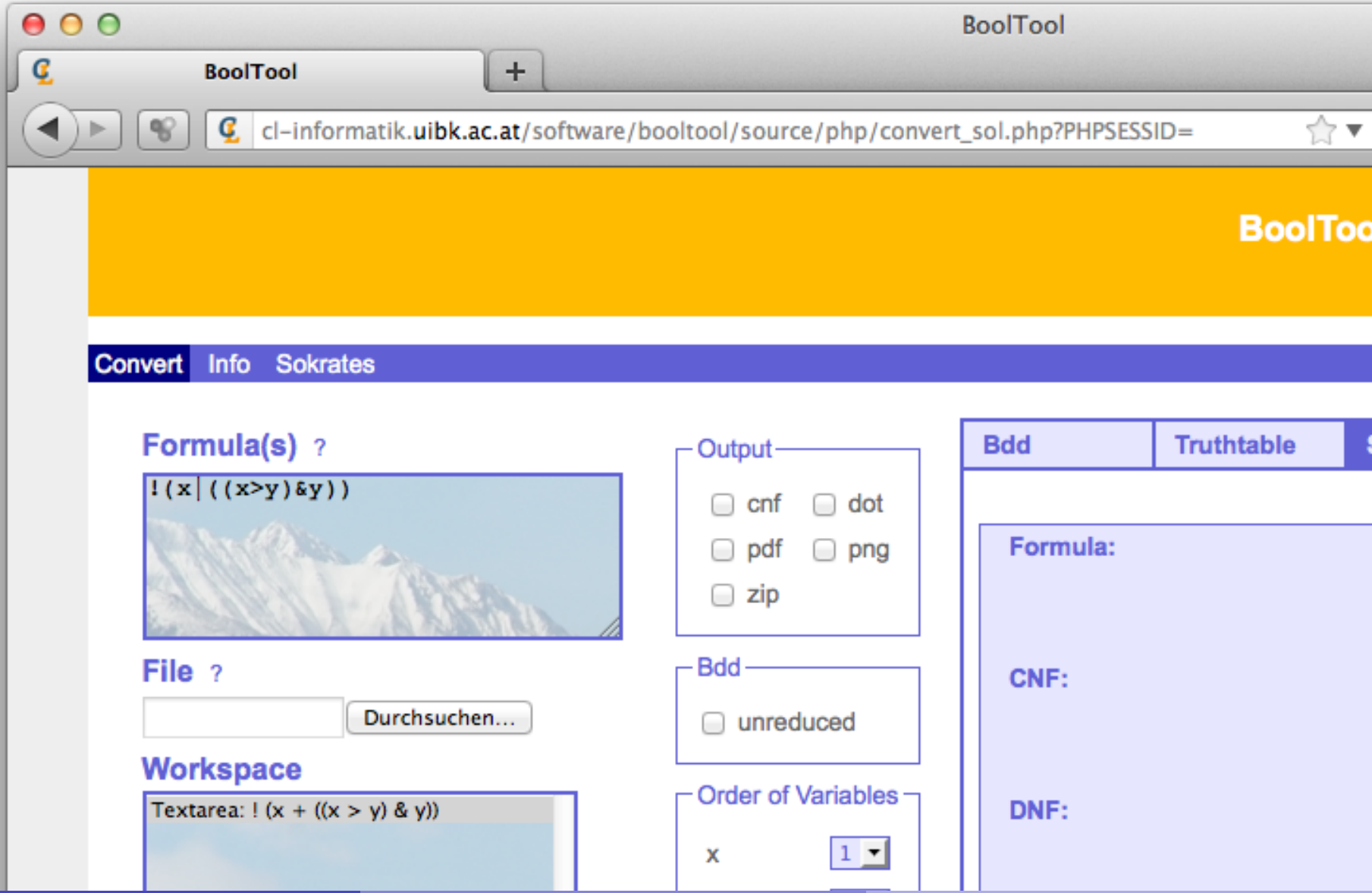
BoolTool

Manipulation and evaluation of formulae in propositional logic

- Defines input syntax of formulae
- Derives (negation, conjunctive, disjunctive) normal forms
- Computes truth tables and binary decision diagrams
- Tests for satisfiability, tautologies and contradictions

BoolTool

Web interface



BoolTool

Drawbacks

- Syntax is slightly different
- Semantics is not explained
- Normal forms are not defined
- Transformations are not demonstrated

Project Aim

Allow the user to learn

- Formalism of propositional logic
- Separation of syntax and semantics
- Normal forms (NNF, CNF, DNF)
- Standard transformations of Boolean functions
- Coherence of different representations

