Exterior Non-Uniform Subjectivity

by Sven Nilsen, 2020

In this paper I relate the exterior of inside-the-box theories with models of non-uniform subjectivity.

In Avatar Modal Subjectivity[1], there is a distinction between uniform subjectivity (classical objectivity) and non-uniform subjectivity (classical subjectivity).

An inside-the-box theory, in the context of this paper, is about any computer program that interacts with the real world, where the parts of the computer program carries semantics relative to the real world that is interacted with. However, in order for a such program to be inside-the-box, it is only allowed to model external references as unknowns.

For example, Alice pushes a button modelled as `Option<Moment>` (a Rust[2] program). The program does not record the button press immediately.

The `None` state of the button has two meanings:

1. Alice has not yet pushed the button
2. It is unknown when Alice pushed the button

Before Alice the button, it is not meaningful to talk about the moment of the button press. However, it is meaningful to talk about it after Alice pushes the button. Since the program uses a single state as external reference to two world states, the exact meaning of the `None` state is undecidable.

The change itself in the world when Alice presses the button, is thought of as a kind of non-uniform subjectivity. It can be thought of as non-uniform because the meaning of `None` changes over time.

After Alice pushes the button and the moment of time is recorded by the program, it does not matter when the program first recorded the button press. This is because the moment can refer to the moment of the button press itself in time. This freedom of degree allows slow programs to “catch up” semantically with hypothetical faster programs.

In the fastest program possible, the program records the moment when
Alice pushes the button immediately.

Generalized this means, according to Naive Zen Logic[3], that zen-consistency implies the exterior[4] of an inside-the-box theory might be associated with an accurate model of non-uniform subjectivity.

This is because when reasoning about the fastest program, it is understandable that the ideal behavior of the program would be to record the exact moment when Alice presses the button, immediately. The change in subjectivity is reflected a more accurate model in the fastest program state.

With other words, non-uniform subjectivity might be modeled using uniform subjectivity, in the limit. This is the exterior of the inside-the-box, because semantically it minimizes uncertain external references indirectly, by minimizing the unknowns directly.

References:

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