AceWiki is a semantic wiki using the controlled natural language ACE (Attempto Controlled English).

ACE supports a wide range of natural language constructs:
- **Proper names**: Switzerland, United Nations, Nile
- **Nouns**: country, person, event
- **Of-constructs**: part of, child of, owner of
- **Verbs**: border, contain, overlap with
- **Transitive adjectives**: located in, registered at, fond of
- **Plural**: exactly 5 customers, at most 3 countries
- **Relative phrases**: ... that borders Germany
- **Anaphoric references**: the country, the island
- **Existential and universal quantifiers**: a, every
- **Negation**: no, does not, is not, it is false that
- **Pronouns**: something, everybody, what
- **Conditional sentences**: if ... then ...
  ... and much more.

ACE is a formal language that is translatable into logic and other languages, for example OWL. Some examples of OWL-compliant sentences:
- Every country that borders no sea is a landlocked-country.
- Switzerland borders exactly 5 countries.
- Antarctica is a continent that contains no country.
- No city that is located in Europe is controlled by the USA.
- If X borders Y then Y borders X.

ACE is more expressive than OWL. You can express complex statements (e.g. rules) that are beyond OWL:
- No country borders every country.
- If Liechtenstein is a country then Andorra is a country.
- If a country contains an area and does not control the area then the country is an unstable-country.

ACE supports also questions which are used in AceWiki to state queries:
- Which continents contain more than 10 countries?
- Zurich is a part of what?
- Which cities overlap with more than 1 continent?
- Switzerland borders which country that borders Spain?
- Which rivers flow through a city that is located in Switzerland?

Thus, ACE is an all-in-one language.

AceWiki integrates the OWL reasoner Pellet that considers all OWL-compliant sentences of the wiki. It ensures that the ontology is always consistent:
- Every country is a part of exactly 1 continent.
- Every country that borders Switzerland is a part of Europe.
- Germany borders Switzerland.
- Germany is a part of Asia.

The reasoner infers class memberships:
- Switzerland is an area.
- Switzerland is a country.
- Switzerland is a landlocked-country.
- Switzerland is an object.

And class hierarchies:
- **Upward**
  - Every country is an area.
  - Every country is an object.
- **Downward**
  - Every baltic state is a country.
  - Every city-state is a country.
  - Every landlocked-country is a country.

Furthermore, the reasoner answers questions:
- Which cities are a part of Switzerland?
  - Berne
  - Geneva
  - Lucerne
  - Zurich

AceWiki is not only easy to read and understand, but also easy to modify and extend. Users do not need to understand the details of ACE. A predictive editor helps them word-by-word to create sentences that comply with the ACE syntax:

A usability experiment proved that AceWiki is easy to learn:
- 20 participants were asked to add knowledge to AceWiki
- No instructions how to use the interface
- They created in total 186 sentences
  - 80% were correct and sensible
  - 61% were complex (using negation or implication)