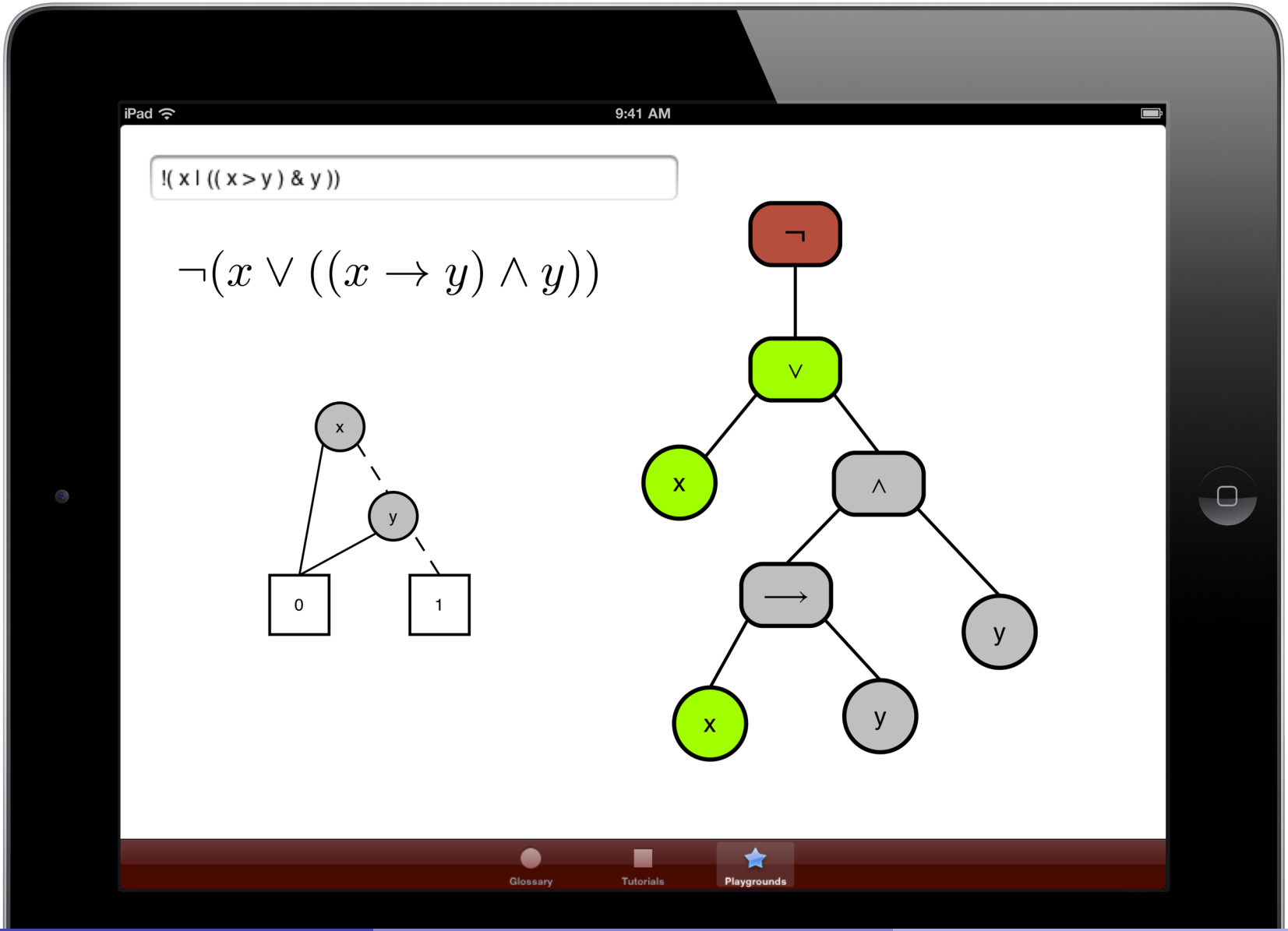
Part I: Design

Platform agnostic

- Self-explanatory environment
- Glossary of technical terms
- Tutorials for general concepts and definitions
- Playgrounds to build and transform formulae

Part II: Implementation

Platform specific



Sources

- Barwise, Etchemendy und Barker Plummer, **Tarski's World**
- Middeldorp, **Logic**, Lecture
- Huth and Ryan, **Logic in Computer Science**
- OCaml Sourcecode for BoolTool
- Scofield, **Cross Compiling OCaml to iOS**